
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 20-F

(Mark One)

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____.

OR

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of event requiring this shell company report

Commission file number: 001-36619

AFFIMED N.V.

(Exact name of Registrant as specified in its charter)

The Netherlands

(Jurisdiction of incorporation or organization)

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(Address of principal executive offices)

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Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class

Name of each exchange on which registered

Common shares, nominal value €0.01 per share

The NASDAQ Stock Market LLC

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None
(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None
(Title of Class)

Indicate the number of outstanding shares of each of the issuer's classes of capital stock or common stock as of the close of the period covered by the annual report.

Common shares: 62,430,106

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes No (not required)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act.:

Large Accelerated Filer Accelerated Filer Non-accelerated Filer
Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act.

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP <input type="checkbox"/>	International Financial Reporting Standards as issued by the International Accounting Standards Board <input checked="" type="checkbox"/>	Other <input type="checkbox"/>
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If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

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Unless otherwise indicated or the context otherwise requires, all references in this Annual Report on Form 20-F (the "Annual Report") to "Affimed N.V." or "Affimed," the "Company," "we," "our," "ours," "us" or similar terms refer to Affimed N.V., together with its subsidiaries.

TRADEMARKS

ROCK® is our registered trademark. The trademarks, trade names and service marks appearing in this Annual Report are property of their respective owners.

FORWARD-LOOKING STATEMENTS

This Annual Report contains statements that constitute forward-looking statements. Many of the forward-looking statements contained in this Annual Report can be identified by the use of forward-looking words such as “anticipate,” “believe,” “could,” “expect,” “should,” “plan,” “intend,” “will,” “estimate” and “potential,” among others.

Forward-looking statements appear in a number of places in this Annual Report and include, but are not limited to, statements regarding our intent, belief or current expectations. Forward-looking statements are based on our management’s beliefs and assumptions and on information currently available to our management. Such statements are subject to risks and uncertainties, and actual results may differ materially from those expressed or implied in the forward-looking statements due to various factors, including, but not limited to, those identified under the section “Item 3. Key Information—D. Risk factors” in this Annual Report. These risks and uncertainties include factors relating to:

- our operation as a development stage company with limited operating history and a history of operating losses; as of December 31, 2018, our accumulated deficit was €202.1 million;
- the chance our clinical trials may be delayed or put on clinical hold, for example, due to slower than expected enrollment or regulatory actions, or not be successful and clinical results may not reflect results seen in previously conducted preclinical studies and clinical trials;
- our reliance on contract manufacturers and contract research organizations over which we have limited control;
- our lack of adequate funding to complete development of our product candidates and the risk we may be unable to access additional capital on reasonable terms or at all to complete development and begin commercialization of our product candidates;
- our dependence on the success of AFM13 and certain of our other product candidates, which are still in clinical development and may eventually prove to be unsuccessful or commercially not exploitable;
- uncertainty surrounding whether any of our product candidates will gain regulatory approval, which is necessary before they can be commercialized;
- the outcome of any, or any discussions we may enter regarding, acquisitions, dispositions, partnerships, license transactions or changes to our capital structure, including our receipt of any milestone payments or royalties or any future securities offerings;
- the chance that we may become exposed to costly and damaging liability claims resulting from the testing of our product candidates in the clinic or in the commercial stage;
- if our product candidates obtain regulatory approval, or being subject to expensive ongoing obligations and continued regulatory oversight;
- enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval and commercialization;
- the chance that our products may not gain market acceptance, in which case we may not be able to generate product revenues;

- our reliance on our current strategic relationships with LLS, Merck, The MD Anderson Cancer Center, Genentech, Amphivena and Amphivena's other investors and partners, including MPM Capital and Tekla Capital Management, and the potential failure to enter into new strategic relationships;
- our reliance on third parties to conduct our nonclinical and clinical trials and on third-party single-source suppliers to supply or produce our product candidates;
- our ability to scale-up manufacturing processes of our product candidates and reduce the cost of manufacturing our product candidates in advance of any commercialization;
- our future growth and ability to compete, which depends on retaining our key personnel and recruiting additional qualified personnel; and
- other risk factors discussed under "Item 3. Key Information—D. Risk factors."

Forward-looking statements speak only as of the date they are made, and we do not undertake any obligation to update them in light of new information or future developments or to release publicly any revisions to these statements in order to reflect later events or circumstances or to reflect the occurrence of unanticipated events.

PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

A. Directors and senior management

Not applicable.

B. Advisers

Not applicable.

C. Auditors

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

A. Offer statistics

Not applicable.

B. Method and expected timetable

Not applicable.

ITEM 3. KEY INFORMATION

A. Selected Financial Data

The comprehensive loss and financial position data as of and for the years ended December 31, 2014, 2015, 2016, 2017 and 2018 of Affimed N.V. are derived from our consolidated financial statements. We maintain our books and records in euros, and we prepare our financial statements under International Financial Reporting Standards as issued by the International Accounting Standards Board ("IFRS").

Financial information presented in the consolidated financial statements of Affimed N.V. for periods prior to the corporate reorganization on September 17, 2014 is that of Affimed Therapeutics AG, Heidelberg, Germany, and its subsidiary.

This financial information should be read in conjunction with “Item 5—Operating and Financial Review and Prospects” and our consolidated audited financial statements, including the notes thereto, included in this Annual Report.

(in thousands of € except for per share data)	Consolidated Statements of Comprehensive Loss Data				
	For the years ended December 31,				
	2014	2015	2016	2017	2018
Revenue	3,382	7,562	6,314	2,010	23,735
Other income/(expenses)—net	381	651	145	205	1,515
Research and development expenses	(9,595)	(22,008)	(30,180)	(21,489)	(35,148)
General and administrative expenses	(2,346)	(7,548)	(8,323)	(7,986)	(9,638)
Operating loss	(8,178)	(21,343)	(32,044)	(27,260)	(19,536)
Finance income/(costs)—net	7,753	1,104	(230)	(2,893)	60
Loss before tax	(425)	(20,239)	(32,274)	(30,243)	(19,476)
Income taxes	166	0	58	20	(1)
Loss for the period	(259)	(20,239)	(32,216)	(30,223)	(19,477)
Other comprehensive income	0	0	0	0	(4,731)
Total comprehensive loss	(259)	(20,239)	(32,216)	(30,223)	(24,208)
Loss per share in € per share	(0.01)	(0.71)	(0.97)	(0.69)	(0.32)

(in thousands of €)	As of December 31,				
	2014	2015	2016	2017	2018
Cash and cash equivalents	39,725	76,740	35,407	39,837	94,829
Financial assets	0	0	9,487	0	13,974
Total assets	41,909	79,322	48,739	43,158	116,174
Total liabilities	10,114	12,048	9,988	11,579	76,045
Accumulated deficit	(99,989)	(120,228)	(152,444)	(182,667)	(202,144)
Total equity	31,795	67,274	38,751	31,579	40,129

B. Capitalization and indebtedness

Not applicable.

C. Reasons for the offer and use of proceeds

Not applicable.

D. Risk factors

You should carefully consider the risks and uncertainties described below and the other information in this Annual Report before making an investment in our common shares. Our business, financial condition or results of operations could be materially and adversely affected if any of these risks occurs, and as a result, the market price of our common shares could decline and you could lose all or part of your investment. This Annual Report also contains forward-looking statements that involve risks and uncertainties. See “Forward-Looking Statements.” Our actual results could differ materially and adversely from those anticipated in these forward-looking statements as a result of certain factors.

Risks Related to Our Business and the Development and Commercialization of Our Product Candidates

All of our product candidates are in preclinical or clinical development. Drug development is expensive, time consuming and uncertain, and we may ultimately not be able to obtain regulatory approvals for the commercialization of some or all of our product candidates.

The research, testing, manufacturing, labeling, approval, selling, marketing and distribution of drug products are subject to extensive regulation by the U.S. Food and Drug Administration, or FDA, the European Medicines Agency, or EMA, national competent authorities in Europe, including the Paul-Ehrlich-Institut, or PEI, and other non-U.S. regulatory authorities, which establish regulations that differ from country to country. We are not permitted to market our product candidates in the United States or in other countries until we receive approval of a Biologics License Application, or BLA, from the FDA or marketing approval from applicable regulatory authorities outside the United States. Our product candidates are in various stages of development and are subject to the risks of failure inherent in drug development. We have not submitted an application for or received marketing approval for any of our product candidates. We have limited experience in conducting and managing the clinical studies necessary to obtain regulatory approvals, including approval by the FDA or the European Commission. Obtaining approval of a BLA or a Marketing Authorization Application can be a lengthy, expensive and uncertain process. In addition, failure to comply with FDA, EMA and other non-U.S. regulatory requirements may, either before or after product approval, if any, subject our company to administrative or judicially imposed sanctions, including:

- restrictions on our ability to conduct clinical studies, including full or partial clinical holds, or other regulatory objections to, ongoing or planned trials;
- restrictions on the products, manufacturers or manufacturing process;
- warning letters;
- civil and criminal penalties;
- injunctions;
- suspension or withdrawal of regulatory approvals;
- product seizures, detentions or import bans;
- voluntary or mandatory product recalls and publicity requirements;
- total or partial suspension of production;
- imposition of restrictions on operations, including costly new manufacturing requirements; and
- refusal to approve pending BLAs or supplements to approved BLAs in the United States and refusal to approve marketing research approvals in other jurisdictions.

The FDA, the EMA and other non-U.S. regulatory authorities also have substantial discretion in the drug approval process. The number of preclinical studies and clinical studies that will be required for regulatory approval varies depending on the product candidate, the disease or condition that the product candidate is designed to address, and the regulations applicable to any particular drug candidate. Regulatory agencies can delay, limit or deny approval of a product candidate for many reasons, including:

- a product candidate may not be deemed safe or effective;

- the results may not confirm the positive results from earlier preclinical studies or clinical studies;
- regulatory agencies may not find the data from preclinical studies and clinical studies sufficient or well-controlled;
- regulatory agencies might not approve or might require changes to our manufacturing processes or facilities; or
- regulatory agencies may change their approval policies or adopt new regulations.

For example, during the fourth quarter of 2018, the FDA concurred with our decision to place AFM11 on clinical hold after the occurrence of serious adverse events, or SAEs, in three patients, which included a death in our ALL study and two life-threatening events in our NHL study, and formally placed the AFM11 investigational new drug, or IND, application on full clinical hold.

Any delay in obtaining or failure to obtain required approvals could materially adversely affect our ability to generate revenue from the particular product candidate, which likely would result in significant harm to our financial position and adversely impact our share price. Furthermore, any regulatory approval to market a product may be subject to limitations on the indicated uses for which we may market the product. These limitations may limit the size of the market for the product.

Clinical drug development involves a lengthy and expensive process with uncertain timelines and uncertain outcomes, and results of earlier trials may not be predictive of future trial results. If clinical studies of our product candidates are prolonged or delayed, we may be unable to obtain required regulatory approvals, and therefore be unable to commercialize our product candidates on a timely basis or at all.

We have no history of conducting large-scale or pivotal clinical studies or commercializing pharmaceutical products, which may make it difficult to evaluate the prospects for our future viability.

Our operations to date have been limited to financing and staffing our company, developing our technology and developing AFM13, AFM11 and our other product candidates. We have not yet demonstrated an ability successfully to complete a large-scale or pivotal clinical study, obtain marketing approval, manufacture a commercial scale product or conduct sales and marketing activities necessary for successful product commercialization. Consequently, predictions about our future success or viability may not be as accurate as they could be if we had a history of successfully developing and commercializing pharmaceutical products.

If clinical studies for our product candidates are prolonged, delayed or stopped, we may be unable to obtain regulatory approval and commercialize our product candidates on a timely basis, which would require us to incur additional costs and delay or restrict our receipt of any product revenue.

There have been significant developments in the highly dynamic field of immuno-oncology such as the earlier availability of product candidates or earlier approval of drugs for the same indications as our product candidates. For example, in the past, this has occurred with Blincyto in acute lymphocytic leukemia, or ALL, and with anti-PD-1 antibodies in Hodgkin Lymphoma, or HL, resulting in delays in clinical study initiation for our phase 1 trial of AFM11 in ALL and for delays in recruiting for our phase 1 trial of AFM11 in NHL and our phase 2a Investigator Sponsored Trial, or IST, of AFM13 in HL. In addition, certain clinical studies in which we are involved and which are testing our product candidates are sponsored by academic sites, known as ISTs. By definition, the financing, design, and conduct of such studies is under the sole responsibility of the respective sponsor. Therefore, we have limited control over these studies and we do not have control over the timing and reporting of the data from these trials. In addition, we may have limited information about ISTs while they are being conducted, including the status of trial initiation and patient recruitment, changes to trial design and clinical study results.

A phase 2a clinical study of AFM13 in patients with HL started recruitment in the second quarter of 2015. Due to delays in opening trial sites and the availability of anti-PD-1 antibodies for the treatment of relapsed/refractory HL patients, in the past we have experienced slower recruitment into the study than anticipated. Consequently, the overall study design was revised in order to adapt to the changing treatment landscape, namely the availability of anti-PD-1 antibodies. The study now includes HL patients relapsed or refractory to treatment with both brentuximab vedotin (Adcetris®) and anti-PD-1 antibodies. The study is open and recruiting under the new study design. Furthermore, we are conducting a phase 1b clinical study of AFM13 in combination with Merck's anti-PD-1 antibody Keytruda® (pembrolizumab) in relapsed/refractory Hodgkin lymphoma. In this study, we have completed recruitment of a total of 30 patients, comprising a dose escalation cohort of 12 patients as well as an expansion cohort of an additional 18 patients. In addition, we are supporting an IST of AFM13 in patients with CD30+ lymphoma led by Columbia University. This translational phase 1b/2a study of AFM13 in patients with relapsed or refractory CD30+ lymphoma with cutaneous manifestations is designed to allow for serial biopsies, thereby enabling assessment of NK cell biology and tumor cell killing within the tumor microenvironment. In this study, the third cohort has been fully enrolled and recruitment into the fourth cohort is ongoing. Following discussions with the FDA during the fourth quarter of 2018, we announced our registrational pathway and updated clinical development plans for AFM13. We plan to initiate a phase 2 study evaluating the efficacy and safety of AFM13 as monotherapy in patients with relapsed or refractory CD30 positive peripheral T cell lymphoma (PTCL) or transformed mycosis fungoides (TMF), a subset of cutaneous T cell lymphoma (CTCL), in the first half of 2019. Based on the unmet medical need for safe and effective new treatments in these hard-to-treat populations and preliminary feedback from the FDA, we believe that results from an open-label, single-arm phase 2 study could form the basis for a BLA submission and support an accelerated approval for patients with relapsed or refractory CD30 positive PTCL or TMF.

The commencement of planned clinical studies could be substantially delayed or prevented by several factors, including:

- further discussions with the FDA, the EMA, the PEI (the national competent authority in Germany regulating, among others, antibody products) or other regulatory agencies regarding the scope or design of our clinical studies;
- the limited number of, and competition for, suitable sites to conduct our clinical studies, many of which may already be engaged in other clinical study programs, including some that may be for the same indication as our product candidates;
- approval of drugs for the same indications as our product candidates;
- any delay or failure to obtain regulatory approval or agreement to commence a clinical study in any of the countries where enrollment is planned;
- inability to obtain sufficient funds required for a clinical study;
- clinical holds on, or other regulatory objections to, a new or ongoing clinical study;
- delay or failure in the testing, validation, manufacture and delivery of sufficient supplies of product candidate for our clinical studies;
- delay or failure to reach agreement on acceptable clinical study agreement terms with prospective sites or clinical research organizations, or CROs, the terms of which can be subject to extensive negotiation and may vary significantly among different sites or CROs; and
- delay or failure to obtain institutional review board, or IRB, or ethics committee approval to conduct a clinical study at a prospective site.

The completion of our clinical studies has been and could in the future be substantially delayed or prevented by several factors, including:

- slower than expected rates of patient recruitment and enrollment, due to factors including, but not limited to, the availability of other drugs to treat potential patients, the unwillingness of patients to participate in low-dose groups of dose-ranging studies and lack of recruitment by clinical study sites;
- delays relating to adding new clinical study sites;
- failure of patients to complete the clinical study or return for post-treatment follow-up;
- failure of our collaborators to provide us with products necessary for us to conduct our combination studies;
- safety issues, including severe or unexpected drug-related adverse effects experienced by patients, including possible deaths;
- the FDA or other regulatory authorities requiring us to suspend or terminate a clinical study, or requiring us to submit additional data or imposing other requirements before permitting us to continue a clinical study;
- lack of efficacy during clinical studies;
- errors in trial design or conduct;
- termination of our clinical studies by one or more clinical study sites;
- inability or unwillingness of patients or clinical investigators to follow our clinical study protocols, including clinical investigators' failure to comply with our clinical study protocols without our notice;
- inability to monitor patients adequately during or after treatment by us and/or our CROs; and
- the need to repeat or terminate clinical studies as a result of inconclusive or negative results or unforeseen complications in testing.

Changes in regulatory requirements and guidance may also occur and we may need to significantly amend clinical study protocols or submit new clinical study protocols to reflect these changes with appropriate regulatory authorities. In addition, changes in the competitive environment have occurred and may continue to occur.

Amendments may require us to renegotiate terms with CROs or resubmit clinical study protocols to IRBs or ethics committees for re-examination, which may impact the costs, timing or successful completion of a clinical study.

Our clinical studies may be suspended or terminated at any time by the FDA, the PEI, other regulatory authorities, the IRB or ethics committee overseeing the clinical study at issue, any of our clinical study sites with respect to that site, or us, due to a number of factors, including:

- failure to conduct the clinical study in accordance with regulatory requirements or our clinical protocols;
- safety issues or any determination that a clinical study presents unacceptable health risks;
- lack of adequate funding to continue the clinical study due to unforeseen costs or other business decisions; and

upon a breach or pursuant to the terms of any agreement with, or for any other reason by, current or future collaborators that have responsibility for the clinical development of any of our product candidates.

For example during the fourth quarter of 2018, we placed AFM11 on clinical hold after the occurrence of SAEs in three patients, which included a death in the ALL study and two life-threatening events in the NHL study. The SAEs occurred in patients enrolled in the highest dose cohorts of each study. Subsequently, we received a formal notification from the FDA that the regulatory agency has concurred with our decision to stop recruitment and formally placed the AFM11 IND application on full clinical hold.

Our product development costs will increase if we experience delays in clinical studies or marketing approvals or if we are required to conduct additional clinical studies or other testing of our product candidates. We may be required to obtain additional funds to conduct and complete such clinical studies. We cannot assure you that our clinical studies will begin as planned or be completed on schedule, if at all, or that we will not need to restructure our trials after they have begun. Significant clinical study delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which may harm our business and results of operations.

Any failure or significant delay in completing clinical studies for our product candidates would adversely affect our ability to obtain regulatory approval and our commercial prospects and ability to generate product revenue will be diminished.

The results of previous clinical studies may not be predictive of future results, our progress in trials for one product candidate may not be indicative of progress in trials for other product candidates and the results of our current and planned clinical studies may not satisfy the requirements of the FDA, the EMA or other non-U.S. regulatory authorities.

We currently have no products approved for sale and we cannot guarantee that we will ever have marketable products. Clinical failure can occur at any stage of clinical development. Clinical studies may produce negative or inconclusive results, and we or any of our current and future collaborators may decide, or regulators may require us, to conduct additional clinical or preclinical testing. We will be required to demonstrate with substantial evidence through well-controlled clinical studies that our product candidates are safe and effective for use in a diverse population before we can seek regulatory approvals for their commercial sale. Success in early clinical trials does not mean that future larger registration clinical studies will be successful because product candidates in later-stage clinical studies may fail to demonstrate sufficient safety and efficacy to the satisfaction of the FDA and non-U.S. regulatory authorities despite having progressed through initial clinical studies. Product candidates that have shown promising results in early clinical studies may still suffer significant setbacks in subsequent registration clinical studies. Similarly, the outcome of preclinical testing and early clinical studies may not be predictive of the success of later clinical studies, and interim results of a clinical study do not necessarily predict final results. Progress in trials of one product candidate does not indicate that we will make similar progress in additional trials for that product candidate or in trials for our other product candidates. A number of companies in the pharmaceutical industry, including those with greater resources and experience than us, have suffered significant setbacks in advanced clinical studies, even after obtaining promising results in earlier clinical studies.

In addition, the design of a clinical study can determine whether its results will support approval of a product and flaws in the design of a clinical study may not become apparent until the clinical study is well advanced. We may be unable to design and execute a clinical study to support regulatory approval.

In some instances, there can be significant variability in safety and/or efficacy results between different trials of the same product candidate due to numerous factors, including changes in trial protocols, differences in size and type of the patient populations, adherence to the dosing regimen and other trial protocols and the rate of dropout among clinical study participants. We do not know whether any phase 2, phase 3 or other clinical studies we or any of our collaborators may conduct will demonstrate consistent or adequate efficacy and safety to obtain regulatory approval to market our product candidates.

Further, our product candidates may not be approved even if they achieve their primary endpoints in phase 3 clinical studies or registration trials. The FDA, the EMA or other non-U.S. regulatory authorities may disagree with our trial design and our interpretation of data from preclinical studies and clinical studies. In addition, any of these regulatory authorities may change requirements for the approval of a product candidate even after reviewing and providing comments or advice on a protocol for a clinical study. In addition, any of these regulatory authorities may also approve a product candidate for fewer or more limited indications than we request or may grant approval contingent on the performance of costly post-marketing clinical studies. The FDA, the EMA or other non-U.S. regulatory authorities may not accept the labeling claims that we believe would be necessary or desirable for the successful commercialization of our product candidates.

We depend on enrollment of patients in our clinical studies for our product candidates. We compete with other sponsors who have ongoing clinical studies of investigational therapies for patients for our clinical studies. If we are unable to enroll patients in our clinical studies, our research and development efforts could be materially adversely affected.

Successful and timely completion of clinical studies will require that we enroll a sufficient number of patients. Trials may be subject to delays as a result of patient enrollment taking longer than anticipated. Patient enrollment depends on many factors, including the size and nature of the patient population, eligibility criteria for the trial, the proximity of patients to clinical sites, the design of the clinical protocol, the availability of competing clinical studies, the availability of new drugs approved for the indication the clinical study is investigating, and clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies. In addition, we compete with approved immunotherapies and investigational immunotherapies for patients for our clinical studies. Our product candidate AFM13 has orphan drug designation for the treatment of HL, which means that the potential patient population is limited. Under the current, revised protocol of the GHSG phase 2a clinical study of AFM13, we have been seeking to enroll patients with relapsed/refractory HL who have been treated with Adcetris® (brentuximab vedotin) and anti-PD1 antibodies, which is an even more limited population of patients. As we are developing AFM13 and certain of our other product candidates for patients for whom previous therapies have failed and who may not have long to live, patients may elect not to participate in our, or any, clinical study.

The approval of new immuno-oncology drugs such as checkpoint inhibitors (CPIs) has changed the landscape for conducting clinical studies of other oncology drugs, including ours, both for indications for which such drugs are approved as well as for indications in which additional trials are being conducted. In addition, there are several other types of drugs in development for the indications for which we are developing AFM13 and certain of our other product candidates. We compete for patients with the sponsors of trials for all of these drugs. These factors may make it difficult for us to enroll enough patients to complete our clinical studies in a timely and cost-effective manner.

For example, although the GHSG phase 2a clinical study of AFM13 in patients with HL started recruitment in the second quarter of 2015, due to the availability of anti-PD-1 antibodies for the treatment of relapsed/refractory HL patients, we have experienced slower recruitment into the study than anticipated. Further delays in the completion of any clinical study of our product candidates will increase our costs, slow down our product candidate development and approval process and delay or potentially jeopardize our ability to commence product sales and generate revenue. In addition, some of the factors that cause, or lead to, a delay in the commencement or completion of clinical studies may also ultimately lead to the denial of regulatory approval of our product candidates.

We use new technologies in the development of our product candidates and the FDA and other regulatory authorities have not approved products that utilize these technologies.

Our product candidates in development are based on specific technologies, such as immune cell engagers, Trispecific Abs and novel tetravalent, bispecific antibody formats, capable of recruiting either NK cells or T cells. The approval of our product candidates is less certain than approval of drugs that do not employ such novel technologies or methods of action. We intend to work closely with the FDA, the EMA and other regulatory

authorities to perform the requisite scientific analyses and evaluation of our methods to obtain regulatory approval for our product candidates. For example, final assays and specifications of our product candidates, in particular regarding cytotoxicity, have yet to be developed, and the FDA, EMA or other regulatory authorities may require additional analyses to evaluate this aspect of our product quality. It is possible that the validation process may take time and resources, require independent third-party analyses or not be accepted by the FDA, the EMA and other regulatory authorities. Delays or failure to obtain regulatory approval of any of the product candidates that we are developing would adversely affect our business.

Even if our product candidates obtain regulatory approval, they will be subject to continuous regulatory review.

If marketing authorization is obtained for any of our product candidates, the product will remain subject to continuous review and therefore authorization could be subsequently withdrawn or restricted. We will be subject to ongoing obligations and oversight by regulatory authorities, including adverse event reporting requirements, marketing restrictions and, potentially, other post-marketing obligations, all of which may result in significant expense and limit our ability to commercialize such products.

If there are changes in the application of legislation or regulatory policies, or if problems are discovered with a product or our manufacture of a product, or if we or one of our distributors, licensees or co-marketers fails to comply with regulatory requirements, the regulators could take various actions. These include imposing fines on us, imposing restrictions on the product or its manufacture and requiring us to recall or remove the product from the market. The regulators could also suspend or withdraw our marketing authorizations, requiring us to conduct additional clinical studies, change our product labeling or submit additional applications for marketing authorization. If any of these events occurs, our ability to sell such product may be impaired, and we may incur substantial additional expense to comply with regulatory requirements, which could materially adversely affect our business, financial condition and results of operations.

We may not be successful in our efforts to use and expand our technology platforms to build a pipeline of product candidates.

A key element of our strategy is to use and expand our technology platforms to build a pipeline of product candidates and progress these product candidates through clinical development for the treatment of a variety of different types of diseases. Although our research and development efforts to date have resulted in a pipeline of product candidates directed at various cancers, we may not be able to develop product candidates that are safe and effective. Even if we are successful in continuing to build our pipeline, the potential product candidates that we identify may not be suitable for clinical development, including as a result of being shown to have harmful side effects or other characteristics that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance. If we do not continue to successfully develop and begin to commercialize product candidates, we will face difficulty in obtaining product revenues in future periods, which could result in significant harm to our financial position and adversely affect our share price.

Even if we obtain marketing approval of any of our product candidates in a major pharmaceutical market such as the United States or Europe, we may never obtain approval or commercialize our products in other major markets, which would limit our ability to realize their full market potential.

In order to market any products in a country or territory, we must establish and comply with numerous and varying regulatory requirements of such countries or territories regarding safety and efficacy. Clinical studies conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not mean that regulatory approval will be obtained in any other country. Approval procedures vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking regulatory approvals in all major markets could result in significant delays, difficulties and costs for us and may require additional preclinical studies or clinical studies which would be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our products in those countries. Satisfying these and other regulatory

requirements is costly, time consuming, uncertain and subject to unanticipated delays. In addition, our failure to obtain regulatory approval in any country may delay or have negative effects on the process for regulatory approval in other countries. We do not have any product candidates approved for sale in any jurisdiction, including international markets, and we do not have experience in obtaining regulatory approval in international markets. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, our target market will be reduced and our ability to realize the full market potential of our products will be harmed.

In the United States, we may seek fast track designation of AFM13 and certain of our other product candidates, with the intent to pursue an accelerated approval pathway and potentially, breakthrough designation of AFM13 and/or certain of our other product candidates. There is no assurance that the FDA will grant such designations; and, even if it does grant such designations to AFM13 and/or certain of our other product candidates, such designation may not actually lead to a faster development or regulatory review or approval process and does not increase the likelihood that our product candidates will receive marketing approval in the United States.

Based on clinical data, either from ongoing or new clinical studies, we plan to seek fast track approval of AFM13 as a monotherapy and/or as a combination in relevant indications. In addition, we may seek fast track approval of certain of our other product candidates. The fast track program, a provision of the FDA Modernization Act of 1997, is designed to facilitate interactions between a sponsoring company and the FDA before and during submission of a BLA for an investigational agent that, alone or in combination with one or more other drugs, is intended to treat a serious or life-threatening disease or condition, and which demonstrates the potential to address an unmet medical need for that disease or condition. Under the fast track program, the FDA may consider reviewing portions of a marketing application before the sponsor submits the complete application if the FDA determines, after a preliminary evaluation of the clinical data, that a fast track product may be effective. A fast track designation provides the opportunity for more frequent interactions with the FDA, and a fast track product could be eligible for priority review if supported by clinical data at the time of submission of the BLA.

The FDA is authorized to designate a product candidate as a breakthrough therapy if it finds that the product is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For products designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Products designated as breakthrough therapies by the FDA are also eligible for accelerated approval.

The FDA has broad discretion whether or not to grant fast track or breakthrough designation. Accordingly, even if we believe one of our product candidates meets the criteria for fast track or breakthrough designation, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of fast-track or breakthrough therapy designation for a product candidate may not result in a faster development process, review or approval compared to product candidates considered for approval under conventional FDA procedures and, in any event, does not assure ultimate approval by the FDA. In addition, even if one or more of our product candidates qualify as fast track or breakthrough therapies, the FDA may later decide that the product candidates no longer meet the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

We may be unable to obtain orphan product designation or exclusivity for some of our product candidates. If our competitors are able to obtain orphan product exclusivity for their products in the same indications for which we are developing our product candidates, we may not be able to have our products approved by the applicable regulatory authority for a significant period of time. Conversely, if we obtain orphan drug exclusivity for some of our product candidates, we may not be able to benefit from the associated marketing exclusivity.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product candidate as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States. In the European Union, or the EU, the European Commission may designate a product candidate as an orphan medicinal product if it is a medicine for the diagnosis, prevention or treatment of life-threatening or very serious conditions that affect not more than five in 10,000 persons in the European Union, or it is unlikely that marketing of the medicine would generate sufficient returns to justify the investment needed for its development. We have received orphan drug designation for AFM13 for the treatment of HL in the United States and Europe, but orphan drug status may not ensure that we have market exclusivity in a particular market and there is no assurance we will be able to receive orphan drug designation for certain of our other product candidates or any additional product candidates. Further, the granting of a request for orphan drug designation does not alter the standard regulatory requirements and process for obtaining marketing approval.

Generally, if a product candidate with an orphan drug designation receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which, subject to certain exceptions, precludes the FDA from approving the marketing application of another drug for the same indication for that time period or precludes the EMA, and other national drug regulators in the EU, from accepting the marketing application for another medicinal product for the same indication. The applicable period is seven years in the United States and ten years in the European Union. The EU period can be reduced to six years if a product no longer meets the criteria for orphan drug designation or if the product is sufficiently profitable so that market exclusivity is no longer justified. In the EU, orphan exclusivity may also be extended for an additional two years (i.e., a maximum of 12 years' orphan exclusivity) if the product is approved on the basis of a dossier that includes pediatric clinical study data generated in accordance with an approved paediatric investigation plan. Orphan drug exclusivity may be lost in the United States if the FDA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition.

Even if we obtain orphan drug exclusivity for one or more of our products that exclusivity may not effectively protect the product from competition because exclusivity can be suspended under certain circumstances. In the United States, even after an orphan drug is approved, the FDA can subsequently approve another drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. In the European Union, orphan exclusivity will not prevent a marketing authorization being granted for a similar medicinal product in the same indication if the new product is safer, more effective or otherwise clinically superior to the first product or if the marketing authorization holder of the first product is unable to supply sufficient quantities of the product.

Our product candidates may result in serious adverse, undesirable or unacceptable side effects which may delay or prevent marketing approval. If such side effects are identified during the development of our product candidates or following approval, if any, we may need to abandon our development of such product candidates, the commercial profile of any approved label may be limited, or we may be subject to other significant negative consequences following marketing approval, if any.

Although all of our product candidates have undergone or will undergo safety testing to the extent possible and agreed with health authorities, not all adverse effects of drugs can be predicted or anticipated. Immunotherapy and its method of action of harnessing the body's immune system, especially with respect to immune cell engagers, is powerful and could lead to serious side effects that we only discover in clinical studies. Unforeseen

side effects from any of our product candidates could arise either during clinical development or, if such side effects are rarer, after our product candidates have been approved by regulatory authorities and the approved product has been marketed, resulting in the exposure of additional patients. All of our product candidates are still in clinical or preclinical development. While our phase 1 clinical studies for AFM13 demonstrated a favorable safety profile, the results from future trials of AFM13 or other NK cell-engaging bispecific antibodies may not confirm these results. During the fourth quarter of 2018, we placed AFM11 on clinical hold after the occurrence of SAEs in three patients, which included a death in the ALL study and two life-threatening events in the NHL study. The SAEs occurred in patients enrolled in the highest dose cohorts of each study. Subsequently, we received a formal notification from the FDA that the regulatory agency has concurred with our decision to stop recruitment and formally placed the AFM11 IND application on full clinical hold. In early March 2019, we submitted a complete response document to the FDA that summarizes the clinical data from the two AFM11 phase 1 studies to request that the clinical hold be lifted so that clinical development of AFM11 may proceed in ALL patients. The timing of the FDA's response, and the FDA's decision, are uncertain.

Furthermore, we are initially developing our product candidates for patients with HL, CD30+ lymphoma, NHL and other indications for whom no other therapies have succeeded and survival times are frequently short. Therefore, we expect that certain patients may die during the clinical studies of our product candidates, and it may be difficult to ascertain whether such deaths are attributable to the underlying disease, complications from the disease, our product candidates or a combination thereof.

The results of future clinical studies may show that our product candidates cause undesirable or unacceptable side effects, which could interrupt, delay or halt clinical studies, and result in delay of, or failure to obtain, marketing approval from the FDA, the European Commission and other regulatory authorities, or result in marketing approval from the FDA, the European Commission and other regulatory authorities with restrictive label warnings or potential product liability claims. Treatment-related side effects could also affect patient recruitment or the ability of enrolled subjects to complete the study, or make the product candidate less attractive for partnering. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff, particularly outside of our existing or future collaborators as toxicities resulting from cancer immunotherapies are not normally encountered in the general patient population and by medical personnel. The inability to recognize and manage the potential side effects of our product candidates could result in patient deaths. Any of these occurrences may prevent us from achieving or maintaining market acceptance of the affected product candidate and may harm our business, financial condition and prospects significantly.

Additionally, if any of our product candidates receives marketing approval and we or others later identify undesirable or unacceptable side effects caused by such products:

- regulatory authorities may require us to take our approved product off the market;
- regulatory authorities may require the addition of labeling statements, specific warnings, a contraindication or field alerts to physicians and pharmacies;
- we may be required to change the way the product is administered, conduct additional clinical studies or change the labeling of the product;
- we may be subject to limitations on how we may promote the product;
- sales of the product may decrease significantly;
- we may be subject to litigation or product liability claims; and
- our reputation may suffer.

Any of these events could prevent us, our collaborators or our potential future partners from achieving or maintaining market acceptance of the affected product or could substantially increase commercialization costs and expenses, which in turn could delay or prevent us from generating significant revenue from the sale of our products.

Adverse events in the field of immuno-oncology could damage public perception of our product candidates and negatively affect our business.

The commercial success of our products will depend in part on public acceptance of the use of cancer immunotherapies. SAEs and other adverse events in clinical studies of our product candidates or in clinical studies of others developing similar products and the resulting publicity, as well as any other adverse events in the field of immuno-oncology that may occur in the future, could result in a decrease in demand for any products that we may develop. Although the mode of action of our T cell tetravalent bispecific antibodies differs from that of other approaches in development, the public may not always differentiate between our therapies and others in the field. If public perception is influenced by claims that the use of cancer immunotherapies is unsafe, our products may not be accepted by the general public or the medical community.

Future adverse events in immuno-oncology or the biopharmaceutical industry could also result in greater governmental regulation, stricter labeling requirements and potential regulatory delays in the testing or approvals of our products. Any increased scrutiny could delay or increase the costs of obtaining regulatory approval for our product candidates.

Even if approved, if any of our product candidates do not achieve broad market acceptance among physicians, patients, the medical community and third-party payors, our revenue generated from their sales will be limited.

The commercial success of our product candidates will depend upon their acceptance among physicians, patients and the medical community. The degree of market acceptance of our product candidates will depend on a number of factors, including:

- limitations or warnings contained in the approved labeling for a product candidate;
- changes in the standard of care for the targeted indications for any of our product candidates;
- limitations in the approved clinical indications for our product candidates;
- demonstrated clinical safety and efficacy compared to other products;
- lack of significant adverse side effects;
- sales, marketing and distribution support;
- availability and extent of reimbursement from managed care plans and other third-party payors;
- timing of market introduction and perceived effectiveness of competitive products;
- the degree of cost-effectiveness of our product candidates;
- availability of alternative therapies at similar or lower cost, including generic and over-the-counter products;
- the extent to which the product candidate is approved for inclusion on formularies of hospitals and managed care organizations;

- whether the product is designated under physician treatment guidelines as a first-line therapy or as a second- or third-line therapy for particular diseases;
- adverse publicity about our product candidates or favorable publicity about competitive products;
- convenience and ease of administration of our products; and
- potential product liability claims.

If any of our product candidates are approved, but do not achieve an adequate level of acceptance by physicians, patients and the medical community, we may not generate sufficient revenue from these products, and we may not become or remain profitable. In addition, efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may never be successful.

We are subject to manufacturing risks that could substantially increase our costs and limit supply of our product or prevent us from achieving a commercially viable production process.

The process of manufacturing our products is complex, highly regulated and subject to several risks, including:

- We do not have experience in manufacturing our product candidates at commercial scale. We plan to contract with external manufacturers to develop a larger scale manufacturing process for AFM13 in order to have material from such commercial scale process available for a potential pivotal phase 2b trial. We may not succeed in the scaling up the process. We may need a larger scale manufacturing process for certain of our product candidates than what we have planned, depending on the dose and regimen. Any changes in our manufacturing processes as a result of scaling up may result in the need to obtain additional regulatory approvals. Difficulties in achieving commercial-scale production or the need for additional regulatory approvals as a result of scaling up could delay the development and regulatory approval of our product candidates and ultimately affect our success.
- We may not achieve the manufacturing productivity (“yield”) required to achieve a commercially viable cost of goods. Our molecules are novel antibody structures and there is very limited knowledge as to which productivities can be achieved at commercial scale. Low productivities may result in a cost of goods which are too high to allow profitable commercialization, or give rise to the need for additional manufacturing process optimization which would require additional funding and time.
- The process of manufacturing biologics, such as AFM13 and certain of our other product candidates, is extremely susceptible to product loss due to contamination, equipment failure or improper installation or operation of equipment, vendor or operator error, inconsistency in yields, variability in product characteristics and difficulties in scaling the production process. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects and other supply disruptions. If microbial, viral or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.
- The manufacturing facilities in which our product candidates are made could be adversely affected by equipment failures, labor shortages, natural disasters, power failures and numerous other factors.
- We must comply with applicable current Good Manufacturing Practice, or cGMP, regulations and guidelines. We may encounter difficulties in achieving quality control and quality assurance and may experience shortages in qualified personnel. We are subject to inspections by the FDA and comparable agencies in other jurisdictions to confirm compliance with applicable regulatory requirements. Any failure to follow cGMP or other regulatory requirements or delay, interruption or other issues that arise in the

manufacture, fill-finish, packaging, or storage of our product candidates as a result of a failure of our facilities or the facilities or operations of third parties to comply with regulatory requirements or pass any regulatory authority inspection could significantly impair our ability to develop and commercialize our product candidates, leading to significant delays in the availability of drug product for our clinical studies or the termination or hold on a clinical study, or the delay or prevention of a filing or approval of marketing applications for our product candidates. Significant noncompliance could also result in the imposition of sanctions, including fines, injunctions, civil penalties, failure of regulatory authorities to grant marketing approvals for our product candidates, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of products, operating restrictions and criminal prosecutions, any of which could damage our reputation. If we are not able to maintain regulatory compliance, we may not be permitted to market our product candidates and/or may be subject to product recalls, seizures, injunctions, or criminal prosecution.

- Any adverse developments affecting manufacturing operations for our product candidates, if any are approved, may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls, or other interruptions in the supply of our products. We may also have to take inventory write-offs and incur other charges and expenses for products that fail to meet specifications, undertake costly remediation efforts or seek more costly manufacturing alternatives.
- Our product candidates that have been produced and are stored for later use may degrade, become contaminated or suffer other quality defects, which may cause the affected product candidates to no longer be suitable for their intended use in clinical studies or other development activities. If the defective product candidates cannot be replaced in a timely fashion, we may incur significant delays in our development programs that could adversely affect the value of such product candidates.

We currently have no marketing, sales or distribution infrastructure. If we are unable to develop sales, marketing and distribution capabilities on our own or through collaborations, or if we fail to achieve adequate pricing and/or reimbursement we will not be successful in commercializing our product candidates.

We currently have no marketing, sales and distribution capabilities because our lead product candidates are still in clinical development. If any of our product candidates are approved, we intend either to establish a sales and marketing organization with technical expertise and supporting distribution capabilities to commercialize our product candidates, or to outsource this function to a third party. Either of these options would be expensive and time consuming. These costs may be incurred in advance of any approval of our product candidates. In addition, we may not be able to hire a sales force that is sufficient in size or has adequate expertise in the medical markets that we intend to target. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the commercialization of our products.

To the extent that we enter into collaboration agreements with respect to marketing, sales or distribution, our product revenue may be lower than if we directly marketed or sold any approved products. In addition, any revenue we receive will depend in whole or in part upon the efforts of these third-party collaborators, which may not be successful and are generally not within our control. If we are unable to enter into these arrangements on acceptable terms or at all, we may not be able to successfully commercialize any approved products. If we are not successful in commercializing any approved products, either on our own or through collaborations with one or more third parties, our future product revenue will suffer and we may incur significant additional losses.

We may not be able to achieve the prices for our products that we may need for sustained profitability. In particular, there are different and changing reimbursement regulations in major market countries and other countries, and we might not be able to show the specific benefit or other requirements required for reimbursement or reimbursement at a specified pricing level in one or more jurisdictions.

In addition, if we successfully develop combinations of our product candidates with other potentially expensive agents, the market may not allow for premium pricing of our products and hence may impair our ability to achieve profitability.

We face significant competition and if our competitors develop and market products that are more effective, safer or less expensive than our product candidates, our commercial opportunities will be negatively impacted.

The life sciences industry is highly competitive and subject to rapid and significant technological change. We are currently developing therapeutics that will compete with other drugs and therapies that currently exist or are being developed. Products we may develop in the future are also likely to face competition from other drugs and therapies, some of which we may not currently be aware. We have competitors both in the United States and internationally, including major multinational pharmaceutical companies, established biotechnology companies, specialty pharmaceutical companies, universities and other research institutions. Many of our competitors have significantly greater financial, manufacturing, marketing, drug development, technical and human resources than we do. Large pharmaceutical companies, in particular, have extensive experience in clinical testing, obtaining regulatory approvals, recruiting patients and in manufacturing pharmaceutical products. These companies also have significantly greater research and marketing capabilities than we do and may also have products that have been approved or are in late stages of development, and collaborative arrangements in our target markets with leading companies and research institutions. Established pharmaceutical companies may also invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make the product candidates that we develop obsolete. As a result of all of these factors, our competitors may succeed in obtaining patent protection and/or marketing approval or discovering, developing and commercializing products in our field before we do.

There is a large number of companies developing or marketing treatments for cancer disorders, including many major pharmaceutical and biotechnology companies. These treatments consist of small molecule drug products, biologic therapeutics that work, among others, either by using next-generation antibody technology platforms or new immunological approaches to address specific cancer targets, as well as genetically engineered cellular therapeutics. These treatments are often combined with one another in an attempt to maximize the response rate. In addition, several companies are developing therapeutics that work by targeting multiple specificities using a single recombinant molecule, as we are.

Clinical phase 2 data with the anti-PD-1 CPIs nivolumab and pembrolizumab in HL has been published. This data indicates that treatment with anti-PD-1 antibodies results in high response rates in the salvage setting of HL. The FDA granted conditional accelerated approval for nivolumab in 2016 in classical HL patients who have relapsed or progressed after autologous hematopoietic stem cell transplantation and brentuximab vedotin. The FDA also granted conditional accelerated approval for pembrolizumab in 2017 in adult and pediatric patients with refractory cHL who have relapsed after 3 or more prior lines of therapy. Adcetris® phase 2 and phase 3 studies are reported to be ongoing in combination with nivolumab. If AFM13 were to be approved for HL, we could be in competition with these therapies, as well as any other therapies or combination regimens that comprise the standard of care that AFM13 could potentially displace. Several other agents have reached proof of concept clinical studies in HL, including Afinitor (Novartis AG), ferritarg (MABLIFE), panobinostat (Novartis) and lenalidomide (Celgene).

Adcetris®, an antibody-drug conjugate targeting CD30, was approved by the FDA in relapsed/refractory HL in 2011. In addition, Adcetris® was approved by the FDA in 2015 for the treatment of patients with HL at high risk of relapse or progression following autologous hematopoietic stem cell transplantation as consolidation treatment. In the European Union, Adcetris® is approved for the same indications. Adcetris® is also indicated for anaplastic large cell lymphoma (ALCL) and CD30 positive mycosis fungoides, and is currently being investigated in different settings and various combinations in HL. Recent data indicate high complete response rates when combined with nivolumab (with or without ipilimumab) or bendamustine in relapsed/refractory HL.

With respect to competitors for AFM11, Celgene, Novartis, Bellicum, Collectis, Bluebird Bio and Gilead, amongst others, are each developing therapies using T cells reengineered with chimeric antigen receptors (CARs) against CD19-positive B cells.

We expect that our tetravalent bispecific antibodies and trispecific antibody platforms as well as our novel tetravalent, bispecific antibody formats will serve as the basis for future product candidates and collaborations with pharmaceutical companies. Other companies also have developed platform technologies that compete with our platforms. For example, MacroGenics is developing its DART and Xencor is developing its Xmab platform, which enable the targeting of multiple receptors or cells by using a single molecule with an antibody-like structure. Ablynx is also developing such a platform aimed at multi-specific targeting, which to date has not reached clinical testing. Dragonfly Therapeutics is developing TriNKET which specifically activate cells of the innate and adoptive immune system.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe effects, are more convenient, have a broader label, are marketed more effectively, are reimbursed or are less expensive than any products that we may develop. Our competitors also may obtain FDA, European Commission or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Even if our product candidates achieve marketing approval, they may be priced at a significant premium over competitive products if any have been approved by then, resulting in reduced competitiveness.

In addition, our ability to compete in the future may be affected in many cases by insurers or other third-party payors seeking to encourage the use of biosimilar products. In March 2010, former President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the Health Care Reform Law, a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for health care and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. The Health Care Reform Law also created a new regulatory scheme authorizing the FDA to approve biosimilars. Under the Health Care Reform Law, a manufacturer may submit an application for licensure of a biologic product that is “biosimilar to” or “interchangeable with” a previously approved biological product or “reference product,” without the need to submit a full package of preclinical and clinical data. Under this new statutory scheme, an application for a biosimilar product may not be submitted to the FDA until four years following approval of the reference product. The FDA may not approve a biosimilar product until 12 years from the date on which the reference product was approved. Even if a product is considered to be a reference product eligible for exclusivity, another company could market a competing version of that product if the FDA approves a full BLA for such product containing the sponsor’s own preclinical data and data from adequate and well-controlled clinical studies to demonstrate the safety, purity and potency of their product. Furthermore, recent legislation has proposed that the 12-year exclusivity period for each a reference product may be reduced to seven years.

Smaller and other early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical study sites and patient registration for clinical studies, as well as in acquiring technologies complementary to, or necessary for, our programs. In addition, the biopharmaceutical industry is characterized by rapid technological change. If we

fail to stay at the forefront of technological change, we may be unable to compete effectively. Technological advances or products developed by our competitors may render our technologies or product candidates obsolete, less competitive or not economical.

Enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and may affect the prices we may set. The successful commercialization of our product candidates will depend in part on the extent to which governmental authorities and health insurers establish adequate coverage and reimbursement levels and pricing policies.

In the United States, the European Union, its member states and some other foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system. These changes could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to sell profitably any products for which we obtain marketing approval. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access to healthcare.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the Medicare Modernization Act, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sale prices for physician-administered drugs. In addition, this legislation provided authority for limiting the number of drugs that will be covered in any therapeutic class. Cost-reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for any approved products. If we successfully develop combinations of our product candidates with other potentially expensive agents, we may not achieve premium pricing for our products, which may impair our ability to achieve profitability. While the Medicare Modernization Act applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the Medicare Modernization Act may result in a similar reduction in payments from private payors.

In addition, the Health Care Reform Law, among other things, increased rebates a manufacturer must pay to the Medicaid program, addressed a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, established a new Medicare Part D coverage gap discount program, in which manufacturers must provide 50% point-of-sale discounts on products covered under Part D and implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models. Further, the new law imposed a significant annual fee on companies that manufacture or import branded prescription drug products. Substantial new provisions affecting compliance were enacted, which may affect our business practices with health care practitioners. The goal of the Health Care Reform Law is to reduce the cost of health care and substantially change the way health care is financed by both governmental and private insurers. While we cannot predict what impact on federal reimbursement policies this legislation will have in general or on our business specifically, the Health Care Reform Law may result in downward pressure on pharmaceutical reimbursement, which could negatively affect market acceptance of, and the price we may charge for, any products we develop that receive regulatory approval. Subsequent to the 2016 presidential election, some members of the U.S. Congress have been working to repeal the Health Care Reform Law. For example, since January 2017, President Trump has signed two executive orders and other directives designed to delay, circumvent, or loosen certain requirements mandated by the Health Care Reform Law. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the Health Care Reform Law. In addition, the Tax Cuts and the Jobs Act includes a provision that repeals, effective January 1, 2019, the tax-based shared responsibility payment imposed by the Health Care Reform Law on certain individuals who fail to maintain qualifying health coverage for all or part of a year.

Further, on June 14, 2018 the United States Court of Appeals for the Federal Circuit ruled that the federal government was not required to pay more than \$12.0 billion in Health Care Reform Law risk corridor payments to third-party payors. The effects of this gap in reimbursement on third-party payors, the viability of the Health Care Reform Law marketplace, providers, and our business, are not yet known. In addition, the Centers for Medicare and Medicaid Services, or CMS, have recently proposed regulations that would give states greater flexibility in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the Health Care Reform Law for plans sold through such marketplaces. The Bipartisan Budget Act of 2018, or the BBA, among other things, amends the Health Care Reform Law, effective January 1, 2019, to close the coverage gap in most Medicare drug plans, commonly referred to as the “donut hole.” In July 2018, the CMS published a final rule permitting further collections and payments to and from certain Health Care Reform Law qualified health plans and health insurance issuers under the Health Care Reform Law risk adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment. Moreover, CMS issued a final rule in 2018 that will give states greater flexibility, starting in 2020, in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the Health Care Reform Law for plans sold through such marketplaces. On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas, or the Texas District Court Judge, ruled that the individual mandate is a critical and inseparable feature of the Health Care Reform Law, and therefore, because it was repealed as part of the Tax Cuts and Jobs Act, the remaining provisions of the Health Care Reform Law are invalid as well. The Texas District Court Judge subsequently issued an order staying the judgment pending appeal, and both the Trump Administration and CMS have stated the ruling will have no immediate impact.

Because of the continued uncertainty about the implementation of the Health Care Reform Law, including the potential for further legal challenges or repeal of that legislation, we cannot quantify or predict with any certainty the likely impact of the Health Care Reform Law or its repeal on our business model, prospects, financial condition or results of operations, in particular on the pricing, coverage or reimbursement of any of our product candidates that may receive marketing approval. We also anticipate that Congress, state legislatures, and third-party payors may continue to review and assess alternative healthcare delivery and payment systems and may in the future propose and adopt legislation or policy changes or implementations effecting additional fundamental changes in the healthcare delivery system. We cannot assure you as to the ultimate content, timing, or effect of changes, nor is it possible at this time to estimate the impact of any such potential legislation.

Moreover, other legislative changes have also been proposed and adopted in the United States since the Health Care Reform Law was enacted. On August 2, 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least \$1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of 2% per fiscal year, which went into effect on April 1, 2013. On January 2, 2013, former President Obama signed into law the American Taxpayer Relief Act of 2012, or the ATRA, which, among other things, further reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other health care funding, which could have a material adverse effect on our customers and accordingly, our financial operations.

The delivery of healthcare in the European Union, including the establishment and operation of health services and the pricing and reimbursement of medicines, is almost exclusively a matter for national, rather than EU, law and policy. National governments and health service providers have different priorities and approaches to the delivery of health care and the pricing and reimbursement of products in that context. In general, however, the healthcare budgetary constraints in most EU member states have resulted in restrictions on the pricing and reimbursement of medicines by relevant health service providers. Coupled with ever-increasing EU and national regulatory burdens on those wishing to develop and market products, this could prevent or delay marketing

approval of our product candidates, restrict or regulate post-approval activities and affect our ability to commercialize any products for which we obtain marketing approval.

If any product liability lawsuits are successfully brought against us or any of our collaborators, we may incur substantial liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability lawsuits related to the testing of our product candidates in seriously ill patients, and will face an even greater risk if product candidates are approved by regulatory authorities and introduced commercially. Despite mandatory product liability insurances in the countries in which we are conducting our clinical studies, we cannot exclude that any claims will be brought against us or our collaborators although product liability claims by participants enrolled in our clinical studies will be usually covered by our insurances. If we cannot successfully defend ourselves against any such claims, we may incur substantial liabilities. Regardless of their merit or eventual outcome, liability claims may result in:

- decreased demand for our future approved products;
- injury to our reputation;
- withdrawal of clinical study participants;
- termination of clinical study sites or entire trial programs;
- increased regulatory scrutiny;
- significant litigation costs;
- substantial monetary awards to or costly settlement with patients or other claimants;
- product recalls or a change in the indications for which they may be used;
- loss of revenue;
- diversion of management and scientific resources from our business operations; and
- the inability to commercialize our product candidates.

If any of our product candidates are approved for commercial sale, we will be highly dependent upon consumer perceptions of us and the safety and quality of our products. We could be adversely affected if we are subject to negative publicity. We could also be adversely affected if any of our products or any similar products distributed by other companies prove to be, or are asserted to be, harmful to patients. Because of our dependence upon consumer perceptions, any adverse publicity associated with illness or other adverse effects resulting from patients' use or misuse of our products or any similar products distributed by other companies could have a material adverse impact on our financial condition or results of operations.

We have insurance, but our current insurance coverage and any additional coverage for further clinical studies may not be adequate to cover all liabilities that we may incur. We may need to increase and expand our insurance coverage when we begin the commercialization of our product candidates. Insurance coverage is becoming increasingly expensive. As a result, we may be unable to maintain or obtain sufficient insurance at a reasonable cost to protect us against losses that could have a material adverse effect on our business. A successful product liability claim or series of claims brought against us, particularly if judgments exceed any insurance coverage we may have, could decrease our cash resources and adversely affect our business, financial condition and results of operation.

Our business may become subject to economic, political, regulatory and other risks associated with international operations.

Our business is subject to risks associated with conducting business internationally. A number of our suppliers and collaborative and clinical study relationships are located outside the United States. Accordingly, our future results could be harmed by a variety of factors, including:

- economic weakness, including inflation, or political instability in particular non-U.S. economies and markets;
- differing regulatory requirements for drug approvals in non-U.S. countries;
- potentially reduced protection for intellectual property rights;
- difficulties in compliance with non-U.S. laws and regulations;
- changes in non-U.S. regulations and customs, tariffs and trade barriers;
- changes in non-U.S. currency exchange rates and currency controls;
- changes in a specific country's or region's political or economic environment;
- trade protection measures, import or export licensing requirements or other restrictive actions by U.S. or non-U.S. governments;
- negative consequences from changes in tax laws;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- difficulties associated with staffing and managing international operations, including differing labor relations;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geo-political actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires.

Exchange rate fluctuations or abandonment of the euro currency may materially affect our results of operations and financial condition.

Potential future revenue may be derived from abroad, particularly from the United States. As a result, our business and share price may be affected by fluctuations in foreign exchange rates between the euro and these other currencies, which may also have a significant impact on our reported results of operations and cash flows from period to period, such as the US\$. We have converted into euros only the portion of the IPO proceeds, the proceeds from our follow-on offerings in May 2015, January/February 2017 and February 2018, the private placement in October 2015 and sales pursuant to our at-the-market sales agreement, and the proceeds that we have received pursuant to our research collaboration and license agreement with Genentech, that will be spent in euros according to our budget. If the projected payments in either euro or US\$ changes, we may be subject to foreign exchange-rate risk. Currently, we do not have any other exchange rate hedging measures in place.

Despite measures taken by the European Union to provide funding to certain EU member states in financial difficulties and by a number of European countries to stabilize their economies and reduce their debt burdens, it is possible that the euro could be abandoned in the future as a currency by countries that have adopted its use. This could lead to the re-introduction of individual currencies in one or more EU member states, or in more extreme circumstances, the dissolution of the European Union. The effects on our business of a potential dissolution of the European Union, the exit of one or more EU member states from the European Union or the abandonment of the euro as a currency, are impossible to predict with certainty, and any such events could have a material adverse effect on our business, financial condition and results of operations.

Future acquisitions, strategic investments, partnerships or alliances could be difficult to integrate and/or identify, divert the attention of key management personnel, disrupt our business, dilute shareholder value and/or adversely affect our financial results.

We may consider entering into acquisitions of other companies, businesses, assets or technologies that are complementary to our business and operations as part of our growth strategy. Acquisitions and subsequent integrations of newly acquired businesses would require significant managerial and financial resources and could result in a diversion of resources from our existing business, which in turn could have an adverse effect on our growth and business operations. We must necessarily base any assessment of potential acquisitions and alliances on assumptions with respect to operations, profitability and other matters that may subsequently prove to be incorrect. Future acquisitions and alliances, as well as other investments, may not produce anticipated synergies or perform in accordance with our expectations. The cost and duration of integrating newly acquired businesses could also materially exceed our expectations. It is also possible that we may not identify suitable acquisition targets, strategic investments or partnerships candidates. Our inability to identify such opportunities, or our inability to complete such transactions, may negatively affect our competitiveness and growth prospects. Any of these developments could have a material adverse effect on our business, financial condition and results of operations.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant losses since inception and anticipate that we will continue to incur losses for the foreseeable future. We have no products approved for commercial sale, and to date we have not generated any revenue or profit from product sales. We may never achieve or sustain profitability.

We are a clinical-stage biopharmaceutical company with a limited operating history. We have incurred significant losses since our inception. As of December 31, 2018, our accumulated deficit was €202.1 million. Our losses have resulted principally from expenses incurred in research and development of our product candidates and from general and administrative expenses that we have incurred while building our business infrastructure. We expect to continue to incur losses for the foreseeable future, and we expect these losses to increase as we continue our research and development of, and seek regulatory approvals for, our product candidates, prepare for and begin to commercialize any approved products, and add infrastructure and personnel to support our product development efforts and operations as a public company. The net losses and negative cash flows incurred to date, together with expected future losses, have had, and likely will continue to have, an adverse effect on our shareholders' equity and working capital. The amount of future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. For example, our expenses could increase if we are required by the FDA or the EMA to perform trials in addition to those that we currently expect to perform, or if there are any delays in completing our currently planned clinical studies or in the development of any of our product candidates.

To become and remain profitable, we must succeed in developing and commercializing products with significant market potential. This will require us to be successful in a range of challenging activities for which we are only in the preliminary stages, including developing product candidates, obtaining regulatory approval for them, and

manufacturing, marketing and selling those products for which we may obtain regulatory approval. We may never succeed in these activities and may never generate revenue from product sales that is significant enough to achieve profitability. Our ability to generate future revenue from product sales depends heavily on our success in many areas, including but not limited to:

- completing research and clinical development of our product candidates, including successfully completing registration clinical studies of AFM13 or certain of our other product candidates;
- obtaining marketing approvals for our product candidates, including AFM13 or AFM11, for which we complete clinical studies;
- developing a sustainable and scalable manufacturing process for any approved product candidates and maintaining supply and manufacturing relationships with third parties that can conduct the process and provide adequate (in amount and quality) products to support clinical development and the market demand for our product candidates, if approved;
- launching and commercializing product candidates for which we obtain marketing approval, either directly or with a collaborator or distributor;
- establishing sales, marketing, and distribution capabilities in the United States;
- obtaining market acceptance of our product candidates as viable treatment options;
- addressing any competing technological and market developments;
- identifying, assessing, acquiring and/or developing new product candidates;
- negotiating favorable terms in any collaboration, licensing, or other arrangements into which we may enter;
- maintaining, protecting, and expanding our portfolio of intellectual property rights, including patents, trade secrets, and know-how; and
- attracting, hiring and retaining qualified personnel.

Even if one or more of the product candidates that we develop is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. Because of the numerous risks and uncertainties with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods. Our failure to become or remain profitable would depress our market value and could impair our ability to raise capital, expand our business, develop other product candidates, or continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment.

We will require substantial additional funding, which may not be available to us on acceptable terms, or at all, and, if not available, may require us to delay, scale back, or cease our product development programs or operations.

We are advancing our product candidates through clinical development. Developing pharmaceutical products, including conducting preclinical studies and clinical studies, is expensive. In order to obtain such regulatory approval, we will be required to conduct clinical studies for each indication for each of our product candidates. We will require additional funding to complete the development and commercialization of our product candidates and to continue to advance the development of our other product candidates, and such funding may not be available on acceptable terms or at all. Although it is difficult to predict our liquidity requirements, based

upon our current operating plan, we anticipate that our existing liquidity and additional budgeted revenues will enable us to fund the clinical development of AFM13 and AFM11 and pre-clinical development of AFM24 and other future product candidates into 2021, assuming all of our programs advance as currently contemplated. Because successful development of our product candidates is uncertain, we are unable to estimate the actual funds we will require to complete research and development and to commercialize our product candidates.

Our future funding requirements will depend on many factors, including but not limited to:

- the number and characteristics of other product candidates that we pursue;
- the scope, progress, timing, cost and results of research, preclinical development, and clinical studies;
- the costs, timing and outcome of seeking and obtaining FDA and non-U.S. regulatory approvals;
- the costs associated with manufacturing our product candidates and establishing sales, marketing, and distribution capabilities;
- our ability to maintain, expand, and defend the scope of our intellectual property portfolio, including the amount and timing of any payments we may be required to make in connection with the licensing, filing, defense and enforcement of any patents or other intellectual property rights;
- the extent to which we acquire or in-license other products or technologies;
- our need and ability to hire additional management, scientific, and medical personnel;
- the effect of competing products that may limit market penetration of our product candidates;
- the amount and timing of revenues, if any, we receive from commercial sales of any product candidates for which we receive marketing approval in the future;
- our need to implement additional internal systems and infrastructure, including financial and reporting systems; and
- the economic and other terms, timing of and success of our existing collaborations, and any collaboration, licensing, or other arrangements into which we may enter in the future, including the timing of achievement of milestones and receipt of any milestone or royalty payments under these agreements.

Until we can generate a sufficient amount of product revenue to finance our cash requirements, which we may never do, we expect to finance future cash needs primarily through a combination of public or private equity offerings, debt financings, strategic collaborations, and grant funding. If sufficient funds on acceptable terms are not available when needed, or at all, we could be forced to significantly reduce operating expenses and delay, scale back or eliminate one or more of our development programs or our business operations or even go bankrupt.

Raising additional capital may cause dilution to our shareholders, restrict our operations or require us to relinquish rights to our intellectual property or future revenue streams.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our cash needs through a combination of equity offerings, debt financings, grants and licenses and development agreements in connection with any collaborations. We do not have any committed external source of funds. In the event we need to seek additional funds, we may raise additional capital through the sale of equity or convertible debt securities. In such an event, our shareholders' ownership interests will be diluted, and the terms of these new securities may include liquidation or other preferences that adversely affect our shareholders' rights as holders

of our common shares. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

On November 30, 2016, our subsidiary Affimed GmbH entered into a loan agreement with Silicon Valley Bank, a California corporation (“SVB”), as lender, which we fully guarantee. The loan agreement provides us with a senior secured term loan facility for originally up to €10.0 million, which agreement was amended in May 2017 to provide that such amount would be available in three tranches. On December 8, 2016, we fully drew down the initial tranche of €5.0 million, and on May 31, 2017 we drew down the second tranche of €2.5 million; the availability of the third tranche expired in September 2017 with such amount remaining undrawn. In connection with such drawdowns, we issued SVB warrants to purchase 219,692 of our common shares, at a weighted-average exercise price of \$2.07 per common share.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, product candidates, intellectual property or future revenue streams. If we are unable to raise additional funds when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

We have broad discretion in the use of our cash on hand and may not use them effectively.

As of December 31, 2018, we had €108.8 million in cash and cash equivalents and current financial assets. Our management will have broad discretion in the use of such funds and could spend them in ways that do not improve our results of operations or enhance the value of our common shares. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common shares to decline and delay the development of our product candidates. Pending their use, we may invest our cash and cash equivalents in a manner that does not produce income or that loses value.

Our ability to use our net operating loss carry forwards and other tax attributes may be limited.

Our ability to utilize our net operating losses, or NOLs, is currently limited, and may be limited further, under Section 8c of the *Körperschaftsteuergesetz* (the German Corporation Income Tax Act) and Section 10a of the *Gewerbsteuergesetz* (the German Trade Tax Act). These limitations apply if a qualified ownership change, as defined by Section 8c of the *Körperschaftsteuergesetz*, occurs and no exemption is applicable. Generally, a qualified ownership change occurs if more than 50% of the share capital or the voting rights are directly or indirectly transferred to a shareholder or a group of shareholders within a period of five years. A qualified ownership change may also occur in case of an increase in capital leading to a respective change in the shareholding. In the case of such qualified ownership change all tax losses and tax loss carry forwards available as of the time of the ownership change, cannot be utilized in the future. However, to the extent that the tax losses and tax loss carry forwards do not exceed hidden reserves taxable in Germany or the qualified ownership change is made for purposes of the Company’s restructuring (*zum Zwecke der Sanierung*), they may be further utilized despite a qualified ownership change. Furthermore, Section 8c of the *Körperschaftsteuergesetz* is—under strict requirements—not applicable to a company provided that such company continues only those operations which are causing the loss (Section 8d *Körperschaftsteuergesetz*). In addition, the question whether the aforementioned described provisions of Section 8c of the *Körperschaftsteuergesetz* do comply with the German constitution is currently pending with the *Bundesverfassungsgericht* (German Supreme Court). On March 29, 2017, the German Supreme Court ruled that Section 8c of the *Körperschaftsteuergesetz* has not complied with the German constitution to the extent it formerly stated that a harmful ownership change should occur partially if more than 25% but less than 50% of the share capital or the voting rights are directly or indirectly transferred to a shareholder or a group of shareholders within a period of five years. As a consequence of this decision, the German legislator abolished such part of the provision.

As of December 31, 2018, we had estimated NOL carry forwards for German tax purposes of €163.8 million. Future changes in share ownership may also trigger an ownership change and, consequently, a Section 8c *Körperschaftsteuergesetz* or a Section 10a *Gewerbsteuergesetz* limitation. Any limitation may result in the expiration of a portion or the complete tax loss carry forwards before they can be utilized. As a result, if we earn net taxable income, our ability to use our pre-change NOL carry forwards to reduce German income tax may be subject to limitations, which could potentially result in increased future cash tax liability to us.

Risks Related to Our Dependence on Third Parties

Our existing collaborations on research and development candidates are important to our business, and future collaborations may also be important to us. If we are unable to maintain any of these collaborations, if these collaborations are not successful or if we fail to enter into new strategic relationships, our business could be adversely affected.

We have entered into collaborations with other companies that we believe have provided us with valuable funding or other resources such as access to technologies, including our collaborations with The Leukemia & Lymphoma Society, Genentech, Merck, The MD Anderson Cancer Center and our former collaboration with Nektar and Amphivena. In the future, we may enter into additional collaborations to leverage our technology platforms, fund our research and development programs or to gain access to sales, marketing or distribution capabilities. Our existing collaborations, and any future collaborations we enter into, may pose a number of risks, including the following:

- collaborators may have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs based on clinical study results, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;
- collaborators may delay clinical studies, provide insufficient funding for a clinical study program, stop a clinical study or abandon a product candidate, repeat or conduct new clinical studies or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of our product candidates;
- a collaborator with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of such product or products;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or termination of the research, development or commercialization of product candidates, might lead to additional responsibilities for us with respect to

product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;

- collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability; and
- collaborations may be terminated for the convenience of the collaborator and, if terminated, we could be required to raise additional capital to pursue further development or commercialization of the applicable product candidates.

If our collaborations on research and development candidates do not result in the successful development and commercialization of products or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. If we do not receive the funding we expect under these agreements, our development of our technology platforms and product candidates could be delayed and we may need additional resources to develop product candidates and our technology platforms.

All of the risks relating to product development, regulatory approval and commercialization described in this Annual Report also apply to the activities of our program collaborators. For example, Amphivena had entered into a warrant agreement with Janssen Biotech Inc. that gave Janssen the option to acquire Amphivena following IND acceptance by the FDA, upon predetermined terms, in exchange for payments under the warrant. Upon effectiveness of such IND application in July 2016, Janssen decided to not exercise its option to purchase Amphivena, which could potentially be viewed as having negative implications for our business and prospects. We have been supporting the clinical development of Amphivena's product candidate with €2.8 million in financing, €1.0 million of which was invested in Amphivena in October 2016, €0.6 million of which was invested in March 2017, €0.3 million of which was invested in December 2017 and €0.9 million of which was invested in June 2018.

Additionally, subject to its contractual obligations to us, if one of our collaborators is involved in a business combination, the collaborator might deemphasize or terminate the development or commercialization of any product candidate licensed to it by us. If one of our collaborators terminates its agreement with us, we may find it more difficult to attract new collaborators.

For some of our product candidates, we may in the future determine to collaborate with additional pharmaceutical and biotechnology companies for development and potential commercialization of therapeutic products. We face significant competition in seeking appropriate collaborators. Our ability to reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. These factors may include the design or results of clinical studies, the likelihood of approval by the FDA, the European Commission or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate.

Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted

in a reduced number of potential future collaborators. If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail the development of a product candidate, reduce or delay one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop our product candidates or bring them to market or continue to develop our technology platforms and our business may be materially and adversely affected.

We may also be restricted under existing collaboration agreements from entering into future agreements on certain terms with potential collaborators. Subject to certain specified exceptions, our former collaboration with Amphivena contains restrictions on our engaging in activities that were the subject of the collaboration with third parties for specified periods of time. These restrictions survived the expiration of the agreement in July 2016.

CROs and independent clinical investigators that we engage to conduct our clinical studies may not devote sufficient time or attention to our clinical studies or be able to repeat their past success.

We expect to continue to depend on independent clinical investigators and CROs to conduct our clinical studies. CROs may also assist us in the collection and analysis of data. There is a limited number of third-party service providers that specialize or have the expertise required to achieve our business objectives. Identifying, qualifying and managing performance of third-party service providers can be difficult, time consuming and cause delays in our development programs. These investigators and CROs will not be our employees and we will not be able to control, other than by contract, the amount of resources, including time, which they devote to our product candidates and clinical studies. In addition, certain clinical studies in which we are involved and which are testing our product candidates are sponsored by academic sites, known as Investigator Sponsored Trials, or ISTs. By definition, the financing, design, and conduct of the study are under the sole responsibility of the respective sponsor. Therefore, we have limited control over these studies and we do not have control over the timing and reporting of the data from these trials. In addition, we may have limited information about ISTs while they are being conducted, including the status of trial initiation and patient recruitment, changes to trial design and clinical study results. Our AFM13 phase 2a in HL and our phase 1b/2a in CD30+ lymphoma with cutaneous manifestations are ISTs. If independent investigators or CROs fail to devote sufficient resources to the development of our product candidates, or if their performance is substandard, it may delay or compromise the completion of trials of our product candidates as well as the prospects for approval and commercialization of any product candidates that we develop. In addition, the use of third-party service providers requires us to disclose our proprietary information to these parties, which could increase the risk that this information will be misappropriated. Further, the FDA and other regulatory authorities require that we comply with standards, commonly referred to as current Good Clinical Practice, or cGCP, and other local legal requirements, e.g. data privacy, for conducting, recording and reporting clinical studies to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial subjects are protected. Failure of clinical investigators or CROs to meet their obligations to us or comply with cGCP procedures or other applicable legal requirements could adversely affect the clinical development of our product candidates and harm our business.

We contract with third parties for the manufacture of our product candidates for clinical testing in mono- and combination therapy settings and expect to continue to do so for commercialization. This reliance on third parties increases the risk that we will not have sufficient quantities of our product candidates or products, or compounds of such third parties, or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We anticipate continuing our engagement of contract manufacturing organizations to provide our clinical supply and internal capacity as we advance our product candidates into and through clinical development. We expect to use third parties for the manufacture of our product candidates for clinical testing, as well as for commercial manufacture. We plan to eventually enter into long-term supply agreements with several manufacturers for commercial supplies. We may be unable to reach agreement on satisfactory terms with contract manufacturers to manufacture our product candidates.

Additionally, the facilities to manufacture our product candidates must be the subject of a satisfactory inspection before the FDA, the EMA or other regulatory authorities approve a BLA or grant a marketing authorization for the product candidate manufactured at that facility. We will depend on these third-party manufacturing partners for compliance with the FDA's and the EMA's requirements for the manufacture of our finished products. If our manufacturers cannot successfully manufacture material that conforms to our specifications and the FDA, European Commission and other regulatory authorities' cGMP requirements, our product candidates will not be approved or, if already approved, may be subject to recalls.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured the product candidates ourselves, including:

- the possibility of a breach of the manufacturing agreements by the third parties because of factors beyond our control;
- the possibility of termination or nonrenewal of the agreements by the third parties before we are able to arrange for a qualified replacement third-party manufacturer; and
- the possibility that we may not be able to secure a manufacturer or manufacturing capacity in a timely manner and on satisfactory terms in order to meet our manufacturing needs.

Any of these factors could cause the delay of approval or commercialization of our product candidates, cause us to incur higher costs or prevent us from commercializing our product candidates successfully. Furthermore, if any of our product candidates are approved and contract manufacturers fail to deliver the required commercial quantities of finished product on a timely basis and at commercially reasonable prices, and we are unable to find one or more replacement manufacturers capable of production at a substantially equivalent cost, in substantially equivalent volumes and quality and on a timely basis, we would likely be unable to meet demand for our products and could lose potential revenue. It may take several years to establish an alternative source of supply for our product candidates and to have any such new source approved by the FDA, the EMA or any other relevant regulatory authorities.

For our clinical development of AFM13 in combination with the anti-PD-1 Keytruda® (pembrolizumab), we entered into an agreement with Merck pursuant to which Merck was providing us with pembrolizumab to conduct a phase 1b clinical combination trial in relapsed/refractory HL. We were dependent on Merck for this supply of pembrolizumab. In addition, if we wish to pursue further development of AFM13 in combination with pembrolizumab or any other CPI, we will need to reach an agreement with Merck or another partner for such supply of pembrolizumab or another CPI, respectively. If we do not have an adequate supply and/or cannot reach an agreement with the applicable partner, we may not be able to develop AFM13 in such a combination. Any future supply agreement with a partner for combination trials with AFM13 could influence on our clinical development strategy or our intellectual property or our economic rights, and therefore might impact the content we can derive from such clinical development.

Risks Related to Our Intellectual Property

If we are unable to obtain and enforce patent protection for our product candidates and related technology, our business could be materially harmed.

Issued patents may be challenged, narrowed, invalidated or circumvented. In addition, court decisions may introduce uncertainty in the enforceability or scope of patents owned by biotechnology companies. The legal systems of certain countries do not favor the aggressive enforcement of patents, and the laws of non-U.S. countries may not allow us to protect our inventions with patents to the same extent as the laws of the United States and Europe. Because patent applications in the United States, Europe and many other non-U.S. jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in scientific literature lag behind actual discoveries, we cannot be certain that we were the first to make the inventions claimed in our issued patents or pending patent applications, or that we were the first to file for protection of the inventions set forth in our patents or patent applications. As a result, we may not be able to obtain or maintain protection for certain inventions. Therefore, the enforceability and scope of our patents in the United States, Europe and in other non-U.S. countries cannot be predicted with certainty and, as a result, any patents that we own or license may not provide sufficient protection against competitors. We may not be able to obtain or maintain patent protection from our pending patent applications, from those we may file in the future, or from those we may license from third parties. Moreover, even if we are able to obtain patent protection, such patent protection may be of insufficient scope to achieve our business objectives.

We own and/or control our AFM13 patent portfolio, which includes two patent families. The first patent family on AFM13 consists of European patents relating to the use of the specific target combination for the treatment of cancer using a bispecific molecule and will expire in 2020. Our second patent family relates to the mode of action of AFM13, the recruitment of immune effector cells via a specific receptor. These patents will expire in 2026. The latest patent application on AFM13 relates to its combination with PD-1 antibodies, and was filed in 2016. We also own and/or control our AFM11 patent portfolio, which includes issued patents and pending patent applications. As in the case of AFM13, our issued patents relate to the engineered antibody format and will expire in 2019. The pending patent application family claims a new immune cell engager structure which was specifically used in AFM11, and issued patents in this family will expire in 2030.

Our strategy depends on our ability to identify and seek patent protection for our discoveries. This process is expensive and time consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner or in all jurisdictions where protection may be commercially advantageous, or we may financially not be able to protect our proprietary rights at all. Despite our efforts to protect our proprietary rights, unauthorized parties may be able to obtain and use information that we regard as proprietary. The issuance of a patent does not ensure that it is valid or enforceable, so even if we obtain patents, they may not be valid or enforceable against third parties. In addition, the issuance of a patent does not give us the right to practice the patented invention. Third parties may have blocking patents that could prevent us from marketing our own patented product and practicing our own patented technology. Third parties may also seek to market biosimilar versions of any approved products. Alternatively, third parties may seek approval to market their own products similar to or otherwise competitive with our products. In these circumstances, we may need to defend and/or assert our patents, including by filing lawsuits alleging patent infringement. In any of these types of proceedings, a court or agency with jurisdiction may find our patents invalid and/or unenforceable. Even if we have valid and enforceable patents, these patents still may not provide protection against competing products or processes sufficient to achieve our business objectives.

The patent position of pharmaceutical or biotechnology companies, including ours, is generally uncertain and involves complex legal and factual considerations for which legal principles remain unsolved. The standards which the United States Patent and Trademark Office, or USPTO, and its non-U.S. counterparts use to grant patents are not always applied predictably or uniformly and can change. There is also no uniform, worldwide policy regarding the subject matter and scope of claims granted or allowable in pharmaceutical or biotechnology patents. The laws of some non-U.S. countries do not protect proprietary information to the same extent as the

laws of the United States, and many companies have encountered significant problems and costs in protecting their proprietary information in these non-U.S. countries. Outside the United States, patent protection must be sought in individual jurisdictions, further adding to the cost and uncertainty of obtaining adequate patent protection outside of the United States. Accordingly, we cannot predict whether additional patents protecting our technology will issue in the United States or in non-U.S. jurisdictions, or whether any patents that do issue will have claims of adequate scope to provide competitive advantage. Moreover, we cannot predict whether third parties will be able to successfully obtain claims or the breadth of such claims. The allowance of broader claims may increase the incidence and cost of patent interference proceedings, opposition proceedings, and/or reexamination proceedings, the risk of infringement litigation, and the vulnerability of the claims to challenge. On the other hand, the allowance of narrower claims does not eliminate the potential for adversarial proceedings, and may fail to provide a competitive advantage. Our issued patents may not contain claims sufficiently broad to protect us against third parties with similar technologies or products, or provide us with any competitive advantage.

We may become involved in lawsuits to protect or enforce our patents, which could be expensive, time consuming and unsuccessful.

Even after they have issued, our patents and any patents which we license may be challenged, narrowed, invalidated or circumvented. If our patents are invalidated or otherwise limited or will expire prior to the commercialization of our product candidates, other companies may be better able to develop products that compete with ours, which could adversely affect our competitive business position, business prospects and financial condition.

The following are examples of litigation and other adversarial proceedings or disputes that we could become a party to involving our patents or patents licensed to us:

- we or our collaborators may initiate litigation or other proceedings against third parties to enforce our patent rights;
- third parties may initiate litigation or other proceedings seeking to invalidate patents owned by or licensed to us or to obtain a declaratory judgment that their product or technology does not infringe our patents or patents licensed to us;
- third parties may initiate opposition or reexamination proceedings challenging the validity or scope of our patent rights, requiring us or our collaborators and/or licensors to participate in such proceedings to defend the validity and scope of our patents;
- there may be a challenge or dispute regarding inventorship or ownership of patents currently identified as being owned by or licensed to us;
- the U.S. Patent and Trademark Office may initiate an interference between patents or patent applications owned by or licensed to us and those of our competitors, requiring us or our collaborators and/or licensors to participate in an interference proceeding to determine the priority of invention, which could jeopardize our patent rights; or
- third parties may seek approval to market biosimilar versions of our future approved products prior to expiration of relevant patents owned by or licensed to us, requiring us to defend our patents, including by filing lawsuits alleging patent infringement.

These lawsuits and proceedings would be costly and could affect our results of operations and divert the attention of our managerial and scientific personnel. There is a risk that a court or administrative body would decide that our patents are invalid or not infringed by a third party's activities, or that the scope of certain issued claims must be further limited. An adverse outcome in a litigation or proceeding involving our own patents could

limit our ability to assert our patents against these or other competitors, affect our ability to receive royalties or other licensing consideration from our licensees, and may curtail or preclude our ability to exclude third parties from making, using and selling similar or competitive products. Any of these occurrences could adversely affect our competitive business position, business prospects and financial condition.

The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- others may be able to develop a platform that is similar to, or better than, ours in a way that is not covered by the claims of our patents;
- others may be able to make compounds that are similar to our product candidates but that are not covered by the claims of our patents;
- we might not have been the first to make the inventions covered by patents or pending patent applications;
- we might not have been the first to file patent applications for these inventions;
- any patents that we obtain may not provide us with any competitive advantages or may ultimately be found invalid or unenforceable; or
- we may not develop additional proprietary technologies that are patentable.

Our commercial success depends significantly on our ability to operate without infringing the patents and other proprietary rights of third parties.

Our success will depend in part on our ability to operate without infringing the proprietary rights of third parties. Other entities may have or obtain patents or proprietary rights that could limit our ability to make, use, sell, offer for sale or import our future approved products or impair our competitive position.

Patents could be issued to third parties that we may ultimately be found to infringe. Third parties may have or obtain valid and enforceable patents or proprietary rights that could block us from developing product candidates using our technology. Our failure to obtain a license to any technology that we require may materially harm our business, financial condition and results of operations. Moreover, our failure to maintain a license to any technology that we require may also materially harm our business, financial condition, and results of operations. Furthermore, we would be exposed to a threat of litigation.

In the pharmaceutical industry, significant litigation and other proceedings regarding patents, patent applications, trademarks and other intellectual property rights have become commonplace. The types of situations in which we may become a party to such litigation or proceedings include:

- we or our collaborators may initiate litigation or other proceedings against third parties seeking to invalidate the patents held by those third parties or to obtain a judgment that our products or processes do not infringe those third parties' patents;
- if our competitors file patent applications that claim technology also claimed by us or our licensors, we or our licensors may be required to participate in interference or opposition proceedings to determine the priority of invention, which could jeopardize our patent rights and potentially provide a third party with a dominant patent position;
- if third parties initiate litigation claiming that our processes or products infringe their patent or other intellectual property rights, we and our collaborators will need to defend against such proceedings; and

- if a license to necessary technology is terminated, the licensor may initiate litigation claiming that our processes or products infringe or misappropriate their patent or other intellectual property rights and/or that we breached our obligations under the license agreement, and we and our collaborators would need to defend against such proceedings.

These lawsuits would be costly and could affect our results of operations and divert the attention of our management and scientific personnel. There is a risk that a court would decide that we or our collaborators are infringing the third party's patents and would order us or our collaborators to stop the activities covered by the patents. In that event, we or our collaborators may not have a viable alternative to the technology protected by the patent and may need to halt work on the affected product candidate or cease commercialization of an approved product. In addition, there is a risk that a court will order us or our collaborators to pay the other party damages. An adverse outcome in any litigation or other proceeding could subject us to significant liabilities to third parties and require us to cease using the technology that is at issue or to license the technology from third parties. We may not be able to obtain any required licenses on commercially acceptable terms or at all. Any of these outcomes could have a material adverse effect on our business.

The pharmaceutical and biotechnology industries have produced a significant number of patents, and it may not always be clear to industry participants, including us, which patents cover various types of products or methods of use. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform or predictable. If we are sued for patent infringement, we would need to demonstrate that our products or methods either do not infringe the patent claims of the relevant patent or that the patent claims are invalid, and we may not be able to do this. Proving invalidity is difficult. For example, in the United States, proving invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Even if we are successful in these proceedings, we may incur substantial costs and divert management's time and attention in pursuing these proceedings, which could have a material adverse effect on us. If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, defend an infringement action or challenge the validity of the patents in court. Patent litigation is costly and time consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, if we do not obtain a license, develop or obtain non-infringing technology, fail to defend an infringement action successfully or have infringed patents declared invalid, we may incur substantial monetary damages, encounter significant delays in bringing our product candidates to market and be precluded from manufacturing or selling our product candidates.

The cost of any patent litigation or other proceeding, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the cost of such litigation and proceedings more effectively than we can because of their substantially greater resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition by potential partners or customers in our markets of interest. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected.

The patent protection and patent prosecution for some of our product candidates is dependent on third parties.

While we normally seek to obtain the right to control prosecution, maintenance and enforcement of the patents relating to our product candidates, there may be times when the filing and prosecution activities for patents

relating to our product candidates are controlled by our licensors. Although we monitor the ongoing prosecution and maintenance of the licensed patents, if any of our future licensing partners fail to prosecute, maintain and enforce such patents and patent applications in a manner consistent with the best interests of our business, including by payment of all applicable fees for patents covering AFM13, AFM11 or any of our product candidates, we could lose our rights to the intellectual property or our exclusivity with respect to those rights, our ability to develop and commercialize those product candidates may be adversely affected and we may not be able to prevent competitors from making, using, and selling competing products.

Our business may be adversely affected if we are unable to gain access to relevant intellectual property rights of third parties, or if our licensing partners terminate our rights in certain technologies that are licensed or sublicensed to us.

We currently rely, and may in the future rely, on certain intellectual property rights licensed from third parties in order to be able to use various proprietary technologies that are material to our business. For example, the immune cell engager technology was developed under certain patents licensed exclusively to us by DKFZ under a 2001 license agreement which was subsequently amended in 2006 and ended in 2018. We no longer have rights to the immune cell engager technology. Additionally, an antibody generated in the development of our immune cell engager candidates was developed using antibody phage display technologies licensed to us by Xoma. In March 2018, the last of the licensed Xoma patent rights expired, and we no longer have any obligations to Xoma under the agreement. In each of these cases, the licensor retained their full ownership interest with respect to the licensed patent rights, and our rights to use the technologies associated with those patents and to employ the inventions claimed in the licensed patent rights were subject to the continuation of and our compliance with the terms of those licenses.

In some cases, we do not control the prosecution, maintenance or filing of the patents to which we hold licenses, and the enforcement of our licensed patents or defense of any claims asserting the invalidity of these patents is subject to the control or cooperation of our licensors. We cannot be certain that our licensors will prosecute, maintain, enforce and defend the licensed patent rights in a manner consistent with the best interests of our business. We also cannot be certain that drafting or prosecution of the licensed patents by our licensors have been conducted in compliance with applicable laws and regulations and will result in valid and enforceable patents and other intellectual property rights.

We are a party to a number of agreements, including license agreements, through which we have gained rights to certain intellectual property that relate to our business and we expect to enter into additional such agreements in the future. We expect that future agreements will impose, various diligence, commercialization, milestone payment, royalty, and other obligations on us. Certain of our licenses contain provisions that allow the licensor to terminate the license upon the occurrence of specific events or conditions. For example, our rights under each of the licenses described above are subject to our continued compliance with the terms of the licenses, certain diligence and development obligations, the payment of royalties, milestone payments and other fees, and certain disclosure and confidentiality obligations. If we are found to be in breach of any of our license agreements, in certain circumstances our licensors may take action against us, including by terminating the applicable license. Because of the complexity of our product candidates and the patents we have licensed, determining the scope of the licenses and related obligations may be difficult and could lead to disputes between us and the licensor. An unfavorable resolution of such a dispute could lead to an increase in the royalties payable pursuant to the license or a termination of the license. If any of our licensors were to terminate our license agreement with them, we may be prevented from the continued use of certain technologies, including our rights to the Flexibody and antibody phage display technologies, in clinical studies or, if our products are approved for marketing, from using such technologies in the manufacturing of products that could be sold commercially. This could delay or prevent us from offering our product candidates. We might not have the necessary rights or the financial resources to develop, manufacture or market our current or future product candidates without the rights granted under these licenses, and the loss of sales or potential sales in such product candidates could have a material adverse effect on our business, financial condition, results of operations and prospects.

Under certain of our agreements, our licensors have the right to convert an exclusive license to a non-exclusive license upon the expiration of the initial exclusivity period or upon the occurrence of certain events. Such a conversion would potentially allow third parties to practice the technologies licensed under the agreement, and could materially adversely affect the value of the product candidate we are developing under the agreement.

In addition to the above risks, certain of our intellectual property rights are sublicenses under intellectual property owned by third parties. The actions of our licensors may therefore affect our rights to use our sublicensed intellectual property, even if we are in compliance with all of the obligations under our license agreements.

We may not be successful in obtaining or maintaining necessary rights to our product candidates through acquisitions and in-licenses.

We currently have rights to the intellectual property, through licenses from third parties and under patents that we own, to develop our product candidates. Because our programs may require the use of proprietary rights held by third parties, the growth of our business will likely depend in part on our ability to acquire, in-license, maintain or use these proprietary rights. In addition, our product candidates may require specific formulations to work effectively and efficiently and the rights to these formulations may be held by others. We may be unable to acquire or in-license any compositions, methods of use, processes, or other third-party intellectual property rights from third parties that we identify as necessary for our product candidates. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire third-party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, cash resources, and greater clinical development and commercialization capabilities.

For example, we sometimes collaborate with U.S. and non-U.S. academic institutions to accelerate our preclinical research or development under written agreements with these institutions. Typically, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue our applicable product candidate or program.

In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment. If we are unable to successfully obtain a license to third-party intellectual property rights necessary for the development of a product candidate or program, we may have to abandon development of that product candidate or program and our business and financial condition could suffer.

If we are unable to protect the confidentiality of our proprietary information, the value of our technology and products could be adversely affected.

In addition to patent protection, we also rely on other proprietary rights, including protection of trade secrets, and other proprietary information. To maintain the confidentiality of trade secrets and proprietary information, we enter into confidentiality agreements with our employees, to the extent a confidentiality obligation is not covered by their employment agreements, consultants, collaborators and others upon the commencement of their relationships with us. These agreements require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties and the public domain, so that it cannot be used for patent protection anymore, either by local law or if not applicable pursuant to specific agreements with employees and our personnel policies it is intended that any inventions conceived by the individual in the course of rendering services to us shall be our exclusive property. However, we may not obtain these agreements in all circumstances, and individuals with whom we have these agreements or may not comply with their terms or

with local law. Thus, despite such legal provisions or agreement, such inventions may become assigned to third parties. In the event of unauthorized use or disclosure of our trade secrets or proprietary information, these legal provisions or agreements, even if obtained, may not provide meaningful protection, particularly for our trade secrets or other confidential information. To the extent that our employees, consultants or contractors use technology or know-how owned by third parties in their work for us, disputes may arise between us and those third parties as to the rights in related inventions. To the extent that an individual who is not an employee of us and thus not obligated to assign rights in intellectual property to us is rightfully an inventor of intellectual property, we may need to obtain an assignment or a license to that intellectual property from that individual, or a third party or from that individual's assignee. Such assignment or license may not be available on commercially reasonable terms or at all.

Adequate remedies may not exist in the event of unauthorized use or disclosure of our proprietary information. The disclosure of our trade secrets would impair our competitive position and may materially harm our business, financial condition and results of operations. Costly and time consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to maintain trade secret protection could adversely affect our competitive business position. In addition, others may independently discover or develop our trade secrets and proprietary information, and the existence of our own trade secrets affords no protection against such independent discovery.

As is common in the biotechnology and pharmaceutical industries, we employ individuals who were previously or concurrently employed at research institutions and/or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We may be subject to claims that these employees, or we, have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers, or that patents and applications we have filed to protect inventions of these employees, even those related to one or more of our product candidates, are rightfully owned by their former or concurrent employer. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

Obtaining and maintaining our patent protection depends on compliance with various procedural, documentary, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to the USPTO and various non-U.S. patent offices at various points over the lifetime of our patents and/or applications. We have systems in place to remind us to pay these fees, and we rely on our outside counsel to pay these fees when due. Additionally, the USPTO and various non-U.S. patent offices require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply, and in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with rules applicable to the particular jurisdiction. However, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If such an event were to occur, it could have a material adverse effect on our business. In addition, we are responsible for the payment of patent fees for patent rights that we have licensed from other parties. If any licensor of these patents does not itself elect to make these payments, and we fail to do so, we may be liable to the licensor for any costs and consequences of any resulting loss of patent rights.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting, and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States and Europe. In addition, the laws of some countries outside the United States and Europe, such as China, do not protect intellectual property rights to the same extent as federal and state laws in the United States and laws in Europe. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States and Europe, or from selling

or importing products made using our inventions in and into the United States, Europe or other jurisdictions. As part of ordinary course prosecution and maintenance activities, we determine whether and in which countries to seek patent protection outside the United States and Europe. This also applies to patents we have acquired or licensed from third parties. In some cases this means that we, or our predecessors in interest or licensors of patents within our portfolio, have sought patent protection in a limited number of countries for patents covering our product candidates. Competitors may use our technologies in jurisdictions where we have not obtained or are unable to adequately enforce patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States and Europe. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in jurisdictions outside the United States and Europe. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets, and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents, the reproduction of our manufacturing or other know-how or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in jurisdictions outside the United States and Europe, whether or not successful, could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Certain of our employees and patents are subject to German law.

Approximately 69 of our personnel, including our managing directors and most of our employees working in research and development, work in Germany and are subject to German employment law. Ideas, developments, discoveries and inventions made by such employees are subject to the provisions of the German Act on Employees' Inventions (*Arbeitnehmererfindungsgesetz*), which regulates the ownership of, and compensation for, inventions made by employees. We face the risk that disputes may occur between us and our employees or ex-employees pertaining to the sufficiency of compensation paid by us, allocation of rights to inventions under this act or alleged non-adherence to the provisions of this act, any of which may be costly to resolve and take up our management's time and efforts whether we prevail or fail in such dispute.

If we do not obtain protection under the Hatch-Waxman Amendments and similar non-U.S. legislation for extending the term of patents covering each of our product candidates, our business may be materially harmed.

Depending upon the timing, duration and conditions of FDA marketing approval of our product candidates, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments and similar legislation in the EU. The Hatch-Waxman Amendments permit a patent term extension of up to five years for a patent covering an approved product as compensation for effective patent term lost during product development and the FDA regulatory review process. However, we may not receive an extension if we fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. Moreover, the length of the extension could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is less than we request, the period during which we can enforce our patent rights for that product will be shortened and our competitors may obtain approval to market competing products sooner. As a result, our revenue from applicable products could be reduced, possibly materially.

Our information technology systems could face serious disruptions that could adversely affect our business.

Our information technology and other internal infrastructure systems, including corporate firewalls, servers, leased lines and connection to the Internet, face the risk of systemic failure that could disrupt our operations. A significant disruption in the availability of our information technology and other internal infrastructure systems could cause interruptions in our collaborations with our partners and delays in our research and development work.

Risks Related to Legal Compliance Matters

Because we and our suppliers are subject to environmental, health and safety laws and regulations, we may become exposed to liability and substantial expenses in connection with environmental compliance or remediation activities which may adversely affect our business and financial condition.

Our operations, including our research, development, testing and manufacturing activities, are subject to numerous environmental, health and safety laws and regulations. These laws and regulations govern, among other things, the controlled use, handling, release and disposal of, and the maintenance of a registry for, hazardous materials and biological materials, such as chemical solvents, human cells, carcinogenic compounds, mutagenic compounds and compounds that have a toxic effect on reproduction, laboratory procedures and exposure to blood-borne pathogens. If we fail to comply with such laws and regulations, we could be subject to fines or other sanctions.

As with other companies engaged in activities similar to ours, we face a risk of environmental liability inherent in our current and historical activities, including liability relating to releases of or exposure to hazardous or biological materials. Environmental, health and safety laws and regulations are becoming more stringent. We may be required to incur substantial expenses in connection with future environmental compliance or remediation activities, in which case, our production and development efforts may be interrupted or delayed and our financial condition and results of operations may be materially adversely affected.

The third parties with whom we contract to manufacture our product candidates are also subject to these and other environmental, health and safety laws and regulations. Liabilities they incur pursuant to these laws and regulations could result in significant costs or in certain circumstances, an interruption in operations, any of which could adversely impact our business and financial condition if we are unable to find an alternate supplier in a timely manner.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with FDA or EMA regulations, to provide accurate information to the FDA or the EMA or intentional failures to report financial information or data accurately or to disclose unauthorized activities to us. Employee misconduct could also involve the improper use of information obtained in the course of clinical studies, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a Compliance Management System (comprising the code of conduct and the compliance policy) which is based on three pillars: prevent, detect and respond to misconduct and an insider trading policy, each of which is communicated on a regular basis. However, it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

Risks Relating to Employee Matters and Managing Growth

Our future success depends on our ability to retain key executives and to attract, retain and motivate qualified personnel.

We are highly dependent on the research and development, clinical and business development expertise of our managing directors and other key employees. We have entered into multi-year executive agreements with our managing directors. If any of our managing directors or other key employees becomes unavailable to perform services for us, we may not be able to find a qualified replacement in a timely fashion, which could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. The contracts with our three current managing directors, Dr. Adi Hoess, Dr. Florian Fischer and Dr. Wolfgang Fischer, run until the end of the general meeting in 2020. We do not maintain any key man insurance for our managing directors at this time.

Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be critical to our success. In addition, we will need to expand and effectively manage our managerial, operational, financial, development and other resources in order to successfully pursue our research, development and commercialization efforts for our existing and future product candidates. Furthermore, replacing managing directors and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize products. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

We will need to grow our organization, specifically to expand our development, and regulatory capabilities, and we may experience difficulties in managing this growth, which could disrupt our operations.

We have 110 personnel (103 full time equivalents), including those of our subsidiaries. As our development and commercialization plans and strategies develop, we expect to expand our employee base on an as-needed basis. Future growth would impose significant added responsibilities on members of management, including the need to identify, recruit, maintain, motivate and integrate additional employees. Also, our management may need to divert a disproportionate amount of their attention away from our day-to-day activities and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations which may result in weaknesses in our infrastructure, give rise to operational errors, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of existing and additional product candidates. If our management is unable to effectively manage our expected growth, our expenses may increase more than expected, our ability to generate and/or grow revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize our product candidates and compete effectively with others in our industry will depend, in part, on our ability to effectively manage any future growth.

Risks Related to Our Common Shares

Our share price has been and may in the future be volatile, which could cause holders of our common shares to incur substantial losses.

You should consider an investment in our common shares as risky and invest only if you can withstand a significant loss and wide fluctuations in the market value of your investment. Our share price has been and in the future may be subject to substantial price volatility. In addition, the stock market has recently experienced significant volatility, particularly with respect to pharmaceutical, biotechnology and other life sciences company stocks. The volatility of pharmaceutical, biotechnology and other life sciences company stocks often does not relate to the operating performance of the companies represented by the stock. Some of the factors that may cause the market price of our common shares to fluctuate include:

- results and timing of our clinical studies and clinical studies of our competitors' products;
- failure or discontinuation of any of our development programs;
- issues in manufacturing our product candidates or future approved products;
- regulatory developments or enforcement in the United States and non-U.S. countries with respect to our product candidates or our competitors' products;
- failure to achieve pricing and/or reimbursement;
- competition from existing products or new products that may emerge;
- developments or disputes concerning patents or other proprietary rights;
- introduction of technological innovations or new commercial products by us or our competitors;
- announcements by us, our collaborators or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- changes in estimates or recommendations by securities analysts, if any cover our common shares;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- public concern over our product candidates or any future approved products;
- litigation;
- future sales of our common shares;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- additions or departures of key personnel;
- changes in the structure of health care payment systems in the United States or overseas;
- failure of any of our product candidates, if approved, to achieve commercial success;
- economic and other external factors or other disasters or crises;

- period-to-period fluctuations in our financial condition and results of operations, including the timing of receipt of any milestone or other payments under commercialization or licensing agreements;
- general market conditions and market conditions for biopharmaceutical stocks; and
- overall fluctuations in U.S. equity markets.

In addition, in the past, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our shareholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit and divert the time and attention of our management, which could seriously harm our business.

Future sales, or the possibility of future sales, of a substantial number of our common shares could adversely affect the price of the shares and dilute shareholders.

Future sales of a substantial number of our common shares, or the perception that such sales will occur, could cause a decline in the market price of our common shares. We had 62,430,106 common shares outstanding as of March 15, 2019. If our existing shareholders sell substantial amounts of common shares in the public market, or the market perceives that such sales may occur, the market price of our common shares and our ability to raise capital through an issue of equity securities in the future could be adversely affected. In addition, we have registered on a Form S-8 registration statement all common shares that we may issue under our equity compensation plans. As a result, these shares can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates.

We also entered into a registration rights agreement upon consummation of our initial public offering pursuant to which we have agreed under certain circumstances to file a registration statement to register the resale of the common shares held by certain of our existing shareholders, as well as to cooperate in certain public offerings of such common shares.

On October 22, 2018, we filed a shelf registration statement on Form F-3 for the potential offer and sale by us of up to \$150 million of our common shares, senior debt securities, subordinated debt securities, warrants, purchase contracts or units. The registration statement was declared effective by the SEC on November 7, 2018. Up to \$50 million of our common shares may be offered and sold under the registration statement pursuant to an “at-the-market” offering. Because the price per share of each share sold under the registration statement will depend on the market price of our shares at the time of the sale and other market conditions, it is not possible at this stage to predict the number of shares that ultimately may be offered and sold under the registration statement. If we sell common shares, convertible securities or other equity securities, existing shareholders may be diluted by such sales, and in certain cases new investors could gain rights superior to our existing shareholders. Any sales of our common shares, or the perception that such sales could occur, could have a negative impact on the trading price of our shares.

We are a foreign private issuer and, as a result, we are not subject to U.S. proxy rules and are subject to Exchange Act reporting obligations that, to some extent, are more lenient and less frequent than those of a U.S. domestic public company.

We report under the Securities Exchange Act of 1934, as amended, or the Exchange Act, as a non-U.S. company with foreign private issuer status. Because we qualify as a foreign private issuer under the Exchange Act and although we are subject to Dutch laws and regulations with regard to such matters and intend to furnish quarterly financial information to the SEC, we are exempt from certain provisions of the Exchange Act that are applicable to U.S. domestic public companies, including (i) the sections of the Exchange Act regulating the solicitation of proxies, consents or authorizations in respect of a security registered under the Exchange Act, (ii) the sections of the Exchange Act requiring insiders to file public reports of their stock ownership and trading activities and liability for insiders who profit from trades made in a short period of time and (iii) the rules under the Exchange Act requiring the filing with the Securities and Exchange Commission (SEC) of quarterly reports

on Form 10-Q containing unaudited financial and other specified information, or current reports on Form 8-K, upon the occurrence of specified significant events. In addition, foreign private issuers are not required to file their annual report on Form 20-F until four months after the end of each fiscal year, while U.S. domestic issuers that are accelerated filers are required to file their annual report on Form 10-K within 75 days after the end of each fiscal year. Foreign private issuers are also exempt from Regulation Fair Disclosure, aimed at preventing issuers from making selective disclosures of material information. As a result of the above, you may not have the same protections afforded to shareholders of companies that are not foreign private issuers.

As a foreign private issuer and as permitted by the listing requirements of Nasdaq, we follow certain home country governance practices rather than the corporate governance requirements of Nasdaq.

We are a foreign private issuer. As a result, in accordance with the listing requirements of The Nasdaq Global Market, or Nasdaq, we follow home country governance requirements and certain exemptions thereunder rather than comply with the corporate governance requirements of Nasdaq. In accordance with Dutch law and generally accepted business practices, our Articles of Association do not provide quorum requirements generally applicable to general meetings of shareholders in the United States. To this extent, our practice varies from the requirement of Nasdaq Listing Rule 5620(c), which requires an issuer to provide in its bylaws for a generally applicable quorum, and that such quorum may not be less than one-third of the outstanding voting stock. Although we must provide shareholders with an agenda and other relevant documents for the general meeting of shareholders, Dutch law does not have a regulatory regime for the solicitation of proxies and the solicitation of proxies is not a generally accepted business practice in the Netherlands, thus our practice will vary from the requirement of Nasdaq Listing Rule 5620(b). As permitted by the listing requirements of Nasdaq, we have also opted out of the requirements of Nasdaq Listing Rule 5605(d), which requires, inter alia, an issuer to have a compensation committee that consists entirely of independent directors, and Nasdaq Listing Rule 5605(e), which requires independent director oversight of director nominations. Also, Dutch law does not require that we disclose information regarding third party compensation of our directors or director nominees. As a result, our practice varies from the third-party compensation disclosure requirements of Nasdaq Listing Rule 5250(b)(3). In addition, we have opted out of shareholder approval requirements, as included in the Nasdaq Listing Rules, for the issuance of securities in connection with certain events such as the acquisition of stock or assets of another company, the establishment of or amendments to equity-based compensation plans for employees, a change of control of us and certain private placements. To this extent, our practice varies from the requirements of Nasdaq Rule 5635, which generally requires an issuer to obtain shareholder approval for the issuance of securities in connection with such events. Accordingly, you may not have the same protections afforded to shareholders of companies that are subject to these Nasdaq requirements.

We may lose our foreign private issuer status which would then require us to comply with the Exchange Act's domestic reporting regime and cause us to incur significant legal, accounting and other expenses.

We are a foreign private issuer and therefore we are not required to comply with all of the periodic disclosure and current reporting requirements of the Exchange Act applicable to U.S. domestic issuers. If in the future we are not a foreign private issuer as of the end of the second fiscal quarter in any fiscal year, we would be required to comply with all of the periodic disclosure and current reporting requirements of the Exchange Act applicable to U.S. domestic issuers in the subsequent fiscal year. In order to maintain our current status as a foreign private issuer, either (a) a majority of our common shares must be either directly or indirectly owned of record by non-residents of the United States or (b)(i) a majority of our managing directors or supervisory directors may not be United States citizens or residents, (ii) more than 50 percent of our assets cannot be located in the United States and (iii) our business must be administered principally outside the United States. If we were to lose this status, we would be required to comply with the Exchange Act reporting and other requirements applicable to U.S. domestic issuers, which are more detailed and extensive than the requirements for foreign private issuers. We may also be required to make changes in our corporate governance practices in accordance with various SEC and stock exchange rules. The regulatory and compliance costs to us under U.S. securities laws if we are required to comply with the reporting requirements applicable to a U.S. domestic issuer may be significantly higher than the cost we would incur as a foreign private issuer. As a result, we expect that a loss

of foreign private issuer status would increase our legal and financial compliance costs and would make some activities highly time consuming and costly. We also expect that if we were required to comply with the rules and regulations applicable to U.S. domestic issuers, it would make it more difficult and expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These rules and regulations could also make it more difficult for us to attract and retain qualified supervisory directors.

Failure to comply with Nasdaq continued listing requirements may result in our common shares being delisted from Nasdaq.

If our stock price falls below \$1.00 per common share, we may not continue to qualify for continued listing on Nasdaq. To maintain listing, we are required, among other things, to maintain a minimum closing bid price of \$1.00 per common share. If the closing bid price of our common shares is below \$1.00 per share for 30 consecutive business days, we will receive a deficiency notice from Nasdaq advising us that we have a certain period of time, typically 180 days, to regain compliance by maintaining a minimum closing bid price of at least \$1.00 for at least ten consecutive business days, although Nasdaq could require a longer period.

The delisting of our common shares would significantly affect the ability of investors to trade our common shares and negatively impact the liquidity and price of our common shares. In addition, the delisting of our common shares could materially adversely impact our ability to raise capital on acceptable terms or at all. Delisting from Nasdaq could also have other negative results, including the potential loss of confidence by our current or prospective collaboration partners and third-party service providers, the loss of institutional investor interest, and fewer licensing and partnering opportunities.

We are an “emerging growth company,” and we cannot be certain if the reduced reporting requirements applicable to “emerging growth companies” will make our common shares less attractive to investors.

We are an “emerging growth company,” as defined in the JOBS Act. For as long as we continue to be an “emerging growth company,” we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not “emerging growth companies,” including not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002, exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We have been, and continue to be, an “emerging growth company” for a period of five years following the completion of our initial public offering (2019), but will no longer be an “emerging growth company” as of December 31, 2019. We cannot predict if investors will find our common shares less attractive because we may rely on these exemptions. If some investors find our common shares less attractive as a result, there may be a less active trading market for our common shares and the price of our common shares may be more volatile.

We do not anticipate paying cash dividends, and accordingly, shareholders must rely on stock appreciation for any return on their investment.

We currently intend to retain our future earnings, if any, to fund the development and growth of our businesses. As a result, capital appreciation, if any, of our common shares will be your sole source of gain on your investment for the foreseeable future. Investors seeking cash dividends should not invest in our common shares.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our share price and trading volume could decline.

The trading market for our common shares depends on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. We cannot assure you that analysts will cover us or provide favorable coverage. If one or more of the analysts who cover us downgrade our shares or change their opinion of our shares, our share price would likely decline. If one or more

of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

We are a Dutch public company with limited liability. The rights of our shareholders may be different from the rights of shareholders in companies governed by the laws of U.S. jurisdictions and may not protect investors in a similar fashion afforded by incorporation in a U.S. jurisdiction.

We are a Dutch public company with limited liability (*naamloze vennootschap*) organized under the laws of the Netherlands. Our corporate affairs are governed by our Articles of Association and by the laws governing companies incorporated in the Netherlands. However, there can be no assurance that Dutch law will not change in the future or that it will serve to protect investors in a similar fashion afforded under corporate law principles in the United States, which could adversely affect the rights of investors. As of July 3, 2016, the market abuse rules described in “Description of Share Capital and Articles of Association—Dividends and Other Distributions—Obligation to Disclose Holdings and Transactions” are no longer applicable to us.

The rights of shareholders and the responsibilities of managing directors and supervisory directors may be different from the rights and obligations of shareholders and board members in companies governed by the laws of U.S. jurisdictions. In the performance of its duties, our management board and supervisory board are required by Dutch law to consider the interests of our company, its shareholders, its employees and other stakeholders, in all cases with due observation of the principles of reasonableness and fairness. It is possible that some of these parties will have interests that are different from, or in addition to, your interests as a shareholder.

Our authorized share capital increased as of June 19, 2018, following an amendment of our Articles of Association approved by a resolution of the general meeting of shareholders. Our authorized share capital currently amounts to €3,119,500, divided into 155,975,000 common shares, each with a nominal value of €0.01 and 155,975,000 cumulative preferred shares, each with a nominal value of €0.01.

Provisions of our Articles of Association or Dutch corporate law might deter acquisition bids for us that might be considered favorable and prevent or frustrate any attempt to replace or remove the then management board and supervisory board.

Certain provisions of our Articles of Association may make it more difficult for a third party to acquire control of us or effect a change in our management board or supervisory board. These provisions include: the authorization of a class of shares that may be issued to a friendly party; staggered maximum four-year terms of our supervisory directors; a provision that our managing directors and supervisory directors may only be removed by the general meeting of shareholders by a two-thirds majority of votes cast representing more than 50% of our outstanding share capital (unless the removal was proposed by the supervisory board); and a requirement that certain matters, including an amendment of our Articles of Association, may only be brought to our shareholders for a vote upon a proposal by our management board that has been approved by our supervisory board.

Our anti-takeover provision may prevent a beneficial change of control.

We have adopted an anti-takeover measure pursuant to which our management board may, subject to supervisory board approval but without additional shareholder approval, issue (or grant the right to acquire) cumulative preferred shares. Our management board has been authorized to, subject to supervisory board approval, issue (or grant the right to acquire) cumulative preferred shares by the general meeting of shareholders on September 12, 2014, with effect from September 17, 2014. We may issue an amount of cumulative preferred shares up to 100% of our issued capital immediately prior to the issuance of such cumulative preferred shares. In such event, the cumulative preferred shares (or right to acquire cumulative preferred shares) will be issued to a separate, newly established foundation which will be structured to operate independently of us and will act to serve the best interests of us, our associated business and all parties connected to us, by opposing any influences that conflict with these interests and threaten to undermine our

continuity, independence and identity. While to-date we have not established such a foundation, which action would facilitate a timely response to a take-over approach, we may choose to do so in the future. This anti-takeover measure has the effect of making a takeover of us more difficult or less attractive and as a result, our shareholders may be unable to benefit from a change of control and realize any potential change of control premium. This may materially and adversely affect the market price of our common shares.

The cumulative preferred shares will be issued to the foundation for their nominal value, of which only 25% will be due upon issuance. The voting rights of our shares are based on nominal value and as we expect our shares to trade substantially in excess of nominal value, cumulative preferred shares issued at nominal value can obtain significant voting power for a substantially reduced price and thus be used as a defensive measure. These cumulative preferred shares will have both a liquidation and dividend preference over our common shares and will accrue cash dividends at a fixed rate. The management board may issue these cumulative preferred shares to protect us from influences that do not serve our best interests and threaten to undermine our continuity, independence and identity. These influences may include a third party acquiring a significant percentage of our common shares, our receipt of an offer for our common shares, other concentration of control over our common shares or any other form of pressure on us to alter our strategic policies or anticipation that any such events may come to exist.

We are not obligated to and do not comply with all the best practice provisions of the Dutch Corporate Governance Code. This may affect your rights as a shareholder

As a Dutch company we are subject to the Dutch Corporate Governance Code, or DCGC. The DCGC contains both principles and best practice provisions that regulate relations between the management board, the supervisory board and the shareholders (i.e., the general meeting of shareholders). The DCGC is based on a "comply or explain" principle. Accordingly, companies are required to disclose in their annual reports, filed in the Netherlands, whether they comply with the provisions of the DCGC. If they do not comply with those provisions (e.g., because of a conflicting Nasdaq requirement), the company is required to give the reasons for such non-compliance.

The DCGC applies to all Dutch companies listed on a government-recognized stock exchange, whether in the Netherlands or elsewhere, including Nasdaq. We do not comply with all the best practice provisions of the DCGC. The DCGC was revised as per January 1, 2017, and in our annual report for the fiscal year ended December 31, 2018, we will report on our compliance with this revised Code. This may affect your rights as a shareholder and you may not have the same level of protection as a shareholder in a Dutch company that fully complies with the DCGC.

Claims of U.S. civil liabilities may not be enforceable against us.

We are incorporated under the laws of the Netherlands, and our headquarters are located in Germany. Substantially all of our assets are located outside the United States. The majority of our managing directors and supervisory directors reside outside the United States. As a result, it may not be possible for investors to effect service of process within the United States upon such persons or to enforce against them or us in U.S. courts, including judgments predicated upon the civil liability provisions of the federal securities laws of the United States.

The United States and the Netherlands currently do not have a treaty providing for the reciprocal recognition and enforcement of judgments, other than arbitration awards, in civil and commercial matters. Consequently, a final judgment for payment given by a court in the United States, whether or not predicated solely upon U.S. securities laws, would not automatically be recognized or enforceable in the Netherlands. In order to obtain a judgment which is enforceable in the Netherlands, the party in whose favor a final and conclusive judgment of the U.S. court has been rendered will be required to file its claim with a court of competent jurisdiction in the Netherlands. Such party may submit to the Dutch court the final judgment rendered by the U.S. court. If and to the extent that the Dutch court finds that the jurisdiction of the U.S. court has been based on grounds which are internationally acceptable, that the proceedings before the U.S. court complied with principles of proper

procedures, that recognition and/or enforcement of such judgment would not contravene the public policy of the Netherlands, and that recognition and/or enforcement of the judgment is not irreconcilable with a decision of a Dutch court rendered between the same parties or with an earlier decision of a foreign court rendered between the same parties in a dispute that is about the same subject matter and that is based on the same cause, provided that earlier judgment can be recognized in the Netherlands, the court of the Netherlands will, in principle, give binding effect to the judgment of the U.S. court. Dutch courts may deny the recognition and enforcement of punitive damages or other awards on the basis that recognition and enforcement would contravene public policy of the Netherlands. Moreover, a Dutch court may reduce the amount of damages granted by a U.S. court and recognize damages only to the extent that they are necessary to compensate actual losses or damages. In addition, there is doubt as to whether a Dutch court would impose civil liability on us, our managing directors or supervisory directors or certain experts named herein in an original action predicated solely upon the U.S. federal securities laws brought in a court of competent jurisdiction in the Netherlands against us or such directors or experts, respectively. Enforcement and recognition of judgments of U.S. courts in the Netherlands are solely governed by the provisions of the Dutch Civil Procedure Code.

The United States and Germany currently do not have a treaty providing for the reciprocal recognition and enforcement of judgments, other than arbitration awards, in civil and commercial matters. Consequently, a final judgment for payment given by a court in the United States, whether or not predicated solely upon U.S. securities laws, would not automatically be recognized or enforceable in Germany. German courts may deny the recognition and enforcement of a judgment rendered by a U.S. court if they consider the U.S. court not to be competent or the decision not in line with German public policy principles. For example, recognition of court decisions based on class actions brought in the United States typically raises public policy concerns and judgments awarding punitive damages are generally not enforceable in Germany.

In addition, actions brought in a German court against us, our managing directors or supervisory directors, our senior management and the experts named herein to enforce liabilities based on U.S. federal securities laws may be subject to certain restrictions. In particular, German courts generally do not award punitive damages. Litigation in Germany is also subject to rules of procedure that differ from the U.S. rules, including with respect to the taking and admissibility of evidence, the conduct of the proceedings and the allocation of costs. Proceedings in Germany would have to be conducted in the German language and all documents submitted to the court would, in principle, have to be translated into German. For these reasons, it may be difficult for a U.S. investor to bring an original action in a German court predicated upon the civil liability provisions of the U.S. federal securities laws against us, our managing directors or supervisory directors, our senior management and the experts named in this Annual Report.

Based on the lack of a treaty as described above, U.S. investors may not be able to enforce against us or managing directors or supervisory directors, officers or certain experts named herein who are residents of the Netherlands, Germany, or other countries other than the United States any judgments obtained in U.S. courts in civil and commercial matters, including judgments under the U.S. federal securities laws.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, shareholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common shares.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404 of the Sarbanes-Oxley Act of 2002, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inferior internal controls could also impair our ability to

raise revenue, result in the loss of investor confidence in the reliability of our financial statements and subject us to regulatory scrutiny and sanctions, which in turn could harm the market value of our common shares.

We are required to disclose changes made in our internal controls and procedures and our management is required to assess the effectiveness of these controls annually. However, for as long as we are an “emerging growth company” under the JOBS Act, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404. We will continue to be an “emerging growth company” until our fiscal year ending December 31, 2019. An independent assessment of the effectiveness of our internal controls could detect problems that our management’s assessment might not. Undetected material weaknesses in our internal controls could lead to financial statement restatements and require us to incur the expense of remediation.

Changes in accounting standards could impact our results.

The IASB, or other regulatory bodies, periodically introduce modifications to financial accounting and reporting standards or issue new financial accounting and reporting standards under which we prepare our consolidated financial statements. These changes can materially impact the means by which we report financial information, affecting our results of operations. Also, we could be required to apply new or revised standards retroactively.

More specifically, several new or amended standards and interpretations to IFRS are expected over the coming years. In particular, both IFRS 9 “Financial Instruments” and IFRS 15 “Revenues from Contracts with Customers” went into effect on January 1, 2018 and IFRS 16 “Leases” went into effect on January 1, 2019. With respect to the first time adoption of IFRS 9 and IFRS 15, any transition effects are described in note 3 to the consolidated financial statements as of December 31, 2018. With respect to IFRS 16, during 2018, we completed the assessment of the impact of IFRS 16 on our consolidated financial statements and have identified our leases including contractual payments, renewal options and other terms. Based on this assessment, we expect that the adoption of IFRS 16 will not substantially affect our future results of operations.

Although we do not believe we were a “passive foreign investment company” (a “PFIC”) in 2018, we may be a PFIC in 2019 or one or more future taxable years. A U.S. investor may suffer adverse U.S. federal income tax consequences if we are a PFIC for any taxable year during which the U.S. investor holds common shares.

Under the Internal Revenue Code of 1986, as amended (the “Code”), we will be a PFIC for any taxable year in which, after the application of certain “look-through” rules with respect to subsidiaries, either (i) 75% or more of our gross income consists of “passive income,” or (ii) 50% or more of the average quarterly value of our assets consist of assets that produce, or are held for the production of, “passive income.” Passive income generally includes interest, dividends, rents, certain non-active royalties and capital gains. Although we have not performed a definitive PFIC analysis using U.S. federal income tax principles, based on certain estimates as to composition of our income and assets, including the implied value, based on our market capitalization, of our assets that produce non-passive income, during 2018, we do not believe that we were a PFIC for our 2018 taxable year. However, there can be no assurance that the Internal Revenue Service (the “IRS”) will agree with our conclusion. In addition, whether we will be a PFIC in 2019 or any future taxable year is uncertain because, among other things, we currently own, a substantial amount of passive assets, including cash, and because the valuation of our assets that generate non-passive income for PFIC purposes, including our intangible assets, is uncertain and may vary substantially over time. The average quarterly value of our assets for purposes of determining our PFIC status for any taxable year will generally be determined in part by reference to our market capitalization, which has fluctuated and may continue to fluctuate significantly over time. Accordingly, there can be no assurance that we will not be a PFIC for any future taxable year. In addition, we may, directly or indirectly, hold equity interests in other entities, including certain of our subsidiaries that are PFICs (“Lower-tier PFICs”).

If we are a PFIC for any taxable year during which a U.S. investor holds common shares, we generally will continue to be treated as a PFIC with respect to that U.S. investor for all succeeding years during which the

U.S. investor holds common shares, even if we cease to meet the threshold requirements for PFIC status. Such a U.S. investor may be subject to adverse tax consequences, including (i) the treatment of all or a portion of any gain on disposition as ordinary income, (ii) the application of a deferred interest charge on such gain and the receipt of certain dividends and (iii) compliance with certain reporting requirements. To avoid the application of the foregoing rules, a U.S. investor can make an election to treat us and each Lower-tier PFIC as a qualified electing fund (a "QEF Election") in the first taxable year that we and each Lower-tier PFIC are treated as PFICs with respect to the U.S. investor. We currently intend to provide the information necessary for a U.S. investor to make a QEF Election with respect to us and each Lower-tier PFIC that we control for 2018 and for any future years with respect to which we determine that we or any Lower-tier PFIC that we control are or are likely to be a PFIC. A U.S. investor can also avoid certain of the adverse U.S. federal income tax consequences described above by making a mark-to-market election with respect to its common shares, provided that the common shares are "marketable." U.S. investors should consult their tax advisers regarding the availability and advisability of making a QEF Election or a mark-to-market election in their particular circumstances. See "U.S. Federal Income Tax Considerations" for further information regarding the consequences to a U.S. investor if we are a PFIC for any taxable year during which the U.S. investor holds common shares.

ITEM 4. INFORMATION ON THE COMPANY

A. History and development of the company

We are a clinical-stage biopharmaceutical company focused on discovering and developing highly targeted cancer immunotherapies. Our product candidates are being developed in the field of immuno-oncology, which represents an innovative approach to cancer treatment that seeks to harness the body's own immune defenses to fight tumor cells. The most potent cells of the human defense arsenal are types of white blood cells called innate immune cells (Natural Killer cells, or NK cells and macrophages), and T cells. Leveraging our fit-for-purpose ROCK® (*Redirected Optimized Cell Killing*) platform, we develop proprietary, next-generation bispecific antibodies, so-called immune cell engagers, which are designed to direct and establish a bridge between either innate immune cells or T cells and cancer cells. Our immune cell engagers have the ability to bring innate immune cells or T cells into proximity and trigger a signal cascade that leads to the destruction of cancer cells. Due to their novel tetravalent architecture (which provides for four binding domains), our immune cell engagers bind to their targets with high affinity and have half-lives that support regular intravenous administration on convenient dosing schedules to achieve potent antitumor efficacy. Antibodies developed from our ROCK® platform include molecules which we refer to as immune cell engagers. We are also developing novel tetravalent, bispecific antibody formats with the potential to tailor immune-engaging therapy to different indications and settings. Based on their mechanism of action and the preclinical and clinical data to date, we believe that our product candidates, when used alone or in combination, may improve clinical outcomes and survival in cancer patients and could eventually become a cornerstone of cancer therapy.

Affimed was founded in 2000 based on technology developed by the group led by Professor Melvyn Little at Deutsches Krebsforschungszentrum (DKFZ), the German Cancer Research Center, in Heidelberg, Germany.

Focusing our efforts on antibodies specifically binding innate immune cells through CD16A, a key activating receptor, we have built a clinical and preclinical pipeline of innate cell-engaging bispecific antibodies designed to activate both innate and adaptive immunity. Compared to a variety of T cell-engaging technologies, our innate cell engagers appear to have a better safety profile and have the potential to achieve more potent and deeper immune responses potentially through enhancing crosstalk of innate to adaptive immunity. Their safety profiles also make our molecules suitable for development as combination therapies (e.g. with checkpoint inhibitors, or CPIs, adoptive NK cells or cytokines).

As of today, we have focused our research and development efforts on five programs, three for which we retain global commercial rights and two licensed programs. Because our tetravalent bispecific antibodies can be engineered to bind to different antigens that are known to be present on a number of types of cancer cells, our product candidates could be developed for the treatment of different cancer indications. We intend to initially develop our two clinical stage product candidates in orphan or high-medical need indications, including as a

salvage therapy for patients who have relapsed after, or are refractory to, that is who do not respond to treatment with, standard therapies, which we refer to as relapsed/refractory. These patients have a limited life expectancy and few therapeutic options. We believe this strategy will allow for a faster path to approval and will likely require smaller clinical studies compared to indications with more therapeutic options and larger patient populations. We believe such specialized market segments in oncology can be effectively targeted with a small and dedicated marketing and sales team. We currently intend to establish a commercial sales force in the United States and/or Europe to commercialize our product candidates when and if they are approved.

We also see an opportunity in the clinical development of our tetravalent bispecific antibodies in combination with other agents that harness the immune system to fight cancer cells, such as CPIs, adoptive NK cells and cytokines. Such combinations of cancer immunotherapies may ultimately prove beneficial for larger patient populations in earlier stages of diseases, beyond the relapsed/refractory disease setting.

Our main offices and laboratories are located at the Technology Park adjacent to the German Cancer Research Center (DKFZ) in Heidelberg, where we employ 69 personnel, approximately 60% of whom have an advanced academic degree. Including AbCheck (see description below) and Affimed Inc. personnel, our total headcount is 110 (103 full time equivalents). We are led by experienced executives with a track record of successful product development, approvals and launches, specifically in the area of biologics and biopharmaceuticals. Our supervisory board is made up of highly experienced experts from the pharmaceutical and biotech industries, including individuals with a background and expertise in hematological malignancies.

In 2009, we formed AbCheck, our 100% owned, independently run antibody screening platform company, located in the Czech Republic. AbCheck is devoted to the generation and optimization of fully human antibodies. Its technologies include a naïve human antibody library combined with phage and yeast display antibody library, a proprietary algorithm to optimize affinity, stability and manufacturing efficiency and a mass humanization technology to discover and optimize high-quality human antibodies. In addition to providing candidates for Affimed projects, AbCheck is recognized for its expertise in antibody discovery throughout the United States and Europe and has been working with globally active pharmaceutical and biotechnology companies such as Tusk Therapeutics, bluebird bio, Eli Lilly, Daiichi Sankyo, Pierre Fabre and others. In 2018 AbCheck formed AbCheck Inc., a 100% owned subsidiary.

B. Business overview

Our Strategy

Our goal is to engineer targeted immunotherapies, seeking to cure patients by harnessing the power of innate and adaptive immunity (NK cells, macrophages and T cells). We are developing single and combination therapies to treat a variety of cancers. Our novel proprietary antibody platform, ROCK® (Redirected Optimized Cell Killing), delivers several unique types of next-generation tetravalent antibody formats, including bispecific and trispecific Abs and immune cell engagers. Based on the distinctive properties and mechanism of action of these products, which have demonstrated preclinical and clinical activity, we believe that our product candidates, alone or in combination, could eventually become a key element of by improving clinical outcomes in cancer patients. Key elements of our strategy to achieve this goal are to:

- ***Rapidly Advance the Development of our Clinical Stage Product Candidates, including Combinations with Other Agents and Immunotherapies.*** Our product development strategy initially focuses on cancer patients with relapsed or refractory disease. Such patients have limited therapeutic alternatives, and we believe that the results from clinical studies in these patient groups would support expedited regulatory approval paths. In the second quarter of 2015, a phase 2a investigator-sponsored study (IST) of AFM13 as a monotherapy was initiated by the German Hodgkin Study Group (GHSG) in HL patients that have received all standard therapies and have relapsed after or are refractory to brentuximab vedotin (Adcetris®). Due to the availability of anti-PD-1 antibodies for the treatment of relapsed/refractory HL patients that emerged during the conduct of the study, we experienced slower recruitment than anticipated. Consequently, the overall study design was revised in order to adapt to the changing treatment

landscape, namely, the availability of anti-PD-1 antibodies. The study is now recruiting HL patients relapsed or refractory to treatment with both Adcetris® and anti-PD-1 antibodies to explore the efficacy of AFM13 as a single agent in these heavily pretreated HL patients. We are also supporting a phase 1b/2a study of AFM13 as an IST in patients with relapsed or refractory CD30+ lymphoma led by investigators at Columbia University in New York that was initiated in the third quarter of 2017. In addition to evaluating clinical efficacy, this is also a translational study in patients with cutaneous manifestations of their disease and is designed to evaluate serial peripheral blood and tumor samples, thereby enabling assessment of NK cell biology and tumor cell killing within the tumor microenvironment. Interim data were recently presented at ASH2018. Furthermore, we are conducting a phase 1b clinical study of AFM13 in combination with Merck's anti-PD-1 antibody pembrolizumab (Keytruda®) in HL patients who are relapsed /refractory to chemotherapy and Adcetris® and who have not received prior anti-PD-1 antibody therapy. In this study, enrollment was completed and 6-month data were recently presented at ASH2018. In addition, we are conducting two phase 1 clinical studies of AFM11, one in patients with relapsed/refractory non-Hodgkin Lymphoma (NHL), and the other in patients with relapsed/refractory acute lymphocytic leukemia (ALL). During the fourth quarter of 2018, we suspended enrollment of AFM11 after the occurrence of two life-threatening and one fatal SAEs. Subsequently, we received notification from the FDA that the regulatory agency formally placed the AFM11 IND application on full clinical hold. In early March 2019, we submitted a complete response document to the FDA that summarizes the clinical data from the two AFM11 phase 1 studies to request that the clinical hold be lifted so that clinical development of AFM11 may proceed in ALL patients.

- **Establish R&D and Commercialization Capabilities in Europe and in the United States** While we plan to retain rights to our product candidates, in the future we may enter into additional collaborations that provide value for our shareholders. We intend to build a focused marketing and specialty sales team in Europe and in the United States to commercialize our product candidates that receive regulatory approval. We have established a U.S. presence in order to expand our access to the U.S. talent pool, build our clinical development capabilities and maintain a close relationship to the financial and pharmaceutical community to ensure our strategy can adapt in the competitive landscape.
- **Use Our Technology Platforms and Intellectual Property Portfolio to Continue to Build our Cancer Immunotherapy Pipeline.** We generate our product candidates from our proprietary ROCK® antibody engineering technology platform. We plan to continue to leverage our platform to develop new pipeline product candidates. We believe we can utilize our platform to address additional targets that we may in-license in the future or identify internally. We intend to continue to innovate in our field and create additional layers of intellectual property in order to enhance the platform value and extend the life cycle of our products. We believe our strong intellectual property position can be used to support internal development as well as out-licensing and collaboration opportunities.
- **Maximize the Value of our Collaboration Arrangements with Genentech, LLS, Merck and MD Anderson.** We have a research agreement with the Leukemia and Lymphoma Society (LLS) under which LLS has committed to co-fund the development of AFM13. We believe that this collaboration will also allow us to expedite patient enrollment for future studies by leveraging the LLS's existing relationships with key U.S. clinical investigators. In January 2016, we entered into a clinical research collaboration with Merck & Co to investigate the combination of AFM13 with Merck's anti-PD-1 therapy, Keytruda® (pembrolizumab) for the treatment of patients with relapsed/refractory HL. In December 2016, we entered into a clinical development and commercialization collaboration with The University of Texas MD Anderson Cancer Center, or MD Anderson, to evaluate AFM13 in combination with MD Anderson's NK cell product derived from umbilical cord blood. MD Anderson is responsible for conducting preclinical research activities, investigating this combination in preclinical models of CD30 positive lymphoma, which are intended to be followed by a phase 1 clinical study of the combination in patients with CD30 positive, relapsed/refractory lymphomas. We fund research and development expenses for this collaboration and hold an option to exclusive worldwide rights to develop and commercialize any product developed under the collaboration. In addition, in August 2018, we entered into a research collaboration and license agreement with Genentech, a member of the Roche Group, for the development and commercialization of certain product

candidates that contain novel NK cell engager-based immunotherapeutics to treat multiple cancers. We believe that these collaborations help to validate and more rapidly advance our discovery efforts, technology platforms and product candidates, and will enable us to leverage our platforms through additional high-value partnerships. As part of our business development strategy, we aim to enter into additional research collaborations in order to derive further value from our platforms and more fully exploit their potential.

- **Intensify our Collaboration with Academia.** We have entered into multiple collaborations with academic partners, including the GHSG, the Mayo Clinic, Washington University in St. Louis, the Columbia University and MD Anderson Cancer Center, amongst others. We will continue to engage with key experts in our areas of interest.
- **Utilize AbCheck to Generate and Optimize Antibodies.** We formed AbCheck in 2009 to leverage our antibody screening platform and partner with other biopharmaceutical companies in fee-for-service engagements. We use AbCheck's state-of-the-art phage and yeast display screening technologies as well as a proprietary batch humanization process and bioinformatics tools to identify and optimize antibodies that are highly specific for the targets we or our customers select, and that we engineer into bi- and trispecific immune cell engagers. AbCheck's high-quality capabilities have been validated through multiple international collaborations with globally active pharmaceutical and biotechnology companies such as Tusk Therapeutics, bluebird bio, Eli Lilly, Daiichi Sankyo, Pierre Fabre and others.

Our Strengths

We believe we are a leader in developing cancer immunotherapies due to several factors:

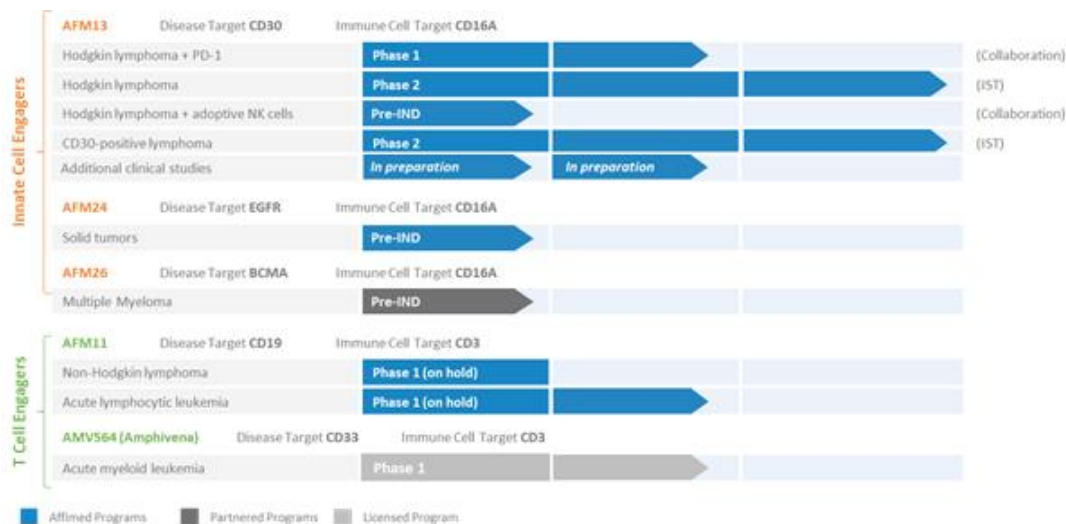
- **Our Lead Product Candidate, AFM13, is a First-in-Class Innate Cell Engager.** AFM13 is an innate cell engager that is currently in development for HL and CD30-positive lymphoma in relapsed/refractory patients. To engage and activate innate immune cells, we have engineered AFM13 with a unique binding specificity for CD16A. AFM13 binds to CD16A with approximately 1,000-fold higher affinity than native antibody molecules via the constant region. While native antibodies bind to CD16A and CD16B with similar affinity, AFM13 does not bind to CD16B which is expressed on the surface of neutrophils. Neutrophils exist in such large amounts that most AFM13 would bind to this cell type and only a small part would be available for binding to CD16+ innate immune cells. We believe that AFM13 is the only antibody in development that can specifically engage CD16A+ cells, in particular NK cells and macrophages, with very high affinity. The LLS has agreed to co-fund a portion of the development of AFM13. In the second quarter of 2015, a phase 2a proof of concept study of AFM13 was initiated by the GHSG in HL patients that have received all standard therapies and have relapsed after or are refractory to Adcetris®. The study is now recruiting HL patients relapsed or refractory to treatment with both Adcetris® and anti-PD-1 antibodies to explore the efficacy of AFM13 as a single agent in these heavily pretreated HL patients. We are also supporting a phase 1b/2a study of AFM13 in patients with relapsed or refractory CD30+ lymphoma as an IST led by Columbia University in New York that was initiated in the third quarter of 2017. In addition to determining clinical efficacy and safety, this is a translational study in patients with cutaneous manifestations of their disease and is designed to allow for serial peripheral tumor and tumor biopsies, thereby enabling assessment of immunobiology and tumor cell killing within the tumor microenvironment. We initiated a clinical phase 1b study investigating the combination of AFM13 with Merck's Keytruda® (pembrolizumab) in patients with relapsed/refractory HL in the first half of 2016. The study is designed to establish a dosing regimen for the combination therapy and assess its safety and efficacy. We have also entered into a clinical development and commercialization collaboration with MD Anderson to evaluate AFM13 in combination with MD Anderson's cord-blood derived NK cell product.
- **Our T cell-engaging Lead Product Candidate, AFM11.** In preclinical studies, AFM11 has demonstrated highly specific and effective engagement of T cells, inducing rapid and potent in vitro and in vivo tumor cell killing. A total of 33 patients have been treated across two clinical Phase 1 studies, one in patients with relapsed/refractory NHL and the other in patients with relapsed/refractory ALL. Interim results of the ALL

study were presented at ASH2018 and showed preliminary efficacy in patients with relapsed/refractory ALL. The program is currently on clinical hold following the occurrence of two life threatening events in the NHL study and one death in the ALL study. In early March 2019, we submitted a complete response document to the FDA that summarizes the clinical data from the two AFM11 phase 1 studies to request that the clinical hold be lifted so that clinical development of AFM11 may proceed in ALL patients.

- **Our Innate Cell Engager Preclinical Candidate, AFM24.** We are developing AFM24, an innate cell engager targeting EGFR. AFM24 is designed to treat patients with different EGFR expressing solid tumors with the potential for better efficacy and safety as compared to currently used therapeutic anti-EGFR standard of care that are associated with significant toxicities and resistance to treatment. We have successfully completed a toxicology study in cynomolgus monkeys at a range of dose levels up to 75mg/kg over 4 weeks with no observed toxicities even at high dose levels. In contrast, Cetuximab an approved anti-EGFR antibody, revealed significant toxicity in the same dose-range. We anticipate completing IND-enabling studies for AFM24 by mid-year 2019 and plan to initiate a first-in-human study in the second half of 2019.
- **Our Fit-for-Purpose ROCK® (Redirected Optimized Cell Killing) Platform.** We have developed our fit-for-purpose ROCK® platform to enable the generation of first-in-class tetravalent, multi-specific immune cell engagers. It supports innate and adaptive drug development and enables us to tailor tetravalent, bispecific innate cell engagers with high avidity and affinity, and variable PK profiles to different indications and settings, including generation of molecules against validated oncology targets to address the limitations of existing standard treatments.
- **Retained Global Commercial Rights for our Three Product Candidates in our Pipeline.** Our pipeline product candidates AFM13, AFM11 and AFM24 are unencumbered. We retain all options to derive value from these product candidates, including commercialization in all or select markets when and if they are approved. To maximize the value of our platform, we will continue to explore partnerships to support the development or commercialization of our programs in certain territories.
- **Experienced Management Team with Strong Track Record in the Development and Commercialization of New Medicines.** Members of our management team have extensive experience in the biopharmaceutical industry, and key members of our team have played an important role in the development and commercialization of approved drugs. Our Chief Executive Officer Adi Hoess was a member of the team that developed and commercialized Firazyr®, while our Chief Operating Officer Wolfgang Fischer played a leading role in the development of Myfortic®, Certican®, Tasigna®, Zanzio®, Erelzi® and Rixathon®. Our Chief Medical Officer Leila Alland has played key roles in the development and approval of Tagrisso®, Opdivo®, Tasigna® and Caelyx®/Doxil®.
- **Strong Technology Base and Solid Patent Portfolio in the Field of Targeted Immuno-Oncology.** We are a leader in the field of bispecific antibody therapeutics for the treatment of cancer. We have a patent portfolio that includes the ROCK® platform itself. Further, we have a proprietary position in innate cell engagement, specifically regarding binding domains directed at CD16A with no cross-reactivity to CD16B. We have more than a decade of experience in the discovery and development of such complex antibodies, and our molecular architecture allows for efficient and cost-effective manufacturing. In addition to supporting internal product development, we believe our strong intellectual property position can be used to support out-licensing and collaboration opportunities in the field of immuno-oncology.

Our research and development pipeline

We are developing a pipeline of immune-cell engagers for the treatment of cancer as shown below:



Our lead candidate, AFM13, is a first-in-class innate cell engager designed for the treatment of certain CD30-positive (CD30+) B- and T cell malignancies. AFM13 selectively binds to CD30, a clinically validated target, and CD16A, an integral membrane glycoprotein receptor expressed on the surface of NK cells and macrophages, triggering a signal cascade that leads to the destruction of CD30-positive tumor cells. In contrast to conventional full-length antibodies, AFM13 does not bind to CD16B, which prevents binding to other cell types, e.g. neutrophils, and binds with equal affinity to CD16A polymorphisms at position 158. Furthermore, AFM13 binds CD16A with an approximately 1000-fold higher affinity than monoclonal antibodies thereby significantly increasing potency and efficacy as preclinically demonstrated.

We are currently investigating AFM13 as monotherapy and as combination therapy in relapsed/refractory CD30-positive lymphoma patients and relapsed/refractory HL patients.

In the completed first-in-human phase 1 dose-escalation clinical study, AFM13 was well-tolerated and demonstrated tumor shrinkage or slowing of tumor growth, with disease control shown in 16 of 26 patients eligible for efficacy evaluation. AFM13 also demonstrated tumor shrinkage in patients who had relapsed after, or were refractory to Adcetris® (brentuximab vedotin), a CD30-targeted chemotherapy approved by the U.S. Food and Drug Administration, or FDA, in August 2011 as a salvage therapy for HL. Approximately half of the patients treated with Adcetris® experienced disease progression in less than half a year after initiation of therapy. Six out of seven patients who became refractory to Adcetris® as the immediate prior therapy experienced stabilization of disease under AFM13 treatment according to Cheson's criteria, standard criteria for assessing treatment response in lymphoma. We believe that based on its novel mode of action, AFM13 may be beneficial to patients who have relapsed or are refractory to treatment with Adcetris® and may provide more durable clinical benefit.

Affirmed is also currently supporting an IST led by GHSG. This phase 2a clinical study of AFM13 in patients with relapsed/refractory HL started recruitment in the second quarter of 2015. Under the original protocol, seventeen patients were recruited that were relapsed/refractory to Adcetris® and naïve to anti-PD-1 antibodies and two of these patients experienced a partial response. Due to the availability of anti-PD-1 antibodies for the treatment of relapsed/refractory HL patients, the overall study design was revised to recruit HL patients relapsed

or refractory to treatment with brentuximab vedotin and anti-PD-1 antibodies. The study is open and recruiting under the new study design.

Furthermore, we are conducting a phase 1b clinical study of AFM13 with Merck's anti-PD-1 antibody Keytruda® (pembrolizumab) in HL. In this study, the combination was well-tolerated with most of the adverse events observed mild to moderate in nature and manageable with standard of care. Best response assessment data from 24 patients treated at the highest AFM13 dose level (7 mg/kg) as reported by central read, showed an ORR of 88% (21 of 24 patients), including complete metabolic responses (CmR) in 46% (11 of 24 patients) and partial metabolic responses (PmRs) in 42% (10 of 24 patients). One patient experienced stable disease (SD).

We are also supporting a phase 1b/2a IST of AFM13 in patients with relapsed or refractory CD30+ lymphoma led by investigators at Columbia University in New York. In addition to determining clinical efficacy, this is also a translational study in patients with cutaneous manifestations and is designed to allow for serial biopsies, thereby enabling assessment of immunobiology and tumor cell killing within the tumor microenvironment. An interim analysis of 9 treated patients was recently presented. AFM13 could be safely administered and showed therapeutic activity as a single agent, with an objective response rate (ORR) of 44% (4/9). In detail, one complete response (CR), three partial responses (PRs) and two stable diseases (SDs) were observed. An analysis of biomarker correlatives showed a decrease in circulating NK cells (CD56+ CD3- , CD56+ CD16+, Nkp46+) during therapy, with post-therapy recovery. In addition, increased CD69 expression on circulating NK cells pre-therapy in responders vs. non-responders was demonstrated. Tumor biopsies showed increased infiltration of CD56+ NK cells in responders compared to nonresponders, while circulating CD4+ CD25+ T cells (Tregs) decreased in responders compared to nonresponders.

In order to prepare for further clinical development, we performed preclinical studies investigating the combination of AFM13 with check-point modulators (CPMs) with collaboration partners. We believe that AFM13 and CPMs administered together could lead to greater tumor cell killing because these molecules may have a synergistic anti-tumor effect, involving both innate and adaptive immune cells. Based on preclinical data, we entered into a collaboration with Merck and have initiated a clinical phase 1b study investigating the combination of AFM13 with Merck's anti-PD-1 antibody Keytruda® (pembrolizumab) in patients with relapsed/refractory HL. In addition, the LLS has committed to co-fund the development of AFM13 with the focus having been shifted towards combination therapy in June 2016 following the greater focus of combination therapies in immuno-oncology.

In December 2016, we entered into a clinical development and commercialization collaboration with MD Anderson to evaluate AFM13 in combination with MD Anderson's NK cell product. On December 3, 2018, we presented preclinical data at the American Society of Hematology Annual Meeting, outlining the successful approach of a novel premixed product, comprising of expanded cord-blood derived NK cells loaded with AFM13 to redirect their specificity against CD30+ tumor cells. MD Anderson is responsible for conducting preclinical research activities, investigating cord-blood derived NK cells in combination with AFM13, followed by a clinical phase 1 study. Data were recently published at ASH2018 and showed that AFM13 can enhance efficacy on cord blood derived NK cells both *in vitro* and *in vivo*. We fund research and development expenses for this collaboration and hold an option to exclusive worldwide rights to develop and commercialize any product developed under the collaboration.

Together with the German Cancer Research Center (DKFZ), we published data presenting evidence of AFM13, modulating NK cells by sensitizing them to IL-2 and/or IL-15 stimulation. In this study, after exposure to AFM13, NK cells showed improved IL-2- and IL-15-mediated proliferation and cytotoxicity. These data support the strategy of combining our innate cell engagers with IL-2- or IL-15 to potentially achieve stronger clinical responses.

Our second clinical stage candidate, AFM11, is a T cell engager designed for the treatment of certain CD19+ B cell malignancies, including non-Hodgkin Lymphoma, or NHL and Acute Lymphocytic Leukemia, or ALL). AFM11 binds selectively with CD19, a clinically validated target in B cell malignancies. It also binds to CD3, a component of the T cell receptor complex, triggering a signal cascade that leads to the destruction of tumor

cells that carry CD19. Based on its molecular characteristics, in particular its molecular weight, we expect AFM11 will have a longer half-life than blinatumomab, a bispecific antibody also targeted against CD19 and CD3 developed by Amgen, and approved in the United States and Europe. AFM11 has shown 100-fold higher affinity to CD3 resulting in up to 40-fold greater cytotoxic potency at low T cell counts compared to blinatumomab. We therefore believe it may have an efficacy advantage, especially in immunocompromised patients. As the PK is longer as compared to Amgen's BiTEs such as Blincyto, AFM11 might have a convenience advantage due to its half-life and we are exploring different dosing regimens in our clinical studies to address specific features relating to T cell engagement, which may require longer infusion times. We are conducting two phase 1 clinical studies of AFM11, one in patients with relapsed/refractory NHL and one in patients with relapsed/refractory ALL. The NHL study has recently completed the third dose cohort and the ALL study was enrolling into the sixth dose cohort. Thirty-three patients have been treated in total in the two ongoing Phase 1 studies. Interim results from the ALL study were recently presented and showed tolerable safety, and complete remissions in 3 of 11 patients treated in the highest 3 dose cohorts. On October 8, 2018, we suspended enrollment of AFM11 after the occurrence of life-threatening or fatal SAEs in three patients, which included two life threatening events in the NHL study and one death in the ALL study. Subsequently, we received notification from the FDA that the regulatory agency formally placed the AFM11 IND application on full clinical hold. In early March 2019, we submitted a complete response document to the FDA that summarizes the clinical data from the two AFM11 phase 1 studies to request that the clinical hold be lifted so that clinical development of AFM11 may proceed in patients with acute lymphocytic leukemia.

Our third candidate, AFM24, is an innate cell-engaging bispecific antibody targeting EGFR. AFM24 is designed to treat patients with different EGFR expressing solid tumors with the potential for better efficacy and safety as compared to current therapeutic anti-EGFR monoclonal antibodies that are associated with significant toxicities and treatment resistance. We have successfully completed a toxicology study in cynomolgus monkeys at a range of dose levels up to 75mg/kg over 4 weeks with no observed toxicities even at high dose levels. In contrast, Cetuximab an approved anti-EGFR antibody revealed significant toxicity in the same dose-range. We anticipate completing IND-enabling studies for AFM24 by mid-year 2019 and plan to initiate a first-in-human study in the second half of 2019.

We have also developed AFM26, an innate cell-engaging bispecific antibody targeting B cell maturation antigen (BCMA) to address the medical need for a novel approach to treat multiple myeloma. AFM26 employs a unique mechanism of action through high affinity engagement of NK cells which in vitro demonstrates efficacy against cells expressing even very low levels of BCMA. NK cell binding of AFM26 is largely unaffected by IgG competition. In addition, AFM26 offers the opportunity for a combination with adoptive NK cell transfer, as it appears to have a favorable safety profile with lower cytokine release as compared to BiTE. In the third quarter of 2018, we successfully partnered AFM26 and no longer control its development.

Amphivena's product candidate, AMV564, is a CD33/CD3-specific T cell engager. Amphivena is clinically developing AMV564 for the treatment of acute myeloid leukemia (AML), for which Amphivena has obtained Orphan Drug Designation, and other hematologic malignancies. In preclinical studies, AMV564, which was derived from our ROCK[®] platform, has demonstrated potent and selective cytotoxic activity in AML patient samples as well as robust tumor growth inhibition and a complete elimination of leukemic blasts in xenograft models. The IND application for AMV564 was accepted in July 2016 and Amphivena is conducting a phase 1 clinical study of AMV564 in relapsed or refractory AML. In June 2018, Amphivena reported initial data from this study. The data demonstrate that AMV564 engages and activates T cells resulting in leukemic cytoreduction. Amphivena has also initiated a Phase 1 dose escalation study of AMV564 in myelodysplastic syndrome (MDS).

In addition, we have been exploring the generation of novel bispecific ROCK[®] -based innate cell engagers and trispecific Abs for various undisclosed targets which are currently at a discovery stage to be developed for different indications.

Immune System and Cancer Background

Immune System

The human immune system is characterized by an early, nonspecific initial response called innate immunity, and a highly specific response adapted to pathogenic or tumorigenic antigenesis called adaptive immunity. Although the human immune system is normally capable of recognizing foreign or aberrant cells, cancer cells have developed highly effective ways to escape the surveillance and defense mechanisms of the immune system. As a result, immune cells such as NK cells and macrophages (parts of the innate immune system) and T cells (a part of the adaptive immune system) cannot recognize tumor cells as foreign or aberrant and therefore cannot fight them.

- **NK cells:** NK cells are important mediators of the innate immune system and can display cytotoxic, or cell-killing, activity against "altered self" (virus-infected and cancerous) cells. They were named "natural killers" because they recognize altered structures without the need for antigen processing and presentation. NK cells possess a large number of receptors that activate NK cells to destroy deviant cells.
- **Macrophages:** Macrophages are mature monocytes that are present in almost tissues and patrol the body in order to engulf and digest microorganisms, dead cells or cellular debris in a process called phagocytosis. In this role they are an important first line of defense of innate immunity and very important for inducing inflammation, secreting signaling molecules and presenting antigens to adaptive immune cells, all being important for the induction of immune responses.
- **T cells:** T cells are part of the adaptive immune system and only target cells that present an antigen on their surface which has been presented before to the T cells by so-called antigen-presenting cells, such as dendritic cells and macrophages. The antigen presentation triggers a biological cascade, resulting in the clonal expansion of antigen-specific T cells.

Increased understanding of the fundamentals of cellular and molecular tumor immunology has identified many ways by which the immune system can be augmented to treat cancer, including priming/boosting of the immune system, T cell modulation, reducing immunosuppression in the tumor microenvironment and enhancing adaptive immunity. This new area of medicine, termed cancer immunotherapy, has the potential to offer adaptable and durable cancer control across a variety of tumor types. Our ROCK® platform-based immune cell engagers enable a direct interaction of NK cells, macrophages or T cells with cancer cells on the level of single cells, leading to the destruction of the tumor cells.

Cancer

Cancer is a broad group of diseases in which cells divide and grow in an uncontrolled fashion, forming malignancies that can invade other parts of the body. In normal tissues, the rates of new cell growth and cell death are tightly regulated and kept in balance. In cancerous tissues, this balance is disrupted as a result of gene mutations, causing unregulated cell growth that leads to tumor formation. While tumors can grow slowly or rapidly, the dividing cells will nevertheless accumulate and the normal organization of the tissue will become disrupted. Cancers subsequently can spread throughout the body by processes known as invasion and metastasis. Cancer cells that arise in the lymphatic system and bone marrow are referred to as hematological malignancies. Cancer cells that arise in other tissues or organs are referred to as solid tumors.

According to the American Cancer Society, cancer is the second most common cause of death in the United States. In the United States, 1.7 million new cases of cancer are expected to be diagnosed in 2019, and more than 606,000 deaths from cancer are expected to occur. The 5-year relative survival rate for all cancers diagnosed during 2008-2014 was 69%. According to a National Institute of Health analysis, medical costs associated with cancer reached \$125 billion in 2010 and are projected to increase another 27% by 2020, to at least \$158 billion.

The most common methods of treating patients with cancer are surgery, radiation and drug therapy. For patients with localized disease, surgery and radiation therapy are particularly effective. Drug therapies are generally used by physicians in patients who have cancer that has spread beyond the primary site or cannot otherwise be treated through surgery, such as most hematological malignancies. The goal of drug therapies is to damage and kill cancer cells or to interfere with the molecular and cellular processes that control the proliferation, growth and survival of cancer cells. In many cases, drug therapy entails the administration of several different drugs in combination. Over the past several decades, drug therapy has evolved from non-specific drugs that kill both healthy and cancerous cells, to drugs that target specific molecular pathways involved in cancer.

An early approach to pharmacological cancer treatment was to develop drugs, referred to as chemotherapies or cytotoxic drugs, which kill rapidly proliferating cancer cells through mechanisms, such as stopping cell division, disrupting cell metabolism or causing damage to cellular components required for tumor survival and rapid growth. While these drugs have been effective in the treatment of some cancers, cytotoxic drug therapies act in an indiscriminate manner, killing healthy cells along with cancerous cells. Due to their mechanism of action, many cytotoxic drugs have a narrow therapeutic window. i.e. dose range above which the toxicity causes unacceptable or even fatal levels of damage and below which the drugs are not effective in eradicating cancer cells.

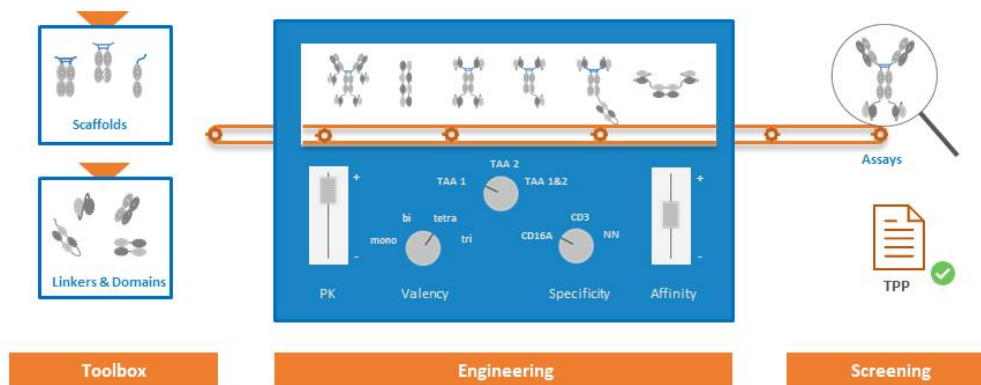
The next approach to pharmacological cancer treatment was to develop drugs, referred to as targeted therapeutics, including monoclonal antibodies, which are antibodies that derive from a single parent cell, that target specific biological molecules in the human body that play a role in cell growth and the spread of cancer. Included in this category are small molecule drugs as well as large molecule drugs, also known as biologics. With heightened vigilance and new diagnostic tests, targeted therapies (including monoclonal antibodies such as Herceptin®, Rituxan®, Erbitux® and Avastin® as well as small molecules such as Nexavar® and Tarceva®), have resulted in improvements in overall survival for many cancer patients. More recently, antibodies have been developed that are optimized regarding their effector function, also known as Fc optimized antibody drugs, for example obinutuzumab. These molecules are designed to engage NK cells and macrophages more effectively in the elimination of cancer cells.

Cancer immunotherapy plays an increasing role among emerging cancer drug therapies. The intention is to harness the body's own immune system to fight tumor cells. There are different approaches: vaccinations, checkpoint modulators, T cell and innate cell engagers, for example, bispecific antibodies, or cellular therapies involving transforming patient's own T cells to express a specific chimeric antigen receptors (CARs). Ipilimumab (Yervoy®), sipuleucel-T (Provenge®), and more recently nivolumab (Opdivo®), pembrolizumab (Keytruda®), and blinatumomab (Blinicyto®) were amongst the first cancer immunotherapies to enter the market. Our platforms of bi- and trispecific antibodies add further promise to the field of immuno-oncology.

Our Technologies

We have developed our proprietary fit-for-purpose ROCK® (*Redirected Optimized Cell Killing*) antibody platform to enable the generation of first-in-class multivalent, multi-specific immune cell engagers. Our antibodies have been shown to retarget innate and adaptive immune cells. ROCK® enables us to tailor tetravalent, bispecific immune cell engagers with high affinity and avidity, as well as variable PK profiles for different indications and settings. Through this platform, we were able to generate molecules against validated oncology targets to address the limitations of existing standard treatments.

Schematic representation of our fit-for-purpose ROCK® platform



Our ROCK® platform offers modularity and versatility for customizable antibody generation and is differentiated from other technologies and is designed to deliver immune cell engagers that:

- target different tumor-associated antigens
- enable tumor cell killing even with low target expression
- demonstrate high affinity binding and avidity based on bivalency
- recruit innate immune cells through anti-CD16A-specific epitopes and T cells through anti-CD3-specific epitopes
- offer different PK profiles
- possess long cell retention time
- show evidence of specific innate immune cell activation and their tumor infiltration (CD16A engagers)

Leveraging our fit-for-purpose ROCK® platform, we develop proprietary, next-generation bispecific antibodies, so-called immune cell engagers, which are designed to direct and establish a bridge between either innate immune cells or T cells and cancer cells. Our immune cell engagers have the ability to create an immunological synapse between innate immune cells or T cells and cancer cells and trigger a signal cascade that leads to the destruction of cancer cells. Due to their novel tetravalent architecture (which provides for four binding domains), our immune cell engagers bind to their targets with high affinity and have half-lives that support intravenous administration and dosing schedules similar to monoclonal antibodies (mAbs) to achieve potent antitumor efficacy. We are developing a variety of tetravalent, bispecific antibody formats with the potential to tailor immune-engaging therapies to different indications and settings.

Immune Cell Engagers

Our fit-for-purpose ROCK® platform enables the design and development of various antibody formats. Our lead product candidate AFM13 is an innate cell engager binding to CD16A on NK cells and macrophages and CD30, a receptor found on the tumor cells of patients with HL and other CD30+ malignancies.

Specifically, they are designed to have the following properties:

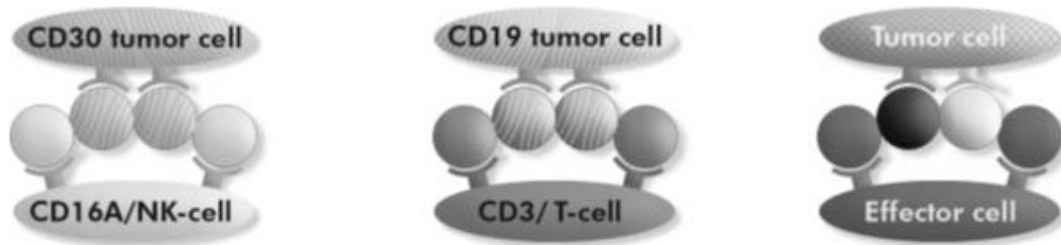
- bispecific or trispecific targeting;
- binding with high specificity, or selectivity;
- binding with high affinity/avidity, or strength;

- molecular weight allowing for intravenous bolus administration; and
- stable structure conducive to efficient and cost-effective manufacturing.

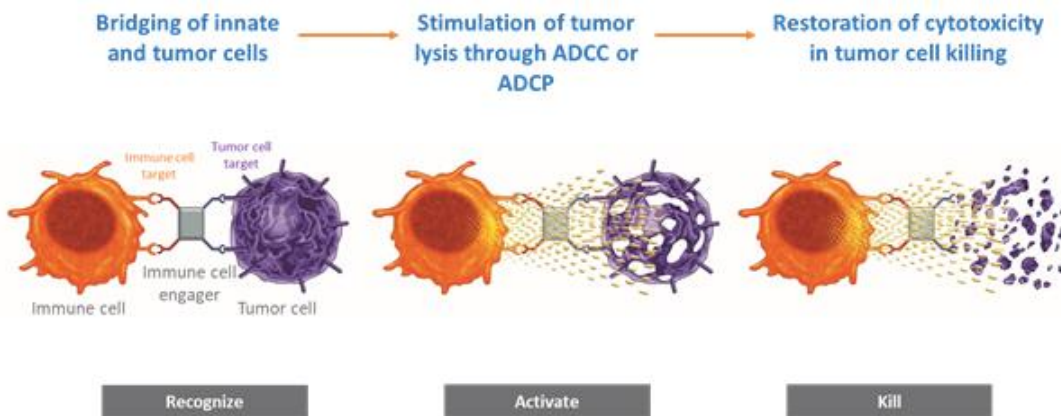
Trispecific Antibodies (TriFlex)

ROCK® also enables the generation of trispecific antibodies. Like bispecific immune cell engagers, trispecific Abs also have two domains for immune cell targeting and two for tumor cell targeting, but their two tumor binding domains or effector cell binding domains can be distinct, each one designed to bind a different target on the tumor cell or effector cell, respectively (see illustration below). ROCK® enables development of our trispecific Abs as both NK cell and T cell engagers.

Schematic representation of bispecific immune cell engagers (left and middle) and trispecific Abs (right)



Schematic representation of the mode of action of a tetravalent bispecific immune cell engager



Immune cell engagers bind to immune cells and enable both the recognition of tumor cells and their redirection to these tumor cells by forming an immunological synapse. Immune cells then release perforins, creating pores in the tumor cell membrane through which granzymes enter the cell, triggering apoptosis and resulting in tumor cell death.

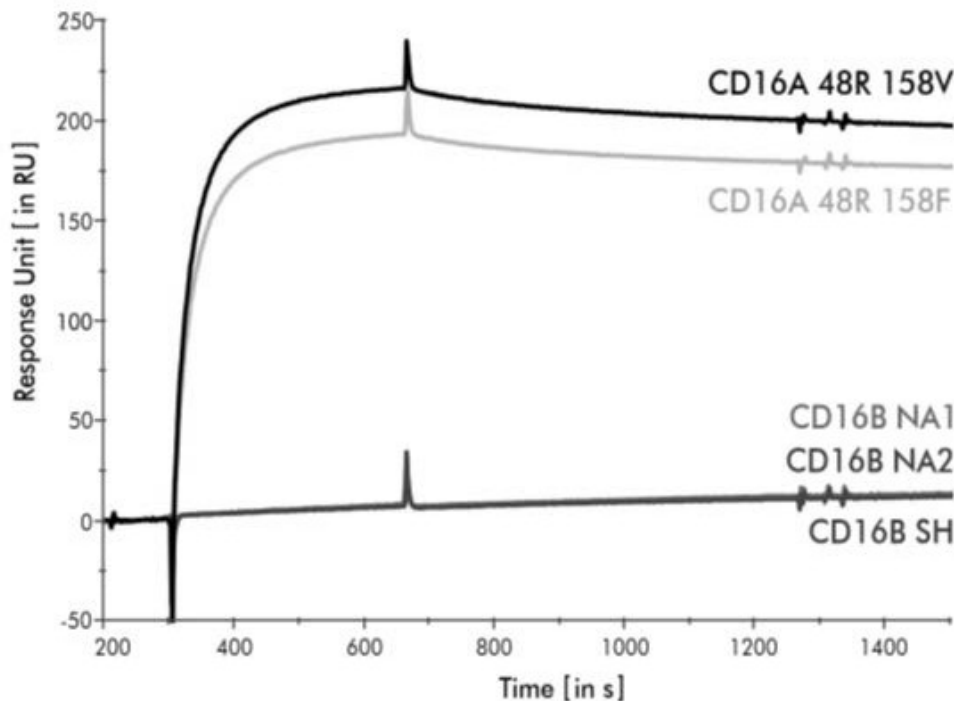
Innate cell engagers

Innate immune cells, such as NK cells and macrophages, distinguish between healthy cells and foreign or aberrant cells through a process that is governed by a complex interaction of activating and inhibitory receptors that regulate their activity. While innate immune cells can bind to the Fc regions of native full-length antibodies

through Fcγ receptors to induce a cytotoxic effect, our Innate immune cell engagers are designed to enhance the activity of innate immune cells in killing targeted tumor cells because they bind the FcγRIIIA (CD16A) receptor on innate immune cells with high specificity and approximately 1,000-fold higher affinity than IgG-based antibodies, and greater than 25-fold higher affinity than typical Fc-optimized IgG antibodies.

CD16A is an integral membrane glycoprotein found on the surface of innate immune cells, but not neutrophils. Classical mAbs bind not only to CD16A, but, to our knowledge, also to the highly homologous CD16B, an isoform differing from CD16A by only a few amino acids. CD16B is expressed on neutrophils, which are the most numerous white blood cells (leukocytes), and blood plasma contains high levels of soluble CD16B cleaved from the daily turnover of apoptotic neutrophils. Thus CD16B, being readily available to bind to any Fc-based antibody formats, facilitates target-mediated drug disposition for such antibodies. To engage and activate innate immune cells, we have generated a highly effective and specific human antibody that specifically targets the CD16A receptor and does not cross-react with CD16B; This antibody also binds to both CD16A allotypes (amino acid 158 with either valine or phenylalanine) with equal affinity, a polymorphism that has been shown to reduce efficacy of marketed classical antibodies such as trastuzumab or elotuzumab (see figure below).

Binding of innate immune cell engager to CD16A (high- and low affinity genetic variants (allotypes) 158V and 158F, respectively) and to CD16B (SH, NA1 and NA2 allotypes), the latter showing zero response (no binding)



Our lead innate cell engager AFM13, binds to CD16A on immune cells and to CD30, a receptor found on malignant cells that have been implicated in lymphoma, including HL and T cell lymphoma.

T cell engagers

CD4+ or CD8+ T-lymphocytes (T cells) are primary effectors of adaptive immunity and launch an attack only once foreign or aberrant material is processed and small pieces thereof are presented to them. Our T cell engagers are designed to tether a T cell directly to a target on a tumor cell.

Our T cell immune cell engagers bind with high affinity to the CD3 protein of the T cell receptor and a target molecule on the tumor cell. Once our T cell immune cell engagers recruit a T cell to the tumor cell, the T cell generates a strong activation signal that induces the release of cytotoxic proteins perforin and granzyme and results in the destruction of the cancer cell. Our T cell engagers have demonstrated in preclinical studies target-dependent cytotoxicity at low picomolar concentrations, which we believe may allow us to achieve therapeutic doses in the microgram range. In the absence of a tumor cell, the binding to CD3 on the T cells by the immune cell engagers is not sufficient to activate the T cells.

Our T cell engager lead candidate, AFM11, binds to CD3 and CD19, a B cell receptor found on malignant cells that cause leukemia or lymphoma, including NHL. The high potency of AFM11 has also been measured at low T cell counts, which may be of particular benefit to patients whose immune systems are compromised, for example by chemotherapy.

Trispecific Antibodies (TriFlex)

Our trispecific antibody platform could pave the way for cancer products with a substantially widened therapeutic window. Through our proprietary tetravalent domain structure, we have the ability to generate antibodies that exhibit three different binding specificities. Such structures are normally challenging to make, but we have succeeded in generating such molecules and have found that they have all the features to be used as drug candidates, such as manufacturability and stability. Our initial work is aimed at targeting two different tumor targets, and with a third functionality, engaging T cells or NK cells to exert a cytotoxic effect. Targeting two tumor targets allows for greater selectivity for cancer cells, sparing healthy tissue and resulting in a wider therapeutic window by opening up the potential target space, or dose range within which the drug can be effective in eradicating cancer cells without causing unacceptable levels of side effects.

In January 2015, we were awarded a €2.4 million (\$3 million) grant program from the German Federal Ministry of Education and Research (BMBF). The grant, awarded under the BMBF's "KMU-innovative: Biotechnology – BioChance" program, covered approximately 40% of funding for a research and development program to develop multi-specific antibodies for the treatment of multiple myeloma.

Our Target Markets

HL and CD30-positive Malignancies

HL is a type of lymphoma, which is a cancer originating from white blood cells called lymphocytes. CD30 is a cell membrane protein and tumor marker of different hematological malignancies of which HL is one of the more prevalent. There are approximately 9,000 new cases of HL in the United States every year and about 23,000 new cases in North America, the European Union and Japan.

Patients with newly diagnosed HL, depending on disease stage, are treated primarily with chemotherapy, sometimes in combination with radiotherapy. The current initial standard regimens are highly effective, but associated with acute and chronic toxicity. A number of patients are either refractory to or relapsing from standard therapy that included chemotherapy followed by Adcetris®, and we believe these represent a total of approximately 4,000-5,000 patients every year in North America, the European Union and Japan.

Adcetris® is the first approved targeted therapy for HL patients that are relapsed/refractory to second line treatments. Adcetris® targets CD30, the same target as AFM13, but has a different mode of action, acting as a targeted chemotherapy, rather than as a targeted immunotherapy. As an antibody-drug conjugate, Adcetris®

delivers a toxin (monomethyl auristatin E) to the cells that carry the CD30 antigen. The drug conjugate is internalized by the tumor cell, which is then destroyed. In a phase 2 clinical study, Adcetris® treatment in relapsed/ refractory HL patients resulted in an overall response rate of 75% and a complete response rate of 34%. However, the median progression free survival after Adcetris® is only 9.3 months. In addition, the treatment is associated with considerable adverse events like neutropenia (low neutrophils) and neuropathy (damage to the peripheral nervous system).

FDA and EMA have approved nivolumab in classical HL that has relapsed or progressed after autologous hematopoietic stem cell transplantation and Acetris® in 2016. Recently, the FDA has approved pembrolizumab for the treatment of adult and pediatric patients with refractory classical Hodgkin lymphoma (cHL), or who have relapsed after three or more prior lines of therapy. Overall response rates for the anti-PD-1 antibodies (nivolumab and pembrolizumab) in relapsed/refractory classical HL patients post brentuximab vedotin are 64 to 74%, with complete remission rates of 12-25%. Other CD30+ hematological malignancies include CD30+ hematological malignancies include CD30+ T cell lymphoma, or TCL, and CD30+ diffuse large B cell lymphoma, or DLBCL (approximately 25% of DLBCL tumors express CD30), which together contribute approximately 6,000-8,000 relapsed/refractory cancer cases per year in North America, the European Union and Japan.

Other CD30-positive Malignancies

4% of all new cancer cases in the US are NHL (SEER Database). In 2016, approximately 72 000 new cases of NHL were diagnosed in the US (SEER estimate). 5-10% of all Non-Hodgkin Lymphomas (NHL) are peripheral T-Cell Lymphomas (pTCL) and the majority are B-Cell Lymphomas. Within the NHL subtypes, malignancies that are CD30+ include CD30+ T cell lymphoma, or TCL, and CD30+ diffuse large B cell lymphoma, or DLBCL (approximately 25% of DLBCL tumors express CD30), which together contribute approximately 6,000-8,000 relapsed/refractory cancer cases per year in North America, the European Union and Japan. There are between 3500- 7200 newly diagnosed cases of pTCL in the US every year of which 40-50% are positive for CD30. Nearly 100% of both types of ALCL are positive for CD30 which represent about 10% of all NHL cases.

NHL

Among a large group of lymphomas, approximately 80% belong to the NHL group. These cancer types can originate from either malignant B cells or T cells, whereby B cell derived NHL comprises the vast majority. NHL includes precursor B cell tumors and 12 distinctly-defined mature B cell tumors, among them DLBCL, follicular lymphoma, or FL, and mantle cell lymphoma, or MCL. The latter three subtypes are the focus of the clinical development of AFM11. The total annual incidence of all B cell lymphoma subtypes in North America, the European Union and Japan is about 160,000 cases, of which 70,000 are in the United States. DLBCL alone represents about 46,000 new patients in North America, the European Union and Japan every year, and currently some 20,000 patients with DLBCL relapse from or become refractory to a series of standard treatments every year.

There is a high medical need for new treatment options in NHL, especially in the relapsed/refractory setting. Standard first line treatment of patients with NHL consists of the CHOP chemotherapy regimen (cyclophosphamid, anthracyclin, vincristin, prednison). The regimen is usually combined with rituximab (an anti CD20 monoclonal antibody) and called R-CHOP. While this regimen results in a durable response for the majority of patients with aggressive disease, in patients with indolent, or slowly progressing, disease, the chemotherapy is less effective. The effect of treatments in relapsed/refractory NHL also depends on the type of disease. For instance, response rates achieved with new targeted therapies in follicular lymphoma (FL) or mantle cell lymphoma (MCL) are at least partially promising and ibrutinib (Impruvica®) was approved in the United States for MCL in 2013 based on phase 2 data showing an overall response rate of 66%. However, in diffuse large B cell lymphoma (DLBCL), data are less promising with response rates usually not exceeding 45%. Promising results for this patient population were seen with blinatumomab, a bispecific antibody with the same disease target and immune cell target as AFM11 (CD19/CD3). In a dose-escalation study, patients (n=35)

treated with the maximum tolerated dose (MTD) showed an overall response rate of 69%. In addition, the FDA has recently approved two CAR-T cell therapies: Kymriah® for the treatment of B-cell ALL and Yescarta® for patients suffering from B cell NHL, demonstrating ORRs of 83% and 72%, respectively.

Other CD19-positive Malignancies

ALL, an aggressive type of leukemia characterized by an overproduction of lymphocytes in the bone marrow and the peripheral blood, is also primarily a B cell disease and exhibits the CD19 receptor. According to the National Cancer Institute, in 2013 an estimated number of 6,000 ALL cases were newly diagnosed in the United States, more than half in children and adolescents. Treatment of patients with ALL usually consists of a regimen that includes vincristine, prednisone, and an anthracycline, with or without asparaginase, and results in a complete response rate of up to 80% in patients aged 1-18 years; for adults, complete response rates are considerably lower (about 30% for patients above 40 years of age). Blincyto® (blinatumomab) has been approved in the United States and in the EU for Philadelphia chromosome-negative relapsed or refractory B cell precursor acute lymphocytic leukemia (ALL). This product is a bifunctional molecule similar to AFM11 in its targeting features and has demonstrated a moderate response rate of about 42% in the labelled adult population.

There are many ongoing clinical studies with investigational drugs, targeting in CD19+ malignancies, including CARs that are in early-stage development for several CD19+ malignancies. CARs are showing high response rates in early clinical studies; however, their clinical use seems to be limited by multiple factors, including potential significant adverse side effects.

EGFR-positive Malignancies

Current treatment options for solid tumors consist of a mix of surgery, chemotherapy, radiotherapy and targeted therapies. While historically chemotherapy or radiotherapy regimens were standard, nowadays tumor specific antigens guide decision-making for an optimal treatment regimen for individual patient. This has led to the implementation of innovative treatments as standard of care in many solid tumors, in particular monoclonal antibodies and tyrosine kinase inhibitors are frequently used.

EGFR is one of the important targets which is exploited by these targeted therapies. It is expressed in a wide range of solid tumors and is considered a validated target for their treatment. Erbitux® and Vectibix® are anti-EGFR monoclonal antibodies which are approved for the treatment of RAS-wildtype metastatic colorectal cancer. This represents ~ 45-50% of all colorectal cancer patients. However, the treatment of RAS mutant colorectal cancer (CRC) is not effective as the down-stream signaling cascade is constitutively activated and thereby confers resistance to both Erbitux® and Vectibix®. Patients with RAS-mutant CRC might be treated with so-called tyrosine kinase inhibitors. In addition, Erbitux® is also approved for the treatment of locally advanced and recurrent/metastatic head and neck cancer (HNSCC). The anti-EGFR mAb Necitumumab is approved for squamous cell carcinoma of the lung.

Beyond these approved indications, there are signals of clinical activity of anti-EGFR mAbs from early clinical studies in a wide range of different indications.

Immunotherapies play an increasing role in solid tumors. PD-1 checkpoint inhibitors have been approved for the treatment of melanoma, lung cancer, renal cancer, bladder cancer and head and neck cancer. Many studies with cancer immunotherapies are ongoing. It is expected that immunotherapies will play an increasing role in the standard therapy of solid tumors. However, even with these advances, cure is still the exception for the majority of late stage tumors, in particular metastatic tumors, and the medical need for new and safe treatment approaches remains generally high for solid tumors.

There is a broad spectrum of development opportunities for our tetravalent bispecific EGFR-targeting antibody.

- **RAS mutant colorectal cancer:** The main mode-of-action of Erbitux® and Vectibix® is the inhibition of the down-streaming signaling cascade of EGFR. However, certain mutations within the RAS-oncogene results in a lack of activity of both mAbs in RAS mutant colorectal cancer. Recent data also indicate that other mutations in the down-stream signaling cascade like BRAF mutations might also confer resistance to Erbitux® and Vectibix®. In contrast, AFM24 introduces a novel MoA inducing direct innate immune cell mediated killing of EGFR-positive cells. It might therefore be able to overcome these limitations and be clinically active, regardless of RAS mutation status.
- **Combination therapy:** It has been demonstrated that the PD1-PDL 1 axis plays an important role in different solid tumor types. This supports the combination of AFM24 with a checkpoint inhibitor in several EGFR-positive tumors, in which the checkpoint inhibitors are approved, e.g. NSCLC and HNSCC.
- **Improved benefit/risk profile versus the established EGFR-targeting mAbs:** By its mode-of-action our antibody might be more efficacious than the available EGFR-targeting mAbs in their approved indications (mCRC RAS WT, HNSCC, squamous NSCLC) and might exhibit an improved safety profile, especially with respect to skin toxicity, which is the most common side effect of Vectibix® and Erbitux®. Eventually an improved benefit/risk profile could result in a replacement of the existing therapies.
- **Development on EGFR-positive solid tumors, in which no other EGFR mAbs are approved:** Clinical signals of anti-tumor activity have been observed in a broad range of indications aside from the approved ones, among those are for example triple negative breast cancer and esophageal cancer. These indications might be further pursued with the EGFR antibody.

Our Product Candidates

Our development pipeline currently comprises three distinct product candidates for which we retain full commercial rights. Initially, we will pursue indications in which the medical need is high and for which there is a significant population of patients needing treatment in the salvage setting, expecting to expedite the time to market. If and when we obtain approval for our product candidates as salvage therapies, we plan to explore whether they could also be used as first- or second-line treatments, most likely in combination with one or more treatments that comprise the existing standard of care. All of our product candidates have the potential to target several indications, which could represent significant incremental commercial opportunities in the future.

AFM13

Overview

AFM13 is a first-in-class innate cell engager that we have engineered to bind with high affinity to CD30 expressing tumor cells and at the same time binding to CD16A surface proteins to activate NK cells. AFM13 is intravenously administered in order to recruit innate immune cells and redirect them to the tumor by binding to CD30. AFM13 has several advantageous characteristics:

- By targeting CD16A, AFM13 binds to NK cells and macrophages but not to neutrophils and is therefore more selective than full-length antibodies that bind to both CD16A and CD16B.
- Preclinical experiments have demonstrated that the cytotoxic potency of AFM13 is consistently higher than native and Fc-enhanced anti-CD30 full-length antibodies.
- AFM13 has the potential to be effective for all known and relevant genetic variants of CD16A.

The clinical and preclinical data that we have accumulated to date suggest that AFM13 appears to be well differentiated from Adcetris®, an approved targeted therapy for HL and TCL patients. Although AFM13 employs the same disease target as Adcetris®, namely CD30, the two compounds are fundamentally different in their

mechanism of action: Adcetris® is a targeted chemotherapy, while AFM13 is a targeted immunotherapy. Adcetris® delivers a toxin (monomethyl auristatin E) to the cells that carry the CD30 receptor, and the cell is killed by the action of the toxin after its internalization and release from the antibody. In contrast, AFM13 does not need to enter the cell, but serves as a connector on the cell surface between the CD30 receptor and a CD16A-positive immune cell. Once the cells are in contact, the killing activity of the immune cell is triggered.

Tumor cells have the ability to activate a multi-drug resistance system, or MDR, which we believe may contribute to the development of resistance to Adcetris®. The MDR, however, does not affect the efficacy of an immunotherapy like AFM13. We believe that this difference may not only translate into efficacy of AFM13 in patients relapsing from Adcetris® therapy, but ultimately into a longer clinical benefit. In addition, the off-target toxicity of Adcetris®' toxin monomethyl auristatin E causes severe neutropenia (low neutrophils) and neuropathy (damage to the peripheral nervous system). We believe AFM13 may avoid these side effects because it does not introduce a toxin such as monomethyl auristatin E into the cells. Hence, AFM13 may address Adcetris®' safety limitation.

Clinical development of AFM13

A phase 2a clinical study of AFM13 in patients with HL started recruitment in the second quarter of 2015. Due to delays in opening trial sites and the availability of anti-PD-1 antibodies for the treatment of relapsed/refractory HL patients, in the past we have experienced slower recruitment into the study than anticipated. Consequently, the overall study design was revised in order to adapt to the changing treatment landscape, namely the availability of anti-PD-1 antibodies. The study now includes HL patients relapsed or refractory to treatment with both brentuximab vedotin (Adcetris®) and anti-PD-1 antibodies. Different dosing protocols of AFM13 are being explored to allow for improved exposure in more heavily pretreated patient populations. The study is open and recruiting under the new study design. AFM13 has been granted orphan drug status for the treatment of HL in the United States and the European Union.

In 2016 we initiated a phase 1b clinical study investigating the combination of AFM13 with Merck's anti-PD-1 antibody Keytruda® (pembrolizumab) in HL patients that have relapsed after or are refractory to chemotherapy and Adcetris®. The study is designed to establish a dosing regimen for the combination therapy and assess its safety and efficacy. In this study, the combination was well-tolerated with most of the adverse events observed mild to moderate in nature and manageable with standard of care. Best response assessment data from 24 patients treated at the highest AFM13 dose level (7 mg/kg) as reported by central read, showed an ORR of 88% (21 of 24 patients), including complete metabolic responses (CmR) in 46% (11 of 24 patients) and partial metabolic responses (PmRs) in 42% (10 of 24 patients). One patient experienced stable disease (SD). We are also supporting a phase 1b/2a IST of AFM13 in patients with relapsed or refractory CD30+ lymphoma led by investigators at Columbia University in New York. In addition to determining clinical efficacy, this is also a translational study in patients with cutaneous manifestations and is designed to allow for serial biopsies, thereby enabling assessment of NK cell biology and tumor cell killing within the tumor microenvironment. Enrollment of a total of 9 patients in 3 dose cohorts is complete. An interim analysis of this study was recently presented. In 9 patients (dosed at 1.5-7.0 mg/kg) AFM13 was well tolerated and showed therapeutic activity as a single agent, with an objective response rate (ORR) of 44% (4 of 9 patients). In detail, one complete response (CR), three partial responses (PRs) and two stable diseases (SDs) were observed. An analysis of biomarker correlates showed a decrease in circulating NK cells (CD56+ CD3- , CD56+ CD16+, NKp46+) during therapy, with post-therapy recovery. In addition, increased CD69 expression on circulating NK cells from responders vs. non-responders was demonstrated. Tumor biopsies showed increased infiltration of CD56+ NK cells pre-therapy in responders compared to nonresponders, while circulating CD4+ CD25+ T cells (Tregs) decreased in responders compared to nonresponders. Most recently the study was amended to allow for recruitment of up to 6 additional patients.

In December 2016, we entered into a clinical development and commercialization collaboration with MD Anderson to evaluate AFM13 in combination with MD Anderson's cord-blood derived NK cell product. On December 3, 2018, we presented data at the American Society of Hematology Annual Meeting, outlining the successful approach of a novel premixed product comprising expanded cord-blood derived NK cells loaded

with AFM13 to redirect their specificity against CD30+ malignancies. MD Anderson is responsible for conducting preclinical research activities aimed at investigating its NK cells derived from umbilical cord blood in combination with AFM13, which are intended to be followed by a clinical phase 1 study. We fund research and development expenses for this collaboration and hold an option to exclusive worldwide rights to develop and commercialize any product developed under the collaboration.

Together with the German Cancer Research Center (DKFZ), we published data presenting evidence of AFM13 modulating NK cells by sensitizing them to IL-2 and/or IL-15 stimulation. In this study, after exposure to AFM13, the NK cells showed improved IL-2- and IL-15-mediated proliferation and cytotoxicity. These data support the strategy of combining our NK -cell engagers with IL-2- or IL-15 to potentially achieve deeper clinical responses.

AFM13-101 phase 1 dose escalation clinical study

We have conducted a phase 1 clinical study of AFM13, AFM13-101, in patients with HL. All patients in this study suffered from heavily pretreated relapsed/refractory disease and had documented progression of disease at study entry. The objectives of the study were: to determine the safety and tolerability of increasing doses of single cycles of AFM13 as a monotherapy; to determine the maximum tolerated dose and optimal biological dose of AFM13; to determine the pharmacokinetic (PK) profile of AFM13; to analyze immunological markers, NK cell activity, NK cell markers, serum outcome markers and cytokine release; to assess the immunogenicity, or ability to provoke an immune response, of AFM13; and to assess the activity of AFM13. The phase 1 study was conducted in Germany and the United States. We submitted a CTA for the phase 1 study to the PEI in May 2010 and an IND application to the FDA in June 2010.

The study enrolled 28 patients (16 males, 12 females) in eight dose cohorts. In the dose escalation part, 24 patients received increasing doses of AFM13 ranging from 0.01 mg/kg to 7.0 mg/kg on a weekly dosing schedule for four weeks. In addition, four patients were treated with 4.5 mg/kg twice weekly for four weeks. Of the 28 patients, 14 had refractory disease and the remainder had relapsed disease. The patients had received a median of six (range three to 11) previous lines of therapy for HL. Nine patients had previously received Adcetris®.

The clinical results were first presented to the medical community by Professor Andreas Engert, University Hospital of Cologne, the lead investigator for the study, at the Lugano International Meeting on Malignant Lymphoma in 2013. AFM13 showed an acceptable safety profile. An independent data monitoring committee, or IDMC, was responsible for the review of safety data on an ongoing basis. It was concluded that the maximum feasible single dose of 7 mg/kg was reached without any toxicity concerns, and consequently the maximum tolerated dose was not reached. The four patients who were treated with 4.5 mg/kg twice weekly completed treatment without raising any toxicity concerns for the IDMC. The most common adverse events were fever and chills, and in general, they were of mild to moderate severity. Overall, less than 30% of all adverse events were severe.

Twenty-six of 28 patients were eligible for efficacy evaluation. For the remaining two patients, efficacy assessments have not been performed. Of the 26 patients, three had a partial remission, 13 had stable disease and 10 had disease progression as best overall response. With the exception of the 0.04 mg/kg dose cohort, anti-tumor activity was observed at all dose levels tested but was more pronounced at or above 1.5 mg/kg. In this subgroup (n=13), 3 partial responses (=50% tumor shrinkage) and 7 cases with stable disease were observed, with an overall response rate of 23% (3/13) and a disease control rate of 77%. The chart below shows for these 13 individual patients the best overall response measured as a percentage change in tumor volume from baseline (baseline = 0 at the y-axis). The volume is calculated as sum of perpendicular diameters (SPD) for selected lesions of the tumors based on CT-scans.

AFM13-101 Best Overall Response in % Change in Tumor Volume from Baseline in 13 Patients who Received 1.5 mg/kg



Six of seven patients refractory to Adcetris® as their most recent treatment experienced stabilization of disease, or SD, following AFM13 treatment. One experienced progressive disease, or PD.

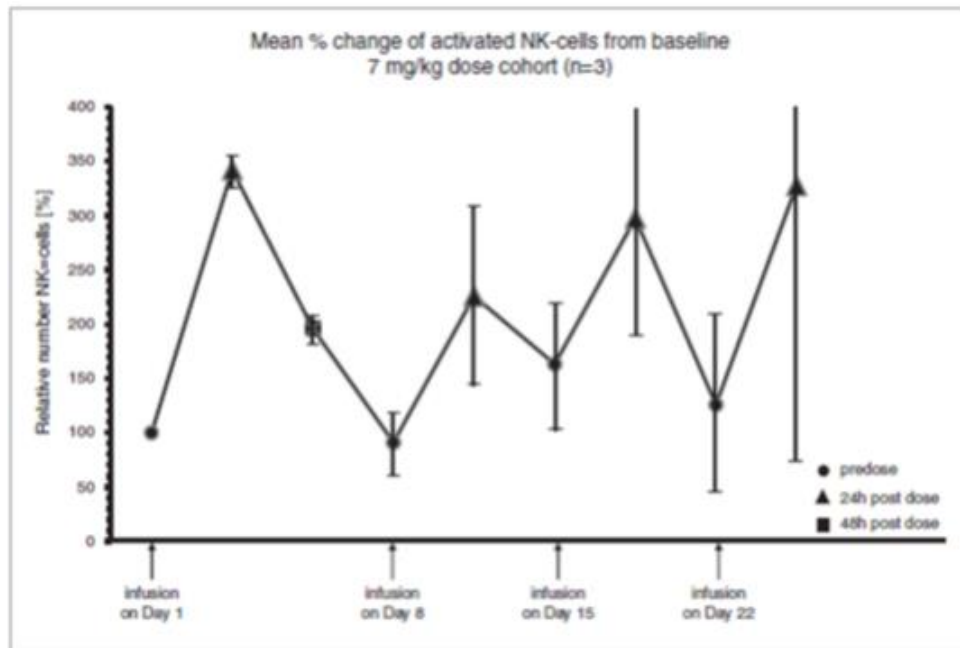
AFM13-101 Data for Patients Refractory to Adcetris® as Immediate Prior Therapy

PATIENT	AFM13 DOSE (mg/kg)	# PRIOR TREATMENTS	MOST RECENT TREATMENT	TIME LAST ADCETRIS®-FIRST AFM13	AFM BEST RESPONSE
001-01	0.01 weekly	6	Adcetris®, 5 cycles	1 month	SD
001-02	0.01 weekly	7	Adcetris®, 8 cycles	1 month	SD
001-07	0.15 weekly	11	Adcetris®, 7 cycles	3 months	SD
001-11	0.5 weekly	7	Adcetris®, 5 cycles	3 months	SD
001-12	0.5 weekly	7	Adcetris®, 9 cycles	1 month	SD
003-01	0.5 weekly	9	Adcetris®, 4 cycles	1.5 months	SD
001-21	4.5 twice	8	Adcetris®, 8 cycles	2.5 months	PD

Certain biomarkers indicated dose-dependent effects suggesting most active doses at or above 1.5 mg/kg. PK data were assessed in patients of all dosing cohorts. A dose proportional increase of systemic exposure (AUC₀₋ (or Area Under the Curve from zero to infinity in a plot of the concentration of the drug in blood plasma against time, which represents the total drug exposure over time) and C_{max} (or the maximum (or peak) concentration of the drug measured in plasma after the drug has been administered)) was observed. AFM13 was detectable in peripheral blood up to 168 hours post infusion in the highest dosing cohort. The mean half-life (t_{1/2}) for dose cohorts 1.5 mg/kg was 9-19 hours. AFM13 treatment resulted in an increase of activated NK cells, which are characterized by CD69 expression at their surface. There was a trend showing that higher doses result in a more pronounced increase of CD69+ NK cells. Moreover, CD69 levels rose after AFM13 administration and fell to about baseline prior to the next dose (see figure below), indicating a pattern that reflected the PK of AFM13. All 28 patients in the study had measurable levels of soluble CD30 (sCD30), at the start of AFM13 treatment. sCD30 is shed by the tumor and measurable in peripheral blood. In 24 patients the

level was decreased at the end of treatment. Patients treated in dosing cohorts 1.5 mg/kg all had a marked decrease of sCD30.

AFM13-101: Relative number of activated (CD69+) NK cells in patients receiving 7 mg/kg AFM13 (mean, n=3)



Based on the phase 1 data we concluded, together with experts and authorities, that AFM13 has a favorable safety profile. In addition, AFM13 showed activity in terms of tumor response and pharmacodynamics (PD), even in Adcetris® refractory patients. However, PK and PD indicate that the dose regimen has to be optimized and that the measured clinical effect is likely to underestimate the potency of AFM13 in HL. Consequently, in the phase 2a proof of concept study, the dose has to be 1.5 mg/kg; AFM13 has to be administered more frequently, at least for a certain time; the treatment duration has to be longer than four weeks; and a second cycle has to be mandatory in patients that showed benefit from AFM13 treatment in the first cycle, i.e. complete response, partial response or SD.

Relapsed/refractory Hodgkin Lymphoma after failure of standard treatments

Subsequent clinical development for AFM13

The proof of concept was demonstrated in the phase 2a study of AFM13 as a monotherapy in relapsed/refractory HL or relapsed/refractory CD30-positive lymphoma, and we are in the process of initiating a phase 2b study. The nature and design of this study, which will be submitted to the authorities, has been determined based on end-of-phase-2 meetings with the FDA.

We believe that the phase 2b study could support an application for registration in relapsed/refractory HL or CD30-positive lymphoma. This belief is based on the fact that AFM13 is being developed in salvage settings with high medical need and currently very limited treatment options.

Competent authorities, including the FDA, have regulations in place that allow for an accelerated approval procedure in indications with high medical need. Janet Woodcock, Director of the FDA's Center for Drug Evaluation and Research, summarized the intention of the FDA to help patients by streamlining drug approval procedures under certain circumstances. There are also numerous precedents for such approval strategies. For example, Adcetris® received accelerated approval in 2011 based on data from an open label phase 2 study in 102 patients with relapsed/refractory HL. In addition, the FDA in 2014 approved Blincyto® (blinatumomab) under breakthrough designation and accelerated review after only 2.5 months review time.

Following discussions with the FDA during the fourth quarter of 2018, we announced our registrational pathway and updated clinical development plans for AFM13. We plan to initiate a phase 2 study evaluating the efficacy and safety of AFM13 as monotherapy in patients with relapsed or refractory CD30 positive peripheral T cell lymphoma (PTCL) or transformed mycosis fungoides (TMF), a subset of cutaneous T cell lymphoma (CTCL), in the first half of 2019. Based on the unmet medical need for safe and effective new treatments in these hard-to-treat populations and preliminary feedback from the FDA, we believe that results from an open-label, single-arm phase 2 study could form the basis for a BLA submission and support an accelerated approval for patients with relapsed or refractory CD30-positive PTCL or TMF.

AFM13 safety was demonstrated not only as monotherapy but also as combination therapy with the anti-PD-1 antibody Keytruda® (pembrolizumab). Based on encouraging preclinical efficacy combining AFM13 with anti-PD-1 antibody in a mouse model of lymphoma, we entered into a collaboration with Merck to study the combination of AFM13 with Merck's anti-PD-1 antibody Keytruda® (pembrolizumab) in patients with relapsed/refractory HL. We have completed enrollment and presented encouraging 6-month data at the recent ASH2018 meeting.

In December 2016 we entered into a clinical development and commercialization collaboration with MD Anderson to evaluate AFM13 preclinically in combination with MD Anderson's NK cell product and data was recently presented at the ASH2018 meeting. The parties are currently planning the initiation of a clinical study in relapsed/refractory CD30-positive lymphoma patients that are treated with a combination of AFM13 and cord-blood derived NK cells.

AFM11

Overview

AFM11 is a T cell engager that we have engineered to bind with high affinity to both the CD19 receptor on certain tumor cells and CD3, a component of the T cell receptor complex. CD19 is expressed on multiple B cell malignancies, including various forms of NHL, ALL and CLL.

AFM11 has three advantageous characteristics:

- AFM11 is characterized by a high affinity to CD3, resulting in greater cytotoxic potency as determined in *in vitro* cytotoxicity assays, especially at low T cell counts, which may be important in immunocompromised patients.
- AFM11 will not activate T cells alone by binding to CD3; it needs to bind to both targets. Thus, if there is a lack of CD19+ cells, no T cell activation can be expected, which represents an important safety consideration.
- AFM11 has a molecular weight of 104 kDa. As shown for AFM13, which has a similar molecular weight, we believe AFM11 should have a half-life that allows for administration through intravenous infusion.

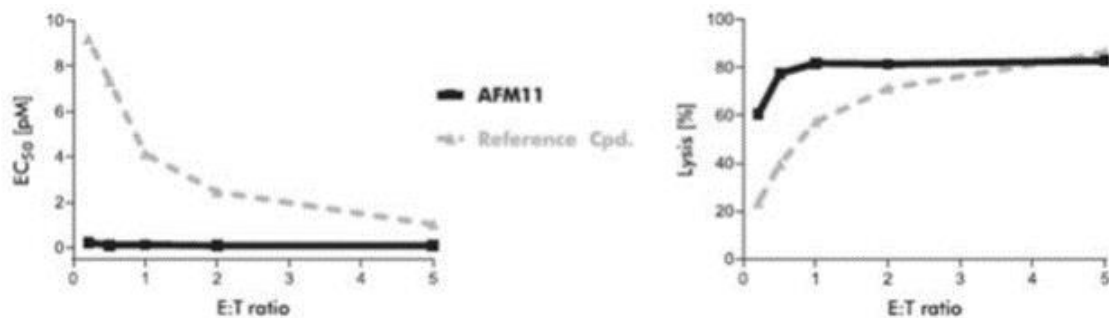
The most promising clinical data for patients with relapsed/refractory B cell malignancies is with Blincyto® (blinatumomab), a bispecific antibody with the same disease target and immune cell target as AFM11 (CD19/CD3). Blincyto® has meanwhile been approved for the treatment of Philadelphia chromosome-negative

relapsed or refractory B cell precursor acute lymphocytic leukemia (ALL). The response rates observed with this molecule in clinical studies with patients with relapsed or refractory B cell precursor ALL are higher than those obtained with other experimental and approved treatments used in the salvage setting. Moreover, in the pivotal "TOWER" study of blinatumomab versus chemotherapy in patients with relapsed/refractory ALL studies 76% of patients achieving complete remission to blinatumomab were MRD (minimal residual disease) negative which implies a complete ablation of the malignant clone, versus only 48% of patients treated with chemotherapy and who achieved complete remission. Negative MRD status is a predictor of long-term outcome. In addition, the pivotal "TOWER" study has confirmed an extended progression-free survival and overall survival for patients treated with blinatumomab compared to standard chemotherapy.

The preclinical data that we have accumulated to date suggest that AFM11 may be well differentiated from blinatumomab. AFM11 has a molecular mass of 104kD, which might allow intravenous administration as a continuous infusion of shorter duration compared to blinatumomab, which is administered continuously over four weeks and up to five cycles. In preclinical studies comparing AFM11 to a reference BiTE molecule made with the same sequence as blinatumomab, AFM11 showed a 100-fold higher affinity to the CD3 receptor, resulting in greater *in vitro* cytotoxic potency. Unlike the reference compound for blinatumomab, for which cytotoxic potency decreases at lower effector cell to tumor cell ratios, AFM11's cytotoxic potency remains constant. Specifically, when tumor cells are 5x the number of T cells (effector cell to tumor cell or E:T = 0.2), AFM11's potency is 40-fold higher than that of blinatumomab (figure below, left). In another experiment, AFM11 led to more complete tumor cell lysis (death) at low T cell counts when compared to a blinatumomab reference compound (figure below, right). These findings may be of clinical importance because patients that have been treated with chemotherapy suffer from lymphopenia with a significant reduction in absolute T cell numbers. These findings could theoretically also be of significance in tumor masses, which are poorly vascularized and to which T cells have limited access.

Cytotoxic potency (effective concentration (EC) for 50% cell lysis) of AFM11 in comparison to a reference compound with the same sequence as blinatumomab at various effector cell (T cell) to tumor cell ratios.

Left: cytotoxicity (stronger, if lower EC50); right: % cell lysis at 10 pM antibody concentration.



Clinical Development of AFM11

AFM11-101 phase 1 dose escalation clinical study

In May 2014 we initiated a phase 1 clinical study to assess the safety of AFM11 in patients with relapsed/refractory CD19+ NHL. Patients with several subtypes of NHL have been included.

In addition, a phase 1 clinical study of AFM11 in patients with relapsed/refractory B precursor ALL commenced in the third quarter of 2016. The objectives of the studies are to determine the safety and tolerability of increasing doses of AFM11 monotherapy; to determine the maximum tolerated dose or optimal biological dose; to assess the PK of AFM11 in serum; to assess the biological activity of AFM11; to assess PD markers in blood; to assess

the anti-tumor activity of AFM11; and to recommend the dose for phase 2a studies in NHL and ALL patients, respectively.

During the fourth quarter of 2018, we suspended recruitment to both AFM11 studies after the occurrence of life-threatening events in three patients, which included two life-threatening events in the NHL study and a death in the ALL study. Subsequently, we received a notification from the FDA that the regulatory agency formally placed the AFM11 IND application on full clinical hold.

Subsequent development plan for AFM11

In early March 2019, we submitted a complete response document to the FDA that summarizes the clinical data from the two AFM11 phase 1 studies to request that the clinical hold be lifted so that clinical development of AFM11 may proceed in ALL patients.

AFM24

We are developing AFM24, an innate cell-engaging bispecific antibody targeting EGFR. AFM24 is designed to treat patients suffering of EGFR expressing solid tumors with the potential for better efficacy and safety as compared to current therapeutic anti-EGFR monoclonal antibodies that are associated with significant toxicities and resistance to treatment. We have successfully completed a toxicology study in cynomolgus monkeys at a range of dose levels up to 75mg/kg over 4 weeks with no observed toxicities even at high dose levels. In contrast, Cetuximab an approved anti-EGFR antibody revealed significant toxicity in the same dose-range. We anticipate completing IND-enabling studies for AFM24 by mid-year 2019 and plan to initiate a first-in-human study in the second half of 2019.

AFM26

We developed AFM26, an innate cell-engaging bispecific antibody targeting B cell maturation antigen (BCMA) to address the medical need for a novel approach to treat multiple myeloma. AFM26 employs a unique mechanism of action through high affinity engagement of NK cells, demonstrating *in vitro* efficacy against cells expressing even low levels of BCMA. AFM26 NK cell binding is largely unaffected by IgG competition. In addition, AFM26 offers the opportunity for combination with adoptive NK cell transfer, as it appears to have a favorable safety profile with lower cytokine release as compared to BiTE. In the third quarter of 2018, we entered into an agreement to partner AFM26, and no longer control the rights to its development.

Antibody generation at AbCheck

AbCheck is our wholly owned, independently operated proprietary antibody screening platform company. AbCheck combines four different technologies to supply high-quality antibodies to us as well as others on a fee-for-service basis. AbCheck offers phage display antibody libraries, yeast display, affinity maturation algorithm technologies and Rabbit Mass Humanization. AbCheck is recognized for its expertise in antibody discovery throughout the United States and Europe and has been working with globally active pharmaceutical and biotechnology companies such as Tusk Therapeutics, bluebird bio, Eli Lilly, Daiichi Sankyo, Pierre Fabre and others.

The Naïve Human Antibody Library

The Naïve Human Antibody Library leverages the power of the human immune system by using antibody sequences generated *in vivo*. Sequences of variable heavy chains are taken from the IgM pool of healthy human donors, where the highest diversity of antibody sequences can be found. The heavy chains are recombined with variable light chains in the phage display vector to maximize diversity. This library ensures the fast and reliable discovery of highly specific and highly affine human antibodies for virtually every possible target protein. AbCheck has conducted more than 30 successful antibody discovery projects, including antibodies against complex cell surface receptors.

Yeast display

AbCheck uses yeast display to screen for enhanced expression levels and stability of antibodies and thereby select candidates that can be manufactured with high yield and are stable. The yeast system guarantees expression of the product candidate in customary cell culture systems. Furthermore, yeast display in combination with fluorescence activated cell sorting allows real-time monitoring and full control over the selection process. Screening in the final drug format, including full-length IgGs and novel antibody formats, ensures a fast and efficient lead discovery process.

Affinity maturation algorithm

AbCheck has a proprietary algorithm, AbAccel, for incorporating the results of high-throughput antibody sequencing, structural analysis and therapeutic biochemistry to optimize antibodies with regard to affinity, immunogenicity, stability and expression levels.

Mass Humanization

AbCheck has developed the mass humanization technology in partnership with Distributed Bio. It is an entirely new approach for multi-parameter engineering and optimization of monoclonal therapeutics. By analyzing the matured repertoire of rabbits and humans, AbCheck was able to pre-compute and pre-encode the complete humanization landscape in a "mass humanization" technology, in which they humanize the *in vivo* immune response of a rabbit in a single experiment.

Collaborations

We have entered into strategic collaborations for some of our therapeutic programs. As part of our business development strategy, we aim to increase the number of our research collaborations in order to derive further value from our platforms and additionally exploit their potential. Key terms of our current material collaborations are summarized below.

Genentech

Overview

On August 24, 2018 we entered into a research collaboration and license agreement with Genentech, a member of the Roche Group, for the development and commercialization of certain product candidates that contain novel NK cell engager-based immunotherapeutics to treat multiple cancers. Under the terms of the agreement, in the fourth quarter of 2018 we received \$96 million in initial upfront payments and other funding.

Research collaboration and license agreement

Under the terms of the research collaboration and license agreement (for purposes of this subsection, the "Agreement"), we granted Genentech an exclusive, royalty-bearing, sublicensable worldwide license during the term of the Agreement and thereafter under patent rights and know-how to commercialize the licensed portfolio and any additional product candidates developed pursuant to the Agreement against the exclusive targets designated by Genentech. Genentech has granted us a non-exclusive, royalty-free, non-sublicensable, worldwide license under certain of its intellectual property solely to fulfill our research obligations under the Agreement.

In addition to the \$96 million in payments received in 2018, we are eligible to receive up to approximately \$5.0 billion in total milestone payments upon successful development and commercialization of all product candidates developed pursuant to the Agreement. Of the \$5.0 billion in milestone payments, approximately \$250 million relate to development activities, \$1.1 billion relate to receipt of regulatory approvals, and \$3.6 billion relate to achievement of specified thresholds of worldwide net sales. In addition, we are eligible to receive tiered royalties from Genentech on net sales of licensed product candidates on a product-by-product and country-by-country basis until the later of the date when there are no valid patent claims under our licensed patents covering such licensed product in the applicable country and the tenth anniversary of the date of first commercial sale of such licensed product in such country. In March 2019 we were informed that an initial pre-clinical milestone was approved by Genentech.

Under the terms of the Agreement, Genentech will be responsible for a majority of the research, development and commercialization costs incurred in respect of each product candidate. The development of each product candidate will be overseen by a joint project team, which will in turn be overseen by a joint research committee, or JRC, consisting of an equal number of representatives of Genentech and us. If the JRC is unable to reach agreement, Genentech generally has final decision-making authority, provided that the JRC may not increase or decrease costs dedicated to our research activities under any research plan without our consent.

We are subject to certain efforts requirements in connection with our research activities under the Agreement, provision of technical assistance to Genentech and agreement with Genentech upon designation of the exclusive targets. Genentech must use commercially reasonable efforts to develop and commercialize in one of the United States, European Union or Japan at least one licensed product that binds to each exclusive target.

We will own intellectual property that we solely develop under the Agreement or that predominantly relates to its antibody engineering platform or molecule fragments that bind to the NK cell. Genentech will own intellectual property that it solely develops under the Agreement or that predominantly relates to an antibody designed to solely bind to an exclusive target. Other newly developed intellectual property will be jointly owned by us and Genentech. The parties will jointly prosecute related patents, provided that Genentech will make final decisions regarding prosecution of patents that claim exclusive targets or relate to developed intellectual property that it solely owns under the Agreement and we will make final decisions regarding prosecution of patents that relate to developed intellectual property that we solely own under the Agreement.

The Agreement will expire on a country-by-country basis and licensed product-by-licensed product basis until there is no remaining royalty payment or other payment obligation in such country with respect to a licensed product. Either party may terminate the Agreement in its entirety, or with respect to a particular target, for any uncured material breach of the Agreement by the other party. Either party may also terminate the Agreement upon the other party's insolvency. Genentech also has the right to unilaterally terminate the Agreement in its entirety or with respect to a particular target, in its sole discretion, upon certain advance written notice. If the Agreement is terminated in its entirety or with respect to a particular exclusive target, either by Genentech for convenience or by us for material breach, we have a right to negotiate commercially reasonable terms under which Genentech grants to us (i) the right to transfer licensed products under any terminated exclusive target to us and (ii) a license for Genentech's intellectual property to such licensed products for further commercialization of such licensed products. If we do not agree with Genentech on such terms, the dispute will be finally settled by arbitration.

Amphivena

Overview

In 2013, we entered into a license and development agreement, which amended and restated a 2012 license agreement, with Amphivena Therapeutics, Inc., or Amphivena, based in South San Francisco, CA, to develop a CD33xCD3 immune cell engager antibody to be used in patients suffering from AML in exchange for an interest in Amphivena and certain milestone payments. Amphivena received funding from MPM Capital, Calibrium (formerly Aeris Capital) and us. Amphivena had entered into an agreement with Janssen that gave

Janssen the option to acquire Amphivena upon predetermined terms following acceptance by the FDA of an IND filing for the product candidate, but Janssen declined to exercise this option in July 2016 and Amphivena retains full rights to the product candidate. We successfully reached our first three milestones, up to the generation and acceptance of a CD33xCD3 development candidate immune cell engager meeting certain target features. The third milestone was reached in the first quarter of 2015. Following the achievement of the third milestone of the Amphivena collaboration we were eligible to receive a milestone payment of €7.5 million payable in three installments. The first installment of €1.3 million was paid in the first quarter of 2015, and the second installment of €4.2 million was paid in October 2015. An additional amount of €0.5 million was received in October 2016, which comprised €1.5 million as partial payment for the third installment, net of €1.0 million of additional financing we provided to Amphivena to support the future clinical development of its product candidate, AMV564. Following the expiration of the license and development agreement with Amphivena when the IND became effective, we continued to provide services on a smaller scale to complete the deliverables required under the agreement, and have been financially supporting the future clinical development of AMV564 with €2.8 million in financing, €1.0 million of which was invested in Amphivena in October 2016, €0.6 million of which was invested in March 2017, €0.3 million of which was invested in December 2017 and €0.9 million of which was invested in June 2018.

In exchange for the technology license to Amphivena, we received shares of stock of Amphivena, and, in connection with an equity financing involving us and other third-party investors, we made cash investments in Amphivena in exchange for additional shares of stock and entered into certain related agreements governing our rights as a shareholder of Amphivena. As of December 31, 2018, those cash investments totaled \$4.0 million (€3.5 million), and we owned approximately 7% of the outstanding equity of Amphivena on a fully diluted basis.

Amphivena has separately entered into a warrant agreement with Janssen Biotech Inc. that gave Janssen the option to acquire Amphivena following IND acceptance by the FDA of such product candidate, upon predetermined terms, in exchange for payments under the warrant. Upon effectiveness of such IND application in July 2016, Janssen decided to not exercise its option. We have received payments for research and development services provided by us under the license and development agreement entered into with Amphivena prior to its expiration. Through December 31, 2018, €14.5 million (net of our share in funding Amphivena) was paid to us under the license and development agreement. We do not expect to provide any additional significant services or generate significant additional revenues under the license and development agreement.

License and development agreement

Pursuant to the July 2013 license and development agreement with Amphivena, we historically performed certain services for Amphivena related to the development of a product candidate for hematological malignancies. The license and development agreement with Amphivena expired when the IND became effective.

Licenses. Pursuant to the license and development agreement, we have granted Amphivena certain product and technology licenses, each of which includes the right to grant sublicenses to its affiliates or third parties through multiple tiers, subject to certain notice requirements, including the following:

- an exclusive, worldwide, royalty-free license under the technology of certain immune cell engagers to research, develop, make, have made, use and commercialize any immune cell engagers developed under the agreement;
- a non-exclusive, worldwide, royalty-free license under other antibody-specific intellectual property we control to research, develop, make, have made, use and commercialize any immune cell engagers developed under the agreement; and

- an exclusive, worldwide, royalty-free license under certain antibody-specific intellectual property we control to research, develop, make, have made, use and import certain antibodies and portions thereof or products derived therefrom developed under the agreement.

In addition, we have assigned our right and interest to certain intellectual property specifically related to certain antibodies covered under the agreement to Amphivena, and Amphivena solely owns all right, title and interest in certain intellectual property that specifically relates to such antibodies.

We and Amphivena have granted exclusive, worldwide, royalty-free cross-licenses to each other's know-how that is disclosed while the Janssen warrant agreement is in effect and otherwise not covered by patent rights, for use in connection with the development plan and on certain occasions in which the development plan continues to be carried out surviving termination of the license and development agreement.

Exclusivity. We and our affiliates, including AbCheck, are subject to restrictions on researching, developing, manufacturing, using or commercializing antibodies developed under the agreement for specified periods of time. These restrictions survived the expiration of the agreement in July 2016.

Term and termination. The license and development agreement terminated upon the completion of all services to be performed by us under the license and development agreement.

The Leukemia & Lymphoma Society

Overview. In 2013, we entered into a research funding agreement with The Leukemia & Lymphoma Society, or LLS, for the clinical development of AFM13. Pursuant to the research funding agreement, LLS agreed to co-fund the clinical phase 2a development of AFM13 and to contribute up to approximately \$4.4 million over two years to support the project. We have agreed to match LLS's contributions toward the project budget. Our receipt of the \$4.4 million total that LLS has agreed to contribute is conditioned on the achievement of certain milestones in connection with the development of AFM13, five of which have been met. As a result, we have already received \$4.2 million in funds from LLS. We must use the funding provided by LLS exclusively with the development program, and return any excess funding to LLS. We are solely responsible for and have control over all development work and are obligated to use commercially reasonable efforts, as defined in the research funding agreement, in our conduct of the development program to achieve the specified milestones. We also have retained exclusive commercialization and distribution rights to AFM13. The research funding agreement was amended in April 2014 to amend the projected milestone event dates and modify certain aspects of the agreement regarding the phase 2a study design. The research funding agreement was further amended in June 2016 to reflect a shift in development focus of AFM13. Recent changes within the rapidly evolving cancer immunotherapy treatment landscape have resulted in a shift to development of combination therapeutic approaches. Having successfully established a collaboration with Merck in January 2016 to test AFM13 in combination with Keytruda® in relapsed/refractory Hodgkin lymphoma patients, we have prioritized the development of AFM13 as a combination therapy. Consequently, we have agreed with LLS to amend the research funding agreement so that the milestones now relate primarily to the development of AFM13 as a combination therapy.

Intellectual property and licenses. Each party owns inventions made and data and know-how generated exclusively by such party or its affiliates prior to and during the term of the research funding agreement relating to the AFM13 development program. If any of such data, inventions and know-how is jointly made, it is jointly owned. LLS grants us an exclusive, worldwide, fully paid-up license to its rights in any such joint inventions and any invention made by any LLS employee resulting from the AFM13 development program for purposes specified in the research funding agreement. We have granted LLS an exclusive license to AFM13 that is only effective if we have ceased, or ceased commercially reasonable efforts with respect to, research, development and commercialization of all AFM13 products for a specified period, which period may be extended. As an alternative to this license, we may elect to pay LLS a payment equal to the amount that LLS actually funded to us plus interest. LLS has agreed to make reasonable adjustments and accommodations to this license in the event it impedes our ability to seek a partner to commercialize AFM13.

Royalties. In consideration of LLS's payments to us, we have agreed to pay LLS a mid-single digit royalty on net sales of products containing AFM13 until we have paid LLS a low single digit multiple of the funding they provided to us. After we have reached this initial royalty cap, we will pay LLS a sub-single digit royalty on net sales until the earlier of (i) the expiration of the last to expire patent covering the AFM13 products and (ii) ten years after the initial royalty cap is satisfied. These royalty payments are calculated on a country-by-country and product-by-product basis. We have also agreed to make certain low-to-mid-single digit royalty payments to LLS in the event of certain transfers of rights to any product containing AFM13 or in the event we undergo certain change of control transactions, in each case up to the royalty cap described above.

Term and termination. Unless earlier terminated pursuant to the terms of the agreement, the research funding agreement terminates when there are no longer any payment obligations owing from one party to another. The research funding agreement may be terminated by either party for the other party's material breach, material violation of applicable law, or if a representation or warranty made by the other party in the research funding agreement is not true in any material respect, subject to a specified cure period. If LLS terminates for our default, our royalty obligations and the interruption license will survive such termination. Either party may terminate if the other party undergoes specified bankruptcy or insolvency-related events.

License Agreements

DKFZ

Overview. In June 2006, we amended a 2001 license agreement with Deutsches Krebsforschungszentrum, Heidelberg, or DKFZ. Under the agreement, as amended, we obtained a worldwide, royalty-bearing license under specified DKFZ patent rights to make, have made, use, sell and have sold licensed products and to practice licensed commercial services, which specifically excludes services that are paid for with government grant funding. We have developed our TandAb technology under the licensed patent rights. In connection with the agreement, as amended, we issued DKFZ 350 shares of our Series C preferred shares, which were subsequently converted into Series D preferred shares in the equivalent amount of €50,000 and made a €35,000 cash payment to DKFZ. We are also required to pay DKFZ a low single digit royalty on net sales, as defined in the agreement, of licensed products and services and a mid-single digit percentage of income we receive in connection with granting a third party a sublicense of our rights under the license agreement. If we grant a sublicense in connection with entering into a cross-licensing arrangement with one or more third parties, we are obligated to make a lump-sum payment of DM 70,000 (€35,790) to DKFZ following the execution of each such sublicense. We are obligated to make the above royalty payments to DKFZ during the term of the licensed patents and for the two years following the expiration of the licensed patents.

Patent rights. DKFZ retains the right to use the licensed patent rights for scientific purposes. We are obligated to inform DKFZ of improvements relating to or similar to the licensed patent rights, licensed products or licensed services and DKFZ has the right to use these improvements for scientific purposes. DKFZ retains responsibility for the prosecution and maintenance of the licensed patent rights, but we are obligated to reimburse DKFZ for costs and expenses incurred in connection with the prosecution, maintenance and defense of the licensed patent rights.

Exclusivity. DKFZ originally granted us an exclusive license to the licensed patent rights for an already-expired initial period. The validity of the exclusive license automatically renews for subsequent one-year terms unless either party provides written notice of a modification at least three months prior to the expiration of the then-current one-year term. No such modification has been issued by either party to date, and the license is in force on an exclusive basis with respect to the licensed patent rights that relate to our TandAb antibody platform including our key product candidates.

Term and termination. The license agreement has terminated with the expiration of the last to expire licensed patent in 2018.

Xoma

In September 2006, we entered into a license agreement with Xoma Ireland Limited, or Xoma, pursuant to which Xoma granted us a worldwide, fully paid-up, royalty-free, non-exclusive and non-transferable license to conduct research on immunoglobulins under certain patent rights and know-how owned or otherwise controlled by Xoma. In March 2018, the last of the licensed Xoma patent rights expired, and we no longer have any obligations to Xoma under the agreement.

Intellectual Property

Overview

We strive to protect the proprietary technologies that we believe are important to our business, including seeking and maintaining patent protection intended to protect, for example, the composition of matter of our product candidates, their methods of use, the technology platforms used to generate them, related technologies and/or other aspects of the inventions that are important to our business. We also rely on trade secrets and careful monitoring of our proprietary information to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

We plan to continue to expand our intellectual property estate by filing patent applications directed to dosage forms, methods of treatment and additional compositions created or identified from our technology platforms and ongoing development of our product candidates. Specifically, we seek patent protection in the United States and internationally for novel compositions of matter directed to aspects of the molecules, basic structures and processes for manufacturing these molecules and the use of these molecules in a variety of therapies.

Our success will depend significantly on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business, defend and enforce our patents, maintain our licenses to use intellectual property owned by third parties, preserve the confidentiality of our trade secrets and operate without infringing the valid and enforceable patents and other proprietary rights of third parties. We also rely on know-how, continuing technological innovation and in-licensing opportunities to develop, strengthen, and maintain our proprietary positions. To date, we have not identified any potential infringement of our patents by third parties.

A third party may hold intellectual property, including patent rights that are important or necessary to the development of our product candidates or use of our technology platforms. It may be necessary for us to use the patented or proprietary technology of third parties to commercialize our product candidates, in which case we would be required to obtain a license from these third parties on commercially reasonable terms, or our business could be harmed, possibly materially.

Our Platforms and Programs

The patent portfolios for our most advanced programs are summarized below.

AFM13

We own and/or control our AFM13 (CD30 NK cell TandAb) patent portfolio, which includes three patent families. Our first patent family is issued and relates to the engineered antibody format, which is called TandAb, and the methods of making or using such bispecific, tetravalent domain antibodies. This patent family will expire in 2019. The patents are granted in several major markets, including Australia, Canada, Europe (Austria, Belgium, Denmark, France, Germany, Great Britain, Italy, the Netherlands, Spain, Sweden and Switzerland/Liechtenstein), Japan and the United States. The second patent family on AFM13 is granted for

the use of the specific target combination for the treatment of cancer using a bispecific molecule. This patent family is granted in Europe (Austria, Belgium, France, Germany, Great Britain, Ireland, Italy, the Netherlands, Spain and Switzerland/Liechtenstein) and will expire in 2020. Our third patent family relates to the mode of action of AFM13, the recruitment of immune effector cells via a specific receptor. These patents will expire in 2026. We filed a related PCT application and respective national phases are pending in Brazil, Canada, China, Japan and the United States. Any patents resulting from these patent applications, if issued, also will expire in 2026. Patents have been granted in Australia, India, Japan, Russia, Europe (France, Great Britain, Germany, Switzerland and Liechtenstein, Belgium, the Netherlands, Italy, Spain, Austria, Denmark and Sweden) and certain claims have been allowed in the United States. The latest patent application on AFM13 relates to its combination with PD-1 antibodies, and was filed in 2016. We filed a related PCT application which entered the national phases in Australia, Brazil, Canada, China, Europe, India, Japan, Russia and the United States.

AFM11

We own and/or control our AFM11 patent portfolio. This portfolio includes one patent family granted in Australia, Canada, Europe, Japan and the United States and one patent family pending in Australia, Brazil, Canada, China, Europe, Japan, Mexico, Russia and the United States. As in the case of AFM13, our issued patents relate to the engineered antibody format, which is called TandAb, and on which the AFM11 compound is based upon. These patents will expire in 2019. The patent application family in our AFM11 patent portfolio claims a new TandAb structure which was specifically used in AFM11 to increase its potency. This patent family was granted in Australia, China, Japan, Mexico, Russia and certain countries in Europe, and is pending in other countries. The issued patents in this family will expire either in 2030 or 2031.

AFM24

We own and/or control the patents which cover our EGFR/CD16A compound. These include one granted patent family which is, comparable to AFM11 and AFM13, the patents on the TandAb format issued in Australia, Austria, Belgium, Canada, Denmark, France, Germany, Great Britain, Italy, Japan, the Netherlands, Spain, Sweden, Switzerland/Liechtenstein and the United States. As for AFM13, another patent family relates to the recruiting of immune effector cells via a specific receptor, and will expire in 2026. Patents have been granted in Australia, India, Russia, Europe (France, Great Britain, Germany, Switzerland and Liechtenstein, Belgium, the Netherlands, Italy, Spain, Austria, Denmark and Sweden) and certain claims have been allowed in the United States.

AFM26

We have out-licensed the patents which cover our BCMA/CD16A compound. These include one granted patent family which is, comparable to AFM11, AFM13 and AFM24, the patents on the TandAb format issued in Australia, Austria, Belgium, Canada, Denmark, France, Germany, Great Britain, Italy, Japan, the Netherlands, Spain, Sweden, Switzerland/Liechtenstein and the United States.

ROCK® platform

We own and/or control our immune cell engager platform patent portfolio. This includes a patent family that covers multivalent antibody constructs comprised of four variable domains which are fused by linkers in different length. The claims with regard to use of such immune cell engager antibodies cover general diagnostic and therapeutic use, in particular for viral, bacterial or tumoral diseases. These patents will expire in 2019 and are granted in Australia, Canada, certain countries in Europe, Japan and the United States. Another pending patent application covers immune cell engagers that have a different immune cell engager structure which shows increased potency. The application is currently pending in Australia, Brazil, Canada, China, Europe, Japan, Mexico, Russia and the United States and if issued the patent will expire in 2030. Closely related to the immune cell engager platform is the Flexibody format, which is covered by a patent family fully owned by us, granted in Europe and Japan. A U.S. application in this family is still pending. These patents and applications (if issued) will expire in 2021.

Trispecific Antibodies

Another platform development effort resulted in the successful generation of a trispecific antibody format, for which we submitted patent applications in Australia, Brazil, Canada, China, Europe, India, Japan, Mexico, Russia, South Africa, South Korea and the U.S. in 2015. Another International PCT-application was filed in 2016 for further trispecific antibody formats. These patent applications were submitted to cover several, dimeric and trispecific antibody formats which are based on variable domains characterized by a common specific dimerization pattern.

Novel Tetravalent Bispecific Antibody Formats

We are exploring various tetravalent, bispecific immune cell engagement formats designed to prolong both serum PK and pharmacodynamics.

In-Licensed Intellectual Property

We have entered into exclusive as well as non-exclusive patent and know-how license agreements which grant us the right to develop, use and commercialize our immune cell engager antibody platform and product candidates derived thereof. The licenses include obligations to pay development milestones and sales royalties on products we develop and commercialize that were generated using the patented technologies. Please see “—License Agreements.”

FDA Regulatory Review Process

The Hatch-Waxman Act permits a patent term extension for FDA-approved drugs of up to five years beyond the expiration of the patent. The length of the patent term extension is related to the length of time the drug is under regulatory review. Patent extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent applicable to an approved drug may be extended. Similar provisions are available in other jurisdictions to extend the term of a patent that covers an approved drug, or to offer similar protection for an extended period, as is the case in the European Union. In the future, if and when our pharmaceutical product candidates receive FDA approval, we expect to apply for patent term extensions on patents covering those products. We intend to seek patent term extensions to any of our issued patents in any jurisdiction where these are available, however there is no guarantee that the applicable authorities, including the FDA in the United States, will agree with our assessment of whether such extensions should be granted, and even if granted, the length of such extensions.

Trade Secrets

We also rely on trade secret protection for our confidential and proprietary information. Included in our trade secrets are various aspects of our manufacturing process that we conduct in cooperation with contract manufacturers.

Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees, contractors and consultants, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology. Thus, we may not be able to meaningfully protect our trade secrets. It is our policy to require our employees, contractors, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information concerning our business or financial affairs developed or made known to the individual during the course of the individual's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. German law provides that all inventions conceived by the individual, and which are related to our current or planned business or research and development or made during normal working hours, on our premises or using our equipment or proprietary information, are our exclusive property. In many cases our confidentiality and other agreements with

consultants, outside scientific collaborators, sponsored researchers and other advisors require them to assign or grant us licenses to inventions they invent as a result of the work or services they render under such agreements or grant us an option to negotiate a license to use such inventions.

Manufacturing

We express our tetravalent bispecific immune cell engager product candidates in mammalian cells and develop our production processes on a laboratory scale. The research grade material made in our laboratories is suitable for conducting compound profiling activities. In the course of preclinical development, we transfer the process to external manufacturers (Contract Manufacturing Organizations, or CMOs) which we select according to a standardized operating procedure. Before and during the cooperation with a CMO we conduct audits to assess quality and compliance with the mutually agreed process descriptions and current Good Manufacturing Practice (GMP) regulations. The CMOs themselves are controlled by their in-house quality assurance functions and inspected by regulatory agencies, including EMEA and the FDA.

The technology transfer generally includes several different aspects: the development of a production cell line, the development of a research a master and working cell banks, the development and qualification of upstream and downstream processes, the development of the drug product process and the development of suitable validated analytical methods for test and release, as well as stability testing. During the development of our drug candidates, our CMOs scale the manufacturing process to suitable size. Such upscaling typically takes several steps and may involve modification of the process, in which case comparability of the resulting material to earlier preclinical and clinical material must be demonstrated to the relevant authorities before proceeding with further clinical studies. From our CMOs we receive process development-derived material for preclinical testing and material meeting GMP standards for clinical supplies.

We rely on and will continue to rely on CMOs for both drug substance and drug product. We seek to establish a good relationship in order to expeditiously solve problems should they arise. Our contract manufacturers have extensive capacities and a certain flexibility to adjust to demand. Likewise, our manufacturers purchase and stock materials required for production usually from multiple sources and should therefore be less vulnerable to potential shortages. Generally, we need to commit to certain manufacturing slots and capacities in advance, which typically involves the payment of reservation fees.

We have successfully scaled up the AFM13 process and manufacturing material to meet the clinical drug demands for our clinical studies. We are currently working with several external companies to establish a manufacturing process with a productivity adequate for the commercial phase. If the clinical hold on AFM11 is lifted, for AFM11 we may need a larger scale process as well, depending on the dose and regimen that will be determined in our phase 1 study.

Commercialization

We have not yet established a sales, marketing or product distribution infrastructure because our lead product candidate is still at an early stage in clinical development.

Prior to receiving marketing approvals, we plan to build a focused sales and marketing organization to sell our products if and when marketing approval is granted. We believe that such an organization will be able to address the community of oncologists who are the key specialists in treating the patient populations for which our product candidates are being developed.

We also plan to build a marketing and sales management organization to create and implement marketing strategies for any products that we market through our own sales organization and to oversee and support our sales force. The responsibilities of the marketing organization would include developing educational initiatives with respect to approved products and establishing relationships with thought leaders in relevant fields of medicine.

Competition

The biopharmaceutical industry is characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. While we believe that our technology, knowledge, experience and scientific resources provide us with competitive advantages, we face potential competition from many different sources, including major pharmaceutical, specialty pharmaceutical and biotechnology companies, academic institutions and governmental agencies and public and private research institutions. Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future.

There are a large number of companies developing or marketing treatments for cancer disorders, including many major pharmaceutical and biotechnology companies. These treatments consist both of small molecule drug products, as well as biologic therapeutics that work, among others, either by using next-generation antibody technology platforms or by new immunological approaches to address specific cancer targets. These treatments are often combined with one another in an attempt to maximize the response rate. In addition, several companies are developing therapeutics that work by targeting multiple specificities using a single recombinant molecule, as we are.

Adcetris®, an antibody-drug conjugate targeting CD30, was approved by the FDA in relapsed/refractory HL in 2011. In addition, Adcetris® was approved by the FDA in 2015 for the treatment of patients with HL at high risk of relapse or progression following autologous hematopoietic stem cell transplantation as consolidation treatment. In the European Union, Adcetris® is approved for the same indications. Adcetris® is currently being investigated in different settings and in various combinations in HL. Recent data indicate high complete response rates when combined with ipilimumab or bendamustine in relapsed/refractory HL. As we develop AFM13 for earlier-line therapies, for example in combination with other therapies, we would compete with Adcetris®, which is in development for such indications.

Clinical phase 2 data with the anti-PD-1 CPIs nivolumab and pembrolizumab in HL has been published. This data indicates that treatment with anti-PD-1 antibodies results in high response rates in the salvage setting of HL. The FDA granted conditional accelerated approval for nivolumab in 2016 in classical HL patients who have relapsed or progressed after autologous hematopoietic stem cell transplantation and brentuximab vedotin. The FDA also granted conditional accelerated approval for pembrolizumab in 2017 in adult and pediatric patients with refractory cHL who have relapsed after 3 or more prior lines of therapy. Adcetris® phase 2 and phase 3 studies are reported to be ongoing in combination with nivolumab. If AFM13 were to be approved for HL, we could be in competition with these therapies, as well as any other therapies or combination regimens that comprise the standard of care that AFM13 could potentially displace. Several other agents have reached proof of concept clinical studies in HL, including Afinitor (Novartis AG), ferritarg (MABLIFE), panobinostat (Novartis) and lenalidomide (Celgene).

With respect to competitors for AFM11, Amgen, Roche, Xencor, Regeneron, Juno Therapeutics, Novartis, Bellicum, Cellectis, bluebird bio and Kite Pharma, amongst others, are each developing therapies using T cells and other types of cells that we would compete with.

We expect that our antibody platforms will serve as the basis for future product candidates and collaborations with pharmaceutical companies. Other companies also have developed platform technologies that compete with us. For example, MacroGenics is developing its DART platform, which enables the targeting of multiple receptors or cells by using a single molecule with an antibody-like structure. Ablynx is also developing such a platform aimed at multi-receptor targeting, which to date has not reached clinical testing.

Many of our competitors have significantly greater financial, manufacturing, marketing, drug development, technical and human resources than we do. Mergers and acquisitions in the pharmaceutical, biotechnology and diagnostic industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining top qualified scientific and management personnel and establishing clinical study sites and patient registration for clinical studies, as well as in acquiring technologies complementary to, or necessary for, our programs.

The key competitive factors affecting the success of all of our therapeutic product candidates, if approved, are likely to be their efficacy, safety, dosing convenience, price, the effectiveness of companion diagnostics in guiding the use of related therapeutics, our marketing capabilities, the level of generic competition and the availability of reimbursement from government and other third-party payors.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. In addition, our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of biosimilar products. Biosimilar products are expected to become available over the coming years. The regulatory framework to approve biosimilar products has already been created in Europe and the United States.

The most common methods of treating patients with cancer are surgery, radiation and drug therapy. There are a variety of available drug therapies marketed for cancer. In many cases, these drugs are administered in combination to enhance efficacy. While our product candidates may compete with many existing drug and other therapies, to the extent they are ultimately used in combination with or as an adjunct to these therapies, our product candidates will not be competitive with them as such. Some of the currently approved drug therapies are branded and subject to patent protection, and others are available on a generic basis. Many of these approved drugs are well established therapies and are widely accepted by physicians, patients and third-party payors.

In addition to currently marketed therapies, there are also a number of products in late stage clinical development to treat cancer. These product candidates in development may provide efficacy, safety, dosing convenience and other benefits that are not provided by currently marketed therapies or our drugs. As a result, they may provide significant competition for any of our product candidates for which we obtain marketing approval.

If our lead product candidates are approved for the indications for which we are currently undertaking clinical studies, they will compete with the therapies and currently marketed drugs discussed elsewhere in this document.

Government Regulation and Product Approval

Government authorities in all major pharmaceutical markets extensively regulate, among other things, the research, non-clinical and clinical development, testing, manufacture, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing and import and export of pharmaceutical products such as those we are developing. Although our initial focus will be on the United States and Europe, we will develop

and seek marketing approval for our products also in other countries and territories, such as Canada or Japan, and for markets that follow the leading authorities, such as Brazil or South Korea. The processes for obtaining regulatory approvals in the United States, Europe and in other countries, along with subsequent compliance with applicable statutes and regulations, require the expenditure of substantial time and financial resources.

International Conference on Harmonization (ICH)

The International Council for Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use, or the ICH, is a project that brings together the regulatory authorities of Europe, Japan and the United States and experts from the pharmaceutical industry in the three regions to discuss scientific and technical aspects of pharmaceutical product registration. The purpose of ICH is to reduce or obviate the need to duplicate the testing carried out during the research and development of new medicines by recommending ways to achieve greater harmonization in the interpretation and application of technical guidelines and requirements for product registration. Harmonization would lead to a more economical use of human, animal and material resources, the elimination of unnecessary delay in the global development and availability of new medicines while maintaining safeguards on quality, safety, and efficacy, and regulatory obligations to protect public health.

ICH guidelines have been adopted as law in several countries. In many areas of drug development ICH has resulted in comparable requirements, for instance with respect to the Common Technical Document, or the CTD, which has become the standard dossier format for filings for market authorization in several jurisdictions. Thus, ICH has facilitated a more efficient path to markets.

FDA Approval Process

All of our current product candidates are subject to regulation in the United States by the FDA as biological products, or biologics. The FDA subjects biologics to extensive pre- and post-market regulation. The Public Health Service Act (PHSA), the Federal Food, Drug, and Cosmetic Act and other federal and state statutes and regulations govern, among other things, the research, non-clinical and clinical development, testing, manufacture, storage, recordkeeping, approval, labeling, promotion and marketing, distribution, post-approval monitoring and reporting, sampling, and import and export of biologics. Failure to comply with applicable U.S. requirements may subject a company to a variety of administrative or judicial sanctions, such as FDA refusal to approve pending BLAs, withdrawal of approvals, clinical holds, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines or civil or criminal penalties.

The PHSA emphasizes the importance of manufacturing control for biological products whose attributes cannot be precisely defined. The PHSA also provides authority to the FDA to immediately suspend licenses in situations where there exists a danger to public health, to prepare or procure products in the event of shortages and critical public health needs, and to authorize the creation and enforcement of regulations to prevent the introduction or spread of communicable diseases in the United States and between states.

The process required by the FDA before a new biologic may be marketed in the United States is long and expensive and due to the nature of biological products inherently uncertain. Biologics development in the United States typically involves preclinical laboratory and animal tests, the submission to the FDA of an Investigational New Drug (IND) application which must become effective before clinical testing may commence. Furthermore, adequate and well-controlled clinical studies are required in order to establish the safety and effectiveness of the biologic for each indication for which FDA approval is sought. Developing the data to satisfy FDA marketing authorization pre requirements typically takes many years and the actual time required may vary substantially based upon the type, complexity, and novelty of the product or disease.

Preclinical tests include laboratory evaluation of product chemistry, formulation, and toxicity, as well as animal studies to assess the characteristics and potential safety and efficacy of the product. The conduct of the preclinical tests must comply with federal regulations and requirements, including good laboratory (GLP) principles. The results of preclinical testing are submitted to the FDA as part of an IND along with other

information, including information about product chemistry, manufacturing and controls, and a proposed clinical study protocol. Long term preclinical tests, such as animal tests of reproductive toxicity and carcinogenicity, may continue after the IND is submitted.

An IND must become effective before United States clinical studies may begin. A 30-day waiting period after the submission of each IND is required prior to the commencement of clinical testing in humans. If the FDA has neither commented on nor questioned the IND within this 30-day period, the clinical study proposed in the IND may begin.

Clinical studies involve the administration of the investigational new drug or biologic to healthy volunteers or patients with the condition under investigation, all under the supervision of a qualified investigator. Clinical studies must be conducted: (i) in compliance with federal regulations; (ii) in compliance with good clinical practice, or GCP, an international standard meant to protect the rights and health of patients and to define the roles of clinical study sponsors, investigators, and monitors; as well as (iii) under protocols detailing the objectives of the study, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated. Each protocol involving testing on U.S. patients and subsequent protocol amendments must be submitted to the FDA as part of the IND.

The FDA may order the temporary, or permanent, discontinuation of a clinical study at any time, or impose other sanctions, if it believes that the clinical study either is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical study participants. The study protocol and informed consent information for participants in clinical studies must also be submitted to an institutional review board (IRB) for approval. An IRB may also require the clinical study at the site to be halted, either temporarily or permanently, for failure to comply with the IRB's requirements, or may impose other conditions. The study sponsor may also suspend a clinical study at any time on various grounds, including a determination that the subjects or patients are being exposed to an unacceptable health risk.

Clinical studies to support BLAs for marketing approval are typically conducted in three sequential phases, but the phases may overlap or be combined. In phase 1, the biologic is initially introduced into healthy human subjects or patients and is tested to assess PK, pharmacological actions, side effects associated with increasing doses, and, if possible, early evidence on effectiveness. In the case of some products for more severe or life-threatening diseases, such as cancer treatments, initial human testing may be conducted in the intended patient population. Phase 2 usually involves studies in a limited patient population to determine the effectiveness of the biologic for a particular indication, dosage tolerance, and optimum dosage, and to identify common adverse effects and safety risks. If a compound demonstrates evidence of effectiveness and an acceptable safety profile in phase 2 studies, phase 3 studies are undertaken to obtain additional information about clinical efficacy and safety in a larger number of patients, typically at geographically dispersed clinical study sites. These phase 3 clinical studies are intended to establish data sufficient to demonstrate substantial evidence of the efficacy and safety of the product to permit the FDA to evaluate the overall benefit-risk relationship of the biologic and to provide adequate information for the labeling of the biologic. Studies conducted outside of the US under similar, GCP-compliant conditions in accordance with local applicable laws may also be acceptable to the FDA in support of product licensing.

Sponsors of clinical studies for investigational drugs must publicly disclose certain clinical study information, including detailed study design and study results in NIH public ClinicalTrials.gov databases. These requirements are subject to specific timelines and apply to most controlled clinical studies of FDA-regulated products.

After completion of the required clinical testing, a Biologics License Application (BLA) is prepared and submitted to the FDA. FDA review and approval of the BLA is required before marketing of the product may begin in the United States. The BLA must include the results of all preclinical, clinical, and other testing and a compilation of data relating to the product's pharmacology, chemistry, manufacture and controls and must demonstrate the safety and efficacy of the product based on these results. The BLA must also contain extensive manufacturing information. The cost of preparing and submitting a BLA is substantial. Under federal law, the submission of

most BLAs is additionally subject to a substantial application user fee, as well as annual product and establishment user fees, which may total several million dollars and are typically increased annually.

The FDA has 60 days from its receipt of a BLA to determine whether the application will be accepted for filing based on the agency's threshold determination that it is sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth review. The FDA has agreed to certain performance goals in the review of BLAs. Most such applications for standard review biologics are reviewed within ten months from the date the application is accepted for filing. Although the FDA often meets its user fee performance goals, it can extend these timelines if necessary, and its review may not occur on a timely basis at all. The FDA usually refers applications for novel biologics many times to an advisory committee—typically a panel that includes clinicians and other experts—for review and evaluation of data concerning the safety and efficacy of marketed investigational drug products for use in the treatment of patients and makes appropriate recommendations to the FDA Commissioner. The FDA is not bound by the recommendation of an advisory committee, but it generally follows such recommendations. Before approving a BLA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP. Additionally, the FDA will inspect the facility or the facilities at which the biologic is manufactured. The FDA will not approve the product unless it verifies that compliance with cGMP standards is satisfactory and the BLA contains data that provide substantial evidence that the biologic is safe and effective in the indication studied.

After the FDA evaluates the BLA and the manufacturing facilities, it issues either an approval letter or a complete response letter. A complete response letter generally outlines the deficiencies in the submission which requires substantial additional testing and / or information, in order for the FDA to reconsider the application. Once those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the BLA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included. The FDA approval is never guaranteed, and the FDA may refuse to approve a BLA if applicable regulatory criteria are not satisfied.

Under the PHSA, the FDA may approve a BLA if it determines that the product is safe, effective, pure and potent and the facility where the product will be manufactured meets standards designed to ensure that it continues to be safe, pure, and potent. An approval letter authorizes commercial marketing of the biologic with specific prescribing information for specific indications. The extension of an approval for a biologic may be significantly more limited than initially requested in the application, which might restrict the commercial value of the product. The FDA may also require that certain contraindications, warnings, or precautions are included in the prescription leaflet. In addition, as a condition of BLA approval, the FDA may require a risk evaluation and mitigation strategy (REMS) in order to track and thereby ensure that the benefits of the biologic outweigh the potential risks for patients. REMS can include medication guides, communication plans for healthcare professionals, and elements to assure safe use (ETASU). ETASU can include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring, and the use of patient registries. The requirement for a REMS might materially affect the potential market and profitability of the biologic. Moreover, product approval may require, as a condition of approval, substantial post-approval commitments, including e.g. the testing and surveillance of the biologic's safety or efficacy. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or safety concerns are identified following initial marketing.

As part of the manufacturing process, the marketing authorization holder is required to perform specific tests for each drug substance and drug product batch before it is released for distribution. If the product is subject to official lot release by the FDA, marketing authorization holder has to submit specific release data of each product batch to the FDA together with a release protocol, showing a summary of previous release specification data from all the batches produced so far as well as the data from the current batch. The FDA may also perform certain confirmatory tests on batches of some products, such as viral vaccines, before releasing the lots for distribution by the manufacturer. In addition, the FDA conducts laboratory research related to the regulatory standards on the safety, purity, potency, and effectiveness of biological products. After approval of biologics, marketing authorization holder must address any safety issues that arise, are subject to recalls or a halt in manufacturing, and are subject to periodic inspection.

Expedited Program

Speeding the availability of drugs that treat serious diseases are in everyone's interest, in particular when the drugs are the first available treatment or if the drug has advantages over existing treatments. The FDA has developed four distinct approaches to making such drugs available as rapidly as possible: a) Priority Review, b) Breakthrough Therapy, c) Accelerated Approval and d) Fast Track. In short:

Priority Review: A Priority Review designation means that FDA's goal is to take action on the application within 6 months.

Breakthrough Therapy: A process designed to expedite the development and review of drugs which may demonstrate substantial improvement over available therapy.

Accelerated Approval: These regulations allow drugs for serious conditions that fill an unmet medical need to be approved based on a surrogate endpoint.

Fast Track: This is a process designed to facilitate the development, and expedite the review of drugs to treat serious conditions and fill an unmet medical need.

Biosimilars

The Patient Protection and Affordable Care Act, which we refer to as the Affordable Care Act, signed into law on March 23, 2010, includes a subtitle called the Biologics Price Competition and Innovation Act of 2009. That Act created an approval pathway authorizing the FDA to approve biosimilars. Biosimilars are biological products which are "highly similar" to a previously approved biologic product or "reference product" and for which there are no meaningful differences between the biosimilar product and the reference product in terms of analytics, safety, purity, potency and clinical efficacy. To date, several biosimilars have been approved under the BPCIA framework.

Advertising and promotion

Once a BLA is approved, a product will be subject to continuing post-approval regulatory requirements. For instance, the FDA closely regulates the post-approval marketing and promotion of biologics, including standards and regulations for direct-to-consumer advertising, off-label promotion, industry-sponsored scientific and educational activities and promotional activities involving the internet. Failure to comply with these regulations can result in significant penalties, including the issuance of warning letters directing a company to correct deviations from FDA standards, a requirement that future advertising and promotional materials be pre-cleared by the FDA, and federal and state civil and criminal investigations and prosecutions.

Biologics may be marketed only for the approved indications and in accordance with the provisions of the approved labeling. Changes to some of the conditions established in an approved application, including changes in indications, labeling, or manufacturing processes or facilities, require submission and FDA approval of a new BLA or BLA supplement before the change can be implemented. A BLA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing BLA supplements as it does in reviewing BLAs.

Adverse event reporting and cGMP compliance

Adverse event reporting and submission of periodic safety reports are required following FDA approval of a BLA. The FDA also may require post-marketing testing, known as phase 4 testing, REMS, and surveillance to monitor the effects of an approved product, or the FDA may place conditions on an approval that could restrict the distribution or use of the product. In addition, manufacturing, packaging, labeling, storage and distribution procedures must continue to conform to cGMPs after approval. Biologics manufacturers and certain of their subcontractors are required to register their establishments with the FDA and certain state agencies.

Registration with the FDA subjects entities to periodic unannounced inspections by the FDA, during which the agency inspects manufacturing facilities to assess compliance with cGMPs. Accordingly, manufacturers must continue to expend time, money and effort in the areas of production and quality control to maintain compliance with cGMPs. Regulatory authorities may withdraw product approvals, request product recalls, or impose marketing restrictions through labeling changes or product removals if a company fails to comply with regulatory standards, if it encounters problems following initial marketing, or if previously unrecognized problems are subsequently discovered.

Orphan drug

Under the Orphan Drug Act, the FDA may grant orphan drug designation to biologics intended to treat a rare disease or condition—generally a disease or condition that affects fewer than 200,000 individuals in the United States. Orphan drug designation must be requested before submitting a BLA. After the FDA grants orphan drug designation, the generic identity of the biologic and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not necessarily convey any advantage in, or shorten the duration of, the regulatory review and approval process. The first BLA applicant to receive FDA approval for a particular product to treat a particular disease with FDA orphan drug designation is entitled to a seven-year exclusive marketing period in the United States for that product, for that indication. During the seven-year exclusivity period, the FDA may not approve any other applications to market the same drug for the same disease, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity. Orphan drug exclusivity does not prevent the FDA from approving a different biologic for the same disease or condition, or the same biologic for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the BLA application user fee.

We have received orphan drug designation for AFM13 for the treatment of HL in the United States and Europe.

Other healthcare laws and compliance requirements

In the United States, our activities are potentially subject to regulation by federal, state, and local authorities in addition to the FDA, including the Centers for Medicare and Medicaid Services, other divisions of the U.S. Department of Health and Human Services (for example, the Office of Inspector General), the U.S. Department of Justice and individual U.S. Attorney offices within the Department of Justice, and state and local governments.

EU Approval Process

The European Medicines Agency, or EMA, is a decentralized scientific agency of the European Union. It coordinates the evaluation and monitoring of centrally-authorized medicinal products. It is responsible for the scientific evaluation of applications for EU marketing authorizations, as well as the development of technical guidance and the provision of scientific advice to sponsors. The EMA decentralizes its scientific assessment of medicines by working through a network of about 4,500 experts throughout the European Union, nominated by the member states. The EMA draws on resources of over 40 National Competent Authorities (the NCAs) of EU member states. The Paul Ehrlich Institute, or PEI, is one of the NCAs for Germany, and regulates, among others, antibody products.

The process regarding approval of medicinal products in the European Union follows roughly the same lines as in the United States and likewise generally involves satisfactorily completing each of the following:

- preclinical laboratory tests, animal studies and formulation studies all performed in accordance with the applicable EU Good Laboratory Practice regulations;
- submission to the relevant national authorities of a clinical study application or CTA for each study in humans, which must be approved before the study may begin;

- performance of adequate and well-controlled clinical studies to establish the safety and efficacy of the product for each proposed indication;
- submission to the relevant competent authorities of a Marketing Authorization Application or MAA, which includes the data supporting safety and efficacy as well as detailed information on the manufacture and composition of the product in clinical development and proposed labelling;
- satisfactory completion of an inspection by the relevant national authorities of the manufacturing facility or facilities, including those of third parties, at which the product is produced to assess compliance with strictly enforced current Good Manufacturing Practices;
- potential audits of the non-clinical and clinical study sites that generated the data in support of the MAA; and
- review and approval by the relevant competent authority of the MAA before any commercial marketing, sale or shipment of the product.

Preclinical studies

Preclinical tests include laboratory evaluations of product chemistry, formulation and stability, as well as studies to evaluate toxicity in animal studies, in order to assess the potential safety and efficacy of the product. The conduct of the preclinical tests and formulation of the compounds for testing must comply with the relevant EU regulations and requirements. The results of the preclinical tests, together with relevant manufacturing information and analytical data, are submitted as part of the CTA.

Clinical study approval

Pursuant to the Clinical Trials Directive 2001/20/EC, as amended, a system for the approval of clinical studies in the European Union has been implemented through national legislation of the member states. Under this system, approval must be obtained from the competent national authority of each EU member state in which a study is planned to be conducted. To this end, a CTA is submitted, which must be supported by an investigational medicinal product dossier, or IMPD, and further supporting information prescribed by the Clinical Trials Directive and other applicable guidance documents. Furthermore, a clinical study may only be started after a competent ethics committee has issued a favorable opinion on the clinical study application in that country.

Manufacturing and import into the EU of investigational medicinal products is subject to the holding of appropriate authorizations and must be carried out in accordance with current Good Manufacturing Practices.

Health authority interactions

During the development of a medicinal product, frequent interactions with the health authorities are important to ensure all relevant input and guidelines/regulations are taken into account in the overall program. We have established an ongoing dialogue with the PEI, the national competent authority in Germany regulating, among others, antibody products.

- *Informal interactions:* We have had several informal discussions by phone with the PEI.
- *Formal CHMP scientific advice:* We had a formal scientific advice meeting with the Committee for Medicinal Products for Human Use or CHMP at the EMA in October 2018 to discuss the further clinical development of AFM13.

- *Formal national feedback:* We have had several scientific advice meetings with the PEI on AFM13 and AFM11. We also received written scientific advice from the PEI on special questions of the non-clinical development of AFM13 and AFM11. In the most recent scientific advice meeting with the FDA (October 2018) the planned phase 2 study for AFM13 was reviewed and guidance was received which has been incorporated in our clinical development plan. Following discussions with the FDA, we announced our registrational pathway and updated clinical development plans for AFM13. We plan to initiate a phase 2 study evaluating the efficacy and safety of AFM13 as monotherapy in patients with relapsed or refractory CD30 positive peripheral T cell lymphoma (PTCL) or transformed mycosis fungoides (TMF), a subset of cutaneous T cell lymphoma (CTCL), in the first half of 2019.
- *Business pipeline meetings:* We have not yet sought business pipeline meetings.

Paediatric studies

Regulation (EC) 1901/2006, which came into force on January 26, 2007, aims to facilitate the development and accessibility of medical products for use in children without subjecting children to unnecessary studies, or delaying the authorization of medicinal products for use in adults. The regulation established the Paediatric Committee, or PDCO, which is responsible for coordinating the EMA's activities regarding medicines for children. The PDCO's main role is to determine all the studies that marketing authorization applicants need to do in the pediatric population as part of the so-called Paediatric Investigation Plans, or PIPs. All applications for marketing authorization for new medicines that were not authorized in the European Union before January 26, 2007 have to include either the results of studies carried out in children of different ages (as agreed with the PDCO), or proof that a waiver or a deferral of these studies has been obtained from the PDCO. As indicated, the PDCO determines what pediatric studies are necessary and describes them in a PIP. This requirement for pediatric studies also applies when a company wants to add a new indication, pharmaceutical form or route of administration for a medicine that is already authorized. The PDCO can grant deferrals for some medicines, allowing a company to delay development of the medicine in children until there is enough information to demonstrate its effectiveness and safety in adults and can also grant waivers when development of a medicine in children is not needed or is not appropriate, such as for diseases that only affect the elderly population.

Before a MAA can be filed, or an existing marketing authorization can be varied, the EMA checks that companies are in compliance with the agreed studies and measures listed in each relevant PIP.

Regulation (EC) 1901/2006 also introduced several incentives for the development of medicines for children in the EU:

- medicines that have been authorized across the European Union in compliance with an agreed PIP are eligible for an extension of their patent protection by six months. This is the case even when the pediatric studies' results are negative;
- for orphan medicines, the incentive is an additional two years of market exclusivity, extending the typical 10-year period to 12 years;
- scientific advice and protocol assistance at the EMA are free of charge for questions relating to the development of medicines for children; and
- medicines developed specifically for children that are already authorized but are not protected by a patent or supplementary protection certificate may be eligible for a paediatric use marketing authorization, or PUMA. If a PUMA is granted, the product will benefit from 10 years of market protection as an incentive for the development of the product for use in children.

The indications we pursue, especially those in certain hematologic malignancies, involve pediatric patients and we shall prepare PIPs at the appropriate time.

Marketing authorization application

Authorization to market a product in the EU member states proceeds under one of four procedures: a centralized authorization procedure, a mutual recognition procedure, a decentralized procedure or a national procedure. Since our products by their virtue of being antibody-based biologics fall under the mandatory scope of the centralized procedure, only this procedure will be described here.

Centralized authorization procedure

Certain drugs, including medicinal products developed by means of biotechnological processes, must be approved via the centralized authorization procedure for marketing authorization. A successful application under the centralized authorization procedure results in a marketing authorization from the European Commission, which is automatically valid in all EU member states. The other European Economic Area member states (namely Norway, Iceland and Liechtenstein) are also obligated to recognize the Commission decision. The EMA and the European Commission administer the centralized authorization procedure.

Under the centralized authorization procedure, the CHMP serves as the scientific committee that renders opinions about the safety, efficacy and quality of human products on behalf of the EMA. The CHMP is composed of experts nominated by each member state's national drug authority, with one of them appointed to act as Rapporteur for the co-ordination of the evaluation with the possible assistance of a further member of the Committee acting as a Co-Rapporteur. After approval, the Rapporteur(s) continue to monitor the product throughout its life cycle. The CHMP is required to issue an opinion on an initial MAA within 210 days of receipt of a valid application, though the clock is stopped if it is necessary to ask the applicant for clarification or further supporting data. The process is complex and involves extensive consultation with the regulatory authorities of member states and a number of experts. If the CHMP concludes that the quality, safety and efficacy of the medicinal product are sufficiently proven, it adopts a positive opinion. The CHMP's opinion is sent to the European Commission, which uses the opinion as the basis for its decision whether or not to grant a marketing authorization. If the opinion is negative, information is given as to the grounds on which this conclusion was reached. Once the procedure is completed, a European Public Assessment Report, or EPAR, is produced.

After a drug has been authorized and launched, it is a condition of maintaining the marketing authorization that all aspects relating to its quality, safety and efficacy must be kept under review. Sanctions may be imposed for failure to adhere to the conditions of the marketing authorization. In extreme cases, the authorization may be revoked, resulting in withdrawal of the product from sale.

Accelerated assessment procedure

When an application is submitted for a marketing authorization in respect of a drug for human use which is of major interest from the point of view of public health and in particular from the viewpoint of therapeutic innovation, the applicant may request an accelerated assessment procedure pursuant to Article 14(9) of Regulation (EC) 726/2004. Under the accelerated assessment procedure, the CHMP is required to issue an opinion within 150 days of receipt of a valid application, subject to clock stops. We believe that many of our product candidates may qualify for this provision and we will take advantage of this provision as appropriate.

Conditional approval

As per Article 14(7) of Regulation (EC) 726/2004, a medicine that would fulfill an unmet medical need may, if its immediate availability is in the interest of public health, be granted a conditional marketing authorization on the basis of less complete clinical data than are normally required, subject to specific obligations being imposed on the authorization holder. These specific obligations are to be reviewed annually by the EMA. The list of these

obligations shall be made publicly accessible. Such an authorization shall be valid for one year, on a renewable basis.

Period of authorization and renewals

A marketing authorization is initially valid for five years and may then be renewed on the basis of a re-evaluation of the risk-benefit balance by the EMA or by the competent authority of the authorizing member state. To this end, the marketing authorization holder shall provide the EMA or the competent authority with a consolidated version of the file in respect of quality, safety and efficacy, including all variants introduced since the marketing authorization was granted, at least six months before the marketing authorization ceases to be valid. Once renewed, the marketing authorization shall be valid for an unlimited period, unless the Commission or the competent authority decides, on justified grounds relating to pharmacovigilance, to proceed with one additional five-year renewal. Any authorization which is not followed by the actual placing of the drug on the EU market (in case of centralized procedure) or on the market of the authorizing member state within three years after authorization shall cease to be valid (the so-called sunset clause).

Orphan drug designation

Regulation (EC) 141/2000 states that a drug shall be designated as an orphan drug if its sponsor can establish:

- (a)(i) that it is intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition affecting not more than five in 10,000 persons in the European Union when the application is made, or;
- (a)(ii) that it is intended for the diagnosis, prevention or treatment of a life-threatening, seriously debilitating or serious and chronic condition in the European Union and that without incentives it is unlikely that the marketing of the drug in the European Union would generate sufficient return to justify the necessary investment; and
- (b) that there exists no satisfactory method of diagnosis, prevention or treatment of the condition in question that has been authorized in the European Union or, if such method exists, the drug will be of significant benefit to those affected by that condition.

Regulation (EC) 847/2000 sets out criteria for the designation of orphan drugs.

An application for designation as an orphan product can be made any time prior to the filing of an application for approval to market the product. Marketing authorization for an orphan drug leads to a ten-year period of market exclusivity. This period may, however, be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan drug designation, for example because the product is sufficiently profitable not to justify continued market exclusivity. Market exclusivity can be revoked only in very selected cases, such as consent from the marketing authorization holder, inability to supply sufficient quantities of the product, demonstration of "clinically relevant superiority" by a similar medicinal product, or, after a review by the Committee for Orphan Medicinal Products, requested by a member state in the fifth year of the marketing exclusivity period (if the designation criteria are believed to no longer apply). Medicinal products designated as orphan drugs pursuant to Regulation (EC) 141/2000 shall be eligible for incentives made available by the European Union and by the member states to support research into, and the development and availability of, orphan drugs.

We have applied for and been granted orphan status in the European Union for AFM13 for the treatment of HL.

Regulatory data protection

Without prejudice to the law on the protection of industrial and commercial property, marketing authorizations for new medicinal products benefit from an 8+2+1 year period of regulatory protection.

This regime consists of a regulatory data protection period of eight years plus a concurrent market exclusivity of ten years plus an additional market exclusivity of one further year if, during the first eight years of those ten years, the marketing approval holder obtains an approval for one or more new therapeutic indications which, during the scientific evaluation prior to their approval, are determined to bring a significant clinical benefit in comparison with existing therapies. Under the current rules, a third party may reference the preclinical and clinical data of the reference product beginning eight years after first approval, but the third party may market a generic version only after ten (or eleven) years have lapsed.

As indicated, an additional period of exclusivity can be applied for when an applicant has complied with all requirements as set forth in an approved PIP.

International Regulation

In addition to regulations in the United States and Europe, a variety of foreign regulations govern clinical studies, commercial sales, and distribution of product candidates. The approval process varies from country to country and the time to approval may be longer or shorter than that required for FDA or European Commission approval.

Pharmaceutical Coverage, Pricing, and Reimbursement

In the United States and other countries, sales of any products for which we receive regulatory approval for commercial sale will depend in part on the availability of reimbursement from third-party payors, including government health administrative authorities, managed care providers, private health insurers, and other organizations. Third-party payors are increasingly examining the medical necessity and cost effectiveness of medical products and services in addition to safety and efficacy and, accordingly, significant uncertainty exists as to the reimbursement status of newly approved therapeutics. Third-party reimbursement adequate to enable us to realize an appropriate return on our investment in research and product development may not be available for our products.

The division of competences within the European Union leaves to Member States the power to organize their own social security systems, including health care policies to promote the financial stability of their health care insurance systems. According to Article 168 of the Treaty on the Functioning of the European Union or TFEU, "Union action shall respect the responsibilities of the Member States for the definition of their health policy and for the organization and delivery of health services and medical care."

In this context, the national authorities are free to set the prices of medicinal products and to designate the treatments that they wish to reimburse under their social security system. However, the European Union has defined a common procedural framework through the adoption of Council Directive 89/105/EEC, which is generally known as the "Transparency Directive." This instrument aims to ensure that national pricing and reimbursement decisions are made in a transparent manner and do not disrupt the operation of the internal market.

The Pharmaceutical Pricing and Reimbursement systems established by Member States are usually quite complex. Each country uses different schemes and policies, adapted to its own economic and health needs. We would have to develop or access special expertise in this field to prepare health economic dossiers on our medicinal products if we would market our products, if and when approved, in the EU.

C. Organizational structure

The registrant corporation Affimed N.V. has four direct or indirect wholly owned subsidiaries – Affimed GmbH, AbCheck s.r.o., AbCheck Inc. and Affimed, Inc. that are each listed in Exhibit 8.1 filed hereto. We primarily operate our business out of our operating subsidiary, Affimed GmbH. AbCheck s.r.o., AbCheck Inc. and Affimed, Inc. are direct subsidiaries of the operating subsidiary Affimed GmbH.

D. Property, plant and equipment

Our headquarters are in Heidelberg, Germany, where we occupy office and laboratory space at the Technologiepark (Technology Park). Approximately 75% of this space is under a revolving 24-month lease period, with a 12-month termination period. The lease could expire in 2021 if notice to terminate is provided by either party by February 2020. The remaining 25% of this facility is under a fixed term lease period until February 2021. This facility serves as the corporate headquarters and central laboratory facility. We also lease office and laboratory space in the Czech Republic that is contracted until 2020 with a period of notice of three months. We believe that our existing facilities are adequate to meet current needs and that suitable additional alternative spaces will be available in the future on commercially reasonable terms.

ITEM 4A. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

You should read the following discussion and analysis of our financial condition and results of operations together with the information under “Selected Financial Data” and our consolidated audited financial statements, including the notes thereto, included in this Annual Report. The following discussion is based on our financial information prepared in accordance with IFRS as issued by the IASB, which might differ in material respects from generally accepted accounting principles in other jurisdictions. The following discussion includes forward-looking statements that involve risks, uncertainties and assumptions. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of many factors, including, but not limited to, those described under “Risk Factors” and elsewhere in this Annual Report.

A. Operating results

Overview

We are a clinical-stage biopharmaceutical company focused on discovering and developing highly targeted cancer immunotherapies. Our product candidates are being developed in the field of immuno-oncology, which represents an innovative approach to cancer treatment that seeks to harness the body’s own immune defenses to fight tumor cells. The most potent cells of the human defense arsenal are types of white blood cells called innate immune cells (Natural Killer cells, or NK cells and macrophages) and T cells. Leveraging our fit-for-purpose ROCK® (*Redirected Optimized Cell Killing*) platform, we develop proprietary, next-generation bispecific antibodies, so-called immune cell engagers, which are designed to direct and establish a bridge between either innate immune cells or T cells and cancer cells. Our immune cell engagers have the ability to bring innate immune cells or T cells into proximity and trigger a signal cascade that leads to the destruction of cancer cells. Due to their novel tetravalent architecture (which provides for four binding domains), our immune cell engagers bind to their targets with high affinity and have half-lives that allow regular intravenous administration, with different dosing schemes being explored to allow for improved exposure in heavily pretreated patient populations. Antibodies developed from our ROCK® platform include molecules which we refer to as immune cell engagers. We believe, based on their mechanism of action and the preclinical and clinical data we have generated to date, that our product candidates, alone or in combination, may ultimately improve response rates, clinical outcomes and survival in cancer patients and could eventually become a cornerstone of modern targeted oncology care. Building on our leadership in the innate immune cell space, we are also developing novel tetravalent, bispecific antibody formats with the potential to tailor immune-engaging therapy to different indications and settings.

To date, we have financed our operations primarily through our public offerings of our common shares, private placements of equity securities, the incurrence of loans including convertible loans and through government grants and payments for collaborative research and development services. Through December 31, 2018, we have raised an aggregate of €227.1 million through the issuance of equity and incurrence of loans. To date, we

have not generated any revenues from product sales or royalties. Based on our current plans, we do not expect to generate product or royalty revenues unless and until we or any collaboration partner obtain marketing approval for, and commercialize, any of our product candidates.

We have generated losses since we began our drug development operations in 2000. For the year ended December 31, 2018, we incurred a net loss of €19.5 million. As of December 31, 2018, we had an accumulated deficit of €202.1 million.

We expect to continue incurring losses as we continue our preclinical and clinical development programs, apply for marketing approval for our product candidates and, subject to obtaining regulatory approval for our product candidates, build a marketing and sales team to commercialize our product candidates. Our profitability is dependent upon the successful development, approval, and commercialization of our product candidates and achieving a level of revenues adequate to support our cost structure. We may never achieve profitability, and unless and until we do, we will continue to need to raise additional cash. We intend to fund future operations through additional equity and debt financings, and we may seek additional capital through arrangements with strategic partners or from other sources.

Collaboration Agreements

We have entered into strategic collaborations for some of our therapeutic programs. As part of our business development strategy, we aim to increase the number of our research collaborations in order to derive further value from our platforms and more fully exploit their potential. Key terms of our current material collaborations are summarized below.

Amphivena

Pursuant to a July 2013 license and development agreement, which amended and restated a 2012 license agreement between us and Amphivena Therapeutics, Inc., or Amphivena, based in San Francisco, California, we licensed certain technology to Amphivena that enables Amphivena to develop a product candidate for hematologic malignancies. In exchange for the technology license to Amphivena, we received shares of stock of Amphivena, and, in connection with an equity financing involving us and other third-party investors, we made cash investments in Amphivena in exchange for additional shares of stock and entered into certain related agreements governing our rights as a shareholder of Amphivena.

Amphivena separately entered into a warrant agreement with Janssen Biotech Inc. that gave Janssen the option to acquire Amphivena following IND acceptance by the FDA of such product candidate. Amphivena retains full rights to the product candidate following the decision by Janssen not to exercise its option to acquire Amphivena upon effectiveness of the product candidate's IND application in July 2016.

Pursuant to the July 2013 license and development agreement with Amphivena, we historically performed certain services for Amphivena related to the development of a product candidate for hematological malignancies, and granted Amphivena certain product and technology licenses, each of which included the right to grant sublicenses to its affiliates or third parties through multiple tiers, subject to certain notice requirements. In consideration for the research and development work that was performed prior to IND acceptance, Amphivena paid us service fees totaling approximately €14.5 million (net of our share in funding Amphivena) upon the achievement of milestones and phase progressions as described under the license and development agreement. We do not expect to provide any additional significant services or generate significant additional revenues under the license and development agreement.

We recognized revenues of €3.4 million, €0.2 million and €0.0 million in 2016, 2017 and 2018 respectively (net of our investments of €1.6 million in 2016 and 2017).

We are paid in euros under the license and development agreement.

The license and development agreement with Amphivena expired when the IND became effective. Following the expiration, we continued to provide services on a smaller scale to complete the remaining deliverables (i.e. material transfer) required under the agreement, and have been financially supporting the future clinical development of AMV564 with €2.8 million in financing, €1.0 million, €0.6 million, €0.3 million and €0.9 million of which was invested in Amphivena in October 2016, March 2017, December 2017 and June 2018, respectively. As of December 31, 2018, the cash investments in relation to the July 2013 license and development agreement and cash investments made in October 2016, March 2017, December 2017 and June 2018 totaled \$4.0 million (€3.5 million), and we owned approximately 7% of the outstanding equity of Amphivena on a fully diluted basis.

The Leukemia & Lymphoma Society

In August 2013, we entered into a research funding agreement with The Leukemia & Lymphoma Society, or LLS, for the clinical development of AFM13. Pursuant to the research funding agreement, LLS agreed to co-fund the clinical phase 2a development of AFM13 and to contribute up to approximately \$4.4 million over two years to support the project. We have agreed to match LLS's contributions toward the project budget. Our receipt of the \$4.4 million total that LLS has agreed to contribute is conditioned on the achievement of certain milestones in connection with the development of AFM13.

The research funding agreement was amended in June 2016 to reflect a shift in development focus of AFM13 due to recent changes within the rapidly evolving cancer immunotherapy treatment landscape resulting in a shift to development of combination therapeutic approaches. Having successfully established a collaboration with Merck in January 2016 to test AFM13 in combination with Keytruda® in relapsed/refractory Hodgkin lymphoma patients, we have prioritized the development of AFM13 as a combination therapy. Consequently, we have agreed with LLS to amend the research funding agreement so that the milestones now relate primarily to the development of AFM13 as a combination therapy.

As of December 31, 2018 we have met seven milestones and we recognized revenues of €0.4 million, €0.2 million and €0.2 million in 2016, 2017 and 2018, respectively. We must use the funding provided by LLS exclusively with the development program, and return any excess funding to LLS.

In consideration of LLS's payments to us, we have agreed to pay LLS a mid-single digit royalty on net sales of products containing AFM13 until we have paid LLS a low single digit multiple of the funding they provided to us. After we have reached this initial royalty cap, we will pay LLS a sub-single digit royalty on net sales until the earlier of (i) the expiration of the last to expire patent covering the AFM13 products and (ii) ten years after the initial royalty cap is satisfied. These royalty payments are calculated on a country-by-country and product-by-product basis. We have also agreed to make certain low-to-mid-single digit royalty payments to LLS in the event of certain transfers of rights to any product containing AFM13 or in the event we undergo certain change of control transactions, in each case up to the royalty cap described above. Amounts paid to us under our agreement with LLS are paid in U.S. dollars.

Merck

In January 2016, we entered into a collaboration with Merck Sharp & Dohme B.V., or Merck, based in Haarlem, The Netherlands, to evaluate AFM13 in combination with Merck's anti PD-1 therapy, Keytruda® (pembrolizumab). Under the terms of the agreement, Affimed will fund and conduct a phase 1b clinical trial to investigate the combination of Keytruda® with Affimed's proprietary drug candidate AFM13 for the treatment of patients with relapsed/refractory HL. Merck has been supplying Affimed with Keytruda® for the clinical trial. Each party is responsible for its own internal costs and expenses to support the clinical trial (including the costs for the respective trial compound), while we are bearing all other costs associated with the trial.

The purpose of the study is to establish a dosing regimen for this combination therapy and assess its safety and efficacy.

MD Anderson

In December 2016, we entered into a clinical development and commercialization collaboration with The University of Texas MD Anderson Cancer Center, or MD Anderson, to evaluate AFM13 in combination with MD Anderson's NK cell product. MD Anderson will be responsible for conducting preclinical research activities aimed at investigating its NK cells derived from umbilical cord blood in combination with AFM13, which are intended to be followed by a phase 1 trial. We will fund research and development expenses for this collaboration and hold an option to exclusive worldwide rights to develop and commercialize any product developed under the collaboration.

Genentech

On August 24, 2018 we entered into a research collaboration and license agreement with Genentech, a member of the Roche Group, for the development and commercialization of certain product candidates that contain novel NK cell engager-based immunotherapeutics to treat multiple cancers. Under the terms of the agreement, in the fourth quarter of 2018 we received \$96 million in initial upfront payments and other funding.

We recognized revenues of €21.8 million in 2018.

License Agreements

DKFZ

In June 2006, we amended a 2001 license agreement with Deutsches Krebsforschungszentrum, Heidelberg, or DKFZ. Under the agreement, as amended, we obtained a worldwide, royalty-bearing license under specified DKFZ patent rights to make, have made, use, sell and have sold licensed products and to practice licensed commercial services, which specifically excludes services that are paid for with government grant funding. We have developed our immune cell engager technology under the licensed patent rights. In connection with the agreement, as amended, we issued DKFZ 350 shares of our Series C preferred shares, which were subsequently converted into Series D preferred shares in the equivalent amount of €50,000 and made a €35,000 cash payment to DKFZ. We are also required to pay DKFZ a low single digit royalty on net sales, as defined in the agreement, of licensed products and services and a mid-single digit percentage of income we receive in connection with granting a third party a sublicense of our rights under the license agreement. If we grant a sublicense in connection with entering into a cross-licensing arrangement with one or more third parties, we are obligated to make a lump-sum payment of DM 70,000 (€35,790) to DKFZ following the execution of each such sublicense. We are obligated to make the above royalty payments to DKFZ during the term of the licensed patents and for the two years following the expiration of the licensed patents.

The license agreement has terminated with the expiration of the last to expire licensed patent in 2018.

Xoma

In September 2006, we entered into a license agreement with Xoma Ireland Limited, or Xoma, pursuant to which Xoma granted us a worldwide, fully paid-up, royalty-free, non-exclusive and non-transferable license to conduct research on immunoglobulins under certain patent rights and know-how owned or otherwise controlled by Xoma. In March 2018, the last of the licensed Xoma patent rights expired, and we no longer have any obligations to Xoma under the agreement.

Financial Operations Overview

Revenue

To date, our revenues have consisted principally of collaboration and service revenue.

Collaboration revenue. Collaboration revenue of €3.8 million for the year ended December 31, 2016 was from research and development services under the license and development agreement with Amphivena (€3.4 million) and from the LLS collaboration (€0.4 million). Collaboration revenue of €0.4 million for the year ended December 31, 2017 was from research and development services under the license and development agreement with Amphivena (€0.2 million) and from the LLS collaboration (€0.2 million). Collaboration revenue of €22.0 million for the year ended December 31, 2018 was from the Genentech collaboration (€21.8 million) and from the LLS collaboration (€0.2 million).

Service revenue. Service revenue is primarily revenue from service contracts entered into by AbCheck, our wholly owned, independently operated antibody screening platform. We recognized €2.4 million, €1.6 million and €1.7 million of service revenue in 2016, 2017 and 2018, respectively. Service revenue of AbCheck is dependent from third party contracts as well as from the utilization of the Unit by Affimed. The increase or decrease of the use of AbCheck's service capabilities by Affimed has an impact on AbCheck's ability to generate third party revenues.

In the future, the timing of our revenue may vary significantly from the receipt of the related cash flows, as the revenue from some upfront or initiation payments is deferred and recognized as revenue over the estimated service period, while other revenue is earned when received, such as milestone payments or service fees.

Our revenue has varied substantially, especially due to the impact of collaboration revenue received from Genentech. The amount of future revenue is dependent on the services performed and milestones reached for our existing collaborations and on our ability to conclude new collaboration arrangements and the terms we are able to negotiate with our partners.

Other Income

Other Income in 2016 and 2017 primarily relates to earned income through several grants and/or contracts with the German government, the European Union and other educational institutions on behalf of the German government, primarily with respect to research and development activities related to the use of the immune cell engager technology in various indication areas.

Other income in 2018 relates primarily to foreign exchange gains.

Research and Development Expenses

Research and development expenses consist principally of:

- salaries for research and development staff and related expenses, including management benefits;
- costs for production of preclinical compounds and drug substances by contract manufacturers;
- fees and other costs paid to contract research organizations in connection with additional preclinical testing and the performance of clinical trials;
- costs of related facilities, materials and equipment;
- costs associated with obtaining and maintaining patents and other intellectual property;

- amortization and depreciation of tangible and intangible fixed assets used to develop our product candidates; and
- expenses for share-based payments.

Based on our current budget we expect that our total research and development expenses in 2019 will be in the range of €50 to €60 million. Our research and development expenses primarily relate to the following key programs:

- *AFM13.* We initiated a phase 1b study investigating the combination of AFM13 with Merck's anti-PD-1 antibody Keytruda® (pembrolizumab) in patients with relapsed/refractory HL in 2016. In this study, enrollment is complete and interim data were recently presented. Different dosing protocols are being explored in the investigator-initiated monotherapeutic phase 2a clinical trial of AFM13 in relapsed/refractory Hodgkin Lymphoma, or relapsed/refractory HL, to allow for improved exposure in more heavily pretreated patient populations. The study is open and recruiting under the new study design. In addition, we are conducting a clinical study of AFM13 in patients with CD30+ lymphoma. We anticipate that our research and development expenses in 2019 for AFM13 will be significantly higher than in 2018 due to the initiation of additional clinical studies, pre-clinical studies with collaboration partners and the preparation of the production of AFM13 for commercial purposes.
- *AFM11.* The phase 1 clinical trial of AFM11 in patients with non-Hodgkin Lymphoma, or NHL, was recruiting until the beginning of October 2018. A phase 1 clinical study of AFM11 in patients with ALL commenced in the third quarter of 2016 and was enrolling until the beginning of October 2018. Both trials are currently on clinical hold and recruitment has stopped. We have submitted a complete response document to the FDA to request that the clinical hold be lifted so that clinical development of AFM11 may proceed in ALL patients.
- *Other development programs.* Our other research and development expenses relate to our preclinical studies of our solid tumor candidate, AFM24, our multiple myeloma program AFM26 (through the third quarter of 2018), our Amphivena collaboration (through the third quarter of 2016) and early stage development / discovery activities. We have allocated a material amount of our resources to such discovery activities. The expenses mainly consist of salaries, costs for pre-clinical services and manufacturing costs for pre-clinical and clinical study material and will be significantly higher in 2019.
- *Infrastructure costs.* We incur a significant amount of costs associated with our research and development that are non-project specific, including intellectual property-related expenses, depreciation expenses and facility costs. Because these are less dependent on individual ongoing programs, they are not allocated to specific projects. We assume that facility costs in 2019 will be higher due to additional rental space.

Since January 1, 2012, we have cumulatively spent €141.5 million on research and development. In the years ended December 31, 2016, 2017 and 2018, we spent €30.2 million, €21.5 million and €35.1 million on research and development; €11.8 million, €5.6 million and €8.7 million thereof on AFM13; and €2.5 million, €2.8 million and €5.8 million thereof on AFM11. Our research and development expenses may vary substantially from period to period based on the timing of our research and development activities, including due to timing of initiation of clinical trials and enrollment of patients in clinical trials. Research and development expenses are expected to increase as we advance and broaden the clinical development of AFM13 and certain of our other product candidates and further advance the research and development of our preclinical product candidates. The successful development of our product candidates is highly uncertain. At this time we cannot reasonably estimate the nature, timing and estimated costs of the efforts that will be necessary to complete the development of, or the period, if any, in which material net cash inflows may commence from, any of our product candidates. This is due to numerous risks and uncertainties associated with developing drugs, including the uncertainty of:

- the scope, rate of progress, results and cost of our clinical trials, nonclinical testing, and other related activities;

- the cost of manufacturing clinical supplies and establishing commercial supplies of our product candidates and any products that we may develop;
- the number and characteristics of product candidates that we pursue;
- the cost, timing, and outcomes of regulatory approvals;
- the cost and timing of establishing sales, marketing, and distribution capabilities; and
- the terms and timing of any collaborative, licensing, and other arrangements that we may establish, including any milestone and royalty payments thereunder.

A change in the outcome of any of these variables with respect to the development of AFM13, AFM11 or any other product candidate that we may develop could mean a significant change in the costs and timing associated with the development of such product candidate. For example, if the U.S. Food and Drug Administration, or FDA, or other regulatory authority were to require us to conduct preclinical and clinical studies beyond those which we currently anticipate will be required for the completion of clinical development, if we experience significant delays in enrollment in any clinical trials or if we encounter difficulties in manufacturing our clinical supplies, we could be required to expend significant additional financial resources and time on the completion of the clinical development.

General and Administrative Expenses

Our general and administrative expenses consist principally of:

- salaries for employees other than research and development staff, including benefits;
- business development expenses, including travel expenses;
- professional fees for auditors and other consulting expenses not related to research and development activities;
- professional fees for lawyers not related to the protection and maintenance of our intellectual property;
- cost of facilities, communication and office expenses;
- IT expenses;
- amortization and depreciation of tangible and intangible fixed assets not related to research and development activities; and
- expenses for share-based payments.

We expect that our general and administrative expenses in 2019 will be higher compared to the expenses in 2018, and will further increase in the future as our business expands. These increases will likely include costs of additional personnel, additional legal fees, accounting and audit fees, managing directors' and supervisory directors' liability insurance premiums and costs related to investor relations. In addition, we may grant share-based compensation awards to key management personnel and other employees.

Results of Operations

The numbers below have been derived from our audited consolidated financial statements for the years ended December 31, 2016, 2017 and 2018. The discussion below should be read along with these financial statements, and it is qualified in its entirety by reference to them.

Comparison of the years ended December 31, 2017 and 2018

	Year ended December 31,	
	2017	2018
	(in € thousand)	
Total Revenue:	2,010	23,735
Other income/(expenses)—net	205	1,515
Research and development expenses	(21,489)	(35,148)
General and administrative expenses	(7,986)	(9,638)
Operating income/(loss)	(27,260)	(19,536)
Finance income/(costs)—net	(2,983)	60
Income/(Loss) before tax	(30,243)	(19,476)
Income taxes	20	(1)
Income/(loss) for the period	(30,223)	(19,477)
Total comprehensive income/(loss)	(30,223)	(24,208)
Earnings/(loss) per common share in € per share	(0.69)	(0.32)

Revenue

Revenue significantly increased from €2.0 million in the year ended December 31, 2017 to €23.7 million for the year ended December 31, 2018, mainly due to the revenue from the Genentech collaboration. Revenue for the year ended December 31, 2018 mainly consisted of revenue from the Genentech collaboration of €21.8 million and service revenues at AbCheck of €1.7 million (December 31, 2017: €1.6 million).

Research and development expenses

R&D Expenses by Project	Year ended December 31,		Change %
	2017	2018	
	(in € thousand)		
Project			
AFM13	5,608	8,711	55 %
AFM11	2,829	5,776	104 %
Other projects and infrastructure costs	12,530	19,809	58 %
Share-based payment expense	522	852	63 %
Total	21,489	35,148	64 %

Research and development expenses increased 64% from €21.5 million in the year ended December 31, 2017 to €35.1 million in the year ended December 31, 2018, due to higher expenses for AFM13, AFM11 and for other projects and infrastructure. The variances in project related expenses between the year ended December 31, 2017 and the corresponding period in 2018 are mainly due to the following projects:

- *AFM13*. In the year ended December 31, 2018, we incurred higher expenses than in the year ended December 31, 2017 primarily due to increased expenses for manufacturing activities for clinical trial material.
- *AFM11*. In the year ended December 31, 2018, clinical expenses were significantly higher than in the year ended December 31, 2017 primarily due to higher expenses for clinical trial material.

Other projects and infrastructure costs. In the year ended December 31, 2018, expenses increased compared to the year ended December 31, 2017 primarily due to higher expenses incurred in relation to our discovery/early stage development activities including manufacturing costs for pre-clinical and clinical study material and preclinical activities for AFM24 and AFM26 (through the third quarter of 2018). We also incurred higher costs associated with our research and development that are non-project specific, including intellectual property-related expenses, depreciation expenses and facility costs. Because these costs are less dependent on individual ongoing programs, they are not allocated to specific projects.

General and administrative expenses

General and administrative expenses increased 21% from €8.0 million in the year ended December 31, 2017 to €9.6 million in the year ended December 31, 2018. In 2018, general and administrative expenses were largely affected by personnel expenses (€4.9 million) and legal, consulting and audit costs (€2.9 million).

Finance income / (costs)-net

We recognized finance income net for the year ended December 31, 2018 of €60,000 compared with finance costs of €3.0 million for the year ended December 31, 2017. The year ended December 31, 2018 was primarily affected by foreign exchange gains of €0.7 million and interest expenses of €0.8 million.

Income tax expense

During the year ended December 31, 2018, we recorded income tax expense of €1,000 due to changes in deferred taxes.

Comparison of the years ended December 31, 2016 and 2017

	<u>Year ended December 31,</u>	
	<u>2016</u>	<u>2017</u>
	(in € thousand)	
Total Revenue:	6,314	2,010
Other income/(expenses)—net	145	205
Research and development expenses	(30,180)	(21,489)
General and administrative expenses	(8,323)	(7,986)
Operating income/(loss)	(32,044)	(27,260)
Finance income/(costs)—net	(230)	(2,983)
Income/(Loss) before tax	(32,274)	(30,243)
Income taxes	58	20
Income/(loss) for the period	(32,216)	(30,223)
Total comprehensive income/(loss)	(32,216)	(30,223)
Earnings/(loss) per common share in € per share	(0.97)	(0.69)

Revenue

Revenue decreased 68% from €6.3 million in the year ended December 31, 2016 to €2.0 million for the year ended December 31, 2017, mainly due to the expiration of the Amphivena collaboration in 2016. Revenue for the year ended December 31, 2017 mainly consisted of service revenues at AbCheck of €1.6 million (December 31, 2016: €2.4 million).

Research and development expenses

R&D Expenses by Project	Year ended December 31,		Change %
	2016	2017	
	(in € thousand)		
Project			
AFM13	11,847	5,608	(53)%
AFM11	2,471	2,829	14 %
Other projects and infrastructure costs	14,684	12,530	(15)%
Share-based payment expense	1,178	522	(56)%
Total	30,180	21,489	(29)%

Research and development expenses decreased 29% from €30.2 million in the year ended December 31, 2016 to €21.5 million in the year ended December 31, 2017, mainly due to lower expenses for AFM13 and for other projects and infrastructure. The variances in project related expenses between the year ended December 31, 2016 and the corresponding period in 2017 are mainly due to the following projects:

- *AFM13.* In the year ended December 31, 2017, we incurred lower expenses than in the year ended December 31, 2016 primarily due to decreased manufacturing activities for clinical trial material.
- *AFM11.* In the year ended December 31, 2017, clinical expenses were slightly higher than in the year ended December 31, 2016 primarily due to higher expenses for the ongoing phase 1 clinical study in NHL and the phase 1 dose-finding study in ALL.
- *Other projects and infrastructure costs.* In the year ended December 31, 2017, expenses decreased compared to the year ended December 31, 2016 primarily due to lower expenses incurred in relation to our discovery/early stage development activities. We also incurred lower costs associated with our research and development that are non-project specific, including intellectual property-related expenses, depreciation expenses and facility costs. Because these costs are less dependent on individual ongoing programs, they are not allocated to specific projects.

General and administrative expenses

General and administrative expenses decreased 4% from €8.3 million in the year ended December 31, 2016 to €8.0 million in the year ended December 31, 2017. In 2017, general and administrative expenses were largely affected by personnel expenses (€4.5 million) and legal, consulting and audit costs (€1.9 million).

Finance income / (costs)-net

We recognized finance costs net for the year ended December 31, 2017 of €3.0 million compared with finance costs of €0.2 million for the year ended December 31, 2016. The year ended December 31, 2017 was primarily affected by foreign exchange losses of €2.4 million (2016: foreign exchange gains of €0.7 million).

Income tax expense

During the year ended December 31, 2017, we recorded income tax of €20,000 due to changes in deferred taxes.

Critical Judgments and Accounting Estimates

The preparation of the consolidated financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

Information about assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment within the next financial year are included in note 3 to our consolidated financial statements included elsewhere in this Annual Report and below:

Share-Based Payments

We issue share-based payment awards under the terms of our Equity Incentive Plan 2014. We determine the compensation expense by estimating the fair value of a stock option as of the date of grant.

The fair value of stock options issued by Affimed N.V. is estimated using the Black-Scholes-Merton formula. The formula determines the value of an option based on input parameters like the value of the underlying instrument, the exercise price, the expected volatility of share price returns, dividends, the risk-free interest rate and the time to maturity of the option. The fair value of share-based equity-settled compensation plans is measured at grant date and compensation cost is recognized over the vesting period with a corresponding increase in equity. The number of stock options expected to vest is estimated at each measurement date.

Revenue Recognition

Our contracts with customers contain multiple performance obligations. Judgment is required in determining whether a good or service is considered a separate performance obligation. If standalone selling prices are not directly observable, we allocate the transaction price to the performance obligations by reference to the expected cost plus a margin. In doing so, observable input data such as internal project plans and margins are used.

Elements of consideration in collaboration and license agreements are non-refundable up-front research funding payments, technology access fees and milestone payments. Generally, we have continuing performance obligations and therefore up-front payments are initially recognized as a contract liability, and the related revenues are subsequently recognized as the related performance obligation is fulfilled. Technology access fees are generally initially recognized as a contract liability and subsequently recognized over the expected term of the research service agreement on a straight-line basis.

We estimate that the achievement of a milestone reflects a stage of completion under the terms of the agreements and recognizes revenue when a milestone is achieved as then the uncertainty is resolved. If the research service is cancelled due to technical failure, the remaining contract liability from non-refundable upfront payments, if any, is recognized as revenue.

The determination of whether a performance obligation is satisfied at a point in time versus over time might also requires judgment.

Financial instruments

We recognize our preferred shares in Amphivena at fair value (level 2). As Amphivena is not a public company, substantial judgment was required in order to estimate the fair value as at December 31, 2018 (see note 12 to our consolidated financial statements). We based our judgment on information available for the valuation of the shares of Amphivena in its latest private financing in December 2018.

Recent Accounting Pronouncements

We refer to note 3 to our consolidated financial statements as of and for the year ended December 31, 2018 with regard to new standards and interpretations not yet adopted by us.

JOBS Act Exemptions

On April 5, 2012, the JOBS Act was signed into law. The JOBS Act contains provisions that, among other things, reduce certain reporting requirements for an “emerging growth company.” As an emerging growth company, we are electing to take advantage of the following exemptions:

- not providing an auditor attestation report on our system of internal controls over financial reporting;
- not providing all of the compensation disclosure that may be required of non-emerging growth public companies under the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act;
- not disclosing certain executive compensation-related items such as the correlation between executive compensation and performance and comparisons of the Chief Executive Officer’s compensation to median employee compensation; and
- not complying with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements (auditor discussion and analysis).

We **have been, and continue to be**, an “emerging growth company” for a period of five years following the completion of our initial public offering (2019), **but will** no longer be an “emerging growth company” as of December 31, 2019.

B. Liquidity and Capital Resources

Since inception, we have incurred significant operating losses. For the years ended December 31, 2016, 2017 and 2018, we incurred net losses of €32.2 million, €30.2 million and €19.5 million, respectively. To date, we have financed our operations primarily through public offerings of our common shares, private placements of equity securities and loans, grants and revenues from collaboration partners. As of December 31, 2018, we had cash and cash equivalents and current financial assets, which we refer to as liquidity, of €108.8 million.

Our cash and cash equivalents and current financial assets as of December 31, 2018 consist primarily of deposits in savings and deposit accounts with original maturities of three months or less and certificates of deposit with original maturities of more than three months which generate a small amount of interest income. We expect to continue this investment philosophy.

Cash Flows

Comparison of the years ended December 31, 2017 and 2018

The table below summarizes our consolidated statement of cash flows for the years ended December 31, 2017 and 2018:

	<u>Year ended December 31,</u>	
	<u>2017</u>	<u>2018</u>
	<u>(in € thousand)</u>	
Net cash from/(used) in operating activities	(25,549)	49,438
Net cash from/(used) for investing activities	8,050	(15,610)
Net cash generated from financing activities	23,797	20,495
Net changes to cash and cash equivalents	6,297	54,323
Cash and cash equivalents at the beginning of the year	35,407	39,837
Exchange-rate related changes of cash and cash equivalents	(1,867)	669
Cash and cash equivalents at the end of the year	39,837	94,829

Net cash used in operating activities amounted to €25.5 million in the year ended December 31, 2017, whereas net cash from operating activities amounted to €49.4 million in the year ended December 31, 2018. The amount received in 2018 includes an initial upfront payment and committed funding of €83.2 million from the Genentech collaboration.

Net cash from investing activities amounted to €8.1 million in the year ended December 31, 2017, while we used cash for investing activities of €15.6 million in the year ended December 31, 2018. The investing activities primarily relate to investments in and proceeds from the sale or maturity of financial assets.

Net cash generated from financing activities in the year ended December 31, 2018 amounted to €20.5 million and relate to primarily the proceeds from the public offering in February 2018 and the issuance of shares in connection with our at-the-market sales agreement.

Comparison of the years ended December 31, 2016 and 2017

The table below summarizes our consolidated statement of cash flows for the years ended December 31, 2016 and 2017:

	<u>Year ended December 31,</u>	
	<u>2016</u>	<u>2017</u>
	<u>(in € thousand)</u>	
Net cash used in operating activities	(32,127)	(25,549)
Net cash used for investing activities	(9,149)	8,050
Net cash generated from financing activities	(236)	23,797
Net changes to cash and cash equivalents	(41,512)	6,297
Cash and cash equivalents at the beginning of the year	76,740	35,407
Exchange-rate related changes of cash and cash equivalents	179	(1,867)
Cash and cash equivalents at the end of the year	35,407	39,837

The decrease in net cash used in operating activities by 20% from €32.1 million in the year ended December 31, 2016 to €25.5 million in the year ended December 31, 2017 was mainly due to lower cash expenditure for research and development efforts.

Net cash used for investing activities amounted to €9.1 million in the year ended December 31, 2016, while we generated cash from investing activities of €8.1 million in the year ended December 31, 2017. The investing activities primarily relate to investments in and proceeds from the sale or maturity of financial assets. In the year ended December 31, 2017, we obtained net proceeds from the sale or maturity of financial assets of €9.0 million while we had invested a net amount of €8.9 million in the comparative period.

Net cash generated from financing activities in the year ended December 31, 2017 amounted to €23.8 million and relate to the proceeds from the public offering in January and February 2017, the drawdown of a second tranche of the existing SVB credit facility in May 2017 and the issuance of shares in connection with our at-the-market sales agreement.

Cash and Funding Sources

Our liquidity (cash and cash equivalents and current financial assets) as of December 31, 2018 was €108.8 million. Funding sources generally comprise proceeds from the issuance of equity instruments, loans, payments from collaboration agreements and government grants.

On November 30, 2016, our subsidiary Affimed GmbH entered into a loan agreement with Silicon Valley Bank, a California corporation ("SVB"), as lender, which we fully guarantee. The loan agreement provides us with a senior secured term loan facility (the "SVB Credit Facility") for originally up to €10.0 million, which agreement was amended in May 2017 to provide that such amount would be available in three tranches.

On December 8, 2016, we drew down the initial tranche of €5.0 million, and on May 31, 2017 we drew down the second tranche of €2.5 million; the availability of the third tranche expired in September 2017 with such amount remaining undrawn. In connection with such drawdowns, we issued SVB warrants to purchase 219,692 of our common shares, at a weighted-average exercise price of \$2.07 per common share.

The interest rate on amounts borrowed under the SVB Credit Facility is calculated as the sum of (i) one-month EURIBOR plus (ii) an applicable margin of 5.5%, with EURIBOR deemed to equal zero percent if EURIBOR is less than zero percent. The SVB Credit Facility has a maturity date of May 31, 2020 with an interest-only period through December 1, 2017 with amortized payments of principal and interest thereafter in equal monthly installments. Borrowings under the SVB Credit Facility are secured by a pledge of 100% of our shares in Affimed GmbH, all intercompany accounts receivables owed by our subsidiaries to us and a security assignment of essentially all our bank accounts, inventory, trade receivables and payment claims as specified in the loan agreement governing the facility.

On January 25, 2017, we sold 10,000,000 of our common shares at a price of \$1.80 per share in an underwritten public offering and received \$16.6 million in net proceeds, after deducting underwriting discounts and commissions and other offering expenses. The underwriters partially executed an option to purchase additional shares and on February 9, 2017 we sold an additional 646,762 shares at a price of \$1.80 per share and received \$1.1 million, after deducting underwriting discounts and commissions and other offering expenses.

On February 15, 2018, we sold an additional 13,225,000 of our common shares at a price of \$2.00 per share in an underwritten public offering and received \$24.5 million in net proceeds, after deducting underwriting discounts and commissions and other offering expenses.

In October 2018, we entered into an at-the-market sales agreement (“Sales Agreement”) with Cowen pursuant to which we may from time to time, at our option, offer and sell our common shares having an aggregate offering price of up to \$50 million through Cowen, acting as our sales agent. As of March 15, 2019, we had not made any sales under the Sales Agreement.

Funding Requirements

We expect that we will require additional funding to complete the development of our product candidates and to continue to advance the development of our other product candidates. In addition, we expect that we will require additional capital to commercialize our product candidates AFM13, AFM11 and AFM24. If we receive regulatory approval for AFM13, AFM11 or AFM24, and if we choose not to grant any licenses to partners, we expect to incur significant commercialization expenses related to product manufacturing, sales, marketing and distribution, depending on where we choose to commercialize. We also expect to incur additional costs associated with operating as a public company. Additional funds may not be available on a timely basis, on favorable terms, or at all, and such funds, if raised, may not be sufficient to enable us to continue to implement our long-term business strategy. If we are not able to raise capital when needed, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.

We believe that our existing cash and cash equivalents will enable us to fund our operating expenses and capital expenditure requirements into 2021. We have based this estimate on assumptions that may prove to be incorrect, and we could use our capital resources sooner than we currently expect. Our future funding requirements will depend on many factors, including but not limited to:

- the scope, rate of progress, results and cost of our clinical trials, nonclinical testing, and other related activities;
- the cost of manufacturing clinical supplies, and establishing commercial supplies, of our product candidates and any products that we may develop;
- the number and characteristics of product candidates that we pursue;

- the cost, timing, and outcomes of regulatory approvals;
- the cost and timing of establishing sales, marketing, and distribution capabilities; and
- the terms and timing of any collaborative, licensing, and other arrangements that we may establish, including any required milestone and royalty payments thereunder.

To address our financing needs, we may raise additional capital through the sale of equity or convertible debt securities. In such an event, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a holder of our common shares.

For more information as to the risks associated with our future funding needs, see “Item 3. Key Information—D. Risk Factors—Risks Related to Our Financial Position and Need for Additional Capital—We will require substantial additional funding, which may not be available to us on acceptable terms, or at all, and, if not available, may require us to delay, scale back, or cease our product development programs or operations.”

C. Research and development, patents and licenses, etc.

See “Item 4. Information on the Company—A. History and Development of the Company” and “Item 4. Information on the Company—B. Business Overview.”

D. Trend information

See “Item 5. Operating and Financial Review and Prospects.”

E. Off-balance sheet arrangements

As of the date of this Annual Report, we do not have any off-balance sheet arrangements other than operating leases as described under “Item 5. Operating and Financial Review and Prospects—F. Tabular disclosure of contractual obligations” below.

F. Tabular disclosure of contractual obligations

The table below sets forth our contractual obligations and commercial commitments as of December 31, 2018 that are expected to have an impact on liquidity and cash flow in future periods. In addition to license agreements with fixed payment obligations, we have entered into various collaboration and license agreements that may trigger milestone payments and royalty payments upon the achievement of certain milestones and net sales in the future. Because the achievement and timing of these milestones and net sales is not fixed or determinable, our commitments under these agreements have not been included in the table below.

	Payments Due by Period				
	Total	Less than 1 year	Between 1 and 3 years	Between 3 and 5 years	More than 5 years
	(in € thousand)				
Operating lease obligations	1,154	637	517	0	0
Fixed license payments	25	25	0	0	0
SVB Credit Facility	5,341	3,324	2,017	0	0
Total	6,520	3,986	2,534	0	0

Operating lease obligations

Operating lease obligations consist of payments pursuant to non-cancellable operating lease agreements relating to our lease of office space. The lease term of our premises in the Czech Republic is contracted until the year end 2020 with a period of notice of three months. Approximately 75% of the premises in Germany is

under a revolving 24-month lease period, with a 12-month termination period. The lease could expire in 2021 if notice to terminate is provided by either party by February 2020. The remaining 25% of the German facility is under a fixed term lease period until February 2021.

Contingencies

We have entered into various license agreements that contingently trigger on-off payments upon achievement of certain milestones and royalty payments in the future. Because the achievement and timing of these milestones and net sales is not fixed and determinable, our commitments under these agreements have not been included in the Contractual Obligations table above.

G. Safe harbor

See "Forward Looking Statements."

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. Directors and senior management

We have a two-tier board structure consisting of our supervisory board (*raad van commissarissen*) and a separate management board (*raad van bestuur*).

Our supervisory board supervises the policies of the management board and the general course of the affairs of our business. The supervisory board gives advice to the management board and is guided by the interests of the business when performing its duties. The management board is in charge of managing us under the supervision of the supervisory board. The management board provides the supervisory board with such necessary information as the supervisory board requires to perform its duties.

The following table presents our supervisory directors. Bernhard R.M. Ehmer was appointed by the general meeting of shareholders on January 21, 2016. Ulrich M. Grau was appointed by the general meeting of shareholders on June 9, 2015, and his term was effective as of July 1, 2015. Mathieu Simon was appointed by the general meeting of shareholders on June 19, 2018. Our other supervisory directors were appointed by the general meeting of shareholders on September 12, 2014, with effect from September 17, 2014; Thomas Hecht, Berndt Modig and Ferdinand Verdonck were reappointed by the general meeting of shareholders on June 20, 2017 and Ulrich M. Grau was reappointed by the general meeting of shareholders on June 19, 2018. Thomas Hecht is the chairman of our supervisory board. The term of each of our supervisory directors will terminate on the date of the annual general meeting of shareholders in the year indicated below.

Name	Age	Term
Thomas Hecht	67	2020
Bernhard R.M. Ehmer	64	2019
Ulrich M. Grau	70	2021
Berndt Modig	60	2020
Mathieu Simon	62	2021
Ferdinand Verdonck	76	2020

The following is a brief summary of the business experience of our supervisory directors. Each director's tenure reflects their tenure on the board of our predecessor Affimed Therapeutics AG. Unless otherwise indicated, the current business address for each of our supervisory directors is Affimed N.V., c/o Affimed GmbH, Technologiepark, Im Neuenheimer Feld 582, 69120 Heidelberg, Germany.

Thomas Hecht, Chairman. Dr. Hecht has been the chairman of our supervisory board since 2014, and previously had been the chairman of the supervisory board of our German operating subsidiary since 2007. He is head of Hecht Healthcare Consulting in Küssnacht, Switzerland, a biopharmaceutical consulting company

founded in 2002. Dr. Hecht also serves as member of the board of directors of Cell Medica Ltd. and as chairman of the board of directors of Vaximm AG and Aelix Therapeutics S.L. Until the beginning of March 2015, he served as chairman of the supervisory council of SuppreMol GmbH and until June 2016, of Delenex AG. Dr. Hecht was previously Vice President Marketing at Amgen Europe. A seasoned manager and industry professional, he held various positions of increasing responsibility in clinical development, medical affairs and marketing at Amgen between 1989 and 2002. Prior to joining the biopharmaceutical industry, he was certified in internal medicine and served as Co-Head of the Program for Bone Marrow Transplantation at the University of Freiburg, Germany.

Bernhard R.M. Ehmer, Director. Dr. Ehmer has been a member of our supervisory board since 2016. Since September 1, 2018 he serves as chairman of the board of directors at Symphogen A/S, Denmark. He has been chairman of the board of management of Biotest AG since January 2015. Prior to this, he worked for the Imclone Group, a wholly owned subsidiary of Eli Lilly, as president of Imclone Systems Corporation in the United States and as managing director in Germany. In 2007/2008 he was CEO of Fresenius Biotech, Germany and before this, Dr. Ehmer headed the Business Area Oncology of Merck KGaA, Darmstadt and served as head of Global Clinical Operations at Merck. Between 1986 and 1998 he held various functions at Boehringer Mannheim in Germany, Italy and Singapore. Dr. Ehmer holds a degree in medicine and worked in the Department of Internal Medicine at the Academic Teaching Hospital of the University of Heidelberg.

Ulrich M. Grau, Director. Dr. Grau has been a member of our supervisory board since July 2015. Prior to that, he served as an advisor to the management board of our German operating subsidiary beginning in May 2013. He has over 30 years of experience in the biotechnology and pharmaceutical industries including in general management, business development, corporate strategy and the development of new products and technologies. Dr. Grau was Chief Operating Officer at Micromet from 2011 to 2012. Between 2006 and 2010, Dr. Grau was a founder, President and CEO of Lux Biosciences, Inc., a clinical stage ophthalmic company. Previously, Dr. Grau served as President of Research and Development at BASF Pharma/ Knoll where he directed a global R&D organization with a development pipeline which included Humira. The majority of his career was at Aventis Pharma (now Sanofi), where he last held the position of Senior Vice President of global late stage development. Sanofi's product Lantus® for the treatment of type 2 and type 1 diabetes is based on his inventions made during his early years as a scientist with Hoechst AG. Dr. Grau received his Ph.D. in chemistry and biochemistry from the University of Stuttgart and spent three years as a post-doctoral fellow at Purdue University in the field of protein crystallography.

Berndt Modig, Director. Mr. Modig has been a member of our supervisory board since 2014. He has been CEO of Pharvaris B.V. since April 2016. Prior to this, he has served as Chief Financial Officer of Prosensa Holding N.V. from March 2010 through January 2015 when Prosensa was acquired by BioMarin Pharmaceutical Inc. Mr. Modig also serves as member of the board of directors and as member of the audit committee of Axovant Sciences Ltd and as vice chairman of the supervisory board and chairman of the audit committee of Kiadis Pharma N.V. Mr. Modig has more than 25 years of international experience in finance and operations, private equity and mergers and acquisitions. Before joining Prosensa, Mr. Modig was Chief Financial Officer at Jerini AG from October 2003 to November 2008, where he directed private financing rounds, its initial public offering in 2005 and its acquisition by Shire plc in 2008. Prior to Jerini, Mr. Modig served as Chief Financial Officer at Surplex AG from 2001 to 2003 and as Finance Director Europe of U.S.-based Hayward Industrial Products Inc. from 1999 to 2001. In previous positions, Mr. Modig was a partner in the Brussels-based private equity firm Agra Industria from 1994 to 1999 and a Senior Manager in the Financial Services Industry Group of Price Waterhouse LLP in New York from 1991 to 1994. Mr. Modig served as a director of Mobile Loyalty plc from 2012 to 2013. Mr. Modig has a bachelor's degree in business administration, economics and German from the University of Lund, Sweden and an M.B.A. degree from INSEAD, Fontainebleau, France and is a Certified Public Accountant.

Mathieu Simon, Director. Dr. Simon has been a member of our supervisory board since 2018. He also serves as Senior Strategic Advisor at Messier Maris, an M&A advisory firm in the healthcare sector, located in New York, London and Paris. He is an independent director on the Board of Vaximm, a Swiss-based biotechnology company headquartered in Basel, Switzerland. Dr. Simon has served as Collectis' Executive Vice-President

since 2012 and as Chief Operating Officer since 2013. Dr. Simon also served as Chief Executive Officer of a former subsidiary of Cellectis. He has been instrumental to the development of Cellectis and its CAR Allogetic T-Cell platform. He also served as Chief Executive Officer of EctyCell in 2012. He served as Chairman of the Board of Celleartis AB until 2014 before its acquisition by Takara Bio. Prior to joining Cellectis, Dr. Simon was Managing Director, Head of Global Pharma at Pierre Fabre SA, the third largest French Pharma Company. Beginning in 1994, he served at Wyeth Pharmaceuticals in both general management roles (President Managing Director of Wyeth SMA) and senior corporate role in Philadelphia, United States (SVP / Head of International Marketing and Medical Affairs).

Ferdinand Verdonck, Director. Mr. Verdonck has been a member of our supervisory board since July 2014. He is a director of Laco Information Services. In recent years he was director and member of the audit committee of Virtus Funds and J.P. Morgan European Investment Trust, director of Groupe SNEF, and director and chairman of the audit committee of biotechnology companies: uniQure N.V. in the Netherlands, of which he was also the chairman, and Movetis and Galapagos in Belgium. He has previously served as chairman of Banco Urquijo and of Nasdaq Europe and as a director of Dictaphone Corporation. From 1992 to 2003, he was the managing director of Almanij NV, a financial services company which has since merged with KBC, and his responsibilities included strategy, financial control, supervision of executive management and corporate governance, including board participation in publicly-traded and privately-held affiliated companies in many countries. Mr. Verdonck holds a law degree from KU Leuven and degrees in economics from KU Leuven and the University of Chicago.

The following table lists the members of our current management board:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Adi Hoess	57	Chief Executive Officer
Florian Fischer	51	Chief Financial Officer
Wolfgang Fischer	55	Chief Operating Officer

The following is a brief summary of the business experience of the members of our management board. Unless otherwise indicated, the current business addresses for the members of our management board is Affimed N.V., c/o Affimed GmbH, Technologiepark, Im Neuenheimer Feld 582, 69120 Heidelberg, Germany.

Adi Hoess, Chief Executive Officer. Dr. Hoess joined us in October 2010 as Chief Commercial Officer and since September 2011 has served as our Chief Executive Officer. He has more than 20 years of professional experience with an extensive background in general management, business development, product commercialization, fund raising and M&A. Prior to joining us, Dr. Hoess was Chief Commercial Officer at Jerini AG and Chief Executive Officer of Jenowis AG. At Jerini AG he was responsible for business development, marketing and sales and the market introduction of Firazyf. He also played a major role in the sale of Jerini to Shire plc. Dr. Hoess began his professional career in 1993 at MorphoSys. Dr. Hoess received his Ph.D. in chemistry and biochemistry from the University of Munich in 1991 and an M.D. from the Technical University of Munich in 1997.

Florian Fischer, Chief Financial Officer. Dr. Fischer joined us in 2005 as Chief Financial Officer on a part-time basis, which has increased over time to a full time position since September 2014. Dr. Fischer is founder and Chief Executive Officer of MedVenture Partners, a Munich-based corporate finance and strategy advisory company focusing on the life sciences and health care industry. Dr. Fischer was the Chief Financial Officer of Activaero GmbH from 2002 until 2011 and has been involved with corporate development since 2011. He also served as the Chief Financial Officer of Vivendy Ltd. from 2008 until 2013 and as a managing director of AbCheck in 2009. Prior to founding MedVenture Partners, Dr. Fischer worked with KPMG for more than six years until 2002, where he was responsible for biotech and healthcare assignments. Before joining KPMG, he worked for Deutsche Bank AG. Dr. Fischer was also a director of Amphivena until the fourth quarter of 2018. He holds a graduate degree in business administration from Humboldt University, Berlin and a Ph.D. in public health from the University of Bielefeld.

Wolfgang Fischer, Chief Operating Officer. Dr. Fischer joined us in 2017 from Sandoz Biopharmaceuticals (Novartis Group). He has 20 years of experience in research and drug development with a focus on oncology, immunology and pharmacology. At Sandoz he managed the development and registration of Sandoz' biosimilar pipeline assets since 2012 and served as Global Head of Program and Project Management since 2014. Prior to joining Sandoz, he held various positions of increasing responsibility within the Novartis Group since 2003, including Medical Director Oncology for Novartis Pharma Switzerland AG as well as Regional Medical Director Hematology (Emerging Growth Markets), where he was responsible for the Hematology Medical Affairs program and supported the launch of several products in various countries. Dr. Fischer holds a Ph.D. in Cancer Research from the Swiss Federal Institute of Technology (ETH), Zurich, Switzerland. Thereafter, he completed postdoctoral fellowships at the Swiss Institute of Experimental Cancer Research, Lausanne, Switzerland and at the Scripps Research Institute, Department of Immunology, La Jolla, CA, USA, followed by a state doctorate (Habilitation) in Pharmacology and Toxicology at the Medical School of the University of Würzburg in Germany in 2003.

The following is a brief summary of the business experience of certain other key employees.

Leila Alland, Chief Medical Officer. Dr. Alland joined us as CMO on March 26, 2018. Dr. Alland brings to the Company 18 years of pharmaceutical drug development experience. Over the span of her industry career, she has successfully led teams within AstraZeneca, Bristol-Myers Squibb, Novartis and Schering-Plough to advance numerous oncology and immuno-oncology products through early and late stage clinical development to regulatory approval and commercialization. Dr. Alland has played key roles in the development and approval of Tagrisso®, Opdivo®, Tassigna®, and Caelyx®/Doxil®. For the past two years, Dr. Alland has served as CMO of Tarveda Therapeutics, Inc., a biopharmaceutical company developing miniature drug conjugates for the treatment of solid tumors. Dr. Alland began her career as a pediatric oncologist, having trained at the Children's Hospital of Philadelphia and Memorial Sloan Kettering Cancer Center in New York, and then serving as Assistant Professor of Pediatrics at Albert Einstein College of Medicine in New York, during which time she pursued clinical and basic cancer research and was awarded the prestigious James S. McDonnell Foundation Scholar Award. Currently, she also serves as a grant reviewer for the Cancer Prevention Research Institute of Texas.

Denise Mueller, Chief Business Officer and President Affimed Inc. Ms. Mueller joined us in 2016 following a 17 year career at Wyeth and Pfizer Inc. She has held leadership roles in U.S. and global marketing including launch of new products and line extensions in-line and globally. Ms. Mueller has also held the position of Disease Area Lead for multiple therapeutic areas where she was responsible for disease area strategy, indication strategy for multiple assets, early commercial development and market shaping. In addition to broad and extensive commercial experience, Ms. Mueller led and managed two of Pfizer's largest alliances and was the business development lead for Pfizer's rare disease business unit. Prior to joining pharmaceuticals, Ms. Mueller worked in hospital management running Emergency Medicine, Critical Care, in-house Pediatrics and hospitalist programs. Ms. Mueller holds a B.A. in Mathematics from Virginia Polytechnic and State University.

Martin Treder, Chief Scientific Officer. Dr. Treder joined us in 2015 and has 15 years of professional experience in the field of biotherapeutics research and development. Before joining Affimed, he was Chief Scientific Officer at CT Atlantic AG where he was responsible for establishing a broad research pipeline of various preclinical and clinical development programs. Prior to CT Atlantic, Dr. Treder held the position of Program Director at U3 Pharma AG, a German biotech company developing targeted cancer therapeutics, where he headed the company's portfolio of innovative anti-HER3 therapeutic antibodies. Dr. Treder graduated with Honors from Monash University in Melbourne, Australia and obtained a diploma in Biology at the University of Würzburg, Germany. He earned his Ph.D. working in Prof. Axel Ullrich's group at the Max Planck Institute of Biochemistry in Martinsried-Munich, receiving his doctorate from the Technical University of Munich, Germany.

B. Compensation

Management services agreements

Our managing directors have entered into management services agreements with us. The management services agreements of Adi Hoess and Florian Fischer became effective upon the consummation of our initial public offering. The management services agreement of Wolfgang Fischer became effective upon his appointment by the general meeting of shareholders on June 20, 2017. These agreements comprise the following elements: fixed salary, bonus payments, earmarked pension and social security payments and share based compensation components. In addition these agreements provide for benefits upon a termination of service. Adi Hoess and Florian Fischer were reappointed as managing directors by the general meeting of shareholders on June 20, 2017, which prolonged their management services agreements until 2020.

Long-term incentive plans

Equity Incentive Plan 2014

In conjunction with the closing of our initial public offering, we established the Affimed N.V. Equity Incentive Plan 2014 (“the 2014 Plan”) with the purpose of advancing the interests of our shareholders by enhancing our ability to attract, retain and motivate individuals who are expected to make important contributions to us. The maximum number of shares available for issuance under the 2014 Plan equals 7% of the total outstanding common shares on September 17, 2014, or approximately 1.7 million common shares. On January 1 of any calendar year thereafter (including January 1, 2019), an additional 5% of the total outstanding common shares on that date becomes available for issuance under the 2014 Plan. As of January 1, 2019, we had approximately 7.0 million common shares available for issuance, and approximately 6.6 million common shares subject to issuance under outstanding awards. The absolute number of shares available for issuance under the 2014 Plan will increase automatically upon the issuance of additional shares by the Company. The option exercise price for options under the 2014 Plan is the fair market value of a share as defined in the 2014 Plan on the relevant grant date. We are following home country rules relating to the re-pricing of stock options. Under applicable Dutch law, re-pricing is permissible, provided this falls within the framework set by the remuneration policy for the Management Board and the 2014 Plan.

Plan administration. The 2014 Plan is administered by our compensation committee. Approval of the compensation committee is required for all grants of awards under the 2014 Plan. The compensation committee may delegate to the managing directors the authority to grant equity awards under the 2014 Plan to our employees.

Eligibility. Supervisory directors, managing directors and other employees and consultants of the Company are eligible for awards under the 2014 Plan.

Awards. Awards include options and restricted stock units.

Vesting period. Subject to any additional vesting conditions that may be specified in an individual grant agreement, and the accelerated vesting conditions below, the plan provides for three year vesting of stock options. One-third of the stock options granted to participants in connection with the start of their employment vest on the first anniversary of the grant date, with the remainder vesting in equal tranches at the end of each 3-month period thereafter. Stock options granted to other participants vest in equal tranches at the end of each 3-month period after the grant date over the course of the vesting period. The compensation committee will establish a vesting schedule for awards granted to supervisory directors as well as for any awards in the form of restricted stock units.

Accelerated vesting. Unless otherwise specified in an individual grant agreement, the 2014 Plan provides that upon a change of control of the Company (as defined in the 2014 Plan) all then outstanding equity awards will vest and become immediately exercisable. It also provides that upon a participant’s termination of service due

to (i) retirement (or after reaching the statutory retirement age), (ii) permanent disability rendering the relevant participant incapable of continuing employment or (iii) death, all outstanding equity awards that would have vested during a 12 month period following such termination of service will vest and become immediately exercisable. Otherwise at termination all unvested awards will be forfeited. If a participant experiences a termination of service without “cause” or for “good reason” (in each case, as defined in the 2014 Plan) within six months prior to a change of control, the Company will make a cash payment equivalent to the economic value that the participant would have realized in connection with the change of control upon the exercise and sale of the equity awards that such participant forfeited upon his or her termination of service. In connection with a change of control and subject to the approval of the supervisory board, the management board may amend the exercise provisions of the 2014 Plan.

Stock Option Equity Incentive Plan 2007

Under the Stock Option Equity Incentive Plan 2007 (the “2007 SOP”), we granted options that were exercisable for preferred shares. In conjunction with the corporate reorganization in connection with our initial public offering, all outstanding awards granted under the 2007 SOP were converted into awards exercisable for common shares of Affimed N.V., and no additional grants will be made under the 2007 SOP. All awards are fully vested. The 2007 SOP is administered by the management board, or with respect to awards to our officers, by the supervisory board. The respective board determines the participants, the amount of the award, the exercise period and any other matters arising under the plan.

Compensation of Managing Directors and Supervisory Directors

The compensation, including benefits in kind, accrued or paid to our managing directors and supervisory directors with respect to the year ended December 31, 2018, for services in all capacities is shown below on an individual basis. Further details for the compensation for our managing directors and supervisory directors are given in notes 16 and 20 to our consolidated financial statements as of and for the year ending December 31, 2018. As of December 31, 2018, we have no amounts set aside or accrued to provide pension, retirement or similar benefits to our managing directors and supervisory directors.

Directors compensation 2018

Managing directors

(in € thousand)	Hoess	F. Fischer	W. Fischer	Total
Periodically paid compensation	462	351	351	1,164
Bonuses	315	180	182	677
Total cash compensation	777	531	533	1,841
2014 Plan share-based payment expense	575	249	153	977
Total share-based payment expense	575	249	153	977

Supervisory directors

(in € thousand)	Hecht	Ehmer	Grau	Modig	Simon	Verdonck	Total
Periodically paid compensation	120	48	64	49	21	59	361
Total cash compensation	120	48	64	49	21	59	361
2014 Plan share-based payment expense	32	21	21	18	7	18	117
Total share-based payment expense	32	21	21	18	7	18	117

Stock options granted under the Equity Incentive Plan 2014

Managing directors

Beneficiary	Grant date	Number of options	Strike price USD	Expiration date
Adi Hoess	April 20, 2018	425,000	2.15	April 20, 2028
Adi Hoess	April 20, 2018	120,000	2.15	April 20, 2020
Adi Hoess	December 19, 2018	35,091	3.12	December 19, 2028
Florian Fischer	April 20, 2018	190,000	2.15	April 20, 2028
Florian Fischer	April 20, 2018	72,000	2.15	April 20, 2020
Florian Fischer	December 19, 2018	19,905	3.12	December 19, 2028
Wolfgang Fischer	April 20, 2018	150,000	2.15	April 20, 2028
Wolfgang Fischer	April 20, 2018	48,000	2.15	April 20, 2020
Wolfgang Fischer	December 19, 2018	19,959	3.12	December 19, 2028
Total		1,079,955		

Supervisory directors

Beneficiary	Grant date	Number of options	Strike price USD	Expiration date
Thomas Hecht	June 19, 2018	35,000	2.03	June 19, 2028
Bernhard Ehmer	June 19, 2018	20,000	2.03	June 19, 2028
Ulrich M. Grau	June 19, 2018	20,000	2.03	June 19, 2028
Berndt Modig	June 19, 2018	20,000	2.03	June 19, 2028
Mathieu Simon	June 19, 2018	20,000	2.03	June 19, 2028
Ferdinand Verdonck	June 19, 2018	20,000	2.03	June 19, 2028
Total		135,000		

Dutch law provides that we must establish a policy in respect of the remuneration of our managing directors and supervisory directors. With respect to remuneration in the form of plans for shares or rights to shares (such as the Equity Incentive Plan 2014 mentioned above) the policy for managing directors must set out the maximum number of shares or rights to shares to be granted as well as the criteria for grants and for amending existing grants. The remuneration policies for the supervisory board and for the managing directors were adopted and approved by the general meeting of shareholders prior to the consummation of our initial public offering. The remuneration policy for the supervisory board established the compensation for our supervisory directors. The remuneration policy for the managing directors provides the supervisory board with a framework within which the supervisory board determines the remuneration of the managing directors.

Our remuneration policy for our managing directors provides the supervisory board with the authority to enter into management services agreements with managing directors that provide for compensation consisting of base compensation, performance-related variable compensation, long-term equity incentive compensation (as detailed in the terms of the Equity Incentive Plan 2014 described above), pension and other benefits and severance pay and benefits. The remuneration policy for the managing directors provides that the annual cash bonus payable to managing directors may not exceed 100% of the annual base gross salary and will be based upon the achievement of set financial and operating goals for the period. The bonus payments may be increased in any given year by the supervisory board upon a proposal of the compensation committee based on any exceptional achievements of that managing director. In addition, the remuneration policy for managing directors allows for cash termination payments, which may not exceed 100% of the managing director's base salary. This policy also allows for additional compensation and benefits to our managing directors following a change of control.

Our remuneration policy for the supervisory directors provides for payments and initial and annual equity awards. This is permissible under Dutch law, but constitutes a deviation from the DCGC. The remuneration policy for our supervisory directors establishes that each supervisory director will be entitled to an annual retainer of €20,000, provided that the chairman of the supervisory board will be entitled to an annual retainer of €75,000. In addition, the chairman of the audit committee is entitled to an additional annual retainer of €15,000 and the chairmen of the compensation and nomination and corporate governance committees are each entitled to annual retainers of €7,500. Supervisory directors will also be paid €3,000 for each supervisory board meeting attended in person and €1,500 for each supervisory board meeting attended by telephone, provided the meeting attended by telephone exceeds 30 minutes. For other, including non-formal Board meetings attended either in person or by phone the Company will pay each member of the Supervisory Board €500 per meeting, provided that the duration of such meeting exceeds 30 minutes. The members of each committee will be paid €1,500 for each committee meeting attended in person and €750 for each committee meeting attended by telephone, provided the meeting attended by telephone exceeds 30 minutes. In addition, we will grant any future chairman of the supervisory board an initial award of stock options to purchase 35,000 common shares on the date of election as the chairman. Further, under the remuneration policy we will grant any future supervisory director an initial award of stock options to purchase 20,000 common shares on the date of election as a supervisory director. These initial stock options will vest over a three-year period in three equal installments on the anniversaries of the grant date. In addition, the remuneration policy provides that each supervisory director is entitled to a total annual grant of 10,000 stock options, with the chairman of the

supervisory board entitled to an annual grant of 20,000 stock options. These annual awards will vest in four quarterly installments and will be fully vested on the first anniversary of the grant date. Initial awards and annual awards will be granted automatically on the respective dates of issuance based on the approval by the shareholders of the remuneration policy and will not require any further approval by the supervisory board or the company. Supervisory directors are also entitled to be reimbursed for their reasonable expenses incurred in attending meetings of the supervisory board and its committees.

Insurance and Indemnification

Our managing directors and supervisory directors have the benefit of indemnification provisions in our Articles of Association. These provisions give managing directors and supervisory directors the right, to the fullest extent permitted by law, to recover from us amounts, including but not limited to litigation expenses, and any damages they are ordered to pay, in relation to acts or omissions in the performance of their duties. However, there is generally no entitlement to indemnification for acts or omissions that amount to willful (*opzettelijk*), intentionally reckless (*bewust roekeloos*) or seriously culpable (*ernstig verwijtbaar*) conduct. In addition, upon consummation of our initial public offering, we entered into agreements with our managing directors and supervisory directors to indemnify them against expenses and liabilities to the fullest extent permitted by law. These agreements also provide, subject to certain exceptions, for indemnification for related expenses including, among others, attorneys' fees, judgments, penalties, fines and settlement amounts incurred by any of these individuals in any action or proceeding. In addition to such indemnification, we provide our managing directors and supervisory directors with directors' and officers' liability insurance.

Insofar as indemnification of liabilities arising under the Securities Act may be permitted to supervisory directors, managing directors or persons controlling us pursuant to the foregoing provisions, we have been informed that, in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

C. Board practices

Supervisory board

Our supervisory board supervises the policies of the management board and the general course of the affairs of our business. The supervisory board gives advice to the management board and is guided by our interests and our business when performing its duties. The management board provides the supervisory board with such necessary information as is required to perform its duties. Supervisory directors are appointed by the general meeting of shareholders upon a binding nomination of the supervisory board for a term of up to four years.

Our Articles of Association provide for a term of appointment of supervisory directors of up to four years. Furthermore, our Articles of Association state that a supervisory director may be reappointed, but that any supervisory director may be a supervisory director for no longer than twelve (12) years. Our supervisory directors are appointed for different terms as a result of which only approximately one third of our supervisory directors will be subject to election in any one year. Such an appointment has the effect of creating a staggered board and may deter a takeover attempt.

The supervisory board meets as often as a supervisory board member deems necessary. In a meeting of the supervisory board, each supervisory director has a right to cast one vote. All resolutions by the supervisory board are adopted by an absolute majority of the votes cast. In the event the votes are equally divided, the chairman has the decisive vote. A supervisory director may grant another supervisory director a written proxy to represent him at the meeting.

Our supervisory board can pass resolutions outside of meetings, provided that the resolution is adopted in writing and all supervisory directors have consented to adopting the resolution outside of a meeting.

Our supervisory directors do not have a retirement age requirement under our Articles of Association.

Management board

The management board is in charge of managing us under the supervision of the supervisory board. The number of managing directors is determined by our supervisory board. Managing directors are appointed by the general meeting of shareholders upon a binding nomination of the supervisory board.

At least once per year the management board informs the supervisory board in writing of the main lines of our strategic policy, the general and financial risks and the management and control system.

We have a strong centralized management board led by Adi Hoess, our Chief Executive Officer, who has a strong track record in the development and commercialization of new medicines. Our management team has extensive experience in the biopharmaceutical industry, and key members of our team have played an important role in the development and commercialization of approved drugs.

Supervisory Board Committees

Audit committee

The audit committee, which consists of Ferdinand Verdonck (Chairman), Berndt Modig and Bernhard Ehmer, assists the board in overseeing our accounting and financial reporting processes and the audits of our financial statements. In addition, the audit committee is directly responsible for the appointment, compensation, retention and oversight of the work of our independent registered public accounting firm. Our supervisory board has determined that Ferdinand Verdonck, Berndt Modig and Bernhard Ehmer satisfy the "independence" requirements set forth in Rule 10A-3 under the Exchange Act. The supervisory board has determined that each of Ferdinand Verdonck and Berndt Modig qualifies as an "audit committee financial expert," as such term is defined in the rules of the SEC.

The audit committee is responsible for recommending the appointment of the independent auditor to the general meeting of shareholders; the appointment, compensation, retention and oversight of any accounting firm engaged for the purpose of preparing or issuing an audit report or performing other audit services; pre-approving the audit services and non-audit services to be provided by our independent auditor before the auditor is engaged to render such services; evaluating the independent auditor's qualifications, performance and independence, and presenting its conclusions to the full supervisory board on at least an annual basis and reviewing and discussing with the management board and the independent auditor our annual audited financial statements and quarterly financial statements prior to the filing of the respective annual and quarterly reports, among other things.

The audit committee meets as often as one or more members of the audit committee deem necessary, but in any event at least four times per year. The audit committee meets at least once per year with our independent accountant, without our management board being present.

Compensation committee

The compensation committee, which consists of Thomas Hecht (Chairman), Ulrich Grau and Berndt Modig, assists the supervisory board in determining management board compensation. The committee recommends to the supervisory board for determination the compensation of each of our managing directors. Under SEC and Nasdaq rules, there are heightened independence standards for members of the compensation committee, including a prohibition against the receipt of any compensation from us other than standard supervisory director fees. As permitted by the listing requirements of Nasdaq, we have opted out of Nasdaq Listing Rule 5605(d) which requires that a compensation committee consist entirely of independent directors.

The compensation committee is responsible for identifying, reviewing and approving corporate goals and objectives relevant to management board compensation; analyzing the possible outcomes of the variable remuneration components and how they may affect the remuneration of the managing directors; evaluating

each managing director's performance in light of such goals and objectives and determining each managing director's compensation based on such evaluation and determining any long-term incentive component of each managing director's compensation in line with the remuneration policy and reviewing our management board compensation and benefits policies generally, among other things.

Nomination and corporate governance committee

The nomination and corporate governance committee, which consists of Ulrich Grau (Chairman), Thomas Hecht, Bernhard Ehmer and Mathieu Simon, assists our supervisory board in identifying individuals qualified to become members of our supervisory board and management board consistent with criteria established by our supervisory board and in developing our corporate governance principles. As permitted by the listing requirements of Nasdaq, we have opted out of Nasdaq Listing Rule 5605(e) which requires independent director oversight of director nominations.

D. Employees

As of March 15, 2019, we had 69 personnel, approximately 60% of whom have an advanced academic degree (Diploma/ Master, PhD, MD). Including AbCheck and Affimed Inc., our total headcount is 110 (103 full time equivalents).

None of our employees is subject to a collective bargaining agreement or represented by a trade or labor union. We consider our relations with our employees to be good.

E. Share ownership

See "Item 7. Major Shareholders and Related Party Transactions—A. Major shareholders."

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. Major shareholders

The following table presents information relating to the beneficial ownership of our common shares as of March 15, 2019, by:

- each person, or group of affiliated persons, known by us to own beneficially 5% or more of our outstanding common shares (as of the date of such stockholder's Schedule 13D or Schedule 13G filing for Affimed N.V. with the SEC);
- each of our managing directors and supervisory directors; and
- all managing directors and supervisory directors as a group.

The number of common shares beneficially owned by each entity, person, managing director or supervisory director is determined in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership includes any common shares over which the individual has sole or shared voting power or investment power as well as any common shares that the individual has the right to acquire within 60 days of March 15, 2019 through the exercise of any option, warrant or other right. Except as otherwise indicated, and subject to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all common shares held by that person.

The percentage of shares beneficially owned is computed on the basis of 62,430,106 of our common shares outstanding as of March 15, 2019. Common shares that a person has the right to acquire within 60 days of

March 15, 2019 are deemed outstanding for purposes of computing the percentage ownership of the person holding such rights, but are not deemed outstanding for purposes of computing the percentage ownership of any other person, except with respect to the percentage ownership of all managing directors and supervisory directors as a group. Each common share confers the right on the holder to cast one vote at the general meeting of shareholders and no shareholder has different voting rights. Unless otherwise indicated below, the address for each beneficial owner listed is c/o Affimed N.V., c/o Affimed GmbH, Technologiepark, Im Neuenheimer Feld 582, 69120 Heidelberg, Germany.

Name and address of beneficial owner	Shares beneficially owned	
	Number	Percent
5% Shareholders		
Entities affiliated with Calibrium AG (formerly Aeris Capital AG)(1)	6,085,323	9.7 %
Entities affiliated with New Enterprise Associates, Inc.(2)	5,138,888	8.2 %
Wellington Management Group LLP(3)	4,694,043	7.5 %
Entities affiliated with Millennium Group Management LLC(4)	3,415,071	5.5 %
Managing Directors and Supervisory Directors		
Adi Hoess(5)	1,465,000	2.3 %
Florian Fischer(5)	597,917	0.9 %
Wolfgang Fischer	216,667	0.3 %
Thomas Hecht	171,618	0.3 %
Bernhard R.M. Ehmer	70,000	0.1 %
Ulrich M. Grau	65,000	0.1 %
Berndt Modig	75,000	0.1 %
Mathieu Simon	0	0.0 %
Ferdinand Verdonck	75,000	0.1 %
All managing directors and supervisory directors as a group (9 persons)	2,736,202	4.2 %

- (1) Consists of 6,055,197 shares held by SGR Sagittarius Holding AG (“Sagittarius”) and 30,126 shares held by AGUTH Holding GmbH (“AGUTH”). Voting and investment power over the shares held by SGR Sagittarius Holding AG is exercised by the Board of Directors of SGR Sagittarius Holding AG, Manuel Werder and Bernd Kammerlander. The address for SGR Sagittarius Holding AG is Brügglistrasse 2, 8852 Altendorf, Switzerland. Voting and investment power over the shares held by AGUTH is exercised by the Board of Directors of AGUTH, Harald Tschira and Udo Tschira. The address for AGUTH is Schloß-Wolfsbrunnenweg 33, 69118 Heidelberg, Germany. This information is based on a statement filed on Schedule 13D with the SEC on October 3, 2018.
- (2) New Enterprise Associates 15, L.P. (“NEA 15”) is the sole member of Growth Equity Opportunities Fund IV, LLC (“GEO”). NEA Partners 15, L.P. (“NEA Partners 15”) is the sole general partner of NEA 15. NEA 15 GP, LLC (“NEA 15 LLC”) is the sole general partner of NEA Partners 15. Peter J. Barris, Forest Baskett, Anthony A Florence, Jr., Krishna S. Joshua Makower, David M. Mott, Jon M. Sakoda, Scott D. Sandell, Peter W. Sonsini and Ravi Viswanathan are the managers of NEA 15 LLC. The address for GEO, NEA Partners 15 and NEA 15 LLC is New Enterprise Associates, 1954 Greenspring Drive, Suite 600, Timonium, MD 21093. This information is based on a statement filed on Schedule 13D with the SEC on February 22, 2018.
- (3) Represents shares beneficially owned by clients of Wellington Management Company LLP, Wellington Management Canada LLC, Wellington Management Singapore Pte Ltd, Wellington Management Hong Kong Ltd, Wellington Management International Ltd, Wellington Management Japan Pte Ltd and Wellington Management Australia Pty Ltd (collectively, the “Wellington Investment Advisors”). Wellington Investment Advisors Holdings LLP controls directly, or indirectly through Wellington Management Global Holdings, Ltd., the Wellington Investment Advisors. Wellington Investment Advisors Holdings LLP is owned by Wellington Group Holdings LLP. Wellington Group Holdings LLP is owned by Wellington Management Group LLP. The address for Wellington Management Group LLP, Wellington Group Holdings LLP,

Wellington Investment Advisors Holdings LLP and Wellington Management Company LLP is c/o Wellington Management Company LLP, 280 Congress Street, Boston, MA 02210. This information is based on a statement filed on Schedule 13G with the SEC on February 12, 2019.

- (4) Consists of 3,132,266 shares held by Integrated Core Strategies (US) LLC ("Integrated Core Strategies"), 282,211 shares held by Integrated Assets II LLC ("Integrated Assets II") and 594 shares held by Integrated Assets, Ltd. ("Integrated Assets"). Millennium International Management LP, a Delaware limited partnership ("Millennium International Management"), is the investment manager to Integrated Assets and may be deemed to have shared voting control and investment discretion over securities owned by Integrated Assets. Millennium Management LLC, a Delaware limited liability company ("Millennium Management"), is the general partner of the managing member of Integrated Core Strategies and Integrated Assets II and may be deemed to have shared voting control and investment discretion over securities owned by Integrated Core Strategies and Integrated Assets II. Millennium Management is also the general partner of the 100% shareholder of Integrated Assets and may be deemed to have shared voting control and investment discretion over securities owned by Integrated Assets. Millennium Group Management LLC, a Delaware limited liability company ("Millennium Group Management"), is the managing member of Millennium Management and may also be deemed to have shared voting control and investment discretion over securities owned by Integrated Core Strategies and Integrated Assets II. Millennium Group Management is also the general partner of Millennium International Management and may be deemed to have shared voting control and investment discretion over securities owned by Integrated Assets. Israel A. Englander, a United States citizen ("Mr. Englander"), controls the managing member of Millennium Group Management and may also be deemed to have shared voting control and investment discretion over securities owned by Integrated Core Strategies, Integrated Assets II and Integrated Assets. The information is based on a statement filed on Schedule 13G with the SEC on January 15, 2019.
- (5) Indicates that the director is entitled to receive common shares in connection with the carve-out plan described in Note 2 to our consolidated financial statements for the year ended December 31, 2016 pursuant to which 7.78% of the common shares of the Company outstanding immediately prior to the initial public offering owned by pre-IPO existing shareholders will be transferred to the beneficiaries upon the conditions set forth therein.

Significant Changes in Ownership by Major Shareholders

We have experienced significant changes in the percentage ownership held by major shareholders as a result of our initial public offering and subsequent offerings. Immediately prior to our initial public offering in September 2014, our principal shareholders were entities affiliated with Calibrium AG (formerly Aeris Capital AG, 32.2% ownership), entities affiliated with OrbiMed Advisors LLC (30.7% ownership), Novo Nordisk A/S (14.3% ownership), BioMedInvestI Ltd. (9.2% ownership) and entities affiliated with Life Sciences Partners (9.2% ownership).

On September 17, 2014, we completed our initial public offering and listed our common shares on the Nasdaq Global Market. In the initial public offering, we sold 8,000,000 common shares. Certain of our pre-IPO investors purchased approximately \$23.7 million of our common shares in the initial public offering.

On May 12, 2015 we completed a public offering and sold 5,750,000 common shares to new investors.

On October 14, 2015 we sold 3.3 million shares to SGR Sagittarius Holding AG, an existing shareholder affiliated with Calibrium AG (formerly Aeris Capital AG).

In January and February 2017, we completed a public offering and sold 10,646,762 common shares primarily to new investors.

On February 15, 2018, we completed a public offering and sold 13,225,000 common shares primarily to new investors.

Holders

As of March 15, 2019, we had approximately 6 shareholders of record of our common shares; two of those shareholders of record are in the United States and hold a total of 60,974,257 common shares in the aggregate, or approximately 98% of our common shares. One of the U.S. shareholders of record is Cede and Company, a specialist United States financial institution that processes transfers of stock certificates on behalf of the Depository Trust Company, or DTC. Cede and Company therefore is the technical shareholder of record for nearly all of our issued shares held by DTC participants, as our shareholders do not themselves hold direct property rights in our common shares, but rather have contractual rights in such shares that are part of a chain of contractual rights involving Cede and Company.

B. Related party transactions

The following is a description of related party transactions we have entered into since January 1, 2018 with any of our members of our supervisory board or management board and the holders of more than 5% of our common shares.

Agreements with Supervisory Directors

According to a services agreement with i-novion Inc., of which Dr. Ulrich Grau serves as Chairman of the Board of Directors, i-novion Inc. conducted certain preclinical services for us. In 2018, i-novion Inc. did not receive any related payments.

Agreements with former Managing Directors

In 2016, we entered into a consulting agreement with our former Managing Director Jens-Peter Marschner consisting of services for the support of clinical trials and other activities in the field of clinical development. In 2017, Dr. Marschner received related payments of €11,000. The consulting agreement with Dr. Marschner was terminated end of May 2017.

In 2017, we entered into a consulting agreement with our former Managing Director Jörg Windisch consisting of high level consultancy and strategic guidance in the field of clinical manufacturing. In 2018, Dr. Windisch provided no services and received no payments.

Agreements with Amphivena

In 2013, we entered into a license and development agreement, which amended and restated a 2012 license agreement, with Amphivena Therapeutics, Inc., or Amphivena, based in South San Francisco, to develop an undisclosed product candidate for hematologic malignancies in exchange for an interest in Amphivena and certain milestone payments. We also assigned and licensed certain technology to Amphivena and provided it with funding. The license and development agreement with Amphivena expired when the product candidate's IND became effective in July 2016. Following the expiration, we continued to provide services on a smaller scale to complete the deliverables required under the agreement, and have been financially supporting the future clinical development of AMV564 with €2.8 million in financing, €1.0 million of which was invested in Amphivena in October 2016, €0.6 million of which was invested in March 2017, €0.3 million of which was invested in December 2017 and €0.9 million of which was invested in June 2018. See "Item 4. Information on the Company—B. Business overview—Amphivena" and "Item 5. Operating and Financial Review and Prospects—A. Operating Results—Collaboration Agreements—Amphivena" for more information.

Registration rights agreement

Following the consummation of our IPO, we entered into a registration rights agreement with certain of our existing shareholders pursuant to which we granted them the rights set forth below.

Demand registration rights. Certain of our shareholders that are party to the Registration Rights Agreement (the “RRA Shareholders”) are entitled to request that we effect up to an aggregate of four demand registrations under the Registration Rights Agreement, and no more than one demand registration within any six-month period, covering the RRA Shareholders’ common shares that are subject to transfer restrictions under Rule 144 (“registrable securities”). The demand registration rights are subject to certain customary conditions and limitations, including customary underwriter cutback rights and deferral rights. No demand registration rights exist while a shelf registration is in effect.

Piggyback registration rights. If we propose to register any common shares (other than in a shelf registration or on a registration statement on Form F-4, S-4 or S-8), the RRA Shareholders are entitled to notice of such registration and to include their registrable securities in that registration. The registration of RRA Shareholders’ registrable securities pursuant to a piggyback registration does not relieve us of the obligation to effect a demand registration. The managing underwriter has the right to limit the number of registrable securities included in a piggyback registration if the managing underwriter believes it would interfere with the successful marketing of the common shares.

Form F-3 registration rights. When we are eligible to use Form F-3, one or more RRA Shareholders have the right to request that we file a registration statement on Form F-3. RRA Shareholders will have the right to cause us to undertake underwritten offerings from the shelf registration, but no more than one underwritten offering in a six-month period. Each underwritten takedown constitutes a demand registration for purposes of the maximum number of demand registrations we are obligated to effectuate.

Subject to limited exceptions, the Registration Rights Agreement provides that we must pay all registration expenses in connection with a demand, piggyback or shelf registration. The Registration Rights Agreement contains customary indemnification and contribution provisions.

Indemnification Agreements

We have entered into indemnification agreements with our managing directors and supervisory directors. The indemnification agreements and our Articles of Association require us to indemnify our managing directors and supervisory directors to the fullest extent permitted by law. See “Item 6B. Compensation—Insurance and Indemnification” for a description of these indemnification agreements.

Other Agreements with Directors

See “Item 6. Directors, Senior Management and Employees—B. Compensation” for a description of other agreements with our managing directors and supervisory directors.

C. Interests of Experts and Counsel

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. Consolidated statements and other financial information

Financial statements

See “Item 18. Financial Statements,” which contains our financial statements prepared in accordance with IFRS.

Legal Proceedings

From time to time we are involved in legal proceedings that arise in the ordinary course of business. We believe that the outcome of these proceedings, if determined adversely, will not have a material adverse effect on our financial position. During the period covered by the audited and approved financial statements contained herein, we have not been a party to or paid any damages in connection with litigation that has had a material adverse effect on our financial position. Any future litigation may result in substantial costs and be a distraction to management and employer. No assurance can be given that future litigation will not have a material adverse effect on our financial position. See “Item 3. Key Information—D. Risk factors.”

Dividends and Dividend Policy

We have not declared cash dividends on our common shares in the years 2016, 2017 or 2018. We currently expect to retain future earnings, if any, to finance the operation and expansion of our business, and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our supervisory board.

B. Significant changes

A discussion of the significant changes in our business can be found under “Item 4. Information on the Company—A. History and development of the company.”

ITEM 9. THE OFFER AND LISTING

A. Offering and listing details

Not applicable.

B. Plan of distribution

Not applicable.

C. Markets

Our common shares began trading on the Nasdaq Global Market on September 12, 2014 under the symbol AFMD.

D. Selling shareholders

Not applicable.

E. Dilution

Not applicable.

F. Expenses of the issue

Not applicable.

ITEM 10. ADDITIONAL INFORMATION

A. Share capital

Not applicable.

B. Memorandum and articles of association

Our shareholders adopted the Articles of Association filed as Exhibit 3.1 to our registration statement on Form F-1 (file no. 333-197097) with the SEC on September 17, 2014, and have subsequently adopted amendments to the Articles of Association, most recently on June 19, 2018.

We incorporate by reference into this Annual Report on Form 20-F the description of our Articles of Association effective upon the closing of our IPO contained in our F-1 registration statement (File No. 333-197097) originally filed with the SEC on June 27, 2014, as amended. Such description sets forth a summary of certain provisions of our articles of association as currently in effect, other than certain updates (including to our authorized share capital) reflected in our amended Articles of Association filed as Exhibit 3.1 to our report on Form 6-K (file no. 333-197097) with the SEC on June 20, 2018, incorporated by reference herein.

C. Material contracts

Except as otherwise disclosed in this Annual Report on Form 20-F (including the Exhibits), we are not currently, and have not been in the last two years, party to any material contract, other than contracts entered into in the ordinary course of business.

D. Exchange controls

Cash dividends payable on our common shares and cash interest payments to holders of our debt securities may be remitted from the Netherlands to non-residents without legal restrictions imposed by the laws of the Netherlands, except that (i) such payments must be reported, if requested, to the Dutch Central Bank for statistical purposes only and (ii) the transfer of funds to jurisdictions subject to general economic sanctions adopted in connection with policies of the United Nations, European Commission or similar measures imposed directly by the Government of the Netherlands may be restricted.

E. Taxation

The following summary contains a description of material German, Dutch and U.S. federal income tax consequences of the acquisition, ownership and disposition of common shares, but it does not purport to be a comprehensive description of all the tax considerations that may be relevant to a decision to purchase common shares. The summary is based upon the tax laws of Germany, the Netherlands and the United States and regulations thereunder as of the date hereof, which are subject to change.

German Tax Considerations

The following discussion is a summary of the material German tax considerations which—as the Company has its place of management in Germany and is therefore tax resident in Germany—relate to the purchase, ownership and disposition of our common shares both by a shareholder (an individual, a partnership or corporation) that has a tax domicile in Germany (that is, whose place of residence, habitual abode, registered office or place of management is in Germany) and by a shareholder without a tax domicile in Germany. This discussion does not cover the treatment of certain special companies such as those engaged in the financial

and insurance sectors and pension funds. The information is not exhaustive and does not constitute a definitive explanation of all possible aspects of taxation that could be relevant for shareholders. The information is based on the tax law in force in Germany as of the date hereof (and its interpretation by administrative directives and courts) as well as typical provisions of double taxation treaties that Germany has concluded with other countries. Tax law can change—sometimes retrospectively. Moreover, it cannot be ruled out that the German tax authorities or courts may consider an alternative assessment to be correct that differs from the one described in this section.

This section cannot replace tailored tax advice to individual shareholders. They are therefore advised to consult their tax advisors regarding the tax implications of the acquisition, holding or transfer of shares and regarding the procedures to be followed to achieve a possible reimbursement of German withholding tax. Only such advisors are in a position to take the specific tax-relevant circumstances of individual shareholders into due account.

Income Tax Implications of the Purchase, Holding and Disposal of Shares

In terms of the taxation of shareholders of the Company, a distinction must be made between taxation in connection with the holding of shares (“Taxation of Dividends”), taxation in connection with the sale of shares (“Taxation of Capital Gains”) and taxation in connection with the mortis causa or inter vivos (munificent) transfer of shares (“Inheritance and Gift Tax”).

Taxation of Dividends

Withholding tax

As a general rule, the dividends distributed to the shareholder are subject to a withholding tax (*Kapitalertragsteuer*) of 25% and a solidarity surcharge of 5.5% thereon (i.e., 26.375% in total plus church tax, if applicable). The withholding tax is withheld and discharged for the account of the shareholders by the Company. Dividend payments that are funded from the Company’s contribution account for tax purposes (*steuerliches Einlagekonto*; § 27 *Körperschaftsteuergesetz*, German Corporation Income Tax Act) are generally not taxable in Germany and are not subject to withholding tax.

In general, the withholding tax must be withheld regardless of whether and to which extent the dividend is exempt from tax at the level of the shareholder and whether the shareholder is domiciled in Germany or abroad.

However, withholding tax on dividends distributed to a company domiciled in another EU Member State within the meaning of Article 2 of the Parent-Subsidiary Directive may be refunded or exempted upon application and subject to further conditions. This also applies to dividends distributed to a permanent establishment of such a parent company resident in another Member State of the European Union or to a parent company that is subject to unlimited tax liability in Germany, provided that the participation in the Company actually forms part of such permanent establishment’s business assets. As further requirements for the refund or exemption of withholding tax under the Parent-Subsidiary Directive, the shareholder needs to hold at least a 10% direct stake in the company’s registered capital for one year and to file a respective application with the German Federal Central Tax Office (*Bundeszentralamt für Steuern, Hauptdienstszitz Bonn-Beuel, An der Kuppe 1, 53225 Bonn*) using an official form.

With respect to distributions made to other shareholders without a tax domicile in Germany, the withholding tax rate can be reduced in accordance with a double taxation treaty if Germany has entered into a double taxation treaty with the shareholder’s state of residence and if the shares neither form part of the assets of a permanent establishment or a fixed place of business in Germany, nor form part of business assets for which a permanent representative in Germany has been appointed. Pursuant to most German tax treaties, including the income tax treaty between Germany and the United States, the German withholding tax rate is reduced to 15% (or, in certain cases, to a lower rate) with respect to distributions received by shareholders eligible for treaty benefits. The withholding tax reduction is generally granted by the German Federal Central Tax Office

(*Bundeszentralamt für Steuern*) upon application in such a manner that the difference between the total amount withheld, including the solidarity surcharge, and the reduced withholding tax actually owed under the relevant double taxation treaty is refunded by the German Federal Central Tax Office.

Forms for the reimbursement and exemption from the withholding at source procedure are available at the German Federal Central Tax Office (<http://www.bzst.bund.de>) as well as at German embassies and consulates.

If dividends are distributed to corporations subject to limited tax liability, i.e., corporations with no registered office or place of management in Germany and if the shares neither belong to the assets of a permanent establishment or fixed place of business in Germany nor form part of business assets for which a permanent representative in Germany has been appointed, two-fifths of the tax withheld at the source can generally be refunded even if the prerequisites for a refund under the Parent-Subsidiary Directive or the relevant double taxation treaty are not fulfilled. The relevant application forms are available at the German Federal Central Tax Office (at the address specified above).

The exemption from withholding tax under the Parent-Subsidiary Directive as well as the aforementioned possibilities for a refund of withholding tax depend on certain other conditions being met (particularly the fulfillment of so-called substance requirements—*Substanzerfordernisse*).

For shareholders resident in Germany (i.e., shareholders whose place of residence or usual place of abode or, in case of corporations, its statutory seat or place of management, is situated in Germany) holding their shares as business assets as well as for shareholders residing outside Germany (foreign shareholders) holding their shares in a permanent establishment or a fixed base in Germany, or as assets for which a permanent representative has been appointed in Germany, the tax withheld is credited against the shareholders' personal income tax or corporate income tax. Such crediting of withholding tax requires a certificate within the meaning of Section 45a (2) sentence 3 Income Tax Act.

Any tax withheld in excess of the shareholders' personal tax is refunded. The same principles apply to the solidarity surcharge.

For taxpayers who are subject to church tax, an automatic procedure for deducting church tax applies unless the shareholder has filed a blocking notice (*Sperrvermerk*) with the German Federal Central Tax Office. The church tax payable will be withheld together with the withholding tax. The taxpayer may refuse (block) the automatic query to the Federal Central Tax Office, which will then force an assessment by the taxpayer and the shareholder will be obliged to declare the dividends in his income tax return. The respective forms may be obtained from the German Federal Central Tax Office (*Bundeszentralamt für Steuern*), An der Kuppe 1, 53225 Bonn, Germany (www.bzst.bund.de). If the church tax is withheld together with the withholding tax, the withholding tax will be reduced by 25% of the church tax levied on the withholding tax.

In case the shares are entrusted to a central securities depository (*Wertpapiersammelbank*) outside of Germany for custody as it is the case with the shares in the Company, the aforementioned withholding tax relief in accordance with applicable double taxation treaties as well as the credit of withholding tax described for shares held as private and as business assets is, pursuant to a special rule on the restriction of withholding tax credit, subject to the following three cumulative prerequisites: (i) the relevant shareholder must qualify as beneficial owner of the shares in the Company for a minimum holding period of 45 consecutive days occurring within a period of 45 days prior and 45 days after the due date of the dividends, (ii) the shareholder has to bear at least 70% of the risk in value change related to the shares in the Company during the minimum holding period without being directly or indirectly hedged and (iii) the shareholder is not required to fully or largely, directly or indirectly, transfer the dividends to third parties.

Taxation of dividends of shareholders with a tax domicile in Germany

Shares held as non-business assets

Dividends distributed to shareholders with a tax domicile in Germany whose shares are held as non-business assets form part of their taxable capital investment income, which is subject to a flat tax at a rate of 25% plus solidarity surcharge of 5.5% thereon (i.e., 26.375% in total plus church tax, if applicable). The income tax owed for this dividend income is in general discharged by the withholding tax levied by the Company (flat tax—*Abgeltungsteuer*). Income-related expenses cannot be deducted from the capital investment income, except for an annual lump-sum deduction (*Sparer-Pauschbetrag*) of €801 (€1,602 for married couples filing jointly). However, the shareholder may request that his capital investment income (including dividends) along with his other taxable income is taxed at his individual progressive income tax rate (instead of the flat tax on capital investment income) if this results in a lower tax burden. In this case the withholding tax will be credited against the individual progressive income tax and any excess amount will be refunded. In this case as well income-related expenses cannot be deducted from the capital investment income, except for the aforementioned annual lump-sum deduction.

Exceptions from the flat tax apply upon application for shareholders who have a shareholding of at least 25% in the Company and for shareholders who have a shareholding of at least 1% in the Company and can take significant entrepreneurial influence on the Company's economic activity by a professional activity for the Company. In this case 60 % of the dividend income is taxed at the individual progressive income tax rate and 60% of the expenses in relation to the shareholding are deductible.

Shares held as business assets

Dividends from shares held as business assets by a shareholder with a tax domicile in Germany are not subject to the flat tax. The taxation depends on whether the shareholder is a corporation, a sole proprietor or a partnership (co-entrepreneurship). The withholding tax (including the solidarity surcharge thereon and church tax, if applicable) withheld and paid by the Company will be credited against the shareholder's income tax or corporate income tax liability (including the solidarity surcharge thereon and church tax, if applicable) or refunded in the amount of any excess.

Corporations

If the shareholder is a corporation with a tax domicile in Germany, the dividends are in general effectively 95% exempt from corporate income tax and the solidarity surcharge. Five percent of the dividends are treated as non-deductible business expenses and are therefore subject to corporate income tax (plus the solidarity surcharge thereon) at a total tax rate of 15.825%. In other respects, business expenses actually incurred in direct relation to the dividends may be deducted. However dividends are not exempt from corporate income tax (including solidarity surcharge thereon), if the shareholder only held (or holds) a direct participation of less than 10% in the share capital of the distributing corporation at the beginning of the calendar year (hereinafter in all cases, a "Portfolio Participation" (*Streubesitzbeteiligung*)). Participations of at least 10% acquired during a calendar year are deemed to have been acquired at the beginning of the calendar year. Participations which a corporate shareholder holds through a partnership (including those that are co-entrepreneurships (*Mitunternehmerschaften*)) are attributable to the shareholder only on a *pro rata* basis at the ratio of the interest share of the shareholder in the assets of the relevant partnership. Shareholders affected by the rules for the taxation of dividends from Portfolio Participations are recommended to discuss the potential consequences with their tax advisors.

Dividends (after deducting business expenses economically related to the dividends) are subject to trade tax in the full amount, unless the participation amounts to at least 15% at the beginning of the relevant assessment period (trade tax participation exemption privilege). In this latter case, the dividends are not subject to trade tax; however, trade tax is levied on amounts considered to be non-deductible business expenses (amounting to 5%

of the dividend). Trade tax ranges from 7% to approximately 18% depending on the municipal trade tax multiplier applied by the relevant municipal authority.

Sole proprietors

If the shares are held as business assets by a sole proprietor with a tax domicile in Germany, only 60% of the dividends are subject to progressive income tax (plus the solidarity surcharge thereon) at a total tax rate of up to approximately 47.5% (plus church tax, if applicable), under the so-called partial income method (*Teileinkünfteverfahren*). Only 60% of the business expenses economically related to the dividends are tax-deductible. If the shares belong to a domestic permanent establishment in Germany of a business operation of the shareholder, the dividend income (after deducting business expenses economically related thereto) is fully subject to trade tax, unless the shareholder holds at least 15% of the share capital of the Company at the beginning of the relevant assessment period (trade tax participation exemption privilege). In this latter case the net amount of dividends, i.e. after deducting directly related expenses, is exempt from trade tax. As a rule, trade tax can be credited against the shareholder's personal income tax, either in full or in part, by means of a lump-sum tax credit method—depending on the level of the municipal trade tax multiplier and certain individual tax-relevant circumstances of the taxpayer.

Partnerships

If the shareholder is a genuine business partnership or a deemed business partnership (co-entrepreneurship) with a permanent establishment in Germany, the income tax or corporate income tax is not levied at the level of the partnership but at the level of the respective partner. The taxation of every partner depends on whether the partner is a corporation or an individual. If the partner is a corporation, the dividends contained in the profit share of the partner will be taxed in accordance with the rules applicable for corporations (see "*Corporations*" above). If the partner is an individual, the taxation follows the rules described for sole proprietors, (see "*Sole proprietors*" above). Upon application and subject to further conditions, an individual as a partner can have his personal income tax rate reduced for earnings retained at the level of the partnership.

In addition, the dividends are generally subject to trade tax in the full amount at the partnership level if the shares are attributed to a German permanent establishment of the partnership. If a partner of the partnership is an individual, the portion of the trade tax paid by the partnership pertaining to his profit share will generally be credited, either in full or in part, against his personal income tax by means of a lump-sum method—depending on the level of the municipal trade tax multiplier and certain individual tax-relevant circumstances of the taxpayer. Due to a lack of case law and administrative guidance, it is currently unclear how the rules for the taxation of dividends from Portfolio Participations (see "*Corporations*" above) might impact the trade tax treatment at the level of the partnership. Shareholders are strongly recommended to consult their tax advisors. Under a literal reading of the law, if the partnership qualifies for the trade tax exemption privilege at the beginning of the relevant assessment period, the dividends should generally not be subject to trade tax. However, in this case, trade tax should be levied on 5% of the dividends to the extent they are attributable to the profit share of such corporate partners to whom at least 10% of the shares in the Company are attributable on a look-through basis, since such portion of the dividends should be deemed to be non-deductible business expenses. The remaining portion of the dividend income attributable to other than such specific corporate partners (which includes individual partners and should, under a literal reading of the law, also include corporate partners to whom, on a look-through basis, only Portfolio Participations are attributable) should (after the deduction of business expenses economically related thereto) not be subject to trade tax.

Taxation of dividends of shareholders without a tax domicile in Germany

Shareholders without a tax domicile in Germany whose shares are attributable to a German permanent establishment or fixed place of business or are part of business assets for which a permanent representative in Germany has been appointed, are also subject to tax in Germany on their dividend income. In this respect the provisions outlined above for shareholders with a tax domicile in Germany whose shares are held as business assets apply accordingly ("*Taxation of dividends of shareholders with a tax domicile in Germany*—

Shares held as business assets”). The withholding tax (including the solidarity surcharge thereon) withheld and passed on will be credited against the income or corporate income tax liability or refunded in the amount of any excess.

In all other cases, any German limited tax liability on dividends is discharged by withholding tax imposed by the Company. Withholding tax is only reimbursed in the cases and to the extent described above under “—*Withholding tax*”.

Taxation of Capital Gains

Taxation of capital gains of shareholders with a tax domicile in Germany

Shares held as non-business assets

Gains from the disposal of shares acquired after December 31, 2008 by a shareholder with a tax domicile in Germany and held as non-business assets are generally—regardless of the holding period—subject to a flat tax on capital investment income at a rate of 25% (plus the solidarity surcharge of 5.5% thereon, i.e., 26.375% in total plus church tax, if applicable).

The taxable capital gain is computed as the difference between (a) the sale proceeds and (b) the acquisition costs of the shares and the expenses related directly and economically to the disposal.

Only an annual lump-sum deduction of €801 (€1,602 for married couples filing jointly) may be deducted from the entire capital investments income. It is not possible to deduct income-related expenses in connection with capital gains, except for the expenses directly related in substance to the disposal which can be deducted when calculating the capital gains. Losses from disposals of shares may only be offset against capital gains from the disposal of shares.

If the disposal of the shares is executed by a domestic credit institution, or domestic financial services institution (*inländisches Kredit-oder Finanzdienstleistungsinstitut*) (including domestic branches of foreign credit and financial services institutions), domestic securities trading company (*inländisches Wertpapierhandelsunternehmen*) or a domestic securities trading bank (*inländische Wertpapierhandelsbank*), and such office pays out or credits the capital gains (a “Domestic Paying Agent”), the tax on the capital gains will in general be discharged for the account of the seller by the Domestic Paying Agent imposing the withholding tax on investment income at the rate of 26.375% (including the solidarity surcharge thereon plus church tax, if applicable) on the capital gain.

However, the shareholder can apply for his total capital investment income together with his other taxable income to be subject to his progressive income tax rate, as opposed to the flat tax on investment income, if this results in a lower tax liability. In this case the withholding tax is credited against the individual progressive income tax and any resulting excess amount will be refunded. In this case as well income-related expenses cannot be deducted from the capital investment income, except for the aforementioned annual lump-sum deduction. Further, the limitations on offsetting losses are also applicable under the income tax assessment.

If the withholding tax or, if applicable, the church tax on capital gains, is not withheld by a Domestic Paying Agent, the shareholder is required to declare the capital gains in his income tax return. The income tax and any applicable church tax on the capital gains will then be collected by way of assessment.

Regardless of the holding period and the time of acquisition, gains from the disposal of shares are not subject to the flat tax but to individual progressive income tax if a shareholder domiciled in Germany, or, in the event of a munificent transfer, their legal predecessor, or, if the shares have been munificently transferred several times in succession, one of his legal predecessors at any point during the five years preceding the disposal directly or indirectly held at least 1% of the share capital of the Company (a “Qualified Holding”). In this case the partial income method applies to gains from the disposal of shares, which means that only 60% of the

capital gains are subject to tax and only 60% of the losses on the disposal and expenses economically related thereto are tax deductible. Even though withholding tax has to be withheld by a Domestic Paying Agent in the case of a Qualified Holding, this does not discharge the tax liability of the shareholder. Consequently, a shareholder must declare his capital gains in his income tax return. The withholding tax (including the solidarity surcharge thereon and church tax, if applicable) levied and paid will be credited against the shareholder's income tax liability as assessed (including the solidarity surcharge thereon and any church tax, if applicable) or refunded in the amount of any excess.

Shares held as business assets

Gains from the sale of shares held as business assets of a shareholder with a tax domicile in Germany are not subject to the flat tax. The taxation of the capital gains depends on whether the shareholder is a corporation, a sole proprietor or a partnership (co-entrepreneurship).

Corporations

If the shareholder is a corporation with a tax domicile in Germany, the gains from the disposal of shares are in general effectively 95% exempt from corporate income tax (including the solidarity surcharge thereon) and trade tax, regardless of the size of the participation and the holding period, and 5% of the gains are treated as non-deductible business expenses and are therefore subject to corporate income tax (plus the solidarity surcharge thereon) at a rate of 15.825% and trade tax (at a rate depending on the municipal trade tax multiplier applied by the municipal authority, generally between 7% and approximately 18%). As a rule, capital losses and other profit reductions in connection with shares (e.g., from a write-down) cannot be deducted for tax purposes. Currently, there are no specific rules for the taxation of gains arising from the disposal of Portfolio Participations.

Sole proprietors

If the shares are held as business assets by a sole proprietor with a tax domicile in Germany, only 60% of the gains from the disposal of the shares are subject to progressive income tax (plus the solidarity surcharge thereon) at a total tax rate of up to approximately 47.5%, and, if applicable, church tax (partial-income method). Only 60% of the losses on the disposal and expenses economically related thereto are tax deductible. If the shares belong to a German permanent establishment of a business operation of the sole proprietor, 60% of the gains of the disposal of the shares are, in addition, subject to trade tax.

Trade tax can be credited against the shareholder's personal income tax liability, either in full or in part, by means of a lump-sum tax credit method—depending on the level of the municipal trade tax multiplier and certain individual tax-relevant circumstances of the taxpayer.

Partnerships

If the shareholder is a genuine business partnership or a deemed business partnership (co-entrepreneurship) with a permanent establishment in Germany, the income or corporate income tax is not levied at the level of the partnership but at the level of the respective partner. The taxation depends on whether the partner is a corporation or an individual. If the partner is a corporation, the capital gains from the shares as contained in the profit share of the partner will be taxed in accordance with the rules applicable to corporations (see "*Corporations*" above). For capital gains in the profit share of a partner that is an individual, the principles outlined above for sole proprietors apply accordingly (partial-income method, see above under "*Sole proprietors*"). Upon application and subject to further conditions, a partner that is an individual can obtain a reduction of his personal income tax rate for earnings retained at the level of the partnership.

In addition, capital gains from the shares are subject to trade tax at the level of the partnership if the shares are attributed to a domestic permanent establishment of a business operation of the partnership generally, (i) at 60% as far as they are attributable to the profit share of an individual partner, and (ii) currently, at 5% as far as

they are attributable to the profit share of a corporate partner. Capital losses and other profit reductions in connection with the shares are currently not deductible for trade tax purposes if they are attributable to the profit share of a corporation; however, 60% of the capital losses are deductible, subject to general limitations, to the extent such losses are attributable to the profit share of an individual.

If the partner is an individual, the portion of the trade tax paid by the partnership attributable to his profit share will generally be credited, either in full or in part, against his personal income tax by means of a lump-sum method—depending on the level of the municipal trade tax multiplier and certain individual tax-relevant circumstances of the taxpayer.

Withholding tax

In case of a Domestic Paying Agent, the capital gains from shares held as business assets are in general subject to withholding tax in the same way as shares held as non-business assets by a shareholder (see “—*Taxation of capital gains of shareholders with a tax domicile in Germany—Shares held as non-business assets*”). However, the Domestic Paying Agent will not levy the withholding tax, provided that (i) the shareholder is a corporation, association of persons or estate with a tax domicile in Germany, or (ii) the shares belong to the domestic business assets of a shareholder, and the shareholder declares so to the Domestic Paying Agent using the designated official form and certain other requirements are met. If withholding tax is imposed by a Domestic Paying Agent, the withholding tax (including the solidarity surcharge thereon and church tax, if applicable) imposed and discharged will be credited against the income tax or corporate income tax liability (including the solidarity surcharge thereon and church tax, if applicable) or will be refunded in the amount of any excess.

Taxation of capital gains of shareholders without a tax domicile in Germany

Capital gains derived by shareholders not tax resident in Germany are only subject to German tax if the shareholder has a Qualified Holding in the Company or the shares belong to a domestic permanent establishment or fixed place of business or are part of business assets for which a permanent representative in Germany has been appointed.

In case of a Qualified Holding (as defined in “—*Taxation of capital gains of shareholders with a tax domicile in Germany—Shares held as non-business assets*”), only 60% of the gains from the disposal of the shares are subject to progressive income tax plus the solidarity surcharge thereon (partial-income method), if the shareholder is a private individual. If the shareholder is a corporation and the shares do not belong to a domestic permanent establishment or fixed place of business and are not part of business assets for which a permanent representative in Germany has been appointed, the gains from the disposal of the shares should, according to a judgement of the German Federal Fiscal Court of 31 May 2017, I R 37/15, not be subject to corporate income tax; the legal fiction according to which 5% of the gains are treated as non-deductible business expenses shall not apply. The judgment seems to be accepted by tax authorities. Furthermore, most double taxation treaties provide for exemption from German taxation and attribute the right of taxation to the shareholder's state of residence. According to the tax authorities there is no obligation to levy withholding tax at source in the case of a Qualified Holding if the shareholder submits to the Domestic Paying Agent a certificate of residence issued by a competent foreign tax authority.

With regard to capital gains or losses from shares attributable to a domestic permanent establishment or fixed place of business or which form part of business assets for which a permanent representative in Germany has been appointed, the above-mentioned provisions pertaining to shareholders with a tax domicile in Germany whose shares are business assets apply *mutatis mutandis* (see “*Taxation of capital gains of shareholders with a tax domicile in Germany—Shares held as business assets*”). The Domestic Paying Agent can refrain from deducting the withholding tax if the shareholder declares to the Domestic Paying Agent on an official form that the shares form part of domestic business assets and certain other requirements are met.

Inheritance and Gift Tax

The transfer of shares to another person *mortis causa* or by way of munificent donation is generally subject to German inheritance or gift tax if:

- (i) the place of residence, habitual abode, place of management or registered office of the decedent, the donor, the heir, the donee or another acquirer is, at the time of the asset transfer, in Germany, or such person, as a German national, has not spent more than five continuous years outside of Germany without maintaining a place of residence in Germany, or
- (ii) the decedent's or donor's shares belonged to business assets for which there had been a permanent establishment in Germany or a permanent representative had been appointed, or
- (iii) the decedent or the donor, at the time of the succession or gift, held a direct or indirect interest of at least 10% of the Company's share capital either alone or jointly with other related parties.

The small number of double taxation treaties in respect of inheritance and gift tax which Germany has concluded to date usually provide for German inheritance or gift tax only to be levied in the cases under (i) and, subject to certain restrictions, in the cases under (ii). Special provisions apply to certain German nationals living outside of Germany and to former German nationals.

Other Taxes

No German financial transfer taxes, VAT, stamp duties or similar taxes are currently levied on the purchase or disposal or other forms of transfer of the shares. However, for VAT purposes, an entrepreneur may opt for taxation in relation to disposals of shares, which are in principle exempt from value-added-tax, if the sale is made to another entrepreneur for the entrepreneur's business. Wealth tax is currently not levied in Germany.

However, on February 14, 2013, the European Commission published a proposal for a Directive for a common financial transaction tax in Belgium, Germany, Estonia, Greece, Spain, France, Italy, Austria, Portugal, Slovenia and Slovakia. The Commission's proposal is currently under review and it is unclear if and to what extent it will be implemented, if ever. The implementation of a financial transaction tax is now included in the coalition agreement as of February 2, 2018. Prospective holders are advised to seek their own professional advice in relation to the Commission's proposal to introduce a financial transaction tax.

Dutch Tax Considerations

The following does not purport to present a comprehensive or complete description of all aspects of Dutch tax law which could be of relevance to a holder of common shares (a "Shareholder"). For Dutch tax purposes, a Shareholder may include an individual who or an entity that does not hold the legal title of the common shares in the capital of the Company (the "Shares"), but to whom nevertheless the Shares, or the income thereof, are attributed based either on such individual or entity owning a beneficial interest in the Shares or based on specific statutory provisions. These include statutory provisions pursuant to which Shares are attributed to an individual who is, or who has directly or indirectly inherited from a person who was, the settlor, grantor or similar originator of a trust, foundation or similar entity that holds the Shares.

The following is intended as general information only. Shareholders or prospective Shareholders should therefore consult their tax adviser regarding the tax consequences of any purchase, ownership or disposal of common Shares in their particular circumstance.

The following summary is based on the Dutch tax law as applied and interpreted by Dutch tax courts and as published and in effect on the date hereof, including for the avoidance of doubt the tax rates applicable on the date hereof, without prejudice to any amendments introduced at a later date and implemented with or without retroactive effect.

Any reference in this section to Dutch taxes, Dutch tax or Dutch tax law must be construed as a reference to taxes of whatever nature levied by or on behalf of the Netherlands or any of its subdivisions or taxing authorities or to the law governing such taxes, respectively. The Netherlands means the part of the Kingdom of the Netherlands that is located in Europe.

Any reference hereafter made to a treaty for the avoidance of double taxation concluded by the Netherlands, includes the Tax Regulation for the Kingdom of the Netherlands (*Belastingregeling voor het Koninkrijk*), the Tax Regulation for the country of the Netherlands (*Belastingregeling voor het land Nederland*), the Tax Regulation for the Netherlands Curacao (*Belastingregeling Nederland Curacao*), the Tax Regulation for the Netherlands Saint Martin (*Belastingregeling Nederland Sint Maarten*) and the agreement between the Taipei Representative Office in the Netherlands and the Netherlands Trade and Investment Office in Taipei for the avoidance of double taxation.

Withholding Tax on Dividend Payments

A Shareholder is generally subject to Dutch dividend withholding tax at a rate of 15% on dividends distributed by the Company. Generally, the Company is responsible for the withholding of such dividend withholding tax at source; the dividend withholding tax is for the account of the Shareholder.

On January 1, 2016 the convention between Germany and the Netherlands for the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on income, concluded on April 12, 2012 (the "2012 Germany-Netherlands Treaty"), entered into force. Under the 2012 Germany-Netherlands Treaty, a Shareholder, other than a Dutch individual (as defined below), a Dutch Corporate Entity (as defined below) or a person who has a permanent establishment (*vaste inrichting*) or a permanent representative (*vaste vertegenwoordiger*) in the Netherlands to which the Shares are attributable, will, generally, not be subject to Dutch dividend withholding tax on dividends distributed by the Company, irrespective of the nature or form of such dividend, if and for as long as the Company is resident solely in Germany for purposes of the 2012 Germany-Netherlands Treaty. A Shareholder that is resident in the Netherlands will generally be subject to Dutch dividend withholding tax on dividends distributed by the Company, irrespective of the nature or form of such dividend, at a rate of 15%. The Company intends to be resident solely in Germany for purposes of the 2012 Germany-Netherlands Treaty on a continuous basis.

Dividends distributed by the Company include, but are not limited to:

- (i) distributions of profits in cash or in kind, deemed or constructive distributions, whatever they might be named or in whatever form;
- (ii) proceeds from the liquidation of the Company, or proceeds from the redemption or the repurchase of Shares by the Company or one of its direct or indirect subsidiaries, other than as a temporary portfolio investment (*tijdelijke belegging*), in excess of the average paid-in capital recognized for Dutch dividend withholding tax purposes;
- (iii) the nominal value of Shares issued to a Shareholder or an increase in the nominal value of the Shares, to the extent that no contribution, recognized for Dutch dividend withholding tax purposes, has been made or will be made; and
- (iv) partial repayment of paid-in capital, that is
 - (a) not recognized for Dutch dividend withholding tax purposes, or
 - (b) recognized for Dutch dividend withholding tax purposes, to the extent that the Company has "net profits" (*zuivere winst*), unless
 - * the general meeting of Shareholders has resolved in advance to make such repayment, and

- * the nominal value of the Shares concerned has been reduced with an equal amount by way of an amendment to the Articles of Association of the Company.

The term “net profits” includes anticipated profits that have yet to be realized.

Notwithstanding the above, no withholding is required in the event of a repurchase of Shares, if certain conditions are fulfilled.

If a Shareholder is resident or deemed to be resident in the Netherlands, such Shareholder is generally entitled to an exemption or a full credit for any Dutch dividend withholding tax against his Dutch tax liability and to a refund of any residual Dutch dividend withholding tax. The same generally applies if a Shareholder is neither resident nor deemed to be resident in the Netherlands yet derives profits from an enterprise, whether as an entrepreneur or pursuant to a co-entitlement to the net worth of such enterprise other than as an entrepreneur or a shareholder, which enterprise is, in whole or in part, carried on through a permanent establishment (*vaste inrichting*) or a permanent representative (*vaste vertegenwoordiger*) in the Netherlands, to which the Shares are attributable.

Depending on his specific circumstances, a Shareholder resident in a country other than the Netherlands, may be entitled to exemptions from, reduction of, or full or partial refund of, Dutch dividend withholding tax pursuant to Dutch law, European Union (“EU”) law or treaties for the avoidance of double taxation.

According to Dutch domestic anti-dividend stripping rules, no credit against Dutch tax, exemption from, reduction or refund of Dutch dividend withholding tax will be granted if the recipient of the dividends paid by the Company is not considered to be the beneficial owner (*uiteindelijk gerechtigde*) of such dividends.

Taxes on Income and Capital Gains

This paragraph does not purport to describe the possible Dutch tax considerations or consequences that may be relevant to a Shareholder:

- (i) who is an individual and for whom the income or capital gains derived from the Shares are attributable to employment activities, the income from which is taxable in the Netherlands;
- (ii) that is an entity which is, pursuant to the Dutch Corporate Income Tax Act of 1969 (*Wet op de vennootschapsbelasting 1969*) (the “CITA”), not subject to Dutch corporate income tax or is in full or in part exempt from Dutch corporate income tax (such as a qualifying pension fund);
- (iii) that is or, in case of a Shareholder that is not resident in the Netherlands, carries out duties and responsibilities comparable to an investment institution (*beleggingsinstelling*) as described in Section 6a or 28 CITA; or
- (iv) that is entitled to the participation exemption (*deelnemingsvrijstelling*) with respect to the Shares (as defined in Section 13 CITA). Generally, a Shareholder is entitled to the participation exemption if it is subject to Dutch corporate income tax and it, or a related entity, holds an interest of 5% or more of the nominal paid-up share capital in the Company.

Residents of the Netherlands

The description of certain Dutch tax consequences in this paragraph is only intended for the following Shareholders:

- (a) individuals who are resident or deemed to be resident in the Netherlands (“Dutch Individuals”); and

- (b) entities or enterprises that are subject to the CITA and are resident or deemed to be resident in the Netherlands ("Dutch Corporate Entities").

Dutch Individuals engaged or deemed to be engaged in an enterprise or in miscellaneous activities

Dutch Individuals engaged or deemed to be engaged in an enterprise or in miscellaneous activities (*resultaat uit overige werkzaamheden*) are generally subject to income tax at statutory progressive rates with a maximum of 51.75% with respect to any benefits derived or deemed to be derived from the Shares, including any capital gains realized on the disposal thereof, that are attributable to:

- (i) an enterprise from which a Dutch Individual derives profits, whether as an entrepreneur (*ondernemer*) or pursuant to a co-entitlement (*medegerechtigde*) to the net worth of such enterprise (other than as an entrepreneur or a shareholder; or
- (ii) miscellaneous activities, including, without limitation, activities which are beyond the scope of active portfolio investment activities (*meer dan normaal vermogensbeheer*).

Dutch Individuals holding a substantial interest or fictitious substantial interest

Generally, a Dutch Individual who is not engaged in an enterprise or miscellaneous activities and who has a substantial, or fictitious substantial, interest in the Company is subject to income tax at a statutory rate of 25% with respect to any benefits derived or deemed to be derived from the Shares, including any capital gains realized on the disposal thereof.

Generally, a Shareholder has a substantial interest if such Shareholder, alone or - in case of an individual - together with his partner, directly or indirectly:

- (i) owns, or holds certain rights on, shares representing five percent or more of the total issued and outstanding capital of the Company, or of the issued and outstanding capital of any class of shares of the Company;
- (ii) holds rights to, directly or indirectly, acquire shares, whether or not already issued, representing five percent or more of the total issued and outstanding capital of the Company, or of the issued and outstanding capital of any class of shares of the Company; or
- (iii) owns, or holds certain rights on, profit participating certificates that relate to five percent or more of the annual profit of the Company or to five percent or more of the liquidation proceeds of the Company.

A Shareholder who is an individual and has ownership of shares of the Company will also have a substantial interest if his partner or one of certain relatives of the Shareholder or of his partner has a substantial interest. If a Shareholder who has a substantial interest in the Company holds other shares in the Company, including shares of a different class, or holds profit-sharing certificates of the Company, these will also become part of the substantial interest of the Shareholder.

Generally, a Shareholder has a fictitious substantial interest if, without having an actual substantial interest in the Company:

- (i) an enterprise has been contributed to the Company in exchange for shares on an elective non-recognition basis;
- (ii) the shares have been obtained on a non-recognition basis under matrimonial law or, by election, under gift law or inheritance law, while the previous shareholder had a substantial interest in the Company;

- (iii) the shares have been acquired pursuant to a share merger, legal merger or legal demerger, on an elective non-recognition basis, while the Shareholder prior to this transaction had a substantial interest in an entity that was party thereto; or
- (iv) the shares were part of a substantial interest, and at the time the shares were no longer part of such substantial interest, the Shareholder elected not to recognize any gains with respect to the shares that the Shareholder continued to hold.

Dutch Individuals not engaged or deemed to be engaged in an enterprise or in miscellaneous activities and not having a substantial interest or fictitious substantial interest

Generally, the Shares held by a Dutch Individual who is not engaged or deemed to be engaged in an enterprise or in miscellaneous activities and who does not have a substantial, or fictitious substantial, interest in the Company, will be subject annually to an income tax imposed on a fictitious yield on such Shares. The Shares held by such Dutch Individual will be taxed under the regime for savings and investments (*inkomen uit sparen en beleggen*). Irrespective of the actual income or capital gains realized, the annual taxable benefit of the assets and liabilities of a Dutch Individual that are taxed under this regime, including the Shares, is set at a percentage of the positive balance of the fair market value of such assets, including the Shares, over the fair market value of such liabilities. The percentage increases:

- (i) from 1.94% of such positive balance up to EUR 71,650;
- (ii) to 4.45% of such positive balance of EUR 71,650 up to EUR 989,736; and
- (iii) to a maximum of 5.60% of such positive balance of EUR 989,736 or higher.

No taxation occurs if such positive balance does not exceed a certain threshold (*heffingvrije vermogen*). The fair market value of assets, including the Shares, and liabilities that are taxed under this regime is measured, in general, exclusively on 1 January of every calendar year. The tax rate under the regime for savings and investments is a flat rate of 30%.

Dutch Corporate Entities

Dutch Corporate Entities are generally subject to corporate income tax at statutory rates up to 25% with respect to any benefits derived or deemed to be derived from the Shares, including any capital gains realized on the disposal thereof.

Non-residents of the Netherlands

The description of certain Dutch tax consequences in the following statement is only intended for Shareholders:

- (a) who are individuals not resident and not deemed to be resident in the Netherlands ("Non-Dutch Individuals"); or
- (b) that are entities not resident and not deemed to be resident in the Netherlands ("Non-Dutch Corporate Entities").

A Non-Dutch Individual or a Non-Dutch Corporate Entity will not be subject to any Dutch Taxes on income or capital gains in respect of the purchase, ownership and disposal or transfer of the Shares, other than withholding tax as described above, except if:

- (i) the Non-Dutch Individual or Non-Dutch Corporate Entity derives profits from an enterprise, whether as an entrepreneur or pursuant to a co-entitlement to the net worth of such enterprise other than as an entrepreneur or a shareholder, which enterprise is, in whole or in part, carried on through a permanent

establishment (*vaste inrichting*) or a permanent representative (*vaste vertegenwoordiger*) in the Netherlands, to which the Shares are attributable;

- (ii) the Non-Dutch Individual has a substantial, or fictitious substantial, interest, in the Company which is not attributable to an enterprise or derives benefits from miscellaneous activities carried out in the Netherlands in respect of the Shares, including (without limitation) activities which are beyond the scope of active portfolio investment activities;
- (iii) the Non-Dutch Corporate Entity holds a substantial, or fictitious substantial, interest in the Company with the main purpose, or one of the main purposes, of avoiding that another individual would be subject to income tax and artificial arrangements are used to achieve such purpose;
- (iv) the Non-Dutch Individual is entitled to a share in the profits of an enterprise, other than by way of securities, which enterprise is effectively managed in the Netherlands and to which enterprise the Shares are attributable;
- (v) the Non-Dutch Corporate Entity is entitled to a share in the profits of an enterprise or a co-entitlement to the net worth of an enterprise, other than by way of securities, which enterprise is effectively managed in the Netherlands and to which enterprise the Shares are attributable; or
- (vi) the Non-Dutch Corporate Entity is resident in Aruba, Curacao, or Saint Martin having an enterprise which is, in whole or in part, carried on through a permanent establishment or a permanent representative in Bonaire, Sint Eustatius or Saba, to which the Shares are attributable.

However, if and for as long as the Company is resident solely in Germany for the purposes of the 2012 Germany-Netherlands Treaty, a Non-Dutch Individual or Non-Dutch Corporate Entity holding a substantial interest, or fictitious substantial interest, in the Company will not be subject to Dutch Taxes on income or capital gains in respect of the ownership and disposal of the Shares.

Gift Tax and Inheritance Tax

No Dutch gift tax or inheritance tax is due in respect of any gift of the Shares by, or inheritance of the Shares on the death of, a Shareholder, except if:

- (i) at the time of the gift or death of the Shareholder, the Shareholder is resident, or is deemed to be resident, in the Netherlands;
- (ii) the Shareholder passes away within 180 days after the date of the gift of the Shares while being, or being deemed to be, resident in the Netherlands at the time of his death but not at the time of the gift; or
- (iii) the gift of the Shares is made under a condition precedent and the Shareholder is resident, or is deemed to be resident, in the Netherlands at the time the condition is fulfilled.

For purposes of Dutch gift tax or inheritance tax, an individual who is of Dutch nationality will be deemed to be resident in the Netherlands if such individual has been resident in the Netherlands at any time during the 10 years preceding the date of the gift or his death. For purposes of Dutch gift tax, any individual, irrespective of his nationality, will be deemed to be resident in the Netherlands if such individual has been resident in the Netherlands at any time during the 12 months preceding the date of the gift.

Other Taxes and Duties

No Dutch value added tax or Dutch taxes of a documentary nature, such as stamp or registration tax or other similar tax or duty, are payable by or on behalf of a Shareholder by reason only of the purchase, ownership and disposal of the Shares.

Residency

A Shareholder will not become resident, or deemed resident, in the Netherlands for tax purposes by reason only of holding the Shares.

U.S. Federal Income Tax Considerations

The following is a description of the material U.S. federal income tax consequences to the U.S. Holders described below of owning and disposing of common shares. It does not describe all tax considerations that may be relevant to a particular person's decision to hold the common shares.

This discussion applies only to a U.S. Holder that holds common shares as capital assets for tax purposes. In addition, it does not describe all of the tax consequences that may be relevant in light of the U.S. Holder's particular circumstances, including alternative minimum tax consequences, the potential application of the provisions of the Code known as the Medicare contribution tax and tax consequences applicable to U.S. Holders subject to special rules, such as:

- certain financial institutions;
- dealers or traders in securities who use a mark-to-market method of tax accounting;
- persons holding common shares as part of a hedging transaction, straddle, wash sale, conversion transaction or other integrated transaction or persons entering into a constructive sale with respect to the common shares;
- persons whose functional currency for U.S. federal income tax purposes is not the U.S. dollar;
- entities classified as partnerships for U.S. federal income tax purposes;
- tax-exempt entities, including an "individual retirement account" or "Roth IRA";
- persons that own or are deemed to own ten percent or more of our shares (by vote or value);
- persons who acquired our common shares pursuant to the exercise of an employee stock option or otherwise as compensation; or
- persons holding common shares in connection with a trade or business conducted outside of the United States.

If an entity that is classified as a partnership for U.S. federal income tax purposes holds common shares, the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and the activities of the partnership. Partnerships holding common shares and partners in such partnerships should consult their tax advisers as to the particular U.S. federal income tax consequences of owning and disposing of the common shares.

This discussion is based on the Code, administrative pronouncements, judicial decisions, final, temporary and proposed Treasury regulations, and the income tax treaty between Germany and the United States (the "Treaty") all as of the date hereof, any of which is subject to change or differing interpretations, possibly with retroactive effect.

A "U.S. Holder" is a holder who, for U.S. federal income tax purposes, is a beneficial owner of common shares who is eligible for the benefits of the Treaty and is:

- a citizen or individual resident of the United States;
- a corporation, or other entity taxable as a corporation, created or organized in or under the laws of the United States, any state therein or the District of Columbia; or
- an estate or trust the income of which is subject to U.S. federal income taxation regardless of its source.

U.S. Holders should consult their tax advisers concerning the U.S. federal, state, local and non-U.S. tax consequences of owning and disposing of common shares in their particular circumstances.

Taxation of Distributions

Subject to the passive foreign investment company rules described below, distributions paid on common shares, other than certain pro rata distributions of common shares, will generally be treated as dividends to the extent paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles). Because we do not maintain calculations of our earnings and profits under U.S. federal income tax principles, we expect that distributions generally will be reported to U.S. Holders as dividends. Subject to applicable limitations and the passive foreign investment company rules described below, for so long as our common shares are listed on Nasdaq or another established securities market in the United States or we are eligible for benefits under the Treaty, dividends paid to certain non-corporate U.S. Holders will be eligible for taxation as "qualified dividend income" and therefore will be taxable at rates not in excess of the long-term capital gain rate applicable to such U.S. Holders. U.S. Holders should consult their tax advisers regarding the availability of the reduced tax rate on dividends in their particular circumstances. The amount of a dividend will include any amounts withheld by us in respect of German income taxes. The amount of the dividend generally will be treated as foreign-source dividend income to U.S. Holders and will not be eligible for the dividends-received deduction generally available to U.S. corporations under the Code. Dividends will be included in a U.S. Holder's income on the date of the U.S. Holder's receipt of the dividend. The amount of any dividend income paid in euros will be the U.S. dollar amount calculated by reference to the exchange rate in effect on the date of actual or constructive receipt, regardless of whether the payment is in fact converted into U.S. dollars. If the dividend is converted into U.S. dollars on the date of receipt, a U.S. Holder should not be required to recognize foreign currency gain or loss in respect of the dividend income. A U.S. Holder may have foreign currency gain or loss if the dividend is converted into U.S. dollars after the date of receipt. Generally, any gain or loss resulting from foreign currency exchange fluctuations during the period from the date the dividend payment is included in a U.S. Holder's income to the date the payment is converted into U.S. dollars will be treated as ordinary income or loss and will not be eligible for taxation as "qualified dividend income." Such gain or loss generally will be treated as foreign-source income to U.S. Holders.

Subject to applicable limitations, some of which vary depending upon the U.S. Holder's particular circumstances, German income taxes withheld from dividends on common shares at a rate not exceeding the rate provided by the Treaty will be creditable against the U.S. Holder's U.S. federal income tax liability. German

taxes withheld in excess of the rate applicable under the Treaty will not be eligible for credit against a U.S. Holder's federal income tax liability. See "German Tax Considerations – Taxation of Dividends" for a discussion of how to obtain the applicable Treaty rate. The rules governing foreign tax credits are complex, and U.S. Holders should consult their tax advisers regarding the creditability of foreign taxes in their particular circumstances. In lieu of claiming a foreign tax credit, U.S. Holders may, at their election, deduct foreign taxes, including any German income tax, in computing their taxable income, subject to generally applicable limitations under U.S. law. An election to deduct foreign taxes instead of claiming foreign tax credits applies to all foreign taxes paid or accrued in the taxable year.

Sale or Other Disposition of Common Shares

Subject to the passive foreign investment company rules described below, for U.S. federal income tax purposes gain or loss realized on the sale or other disposition of common shares will be capital gain or loss, and will be long-term capital gain or loss if the U.S. Holder held the common shares for more than one year. The amount of the gain or loss will equal the difference between the U.S. Holder's tax basis in the common shares disposed of and the amount realized on the disposition, in each case as determined in U.S. dollars. This gain or loss will generally be U.S.-source gain or loss for foreign tax credit purposes. The deductibility of capital losses is subject to various limitations.

Passive Foreign Investment Company Rules

Under the Code, we will be a PFIC for any taxable year in which, after the application of certain "look-through" rules with respect to subsidiaries, either (i) 75% or more of our gross income consists of "passive income," or (ii) 50% or more of the average quarterly value of our assets consist of assets that produce, or are held for the production of, "passive income." Passive income generally includes interest, dividends, rents, certain non-active royalties and capital gains. Although we have not performed a definitive PFIC analysis using U.S. federal income tax principles, based on certain estimates as to composition of our income and assets, including the implied value, based on our market capitalization, of our assets that produce non-passive income, during 2018, we do not believe that we were a PFIC for our 2018 taxable year. However, there can be no assurance that the Internal Revenue Service (the "IRS") will agree with our conclusion. In addition, whether we will be a PFIC in 2019 or any future taxable year is uncertain because, among other things, we currently own, a substantial amount of passive assets, including cash, and because the valuation of our assets that generate non-passive income for PFIC purposes, including our intangible assets, is uncertain and may vary substantially over time. The average quarterly value of our assets for purposes of determining our PFIC status for any taxable year will generally be determined in part by reference to our market capitalization, which has fluctuated and may continue to fluctuate significantly over time.

In addition, we may, directly or indirectly, hold equity interests in Lower-tier PFICs. Under attribution rules, if we are a PFIC, U.S. Holders will be deemed to own their proportionate shares of Lower-tier PFICs and will be subject to U.S. federal income tax according to the rules described in the following paragraphs on (i) certain distributions by a Lower-tier PFIC and (ii) a disposition of shares of a Lower-tier PFIC, in each case as if the U.S. Holders held such shares directly, even though the U.S. Holders have not received the proceeds of those distributions or dispositions directly.

If we were a PFIC for any taxable year during which a U.S. Holder held common shares (assuming such U.S. Holder has not made a timely mark-to-market election or QEF Election, each as described below), gain recognized by a U.S. Holder on a sale or other disposition (including certain pledges) of the common shares or on an indirect disposition of shares of a Lower-tier PFIC would be allocated ratably over the U.S. Holder's holding period for the common shares. The amounts allocated to the taxable year of the sale or other disposition and to any year before we became a PFIC would be taxed as ordinary income. The amount allocated to each other taxable year would be subject to tax at the highest rate in effect for individuals or corporations, as appropriate, for that taxable year, and an interest charge generally applicable for underpayments of tax would be imposed on the amount allocated to that taxable year. Further, to the extent that any distribution received by a U.S. Holder on its common shares (or a distribution by a Lower-tier PFIC to its shareholder that is deemed

to be received by a U.S. Holder) exceeds 125% of the average of the annual distributions on the common shares received during the preceding three years or the U.S. Holder's holding period, whichever is shorter, that distribution would be subject to taxation in the same manner as gain, described immediately above.

If we are a PFIC for any taxable year during which a U.S. Holder holds common shares, we generally will continue to be treated as a PFIC with respect to that U.S. Holder for all succeeding years during which the U.S. Holder holds common shares, even if we cease to meet the threshold requirements for PFIC status.

A U.S. Holder can avoid certain of the adverse rules described above by making a mark-to-market election with respect to its common shares, provided that the common shares are "marketable." Common shares will be marketable if they are "regularly traded" on a "qualified exchange" or other market within the meaning of applicable Treasury regulations. If a U.S. Holder makes the mark-to-market election, it generally will recognize as ordinary income any excess of the fair market value of the common shares at the end of each taxable year over their adjusted tax basis, and will recognize an ordinary loss in respect of any excess of the adjusted tax basis of the common shares over their fair market value at the end of the taxable year (but only to the extent of the net amount of income previously included as a result of the mark-to-market election). If a U.S. Holder makes the election, the U.S. Holder's tax basis in the common shares will be adjusted to reflect the income or loss amounts recognized. Any gain recognized on the sale or other disposition of common shares in a year when we are a PFIC will be treated as ordinary income and any loss will be treated as an ordinary loss (but only to the extent of the net amount of income previously included as a result of the mark-to-market election). U.S. Holders should consult their tax advisers regarding the availability and advisability of making a mark-to-market election in their particular circumstances. In particular, U.S. Holders should consider carefully the impact of a mark-to-market election with respect to their common shares because we may have Lower-tier PFICs for which a mark-to-market election may not be available.

In addition, in order to avoid the application of the foregoing rules, a U.S. Holder can make QEF Elections with respect to us and each Lower-tier PFIC in the first taxable year that we and each Lower-tier PFIC are treated as PFICs with respect to the U.S. Holder. A U.S. Holder must make the QEF Election for each PFIC by attaching a properly completed U.S. Internal Revenue Service ("IRS") Form 8621 for each PFIC to the U.S. Holder's timely filed U.S. federal income tax return. We currently intend to provide the information necessary for a U.S. Holder to make a QEF Election with respect to us and each Lower-tier PFIC that we control for 2018 and for any future years with respect to which we determine that we or any Lower-tier PFIC that we control are or are likely to be a PFIC.

If we are a PFIC for any year and a U.S. Holder makes a QEF Election with respect to us and any Lower-tier PFIC in the first taxable year that we and each Lower-tier PFIC are treated as PFICs with respect to the U.S. Holder, the U.S. Holder will be currently taxable on its pro rata share of the relevant PFIC's ordinary earnings and net capital gain (at ordinary income and capital gain rates, respectively) for each taxable year that the entity is classified as a PFIC. If a U.S. Holder makes a QEF Election with respect to us, any distributions paid by us out of our earnings and profits that were previously included in the U.S. Holder's income under the QEF Election will not be taxable to the U.S. Holder. A U.S. Holder will increase its tax basis in its common shares by an amount equal to any income included under the QEF Election and will decrease its tax basis by any amount distributed on the common shares that is not included in the U.S. Holder's income. In addition, a U.S. Holder will recognize capital gain or loss on the disposition of common shares in an amount equal to the difference between the amount realized and the U.S. Holder's adjusted tax basis in the common shares, as determined in U.S. dollars. U.S. Holders should note that if they make QEF Elections with respect to us and any Lower-tier PFICs, they may be required to pay U.S. federal income tax with respect to their common shares for any taxable year significantly in excess of any cash distributions received on the common shares for such taxable year. U.S. Holders should consult their tax advisers regarding making QEF Elections in their particular circumstances.

In addition, if we were a PFIC or, with respect to a particular U.S. Holder, were treated as a PFIC for the taxable year in which we paid a dividend or for the prior taxable year, the preferential dividend rates discussed above with respect to dividends paid to certain non-corporate U.S. Holders would not apply.

If a U.S. Holder owns common shares during any year in which we are a PFIC, the U.S. Holder generally must file annual reports containing such information as the U.S. Treasury may require on IRS Form 8621 (or any successor form) with respect to us (regardless of whether a mark-to-market election or QEF Election is made), generally with the U.S. Holder's federal income tax return for that year.

U.S. Holders should consult their tax advisers regarding whether we are or were a PFIC and the potential application of the PFIC rules.

Information Reporting and Backup Withholding

Payments of dividends and sales proceeds that are made within the United States or through certain U.S.-related financial intermediaries generally are subject to information reporting, and may be subject to backup withholding, unless (i) the U.S. Holder is a corporation or other exempt recipient or (ii) in the case of backup withholding, the U.S. Holder provides a correct taxpayer identification number and certifies that it is not subject to backup withholding.

The amount of any backup withholding from a payment to a U.S. Holder will be allowed as a credit against the holder's U.S. federal income tax liability and may entitle it to a refund, provided that the required information is timely furnished to the IRS.

F. Dividends and paying agents

Not applicable.

G. Statement by experts

Not applicable.

H. Documents on display

We are subject to the informational requirements of the Exchange Act. Accordingly, we are required to file reports and other information with the SEC, including Annual Reports on Form 20-F and reports on Form 6-K. The SEC maintains an Internet website that contains reports and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

I. Subsidiary information

Not applicable.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT RISK

See note 21 to the consolidated financial statements as of December 31, 2018 for more information about our exposure to market risks.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

A. Debt securities

Not applicable.

B. Warrants and rights

Not applicable.

C. Other securities

Not applicable.

D. American Depositary Shares

Not applicable.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

A. Defaults

No matters to report.

B. Arrears and delinquencies

No matters to report.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

A. Use of Proceeds

On September 17, 2014, we completed our initial public offering of our common shares pursuant to a Registration Statement on Form F-1, as amended (File No. 333-197097) that was declared effective on September 12, 2014. Under the registration statement, we sold an aggregate of 8,000,000 common shares. All of these common shares were sold at a price to the public of US\$7.00 per share, yielding gross proceeds of \$56.0 million or net proceeds of \$52.1 million after underwriting discounts and commissions. Jefferies LLC, Leerink Partners LLC and BMO Capital Markets Corp. were joint book-running managers for the initial public offering. We paid the offering expenses in connection with the initial public offering, which were approximately \$3.0 million, and which included SEC registration fees, FINRA filing fees, NASDAQ listing fees and expenses, legal fees and expenses, printing and engraving expenses, accounting fees and expenses as well as other miscellaneous fees and expenses, but excluded the underwriting discounts and commissions.

Between the effective date of the Registration Statement and December 31, 2018, we used all of the net proceeds to fund research and development expenses for AFM13, AFM11 and AFM21/22/24/26. None of the net proceeds (other than compensation to our management board and supervisory board as disclosed in this Annual Report) were used to make payments, directly or indirectly, to (i) any of our directors, officers or their associates, (ii) any persons owning 10% or more of our common shares or (iii) any of our affiliates. The use of these proceeds did not change from the information mentioned in the prospectus relating to the Registration Statement.

ITEM 15. CONTROLS AND PROCEDURES

A. Disclosure Controls and Procedures

As of the end of the period covered by this Annual Report, an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) was performed under the supervision and with the participation of our managing board, including our Chief Executive Officer and Chief Financial Officer, our principal executive officer and principal financial officer, respectively. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and

procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

Based on the evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective, as of the end of the period covered by this Annual Report, in providing a reasonable level of assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods in SEC rules and forms, including providing a reasonable level of assurance that information required to be disclosed by us in such reports is accumulated and communicated to our management, including our principal executive officer and our principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

B. Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) of the Exchange Act. Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based upon criteria established in *Internal Control – Integrated Framework* (2013) by the Committee of Sponsoring Organizations of the Treadway Commission. Based on that evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2018.

C. Attestation Report of the Registered Public Accounting Firm

This Annual Report does not include an attestation report of our registered public accounting firm due to an exemption provided to emerging growth companies under the JOBS Act.

D. Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the financial year ended December 31, 2018 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16. [RESERVED]

ITEM 16A. Audit committee financial expert

Our supervisory board has determined that each of Ferdinand Verdonck and Berndt Modig is an audit committee financial expert, as that term is defined by the SEC, and is independent for the purposes of SEC and Nasdaq rules.

ITEM 16B. Code of ethics

Code of Conduct

We have adopted a Code of Conduct which covers a broad range of matters including the handling of conflicts of interest, compliance issues and other corporate policies such as insider trading and equal opportunity and non-discrimination standards. Our Code of Conduct applies to all of our supervisory directors, managing directors and employees. We have published our Code of Conduct on our website, www.affimed.com.

ITEM 16C. Principal Accountant Fees and Services

a) Audit Fees

Audit fees in 2018 and 2017 amounted to €194,000 and €191,000, respectively, and relate to audit services provided by our principal accountants, KPMG AG Wirtschaftsprüfungsgesellschaft and other KPMG International member firms, in connection with the audit of the consolidated financial statements and statutory audits and, quarterly reviews. The aggregate audit fees include fees and expenses billed or accrued for professional services rendered by the principal accountant for the audit of our annual financial statements and review of the interim condensed consolidated financial statements and additional services that are normally provided by the accountant in connection with statutory and regulatory filings or engagements, except for those not required by statute or regulation.

b) Audit-Related Fees

Audit-Related fees in 2018 and 2017 amounted to €138,000 and €45,000, respectively, and relate to services provided by our principal accountants, KPMG AG Wirtschaftsprüfungsgesellschaft for the review of registration statements and comfort letters for the Company.

c) Tax Fees

None.

d) All Other Fees

Other fees in 2018 and 2017 amounted to €6,000 and €3,000, respectively, and relate to other services provided by our principal accountants, KPMG AG Wirtschaftsprüfungsgesellschaft.

e) Audit Committee's Pre-Approval Policies and Procedures

The Audit Committee is responsible for the appointment, replacement, compensation, evaluation and oversight of the work of the independent auditors. As part of this responsibility, the Audit Committee pre-approves all audit and non-audit services performed by the independent auditors in order to assure that they do not impair the auditor's independence from the Company.

f) Audit Work Performed by Other Than Principal Accountant if Greater Than 50%

Not applicable.

ITEM 16D. Exemptions from the listing standards for audit committees

Not applicable.

ITEM 16E. Purchases of equity securities by the issuer and affiliated purchasers

In 2018, no purchases of our equity securities were made by or on behalf of Affimed or any affiliated purchaser.

ITEM 16F. Change in registrant's certifying accountant

Not applicable.

ITEM 16G. Corporate governance

Summary of Significant Corporate Governance Differences from Nasdaq Listing Standards

Our common shares are listed on the Nasdaq Global Select Market, or Nasdaq. We are therefore required to comply with certain of the Nasdaq's corporate governance listing standards, or the Nasdaq Standards. As a foreign private issuer, we may follow our home country's corporate governance practices in lieu of certain of the Nasdaq Standards. Our corporate governance practices differ in certain respects from those that U.S. companies must adopt in order to maintain a Nasdaq listing. A brief, general summary of those differences is provided as follows.

Quorum requirements

In accordance with Dutch law and generally accepted business practices, our Articles of Association do not provide quorum requirements generally applicable to general meetings of shareholders in the United States. To this extent, our practice varies from the requirement of Nasdaq Listing Rule 5620(c), which requires an issuer to provide in its bylaws for a generally applicable quorum, and that such quorum may not be less than one-third of the outstanding voting stock.

Solicitation of proxies

Although we must provide shareholders with an agenda and other relevant documents for the general meeting of shareholders, Dutch law does not have a regulatory regime for the solicitation of proxies and the solicitation of proxies is not a generally accepted business practice in the Netherlands, thus our practice will vary from the requirement of Nasdaq Listing Rule 5620(b).

Compensation Committee

As permitted by the listing requirements of Nasdaq, we have also opted out of the requirements of Nasdaq Listing Rule 5605(d), which requires an issuer to have a compensation committee that, *inter alia*, consists entirely of independent directors.

Nominating and Corporate Governance Committee

As permitted by the listing requirements of Nasdaq, we have also opted out of the requirements of Nasdaq Listing Rule 5605(e), which requires an issuer to have independent director oversight of director nominations.

Director Compensation

As permitted by the listing requirements of Nasdaq, we have also opted out of the requirements of Nasdaq Listing Rule 5250(b)(3), which requires an issuer to disclose information regarding third party compensation of its directors or director nominees.

Shareholder approval

We have opted out of shareholder approval requirements for the issuance of securities in connection with certain events such as the acquisition of stock or assets of another company, the establishment of or amendments to equity-based compensation plans for employees, a change of control of us and certain private placements. To this extent, our practice varies from the requirements of Nasdaq Rule 5635, which generally requires an issuer to obtain shareholder approval for the issuance of securities in connection with such events.

ITEM 16H. Mine safety disclosure

Not applicable.

PART III**ITEM 17. Financial statements**

We have responded to Item 18 in lieu of this item.

ITEM 18. Financial statements

Financial Statements are filed as part of this Annual Report, see page F-1.

ITEM 19. Exhibits

(a) The following documents are filed as part of this registration statement:

Exhibit No.	Exhibit
1.1	Articles of Association of Affimed N.V. (incorporated by reference to exhibit 3.1 of the Affimed N.V. report on Form 6-K (Registration no. 001-36619) filed with the Commission on June 20, 2018).
2.1	Registration Rights Agreement between Affimed N.V. and the shareholders listed therein (incorporated by reference to exhibit 4.1 of the Affimed N.V. report on Form 6-K (Registration no. 001-36619) filed with the Commission on September 22, 2014).
4.1†	License Agreement, dated September 29, 2006 between Affimed Therapeutics AG and Xoma Ireland Limited (incorporated by reference to exhibit 10.1 of the Affimed N.V. registration statement on Form F-1 (Registration no. 333-197097) filed with the Commission on June 27, 2014).
4.2†	License Agreement, dated March 8, 2001 between Affimed Therapeutics AG and Deutsches Krebsforschungszentrum (DKFZ) (incorporated by reference to exhibit 10.2 of the Affimed N.V. registration statement on Form F-1 (Registration no. 333-197097) filed with the Commission on June 27, 2014).
4.3	Memorandum of Clarification of License Agreement Signed Between Affimed Therapeutics AG and Deutsches Krebsforschungszentrum (DKFZ), dated March 8, 2001 (incorporated by reference to exhibit 10.3 of the Affimed N.V. registration statement on Form F-1 (Registration no. 333-197097) filed with the Commission on June 27, 2014).
4.4†	Amendment to License Agreement, dated June 13, 2006 between Affimed Therapeutics AG and Deutsches Krebsforschungszentrum (DKFZ) (incorporated by reference to exhibit 10.4 of the Affimed N.V. registration statement on Form F-1 (Registration no. 333-197097) filed with the Commission on June 27, 2014).
4.5†	Amended and Restated License and Development Agreement dated July 11, 2013 between Affimed Therapeutics AG and Amphivena Therapeutics, Inc. (incorporated by reference to exhibit 4.5 of the Affimed N.V. Annual Report on Form 20-F for the year ended December 31, 2014 (File no. 001-36619) filed with the Commission on March 25, 2015).
4.6†	Research Funding Agreement dated August 15, 2013 between Affimed Therapeutics AG and The Leukemia and Lymphoma Society (incorporated by reference to exhibit 10.6 of the Affimed N.V. registration statement on Form F-1 (Registration no. 333-197097) filed with the Commission on June 27, 2014).
4.7†	Amendment No. 1 to the Research Funding Agreement, dated April 29, 2014 between Affimed Therapeutics AG and The Leukemia and Lymphoma Society (incorporated by reference to exhibit 10.7 of the Affimed N.V. registration statement on Form F-1 (Registration no. 333-197097) filed with the Commission on June 27, 2014).
4.8	English language summary of Lease Agreement, dated September 19, 2000 and amendments thereto between Affimed Therapeutics AG and Technologiepark Heidelberg II GmbH & Co. KG (incorporated by reference to exhibit 10.8 of the Affimed N.V. registration statement on Form F-1 (Registration no. 333-197097) filed with the Commission on June 27, 2014).

- 4.9 [Lease Contract dated October 1, 2009, between Abcheck s.r.o. and Vědeckotechnický park Plzeň a.s. \(incorporated by reference to exhibit 10.9 of the Affirmed N.V. registration statement on Form F-1 \(Registration no. 333-197097\) filed with the Commission on June 27, 2014\).](#)
- 4.10 [Amendment No. 4 to Lease Contract dated October 1, 2009, between Abcheck s.r.o. and Vědeckotechnický park Plzeň a.s., dated June 30, 2011 \(incorporated by reference to exhibit 10.10 of the Affirmed N.V. registration statement on Form F-1 \(Registration no. 333-197097\) filed with the Commission on June 27, 2014\).](#)
- 4.11 [Amendment No. 5 to Lease Contract dated October 1, 2009, between Abcheck s.r.o. and Vědeckotechnický park Plzeň a.s., dated November 14, 2012 \(incorporated by reference to exhibit 10.11 of the Affirmed N.V. registration statement on Form F-1 \(Registration no. 333-197097\) filed with the Commission on June 27, 2014\).](#)
- 4.12 [Investment Agreement Series D Round of Financing, Affirmed Therapeutics AG, Heidelberg, Germany, dated September 24, 2012 \(incorporated by reference to exhibit 10.12 of the Affirmed N.V. registration statement on Form F-1 \(Registration no. 333-197097\) filed with the Commission on August 19, 2014\).](#)
- 4.13 [Investment Agreement Pre-IPO Financing, Affirmed Therapeutics AG, Heidelberg, Germany, dated June 24, 2014 \(incorporated by reference to exhibit 10.13 of the Affirmed N.V. registration statement on Form F-1 \(Registration no. 333-197097\) filed with the Commission on August 19, 2014\).](#)
- 4.14 [Convertible Bridge Loan Agreement, dated June 28, 2013 by and between the shareholders party thereto and Affirmed Therapeutics AG \(incorporated by reference to exhibit 10.14 of the Affirmed N.V. registration statement on Form F-1 \(Registration no. 333-197097\) filed with the Commission on August 19, 2014\).](#)
- 4.15 [Amendment to Investment Agreement Pre-IPO Financing, Affirmed Therapeutics AG, Heidelberg, Germany \(incorporated by reference to exhibit 10.15 of the Affirmed N.V. registration statement on Form F-1 \(Registration no. 333-197097\) filed with the Commission on August 19, 2014\).](#)
- 4.16 [Form of Supervisory Director and Managing Director Indemnification Agreement \(incorporated by reference to exhibit 10.16 of the Affirmed N.V. registration statement on Form F-1 \(Registration no. 333-197097\) filed with the Commission on August 19, 2014\).](#)
- 4.17 [Term Facility Agreement between Affirmed Therapeutics AG \(now Affirmed GmbH\) and PCOF 1, LLC dated as of 24 July 2014 \(incorporated by reference to exhibit 10.17 of the Affirmed N.V. registration statement on Form F-1 \(Registration no. 333-197097\) filed with the Commission on August 19, 2014\).](#)
- 4.18 [Amendment No. 1 to Term Facility Agreement, dated April 29, 2015 between Affirmed GmbH and Perceptive Credit Opportunities Fund, LP \(incorporated by reference to exhibit 4.18 of the Affirmed N.V. Annual Report on Form 20-F for the year ended December 31, 2015 \(File no. 001-36619\) filed with the Commission on March 30, 2016\).](#)
- 4.19 [Amendment No. 2 to Term Facility Agreement, dated August 14, 2015 between Affirmed GmbH and Perceptive Credit Opportunities Fund, LP \(incorporated by reference to exhibit 4.19 of the Affirmed N.V. Annual Report on Form 20-F for the year ended December 31, 2015 \(File no. 001-36619\) filed with the Commission on March 30, 2016\).](#)
- 4.20 [Letter Agreement with respect to Term Facility Agreement, dated March 29, 2016 between Affirmed GmbH and Perceptive Credit Opportunities Fund, LP \(incorporated by reference to exhibit 4.20 of the Affirmed N.V. Annual Report on Form 20-F for the year ended December 31, 2015 \(File no. 001-36619\) filed with the Commission on March 30, 2016\).](#)
- 4.21 [Loan Agreement, dated November 30, 2016 between Affirmed GmbH and Silicon Valley Bank \(incorporated by reference to exhibit 10.1 of the Affirmed N.V. report on Form 6-K \(File no. 001-36619\) filed with the Commission on December 6, 2016\).](#)
- 4.22 [Deed of Guaranty and Indemnity, dated November 30, 2016 between Affirmed N.V. and Silicon Valley Bank \(incorporated by reference to exhibit 10.2 of the Affirmed N.V. report on Form 6-K \(File no. 001-36619\) filed with the Commission on December 6, 2016\).](#)

4.23	Omnibus Deed of Pledge, dated November 30, 2016 between Affimed N.V. and Silicon Valley Bank (incorporated by reference to exhibit 10.3 of the Affimed N.V. report on Form 6-K (File no. 001-36619) filed with the Commission on December 6, 2016).
4.24	Share Pledge Agreement, dated November 30, 2016 between Affimed N.V. and Silicon Valley Bank (incorporated by reference to exhibit 10.4 of the Affimed N.V. report on Form 6-K (File no. 001-36619) filed with the Commission on December 6, 2016).
4.25	Account Pledge Agreement, dated November 30, 2016 between Affimed N.V. and Silicon Valley Bank (incorporated by reference to exhibit 10.5 of the Affimed N.V. report on Form 6-K (File no. 001-36619) filed with the Commission on December 6, 2016).
4.26	Account Pledge Agreement, dated November 30, 2016 between Affimed GmbH and Silicon Valley Bank (incorporated by reference to exhibit 10.6 of the Affimed N.V. report on Form 6-K (File no. 001-36619) filed with the Commission on December 6, 2016).
4.27	Security Assignment Agreement, dated November 30, 2016 between Affimed GmbH and Silicon Valley Bank (incorporated by reference to exhibit 10.7 of the Affimed N.V. report on Form 6-K (File no. 001-36619) filed with the Commission on December 6, 2016).
4.28	Security Transfer Agreement, dated November 30, 2016 between Affimed GmbH and Silicon Valley Bank (incorporated by reference to exhibit 10.8 of the Affimed N.V. report on Form 6-K (File no. 001-36619) filed with the Commission on December 6, 2016).
4.29	Loan Modification Agreement, dated May 31, 2017, between Affimed GmbH and Silicon Valley Bank (incorporated by reference to exhibit 10.1 of the Affimed N.V. report on Form 6-K (File no. 001-36619) filed with the Commission on August 1, 2017).
4.30†	Research Collaboration and License Agreement, dated as of August 24, 2018 by and between Affimed GmbH and Genentech, Inc. (incorporated by reference to exhibit 10.1 of the Affimed N.V. report on Form 6-K (File no. 001-36619) filed with the Commission on August 27, 2018).
8.1*	List of subsidiaries
12.1*	Certification of Adi Hoess pursuant to 17 CFR 240.13a-14(a).
12.2*	Certification of Florian Fischer pursuant to 17 CFR 240.13a-14(a).
13.1*	Certification of Adi Hoess pursuant to 17 CFR 240.13a-14(b) and 18 U.S.C. 1350.
13.2*	Certification of Florian Fischer pursuant to 17 CFR 240.13a-14(b) and 18 U.S.C. 1350.
15.1*	Consent of KPMG AG Wirtschaftsprüfungsgesellschaft.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith

† Confidential treatment requested as to portions of the exhibit. Confidential materials omitted and filed separately with the Securities and Exchange Commission.

(b) Financial Statement Schedules

None.

Signatures

The registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form 20-F and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Heidelberg, Germany on March 27, 2019.

AFFIMED N.V.

By: /s/ Adi Hoess
Name: Adi Hoess
Title: Chief Executive Officer

By: /s/ Florian Fischer
Name: Florian Fischer
Title: Chief Financial Officer

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Report of Independent Registered Public Accounting Firm

To the Shareholders and Supervisory Board of Affimed N.V.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of financial position of Affimed N.V. and subsidiaries (the Company) as of December 31, 2018 and 2017, and the related consolidated statements of comprehensive loss, changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2018, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Change in Accounting Principles

As discussed in Note 3 to the consolidated financial statements, the Company has changed its method of accounting for financial instruments in 2018 due to the adoption of International Financial Reporting Standard 9, *Financial Instruments*.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG AG Wirtschaftsprüfungsgesellschaft

We have served as the Company's auditor since 2014.

Mannheim, Germany
March 25, 2019

Affimed N.V.
Consolidated statements of comprehensive loss
(in € thousand)

	Note	2018	2017	2016
Revenue	5	23,735	2,010	6,314
Other income – net	6	1,515	205	145
Research and development expenses	7	(35,148)	(21,489)	(30,180)
General and administrative expenses	8	(9,638)	(7,986)	(8,323)
Operating loss		(19,536)	(27,260)	(32,044)
Finance income / (costs) - net	10	60	(2,983)	(230)
Loss before tax		(19,476)	(30,243)	(32,274)
Income taxes	11	(1)	20	58
Loss for the period		(19,477)	(30,223)	(32,216)
Other comprehensive income Items that will not be reclassified to profit or loss				
Equity investments at fair value OCI – net change in fair value	12	(4,731)	—	—
Other comprehensive income		(4,731)	—	—
Total comprehensive loss		(24,208)	(30,223)	(32,216)
Loss per share in € per share (undiluted = diluted)		(0.32)	(0.69)	(0.97)
Weighted number of common shares outstanding		60,514,407	43,746,073	33,259,505

The Notes are an integral part of these consolidated financial statements.

Affimed N.V.
Consolidated statements of financial position
(in € thousand)

	Note	December 31, 2018	December 31, 2017
ASSETS			
Non-current assets			
Intangible assets		56	65
Leasehold improvements and equipment		1,414	1,113
Long term financial assets	12	3,825	—
		<u>5,295</u>	<u>1,178</u>
Current assets			
Cash and cash equivalents		94,829	39,837
Financial assets	13	13,974	—
Trade and other receivables	14	1,429	1,102
Inventories		260	241
Other assets		387	800
		<u>110,879</u>	<u>41,980</u>
TOTAL ASSETS		116,174	43,158
EQUITY AND LIABILITIES			
Equity			
Issued capital		624	468
Capital reserves		239,055	213,778
Fair value reserves		2,594	—
Accumulated deficit		(202,144)	(182,667)
Total equity	15	<u>40,129</u>	<u>31,579</u>
Non current liabilities			
Borrowings	17	1,690	4,086
Contract liabilities	5	37,512	—
Total non-current liabilities		<u>39,202</u>	<u>4,086</u>
Current liabilities			
Trade and other payables	18	9,425	4,180
Borrowings	17	3,083	3,083
Contract liabilities	5	24,335	230
Total current liabilities		<u>36,843</u>	<u>7,493</u>
TOTAL EQUITY AND LIABILITIES		116,174	43,158

The Notes are an integral part of these consolidated financial statements.

Affimed N.V.
Consolidated statements of cash flows
(in € thousand)

	Note	2018	2017	2016
Cash flow from operating activities				
Loss for the period		(19,477)	(30,223)	(32,216)
Adjustments for the period:				
- Income taxes	11	1	(20)	(58)
- Depreciation and amortisation		403	351	369
- Gain from disposal of leasehold improvements and equipment		25	(19)	—
- Share based payments	16	2,035	1,943	3,545
- Finance income / (costs) - net	10	(60)	2,983	230
		(17,073)	(24,985)	(28,130)
Change in trade and other receivables	14	(322)	1,140	(1,311)
Change in inventories		(19)	(44)	31
Change in other assets		121	(399)	(64)
Change in trade, other payables and contract liabilities	18	66,856	(1,018)	(2,177)
Cash from / (used in) operating activities		49,563	(25,306)	(31,651)
Interest received		218	106	102
Paid interest		(342)	(349)	(578)
Paid income tax		(1)	—	—
Net cash from / (used in) operating activities		49,438	(25,549)	(32,127)
Cash flow from investing activities				
Purchase of intangible assets		(30)	(43)	(21)
Purchase of leasehold improvements and equipment		(691)	(625)	(238)
Cash received from the sale of leasehold improvements and equipment		1	35	—
Cash paid for investments in convertible note and warrants		—	(296)	—
Cash paid for investments in financial assets	13	(14,029)	(13,084)	(27,037)
Cash received from maturity of financial assets		—	22,063	18,147
Cash paid for investments in long term financial assets	12	(861)	—	—
Net cash from / (used for) investing activities		(15,610)	8,050	(9,149)
Cash flow from financing activities				
Proceeds from issue of common shares	15	25,113	23,123	6
Transaction costs related to issue of common shares	15	(1,701)	(1,648)	—
Proceeds from borrowings		—	2,500	5,000
Transaction costs related to borrowings		—	(11)	(105)
Repayment of borrowings	17	(2,917)	(167)	(5,137)
Cash flow from / (used for) financing activities		20,495	23,797	(236)
Exchange-rate related changes of cash and cash equivalents		669	(1,867)	179
Net changes to cash and cash equivalents		54,323	6,297	(41,512)
Cash and cash equivalents at the beginning of the period		39,837	35,407	76,740
Cash and cash equivalents at the end of the period		94,829	39,837	35,407

The Notes are an integral part of these consolidated financial statements.

Affimed N.V.
Consolidated statements of changes in equity
(in € thousand)

	Note	Issued capital	Capital reserves	Fair value reserves	Accumulated deficit	Total equity
Balance as of January 1, 2016		333	187,169	—	(120,228)	67,274
Issue of common shares ¹		—	6			6
Equity-settled share based payment awards			3,545			3,545
Issue of warrant note (Perceptive loan)			142			142
Loss for the period					(32,216)	(32,216)
Balance as of December 31, 2016		333	190,862	—	(152,444)	38,751
Balance as of January 1, 2017		333	190,862	—	(152,444)	38,751
Issue of common shares		135	20,922			21,057
Equity-settled share based payment awards			1,943			1,943
Issue of warrant note (loan Silicon Valley Bank)			51			51
Loss for the period					(30,223)	(30,223)
Balance as of December 31, 2017		468	213,778	—	(182,667)	31,579
Revaluation shares Amphivena (first time adoption IFRS 9)				7,325		7,325
Balance as of January 1, 2018		468	213,778	7,325	(182,667)	38,904
Issue of common shares	15	156	23,171			23,327
Exercise of share based payment awards	16		71			71
Equity-settled share based payment awards	16		2,035			2,035
Loss for the period					(19,477)	(19,477)
Other comprehensive income	12			(4,731)		(4,731)
Balance as of December 31, 2018		624	239,055	2,594	(202,144)	40,129

1. Issue of 3,341 shares

The Notes are an integral part of these consolidated financial statements.

Affimed N.V.
Notes to the consolidated financial statements
(in € thousand)

1. Reporting entity

Affimed N.V. is a Dutch company with limited liability (*naamloze vennootschap*) and has its corporate seat in Amsterdam, the Netherlands.

The consolidated financial statements are comprised of Affimed N.V., and its controlled (and wholly owned) subsidiaries Affimed GmbH, Heidelberg, Germany, AbCheck s.r.o., Plzen, Czech Republic, Affimed Inc., Delaware, USA and AbCheck Inc., Delaware, USA (together "Affimed" or the "Group").

Affimed is a clinical-stage biopharmaceutical company focused on discovering and developing highly targeted cancer immunotherapies. The Group's product candidates are developed in the field of immuno-oncology, which represents an innovative approach to cancer treatment that seeks to harness the body's own immune defenses to fight tumor cells. Affimed has its own research and development programs, strategic collaborations and service contracts, where the Group is performing research services for third parties.

2. Basis of preparation – consolidated financial statements

Statement of compliance

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board (IFRS).

The consolidated financial statements were authorized for issuance by the management board on March 25, 2019.

Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis except for financial instruments measured at fair value (see note 12) and monetary assets and liabilities denominated in foreign currencies which are translated at period-end exchange rates. The Group did not opt for a valuation of liabilities at fair value through profit or loss.

Consolidation

The Group controls an entity when it has power over the investee, is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. A subsidiary is consolidated from the date on which control is obtained by the Group. It is de-consolidated from the date control ceases.

Intercompany transactions, balances and unrealized gains on transactions between group companies are eliminated.

Functional and presentation currency

The consolidated financial statements are presented in euro, which is also the subsidiaries' functional currency. All financial information presented in euro has been rounded to the nearest thousand (abbreviated €) or million (abbreviated € million).

Affimed N.V.
Notes to the consolidated financial statements
(in € thousand)

Presentation of consolidated statements of comprehensive loss

As a clinical-stage biopharmaceutical company with a primary focus on research and development activities, cost of sales and gross profit are not considered meaningful measures for Affimed and therefore are not presented. See note 3 for the Group's accounting policies related to revenue recognition and research and development expenses.

Foreign currency transactions

Transactions denominated in currencies other than the euro are translated at exchange rates at the date of the transaction. Monetary assets and liabilities denominated in currencies other than the euro are translated at the exchange rate at the date of the consolidated statement of financial position.

The foreign currency gain or loss on monetary items is the difference between amortized cost in the functional currency at the beginning of the period, adjusted for effective interest and payments during the period, and the amortized cost in foreign currency translated at the exchange rate at the end of the reporting period.

Foreign currency gains or losses that relate to borrowings, cash and cash equivalents and financial assets, except for financial instruments at fair value through other comprehensive income are presented in the statement of comprehensive loss within 'Finance income / (costs) - net'. All other foreign exchange gains and losses are presented in the statement of comprehensive loss within 'Other income – net'.

3. Significant accounting policies

The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements.

Revenue recognition

The Group generates revenues from the provision of research and development services to third parties based on both Group and third party owned intellectual property. Such services are performed on a "best efforts" basis without a guarantee of technological or commercial success. For some research programs, Affimed entered into collaborations with other companies that provides the Group with funding or other resources such as access to technologies. From time to time, the Group also licenses its intellectual property to third parties who use it to develop product candidates.

Collaboration and license agreements are evaluated to determine whether they involve multiple promises that represent separate performance obligations. Such agreements may comprise more than one research program, platform licenses or intellectual property licenses originally generated by the Group. Usually each of those promises is considered to meet the definition of a separate performance obligation.

The total consideration is generally allocated to separate performance obligations based on relative stand-alone selling prices. Usually sales prices for research and development activities and licenses are not directly observable or highly variable across customers. Therefore, we use estimation techniques to determine stand-alone selling prices for such services and licenses. The stand-alone selling prices for research activities are determined based on an expected cost plus a margin approach. For licenses of intangible assets where little or no incremental costs are incurred in providing such licenses a residual approach is used.

Performance obligations from research programs are satisfied over time because the work performed by the Group either enhances a license that the customer already controls or because the work does not result in an asset with an alternative use for the Group due to contractual restrictions.

Affimed N.V.
Notes to the consolidated financial statements
(in € thousand)

Therefore, revenue for such performance obligations is recognized according to the stage of completion measured by reference to costs incurred in relation to anticipated total costs of the research program.

Platform licenses or intellectual property licenses originally generated by the Group are recognized at a point in time if their nature is a right to use the intellectual property as it exists at the point in time at which the license is granted. This is usually the case when there is no significant continuing involvement by the Group. In these cases, revenue is recognized when control of the license is transferred. Control is considered to be transferred when the customer received all necessary documents and information to begin to use and benefit from the license.

Platform licenses or intellectual property licenses originally generated by the Group are recognized over time if their nature is to access the intellectual property as it exists throughout the license period. This might be the case when there is significant continuing involvement by the Group. In these cases, revenue is recognized on a straight line basis until the use of the license by the customer ends.

Payments received from customers commonly include non-refundable upfront payments that are initially recognized as a contract liability, and subsequently recognized as revenue as the related performance obligation is fulfilled. The Group concluded that non-refundable upfront payments do not include financing components because the advance payments arise for reasons other than the provision of financing.

In addition, payment terms may also include payments to be received from customers at a later point in time upon the achievement of certain milestones.

Milestone payments are contingent upon the achievement of contractually stipulated targets. The achievement of these targets or milestones depends largely on meeting specific requirements laid out in the respective agreement. Milestone payments are included in the transaction price when it is highly probable that a significant reversal of revenue recognized will not occur when the uncertainty associated with the milestone is subsequently resolved. In the Group's view uncertainty is sufficiently resolved only when the milestone is reached. Reaching a milestone will result in a cumulative catch up of revenue for the performance to date.

The Group distinguishes development and registration milestones and sales based milestones. Whereas development and registration milestone payments are generally recognized on reaching the defined milestones, revenues for sales based milestones are recognized on achievement of contractually stipulated underlying revenues.

Research and development

Costs incurred related to research activities are expensed in the period when they are incurred. Costs incurred on development projects are recognized as intangible assets beginning on the date it can be established that it is probable that future economic benefits attributable to the asset will flow to the Group considering its technological and commercial feasibility. Given the current stage of the development of the Group's candidates and technologies, no development expenditures have been capitalized in any of the periods presented in these consolidated financial statements. Intellectual property-related costs for patents are part of the expenditure for the research and development projects. Therefore, registration costs for patents are recognized as expensed when incurred as long as the research and development project concerned does not meet the criteria for capitalization.

Affimed N.V.
Notes to the consolidated financial statements
(in € thousand)

Employee benefits

(i) Short-term employee benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided.

A liability is recognized for the amount expected to be paid under a short-term cash bonus, if (a) the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and (b) the obligation can be estimated reliably.

(ii) Share-based payment transactions

The Group's share-based payment awards outstanding as of December 31, 2017 and 2018, are classified as equity-settled share-based plans. The fair value of share-based equity-settled awards granted to employees is measured at grant date and compensation cost is recognized over the vesting period with a corresponding increase in equity. Share-based payment awards with non-employees are measured and recognized when services are received. Fair value is estimated using the Black-Scholes-Merton formula. The formula determines the value of an option based on input parameters like the value of the underlying instrument, the exercise price, the expected volatility of share price returns, dividends, the risk-free interest rate, the expected forfeiture rate and the time to maturity of the option. The number of stock options expected to vest is estimated at each measurement date.

Government grants

The Group receives certain government grants that support its research effort in specific projects. These grants are generally provided in the form of reimbursement of approved costs incurred as defined in the respective grants. Income in respect of grants also includes contributions towards the costs of research and development. Income is recognized when costs under each grant are incurred in accordance with the terms and conditions of the grant and the collectability of the receivable is reasonably assured.

Government grants relating to costs are deferred and recognized in the income statement over the period necessary to match them with the costs they are intended to compensate. When the cash in relation to recognized government grants is not yet received the amount is included as a receivable on the statement of financial position.

The Group recognizes income from government grants under 'Other income - net' in the consolidated statement of comprehensive loss.

Lease payments

Payments made under operating leases are recognized in profit or loss on a straight-line basis over the term of the lease.

Finance income and finance costs

Finance income comprises interest income from interest bearing bank deposits. Interest income is recognized as it accrues using the effective interest method.

Finance costs comprise interest expense on borrowings and, in 2016, includes losses from early extinguishment of debt.

Affimed N.V.
Notes to the consolidated financial statements
(in € thousand)

Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

(i) Non-derivative financial assets

The Group's non-derivative financial assets include preferred shares in Amphivena, trade and other receivables, cash and cash equivalents and certificates of deposit at banks with original maturities of more than three months.

Receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. Those debt instruments are held to collect solely payments of principal and interest. The Group decided to not apply the fair value through OCI option for those instruments. They are included in current assets and are subsequently carried at amortized cost.

Cash and cash equivalents comprise cash balances and call deposits with original maturities of three months or less.

The Group holds preferred shares in Amphivena designated at fair value through other comprehensive income (see note 12)

(ii) Non-derivative financial liabilities

The Group's classes of financial liabilities are borrowings and trade and other payables. The Group initially recognizes non-derivative financial liabilities on the date that they are originated and measures them at amortized cost using the effective interest rate method. The Group derecognizes a financial liability when its contractual obligations are discharged, cancelled or expire.

(iii) Compound financial instruments

The Group entered into certain loan agreements pursuant to which it issued warrants to purchase common shares of the Group at the option of the respective holders (see note 17). The number of shares to be issued does not vary with changes in their fair value.

The liability component of the loans was recognized initially at the fair value of a similar liability without a warrant. The equity component was recognized initially at the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Subsequent to initial recognition, the liability component is measured at amortized cost using the effective interest method. The equity component is not re-measured subsequent to initial recognition.

In 2017, the Group held a convertible note agreement (see note 12). The Group designated the combined contract consisting of the loan component and the conversion feature embedded in the loan agreement at fair value through profit and loss and recognized changes of fair value re-measured on a recurring basis in 'Finance income / (costs) – net.' In December 2018, the notes were converted into shares

As at December 31, 2017, in connection with the convertible note described above, the Group received warrants to purchase common shares of Amphivena Therapeutics Inc., South San Francisco, USA ("Amphivena") at a specified price (see note 12). Initially, the warrants were recognized at fair value. Subsequently the fair value was re-measured on a recurring basis with changes recognized in 'Finance income / (costs) – net.' In 2018, the warrants were cancelled.

Affimed N.V.
Notes to the consolidated financial statements
(in € thousand)

Impairment

(i) Trade and other receivables

Trade and other receivables at amortized cost are subject to the expected credit loss model according to IFRS 9. The Group's exposure to credit risk is influenced mainly by the individual characteristics of each customer. However, management also considers the factors that may influence the credit risk of its customer base, including the default risk associated with the industry and country in which customers operate.

Affimed determines the counterparties' lifetime expected credit losses that result from all possible default events over the expected life of a financial instrument based on an estimated rating and corresponding probability of default rates according to the Bloomberg database.

In addition, trade and other receivables are assessed at each reporting date to determine whether there is objective evidence that they are impaired. Trade or other receivables are impaired if objective evidence indicates that a loss event has occurred after the initial recognition of the receivable, and such loss event had a negative effect on the estimated future cash flows of that receivable that can be estimated reliably. Loss events include indications that a debtor is experiencing significant financial difficulty, default or delinquency in interest or principal payments, the probability that they will enter bankruptcy or other financial reorganization.

All receivables are assessed for specific impairment. Losses are recognized in profit or loss and reflected in an allowance account against receivables. When a subsequent event causes the amount of impairment loss to decrease, the decrease in impairment loss is reversed through profit or loss. No impairments or reversals of impairments were recognized in 2016, 2017 or 2018.

(ii) Intangible assets and leasehold improvements and equipment

Assets that are subject to depreciation or amortization are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount may not be recoverable. An impairment loss is recognized as the amount by which an asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use. Non-financial assets that were previously impaired are reviewed for possible reversal of the impairment at each reporting date.

Income taxes

Income taxes comprise current and deferred tax. Current and deferred taxes are recognized in profit or loss except to the extent that it relates to items recognized directly in equity or in other comprehensive loss.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantively enacted at the reporting date, and adjustments to taxes payable in respect of previous years.

Deferred tax is recognized in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognized for temporary differences associated with assets and liabilities if the transaction which led to their initial recognition is a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss.

Deferred tax is measured at tax rates that are expected to be applied to temporary differences when they reverse, based on the laws that have been enacted or substantively enacted by the reporting date.

Affimed N.V.
Notes to the consolidated financial statements
(in € thousand)

Deferred tax assets and liabilities are presented net if there is a legally enforceable right to offset.

A deferred tax asset is recognized for unused tax losses, tax credits and deductible temporary differences, to the extent that it is probable that future taxable profits will be available against which they can be utilized. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

Fair Value Measurement

All assets and liabilities for which fair value is recognized in the consolidated financial statements are classified in accordance with the following fair value hierarchy, based on the lowest level input parameter that is significant on the whole for fair value measurement:

- Level 1 – Prices for identical assets or liabilities quoted in active markets (non-adjusted)
- Level 2 – Measurement procedures, in which the lowest level input parameter significant on the whole for fair value measurement is directly or indirectly observable for on the market
- Level 3 – Measurement procedures, in which the lowest level input parameter significant on the whole for fair value measurement is not directly or indirectly observable for on the market

The carrying amount of all trade and other receivables, certificates of deposit, cash and cash equivalents and trade and other payables is a reasonable approximation of the fair value and therefore information about the fair values of those financial instruments has not been disclosed. The measurement of the fair value of the shares held by the group and note disclosure for the fair value of a loan (financial liability) is based on level 2 measurement procedures (see notes 12 and 17).

Loss per share

Loss per common share is calculated by dividing the loss of the period by the weighted average number of common shares outstanding during the period.

The Group has granted warrants under certain loan agreements (see note 17) and options under share-based payment programs (see note 16) which potentially have a dilutive effect; no instruments actually had a dilutive effect.

Critical judgments and accounting estimates

The preparation of the consolidated financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

In preparing these financial statements, the critical judgments made by management in applying the Group's accounting policies resulted in the following accounting estimates:

- (i) Share-based payments

The fair value of stock options issued by Affimed N.V. is estimated using the Black-Scholes-Merton formula. The formula determines the value of an option based on input parameters like the value of the underlying instrument, the exercise price, the expected volatility of share price returns, dividends, the risk-free interest rate

Affimed N.V.
Notes to the consolidated financial statements
(in € thousand)

and the time to maturity of the option. The fair value of share-based equity-settled compensation plans is measured at grant date and compensation cost is recognized over the vesting period with a corresponding increase in equity. The number of stock options expected to vest is estimated at each measurement date.

On April 20, 2018, Affimed issued 240,000 options under its share-based-payment program, the vesting of which deviates from the standard 3-year vesting scheme and depends upon a market parameter, which is the average price of Affimed shares during a certain period of time as described in Note 16. Incorporating the market condition in the fair value estimate requires the use of a simulation technique, which implies a higher uncertainty with regard to the estimated fair value. The Group determined the fair value of the awards at grant date to be €133.

(ii) Revenue recognition

The Group's contracts with customers contain multiple performance obligations. Judgment is required in determining whether a good or service is considered a separate performance obligation. If standalone selling prices are not directly observable, the Group allocates the transaction price to the performance obligations by reference to the expected cost plus a margin. In doing so, observable input data such as internal project plans and margins are used.

Elements of consideration in collaboration and license agreements are non-refundable up-front research funding payments, technology access fees and milestone payments. Generally, the Group has continuing performance obligations and therefore up-front payments are initially recognized as a contract liability, and the related revenues are subsequently recognized as the related performance obligation is fulfilled. Technology access fees are generally initially recognized as a contract liability and subsequently recognized over the expected term of the research service agreement on a straight-line basis.

The Group estimates that the achievement of a milestone reflects a stage of completion under the terms of the agreements and recognizes revenue when a milestone is achieved as then the uncertainty is resolved. If the research service is cancelled due to technical failure, the remaining contract liability from non-refundable upfront payments, if any, is recognized as revenue.

The determination of whether a performance obligation is satisfied at a point in time versus over time might also requires judgment.

(iii) Accrued expenses

The Group obtains services from third parties who do not always invoice their (partial) performance as per the balance sheet date. If the Group is not invoiced or otherwise notified of the actual accrued cost for the services as of the reporting date, the amount of the services performed as of the balance sheet date has to be estimated. For this purpose, the Group periodically confirms the accuracy of its estimates with the service providers.

(iv) Financial instruments

The Group recognized its preferred shares in Amphivena at fair value (level 2) as a long-term financial asset. As Amphivena is not a public company substantial judgment was required in estimating the fair value as at December 31, 2018 (see note 12). The Group based its judgment on information available for the valuation of the shares of Amphivena in its latest private financing in December 2018.

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New standards and interpretations applied for the first time

The following amendments to standards and new or amended interpretations are effective for annual periods beginning on or after January 1, 2018, and have been applied in preparing these consolidated financial statements:

<u>Standard/interpretation</u>	<u>Effective Date</u> ¹
IFRS 15 Revenue from Contracts with Customers	January 1, 2018
IFRS 9 Financial Instruments (2014)	January 1, 2018
Amendments to IFRS 2: Classification and Measurement of Share-based Payment Transactions	January 1, 2018
Annual Improvements to IFRS Standards 2014-2016 Cycle (IFRS 1, IAS 28)	January 1, 2018

1. Shall apply for periods beginning on or after the date shown in the effective date column.

The nature and effect of the application of IFRS 9 and IFRS 15 are summarized below. The other amendments had no effect on the interim consolidated financial statements of the Group.

IFRS 9 (Financial Instruments)

Changes in accounting policies resulting from the adoption of IFRS 9 have been applied retrospectively with any differences in the carrying amounts arising from the transition being recognized in equity as at January 1, 2018.

Classification

The standard contains a new classification and measurement approach for financial instruments that reflects the business model in which assets are managed and their cash flow characteristics. Based on the new measurement requirements, Affimed recognized its shares in Amphivena at fair value, which were previously recognized at amortized cost according to IAS 39. The transition effect increased other comprehensive income by €7.3 million as of January 1, 2018 (see note 12). The Group classified the shares as at fair value through other comprehensive income (FVOCI). Future changes in fair value will be recognized in other comprehensive income, dividends will be recognized as income in profit or loss.

Combined financial instruments are measured at fair value with changes therein recognized as finance income / (costs).

Impairment

The newly introduced impairment rules replace the 'incurred loss' model in IAS 39 with a forward looking 'expected credit loss' ("ECL") model. This requires considerable judgement as to how changes in economic factors affect ECLs, which will be determined on a probability-weighted basis. Under IFRS 9, the Group has decided to measure loss allowances on the following basis:

- Cash and cash equivalents and financial assets: The Group determines the counterparties' 12-month ECLs that result from possible default events within the 12 months after the reporting date based on the probability of default according to the Bloomberg database.
- Trade receivables: The Group determines the counterparties' lifetime ECLs that result from all possible default events over the expected life of a financial instrument based on an estimated rating and corresponding probability of default rates according to the Bloomberg database.

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Based on this methodology, incurred losses on cash and cash equivalents and on trade and other receivables as of January 1, 2018 had no material impact on the consolidated financial statements.

IFRS 15 (Revenue from contracts with customers)

IFRS 15 (Revenue from contracts with customers) establishes a comprehensive framework for determining whether, how much and when revenue is recognized. It replaces existing revenue recognition guidance, including IAS 18 Revenue, IAS 11 Construction Contracts and IFRIC 13 Customer Loyalty Programs.

The Group analyzed its collaboration agreements and service contracts in the scope of IFRS 15 to identify performance obligations and an appropriate revenue recognition pattern. The Group concluded that IFRS 15 has no impact on the revenue recognition policy and revenue from current collaboration and service agreements which is recognized according to the stage of completion. No differences between the previously applied IASs and IFRS 15 for all open contracts as of December 31, 2017 were noted. Therefore, no transition effect as of January 1, 2018 was recorded.

New standards and interpretations not yet adopted

The following new standards and amendments to standards are effective for annual periods beginning after December 31, 2018, and have not been applied in preparing these consolidated financial statements.

Standard/Amendment	Effective Date ¹
IFRS 16 Leases	January 1, 2019
Amendments to IFRS 9: Prepayment Features with Negative Compensation	January 1, 2019
Amendments to IAS 28: Long-term Interests in Associates and Joint Ventures	January 1, 2019
Annual Improvements to IFRS Standards 2015-2017 Cycle	January 1, 2019
Amendments to IAS 19: Plan Amendment, Curtailment or Settlement	January 1, 2019
Amendments to IAS 1 and IAS 8: Definition of Material	January 1, 2020

1. Shall apply for periods beginning on or after the date shown in the effective date column.

IFRS 16 (Leases)

The new standard specifies how to recognize, measure, present and disclose lease agreements. The standard provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. Affimed will be required to recognize "right-of-use" assets related to its premises rented and certain equipment leased.

The Group has completed an assessment of the impact of IFRS 16 on its consolidated financial statements and has identified the Group's leases including contractual payments, renewal options, and other terms. The most significant impact identified is that the Group will recognize new assets and liabilities for its operating leases of office space and research and development facilities. Based on the information currently available, the Group estimates that it will recognize right-of-use assets and corresponding lease liabilities of approximately €0.7 million as at January 1, 2019.

The other amended standards are not expected to have a significant effect on the consolidated financial statements of the Group.

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4. Segment reporting

(i) Information about reportable segment

The Group is active in the discovery, pre-clinical and clinical development of antibodies based on its core technology. The activities are either conducted as own project development or for third party companies. Management of resources and reporting to the chief operating decision maker is based on the Group as a whole.

(ii) Geographic information

The geographic information below analyses the Group's revenue and non-current assets by country. In presenting the following information, segment revenue has been based on the geographic location of the customers and segment assets were based on the geographic location of the assets.

Discovery activities and research services are conducted in both the Heidelberg and Plzen premises. Pre-clinical and clinical activities are conducted and coordinated from Heidelberg.

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Revenue:			
Germany	31	80	6
Europe	1,175	1,236	1,397
USA	22,529	694	4,911
	<u>23,735</u>	<u>2,010</u>	<u>6,314</u>
Non-current assets as of December 31:			
Germany	1,224	957	618
Czech Republic	246	221	259
USA	3,825	—	—
	<u>5,295</u>	<u>1,178</u>	<u>877</u>

(iii) Other revenue information

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Major service lines:			
Collaboration revenue	22,018	390	3,866
Service revenue	1,717	1,620	2,448
	<u>23,735</u>	<u>2,010</u>	<u>6,314</u>
Revenue:			
Point in time	21,863	233	1,191
Over time	1,872	1,777	5,123
	<u>23,735</u>	<u>2,010</u>	<u>6,314</u>

(iv) Major Customers

For the years ended December 31, 2016 and 2017, the Group's revenue with three and four customers, respectively, exceeded 10% of total revenues. In 2018, the Group's revenue with Genentech Inc. exceeded 10% of total revenues.

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5. Revenue

Collaboration agreement with Amphivena

Until July 2016, Affimed was party to a collaboration with Amphivena. The purpose of the collaboration was the development of a product candidate for hematological malignancies. The collaboration included a License and Development Agreement between Amphivena and Affimed, which expired when Amphivena obtained the approval of an investigational new drug application (IND) from the FDA in July 2016.

Pursuant to the license and development agreement between Affimed and Amphivena, Affimed granted a license to intellectual property and agreed to perform certain services for Amphivena related to the development of a product candidate for hematological malignancies. In consideration for the research and development work that was performed, Amphivena was required to pay to Affimed service fees totaling approximately €16 million payable according to the achievement of milestones and phase progressions as described under the license and development agreement. Since the expiration of the agreement, the parties have been closing out the collaboration by exchanging documentation and transferring materials and third-party contracts.

During the years ended December 31, 2016 and 2017, the Company recognized revenue upon achievement of milestones and for the performance of research and development services (net of Affimed's share in funding Amphivena) totaling €3.4 million and €0.2 million, respectively.

Collaboration agreement The Leukemia & Lymphoma Society (LLS)

Affimed is party to a collaboration with LLS to fund the development of a specific product candidates (immune cell engagers). Under the terms of the agreement, LLS has agreed to contribute up to \$4.4 million contingent upon the achievement of certain milestones.

In the event that the research and development is successful, Affimed must proceed with commercialization of the licensed product. If Affimed decides for business reasons not to continue the commercialization, Affimed must at its option either repay the amount funded or grant a license to LLS to enable LLS to continue with the development program. In addition, LLS is entitled to receive royalties from Affimed based on the Group's future revenue from any licensed product, with the amount of royalties not to exceed three times the amount funded.

In June 2016, the research funding agreement with LLS was amended to reflect a shift to the development of combination therapeutic approaches so that the milestones now relate primarily to the development of a combination therapy.

During the years ended December 31, 2016, 2017 and 2018, the Group achieved several milestones and recognized revenue totaling €0.4 million, €0.2 million and €0.2 million, respectively.

Collaboration with Genentech Inc.

In August 2018, Affimed entered into a strategic collaboration agreement with Genentech Inc., headquartered in South San Francisco, USA. Under the terms of the agreement Affimed will develop novel NK cell engager-based immunotherapeutics to treat multiple cancers. The Genentech agreement became effective at the beginning of October 2018. Under the terms of the agreement, Affimed received \$96.0 million (€83.2 million) in an initial upfront payment and committed funding on October 31, 2018. The Group recognized €21.8 million as revenue in 2018 and €61.4 million under contract liabilities, which will be recognized as revenue in subsequent periods.

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Under the terms of the agreement, Affimed is eligible to receive up to an additional \$5.0 billion over time, including payments upon achievement of specified development, regulatory and commercial milestones. Affimed is also eligible to receive royalties on any potential sales.

Research service agreements

AbCheck has entered into certain research service agreements. These research service agreements provide for non-refundable upfront technology access research funding or capacity reservation fees and milestone payments. The Group recognized revenue of €2.4 million, €1.6 million and €1.7 million during the years ended December 31, 2016, 2017 and 2018, respectively.

Contract balances

The following table provides information about receivables and contract liabilities from contracts with customers.

	<u>January 1, 2018</u>	<u>December 31, 2018</u>
Receivables	210	580
Contract liabilities	230	61,847

The total amount of €230 recognized in contract liabilities at the beginning of the period has been recognized as revenue for the period ended December 31, 2018.

The remaining performance obligations at December 31, 2018 are approximately €61.8 million and are expected to be recognized as revenue to a large extent over the next two years.

6. Other income and expenses - net

Other income and expenses, net mainly comprises income from government grants for research and development projects of €10 (2017: €195, 2016: €171) and foreign exchange gains of €1,523 (2017: losses of €7, 2016: losses of €29).

7. Research and development expenses

The following table shows the different types of expenses allocated to research and development costs for the years ended December 31:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Third-party services	22,127	12,299	20,170
Personnel expenses	8,055	5,639	6,648
Legal, consulting and patent expenses	1,672	890	758
Cost of materials	1,140	994	1,028
Amortisation and depreciation	351	309	322
Operating lease expenses	401	345	297
Other expenses	1,402	1,013	957
	<u>35,148</u>	<u>21,489</u>	<u>30,180</u>

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8. General and administrative expenses

The following table shows the different types of expenses allocated to general and administrative costs for the years ended December 31:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Personnel expenses	4,929	4,521	4,729
Legal, consulting and audit fees	2,881	1,945	2,210
Operating lease expenses	162	126	111
Other expenses	1,666	1,394	1,273
	<u>9,638</u>	<u>7,986</u>	<u>8,323</u>

9. Employee benefits

The following table shows the items of employee benefits for the years ended December 31:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Wages and salaries	10,027	7,475	7,445
Social security costs	1,092	931	807
	<u>11,119</u>	<u>8,406</u>	<u>8,252</u>

The employer's contributions to pension insurance plans of €502 (2017: €438, 2016: €362) are classified as payments under a defined contribution plan, and are recognized as an expense.

10. Finance income and finance costs

The following table shows the items of finance income and costs for the years ended December 31:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Interest Perceptive Loan Agreement (see note 17)	—	—	(762)
Other finance cost Perceptive Loan Agreement (see note 17)	—	—	(242)
Interest SVB Loan Agreement (see note 17)	(847)	(690)	(41)
Foreign exchange differences	651	(2,378)	691
Interest on certificates of deposit with maturities of more than three months (see note 13)	5	77	122
Other finance income/finance costs	251	8	2
Finance income/costs - net	<u>60</u>	<u>(2,983)</u>	<u>(230)</u>

11. Income taxes

The Group did not incur any material income tax in the periods presented. As of December 31, 2018 deferred tax liabilities from temporary differences result mainly from borrowings (€75; 2017: €152) and long term financial assets (€774). Deferred tax assets from differences resulting from trade and other receivables (€334; 2017: €259), intangible assets (€415; 2017: €405) and trade and other payables (€27; 2017: €17) have not been recognized as deferred tax assets as no sufficient future taxable profits or offsetting deferred tax liabilities are available.

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A reconciliation between actual income taxes and the expected tax benefit from the loss before tax multiplied by the Group's applicable tax rate is presented below for the years ended December 31:

	2018	2017	2016
Loss before tax	(19,476)	(30,243)	(32,274)
Income tax benefit at tax rate of 29.825 %	5,809	9,020	9,626
Adjustments due to impairment of deferred tax assets	(5,318)	(9,036)	(8,747)
Permanent differences	(462)	(93)	(948)
Adjustments for local tax rates	(34)	195	12
Non deductible expenses	(53)	16	154
Other	57	(82)	(38)
Income taxes	(1)	20	58

In Germany, Affimed has tax losses carried forward of €163.8 million (2017: €146.8 million) for corporate income tax purposes and of €163.4 million (2017: €146.4 million) for trade tax purposes that are available indefinitely for offsetting against future taxable profits of that entity. Restrictions on the utilization of tax losses in case of a change of control of ownership in Affimed were mitigated by the enactment of the Economic Growth Acceleration Act (*Wachstumsbeschleunigungsgesetz 2009*). According to the provisions of this act unused tax losses of a corporation as at the date of a qualified change in ownership are preserved to the extent they are compensated by an excess of the fair value of equity for tax purposes above its carrying amount of the Group. The maximum amount of tax losses at risk of being lost due to ownership changes is approximately €59 million. Deferred tax assets have not been recognized in respect of any losses carried forward as no sufficient taxable profits of Affimed are expected.

Tax losses of Abcheck amount to €423 as at December 31, 2018.

12. Long term financial assets

As of January 1, 2018, the Group held preferred shares in Amphivena, which were previously recognized at amortized costs according to IAS 39. Due to the first-time adoption of IFRS 9 these shares are recognized at fair value through other comprehensive income. The initial recognition as of January 1, 2018 amounted to €7.3 million. As at December 5, 2018, following a reverse stock-split, the preferred shares were converted into 831,071 preferred shares at a conversion price of \$3.59.

On December 27, 2017, the Group signed a note purchase agreement with Amphivena (the "2017 note purchase agreement") pursuant to which Amphivena issued to the Group a convertible note with a principal amount of \$0.35 million (the "2017 note") and warrants to purchase 46,667 common shares of Amphivena with an exercise price of \$0.01 per common share.

On June 22, 2018, the Group signed a second note purchase agreement with Amphivena (the "2018 note purchase agreement") pursuant to which Amphivena issued to the Group a new convertible note with a principal amount of \$1.0 million, and cancelled all warrants previously issued to the Group under the 2017 note purchase agreement. In December 2018, the principal amount of the convertible notes plus accrued interest totaling \$1.4 million was converted at a conversion rate of \$3.59 per share into 389,484 Class C preferred shares of Amphivena.

As at December 31, 2018 the Group holds 1,220,555 preferred shares in Amphivena with a fair value of €3.8 million. The Group recognized losses from the change in fair value of €4.7 million including €32 exchange rate losses in other comprehensive income (OCI). Interest gains of €13 and exchange rate gains of €39 related to the convertible notes were recognized in profit and loss.

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13. Financial assets

As of December 31, 2018, financial assets consisted of U.S. Dollar denominated certificates of deposit with original maturities of more than three months.

14. Trade and other receivables

The trade receivables as of December 31, 2018 and 2017, of €210 and €580, respectively, are all due in the short-term, do not bear interest and are not impaired. As of December 31, 2017, receivables of €219 were overdue. Other receivables are all due short-term and mainly comprise value-added tax receivables of €839 (2017: €186).

15. Equity

As of December 31, 2018, the share capital of €624 (2017: €468) is composed of 62,430,106 (2017: 46,791,352) common shares with a par value of €0.01.

In the first quarter of 2018, the Group issued 2,373,716 common shares in connection with its at-the-market sales agreement for net proceeds of €3.8 million.

On February 15, 2018, the Group issued 13,225,000 common shares in a public offering at a price of \$2.00 per common share resulting in aggregate net proceeds of €19.7 million.

On June 19, 2018, the authorized share capital was increased from €2,196 to €3,200 to consisting of 155,975,000 common shares and 155,975,000 cumulative preference shares, each with a par value of €0.01 per share.

16. Share based payments

In 2014, an equity-settled share-based payment program was established by Affimed N.V. (ESOP 2014).

Under this program, the Group granted awards to certain members of the Management Board, the Supervisory Board, non-employee consultants and employees.

Share based payments with service condition

The majority of the awards vest in installments over three years and can be exercised up to 10 years after the grant date. The Group granted 1,436,075 awards in 2017 and 2,332,296 awards in 2018 to employees, the Management Board and others providing similar services (certain consultants).

In 2018, 424,688 ESOP 2014 awards were cancelled or forfeited due to termination of employment or termination of consulting agreements with non-employees (2017: 399,552), and 40,038 ESOP 2014 awards were exercised in 2018 at an average exercise price of \$1.98.

As of December 31, 2018, 5,948,438 ESOP 2014 awards were outstanding (December 31, 2017: 4,080,868), 2,814,547 awards (December 31, 2017: 2,001,264) were vested. The options outstanding at December 31, 2018 had an exercise price in the range of \$1.30 to \$13.47 (2017: \$1.80 to \$13.47) and weighted average remaining contractual life of 9.3 years (2017: 8.4 years). In 2018, the Group estimated an annual forfeiture rate of 4.0% for unvested options.

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Share based payments with market condition

On April 20, 2018, Affimed issued 240,000 options, of which each grant consists of three tranches that vest when the volume-weighted average share price (measured based on Affimed closing share prices over the preceding fifteen trading days) reaches a certain hurdle (\$6.15, \$8.20 and \$10.25). Fair value of the awards at grant date amounts to €133 (\$164 thousand) and the contractual life time of the options is two years. As at December 31, 2018 no options were exercisable.

Share based payment expense

In 2018, an expense of €2,035 was recognized affecting research and development expenses (€852) and general and administrative expenses (€1,183). In 2017, an expense of €1.943 was recognized affecting research and development expenses (€522) and general and administrative expenses (€1,421). In 2016, an expense of €3,545 was recognized affecting research and development expenses (€1,178) and general and administrative expenses (€2,367).

Fair value measurement

The fair value of options was determined using the Black-Scholes valuation model. The significant inputs into the valuation model of share based payment grants with service conditions are as follows (weighted average):

	2018	2017
Fair value at grant date	\$ 1.20	\$ 1.10
Share price at grant date	\$ 1.91	\$ 2.00
Exercise price	\$ 1.92	\$ 2.03
Expected volatility	72 %	70 %
Expected life	5.90	5.90
Expected dividends	0.00	0.00
Risk-free interest rate	0.34 %	(0.23)%

Expected volatility is estimated based on the observed daily share price returns of a peer group measured over a historic period equal to the expected life of the awards.

17. Borrowings

Silicon Valley Bank

On November 30, 2016, the Group entered into a loan agreement with Silicon Valley Bank (the "SVB loan") which provides the Group with a senior secured term loan facility originally for up to €10.0 million, which agreement was amended in May 2017 to provide that such amount would be available in three tranches. In December 2016, the Group drew an initial tranche of €5.0 million and in May 2017, a second tranche of €2.5 million; the availability of a third tranche of €2.5 million expired in September 2017 with such amount remaining undrawn.

Finance costs comprise the interest rate of one-month EURIBOR plus an applicable margin of 5.5%, with a floor of 5.5%, related one-time legal and arrangement fees of €236 and a final payment fee equal to 10% of the total principal amount to be paid with the last instalment. Pursuant to the loan agreement, the Group also granted the lender 166,297 and 53,395 warrants with an exercise price of \$2.00 and \$2.30 per share, respectively. Each warrant can be used to purchase common shares of Affimed at the respective exercise price for a period of ten years from the grant date. The fair value of the warrants of €192 less deferred taxes and transaction costs of €81 and €8, respectively, was recorded as an addition to capital reserves in equity. The fair value of the warrants was determined using the Black-Scholes-Merton valuation model, with an expected

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volatility of 75-80% and an expected exercise period of five years to exercise of the warrant. The contractual maturity of the warrants is ten years.

The loan is secured by a pledge of 100% of Group's ownership interest in Affimed GmbH, all intercompany claims owed to Affimed N.V. by its subsidiaries, and collateral agreements for all bank accounts, inventory, trade receivables and other receivables of Affimed N.V. and Affimed GmbH recognized in the consolidated financial statements with the following book values:

	Book value as of December 31, 2018		Book value as of December 31, 2017	
	Consolidated financial statements	thereof assets pledged	Consolidated financial statements	thereof assets pledged
Leasehold improvements and equipment	1,414	1,174	1,113	891
Inventories	260	235	241	219
Trade and other receivables	1,429	1,007	1,102	328
Other assets	387	—	800	292
Financial assets	13,974	13,974	—	—
Cash and cash equivalents	94,829	92,933	39,837	38,726
	112,293	109,323	43,093	40,456

As of December 31, 2018 and 2017, the fair value of the liability did not differ significantly from its carrying amount (€4,773 and €7,169). The loan has a maturity date of May 31, 2020, repayment started in December 2017 with amortized payments of principal and interest in equal monthly installments. As of December 31, 2018, €3,083 (2017: €3,083) were classified as current liabilities.

18. Trade and other payables

Trade and other payables comprise trade payables of €8,482 (2017: €3,380). Other payables mainly comprise payroll and employee related liabilities for withholding taxes and social security contributions of €885 (2017: €514) and payables due to employees for outstanding bonus, unused holidays and other accruals. Other payables are normally settled within 30 days.

19. Operating leases and other commitments and contingencies

(i) Lease and other commitments

The Group has entered into rental agreements for premises as well as into leases for vehicles and the use of licenses. These agreements have an average non-cancellable term of between one and four years with renewal options included in some contracts. In 2018, lease expenses of €562 and license fees of €124 have been recognized in consolidated statement of comprehensive income (2017: €472 and €174; 2016: €409 and €405).

Future minimum lease payment obligations under non-cancellable operating leases as of the reporting date are as follows:

	2018	2017
Within one year	637	470
Between one and five years	517	363
	1,154	833

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(ii) Contingencies

Affimed has entered into various license agreements that contingently trigger payments upon achievement of certain milestones and royalty payments upon commercialization of a product in the future.

20. Related parties

(i) Shareholders

As of December 31, 2018 and 2017, no shareholder holds more than 20% of the voting rights.

(ii) Transactions with key management personnel

The compensation of managing directors and other key management personnel comprised of the following:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Short-term employee benefits	2,683	1,538	1,879
Termination benefits	—	—	430
Share-based payments	1,229	1,379	2,292
	<u>3,912</u>	<u>2,917</u>	<u>4,601</u>

Remuneration of Affimed's managing directors comprises fixed and variable components and share-based payment awards. In addition, the managing directors receive supplementary benefits such as fringe benefits and allowances. In the case of an early termination, the managing directors receive a severance.

Compensation for other key management personnel comprises fixed and variable components and share-based payment awards.

The supervisory directors of Affimed N.V. received compensation for their services on the supervisory board of €382 (2017: €375; 2016: €350). In 2018, the Group recognized expenses for share-based payments for supervisory board members of €117 (2017: €144, 2016: €381).

Selected managing directors and supervisory directors entered into service and consulting agreements with the Group:

Dr. Ulrich Grau is a significant shareholder and Chairman of the Board of Directors of i-novion Inc., which was engaged by the Group to conduct preclinical services. In 2016, i-novion Inc. received related payments of €86.

Jens-Peter Marschner rendered consulting services amounting to €29 in 2016.

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The following table provides the total amounts of outstanding balances related to key management personnel and supervisory directors:

	Outstanding balances	
	December 31, 2018	December 31, 2017
Martin Treder	9	—
Leila Alland	40	—
Thomas Hecht	21	19
Richard Stead	—	12
Berndt Modig	10	9
Ferdinand Verdonck	11	10
Ulrich Grau	21	17
Bernhard Ehmer	17	10

21. Financial risk management

(i) Financial risk management objectives and policies

The Group's principal financial instruments comprise cash and cash equivalents, certificates of deposit at commercial banks, a convertible loan, warrants and investor loans presented in borrowings. The main purpose of these financial instruments is to raise funds for the Group's operations. The Group has various other financial assets and liabilities such as trade and other receivables and trade and other payables, which arise directly from its operations.

The main risks arising from the Group's financial instruments are credit risk and liquidity risk. The measures taken by management to manage each of these risks are summarized below.

(ii) Credit risk

The Group's financial assets comprise to a large extent cash and cash equivalents. In addition, financial assets include shares, certificates of deposit, trade and other receivables and in 2017, a convertible loan and warrants. The total carrying amount of shares (€3.8 million), cash and cash equivalents (€94.8 million, 2017: €39.8 million), trade and other receivables (€1.4 million, 2017: €1.1 million), certificates of deposit (€14.0 million) and in 2017, convertible notes and warrants of Amphivena (€0.3 million), represents the maximum credit exposure of €114.1 million (2017: €41.2 million).

The cash and cash equivalents and certificates of deposit are held with banks, which are rated BBB+ to AA-based on Standard & Poor's and Moody's.

(iii) Interest rate risk

The Group's interest rate risk arises from cash accounts and long-term borrowings at variable rates.

Affimed entered into the SVB loan pursuant to which the Group borrowed €7.5 million with an outstanding balance of 4.8 million as at December 31, 2018, with a variable interest rate of an annual rate of 5.5% plus one-month EURIBOR, with EURIBOR deemed to equal zero percent if EURIBOR is less than zero percent. The Group does not expect the EURIBOR to exceed the floor of 0% within the foreseeable future, and considers the interest risk to be low.

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Market interest rates on cash and cash equivalents as well as on term deposits were low in 2018, resulting in interest income of €264 in 2018. A shift in interest rates (increase or decrease) would not have a material impact on the loss of the Group.

(iv) Other price risks

The fair value of the shares in Amphivena depends on the share price. The total exposure of the Group amounts to €3.8 million.

(v) Foreign currency risk

Foreign exchange risk arises when future commercial transactions or recognized assets or liabilities are denominated in a currency that is not the entity's functional currency.

The Group's entities are exposed to Czech Koruna (CZK) and US Dollars (USD) and British Pound (GBP). The net exposure as of December 31, 2018 was €47,524 (2017: €18,768) and mainly relates to US Dollars.

In 2018, if the Euro had weakened/strengthened by 10% against the US dollar with all other variables held constant, the loss would have been €4,787 (2017: €1,887) higher/lower, mainly as a result of foreign exchange gains/losses on translation of US dollar-denominated financial assets. The Group considers a shift in the exchange rates of 10% as a realistic scenario.

Loss is more sensitive to movement in exchange rates shifts in 2018 than in 2017 because of the increased volume of US dollar-denominated transactions.

The following significant exchange rates have been applied during the year:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
	CZK or USD/EUR	CZK or USD/EUR	CZK or USD/EUR
CZK - Average Rate	0.03899	0.03799	0.03699
CZK - Spot rate	0.03887	0.03916	0.03701
USD - Average Rate	0.84674	0.88519	0.90404
USD - Spot rate	0.87336	0.83382	0.94868

(vi) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulties in meeting the obligations associated with its financial liabilities which are normally settled by delivering cash. The Group's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due.

The Group continually monitors its risk of a shortage of funds using short and mid-term liquidity planning. This takes account of the expected cash flows from all activities. The supervisory board undertakes regular reviews of the budget.

In 2016, 2017 and February 2018, Affimed raised significant funding that it estimates will enable the Group to fund operating expenses and capital expenditure requirements into 2021.

In 2015, the Group has entered into an at-the-market sales agreement with Cowen & Group, LLC under which €5.1 million in net proceeds has been raised in 2017.

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In 2017, the Group issued 10,646,762 common shares in a public offering at a price of \$1.80 per common share for net proceeds of €16.4 million.

In 2018, the Group issued 13,225,000 common shares in a public offering at a price of \$2.00 per common share for net proceeds of approximately €19.7 million and 2,373,716 common shares in connection with its at-the-market sales agreement for net proceeds of €3.8 million (see note 15).

The Group expects to require additional funding to complete the development of the existing product candidates. In addition, the Group expects to require additional capital to commercialize the products if regulatory approval is received.

(vii) Capital management

The primary objective of the Group's capital management is to ensure that it maintains its liquidity in order to finance its operating activities and meet its liabilities when due.

The Group manages its capital structure primarily through equity.

22. Subsequent events

On March 19, 2019, Affimed announced that the Group will receive a payment in an undisclosed amount on the achievement of a preclinical milestone under its ongoing strategic collaboration with Genentech.

SUBSIDIARIES OF THE REGISTRANT

NAME OF SUBSIDIARY	Jurisdiction of incorporation or organization
AbCheck s.r.o.	Czech Republic
AbCheck Inc.	Delaware
Affimed GmbH	Germany
Affimed, Inc.	Delaware

CERTIFICATION

I, Adi Hoess, certify that:

1. I have reviewed this annual report on Form 20-F of Affimed N.V.;
 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
 4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
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5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: March 27, 2019

/s/ Adi Hoess

Adi Hoess
Chief Executive Officer

CERTIFICATION

I, Florian Fischer, certify that:

1. I have reviewed this annual report on Form 20-F of Affimed N.V.;
 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
 4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
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5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: March 27, 2019

/s/ Florian Fischer
Florian Fischer
Chief Financial Officer

CERTIFICATION

The certification set forth below is being submitted in connection with Affimed N.V.'s Annual Report on Form 20-F for the fiscal year ended December 31, 2018 (the "Report") for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code.

Adi Hoess, Chief Executive Officer of Affimed N.V., certifies that, to the best of his knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Affimed N.V.

Date: March 27, 2019

/s/ Adi Hoess

Name: Adi Hoess
Chief Executive Officer

CERTIFICATION

The certification set forth below is being submitted in connection with Affimed N.V.'s Annual Report on Form 20-F for the fiscal year ended December 31, 2018 (the "Report") for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code.

Florian Fischer, Chief Financial Officer of Affimed N.V., certifies that, to the best of his knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Affimed N.V.

Date: March 27, 2019

/s/ Florian Fischer

Name: Florian Fischer
Chief Financial Officer

Consent of Independent Registered Public Accounting Firm

The Supervisory Board of Affimed N.V.:

We consent to the incorporation by reference in the registration statements on Form S-8 (No. 333-198812) and on Form F-3 (No. 333-207235) of Affimed N.V. of our report dated March 25, 2019, with respect to the consolidated statements of financial position of Affimed N.V. as of December 31, 2018 and 2017, and the related consolidated statements of comprehensive loss, cash flows and changes in equity for each of the years in the three-year period ended December 31, 2018, and the related notes, which report appears in the December 31, 2018 annual report on Form 20-F of Affimed N.V.

/s/ KPMG AG Wirtschaftsprüfungsgesellschaft

Mannheim, Germany
March 27, 2019
