

## Your investment opportunity

Despite remarkable progress in the research and development of new drugs and treatments in the global healthcare system, many severe diseases still have no real cure to this day. These include various types of cancer and chronic infectious diseases. Demographic transition toward a higher life expectancy and an increasing proportion of elderly people in the population are factors contributing to a rising prevalence of age-related diseases. The result is a massive increase in healthcare spending, which in turn emphasizes the need for efficient and effective medicines. Whereas the strength of pharmaceutical companies tends to lie in the global marketing and sale of medicinal products, biotech companies' biggest asset is their high innovation capabilities. Biotech products target the root causes of disease and in some cases have come up with new therapeutic approaches for diseases that may only have been amenable to symptom control in the past. Another trend favoring the biotech industry is the fact that many big pharma players are facing sharp revenue losses as a result of patent expirations. To fill their product pipelines, they are buying innovative biotech products for which they are prepared to pay high premiums. With increasing numbers of biotech companies, launching drugs on the market and reaching profitability, the industry is maturing steadily and managing to do so without disappointing expectations regarding innovative drug development activities and growth potential. This is what makes the biotech sector an attractive and fundamentally strong, high-growth sector for investors.

## Our investment skills

BB Biotech is one of the largest and most experienced biotech investors in Europe and can look back on a track record of more than 20 years. The challenging task of picking the right stocks within the dynamic, constantly changing field of biotechnology is met by BB Biotech's competent Investment Management Team consisting of biochemists, molecular biologists, doctors, and economists. Bringing together scientific and financial professionals facilitates the evaluation of complex issues and ensures a sound assessment of the prospects that drug candidates have as they move through the R&D pipeline and into the market. Drug development entails risks that are difficult to assess for investors with a broader focus. BB Biotech's portfolio managers are supported in their daily work through regular meetings with the highly qualified medical and financial experts on its Board of Directors.

## Our investment solution – BB Biotech

BB Biotech invests in carefully screened and selected biotechnology firms with a long-term time horizon. It focuses on companies with products that are already in the marketplace and generating income and on companies with promising drug candidates in advanced stages of development. During the past years a number of new product-launches by biotech companies attracted widespread attention and buoyed the entire sector. BB Biotech was able to profit from these developments through its carefully constructed investment portfolio. We expect to see a growing number of launches of innovative products in the coming year and have positioned ourselves accordingly, so BB Biotech can keep up the momentum and generate more value for its shareholders. Besides its investments in large, fast-growing biotech companies, BB Biotech holds numerous interests in smaller biotech companies and provides them with the necessary capital to pursue their research projects.

### General information

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<b>Board of Directors</b>	Dr. Erich Hunziker (Chairman) Dr. Clive A. Meanwell Prof. Dr. Dr. Klaus Strein
<b>Investment Management</b>	Dr. Daniel Koller (Head) Dallas Webb Felicia Flanigan Dr. Stephen Taubenfeld Dr. Christian Koch Dr. Maurizio Bernasconi
<b>Portfolio Management</b>	Jan Bootsma Nathalie Isidora-Kwidama Hugo van Neutegem Rudy Le Blanc
<b>Legal structure</b>	Incorporated company
<b>Listing</b>	Swiss stock exchange (BION SW) German stock exchange (BBZA GY) Italian stock exchange (BB IM)
<b>Foundation</b>	November 9, 1993
<b>Share type</b>	Registered shares
<b>Share structure</b>	55.4 mn registered shares
<b>ISIN</b>	CH0038389992
<b>Security number (CH)</b>	3 838 999
<b>Security number (G/I)</b>	AONFN3
<b>Investor Relations</b>	Dr. Silvia Schanz Claude Mikkelsen Maria-Grazia Iten-Alderuccio
<b>Media Relations</b>	Tanja Chicherio

## Multi-year comparison

	2017	2016	2015	2014	2013
Market capitalization at the end of the period (in CHF mn)	3 576.1	3 052.5	3 463.2	2 799.0	1 668.5
Net Asset Value at the end of the period (in CHF mn)	3 538.7	3 003.0	3 978.2	3 492.5	2 118.9
Number of shares (in mn) <sup>1)</sup>	55.4	55.4	59.3	59.3	59.3
Trading volume (in CHF mn)	2 864.7	3 204.5	6 265.2	3 186.6	1 289.3
Profit/(loss) (in CHF mn)	687.5	(802.1)	652.8	1 470.1	931.8
Closing price at the end of the period in CHF <sup>1)</sup>	64.55	55.10	58.45	47.24	28.16
Closing price (G) at the end of the period in EUR <sup>1)</sup>	55.68	51.70	53.99	39.60	23.04
Closing price (I) at the end of the period in EUR <sup>1)</sup>	55.20	51.60	54.18	39.34	23.08
Stock performance (incl. distributions)	23.1%	0.3%	28.2%	75.1%	66.0%
High/low share price in CHF <sup>1)</sup>	67.80/52.10	58.20/40.78	70.25/46.48	48.16/26.74	29.38/17.90
High/low share price in EUR <sup>1)</sup>	59.10/48.42	53.98/36.74	66.02/39.39	39.98/21.82	23.94/14.69
Premium/(discount) (annual average)	(2.5%)	(5.1%)	(17.6%)	(22.1%)	(23.1%)
Cash distribution/dividend in CHF (*proposal) <sup>1)</sup>	3.30*	2.75	2.90	2.32	1.40
Degree of investment (quarterly figures)	103.1%	109.9%	101.0%	104.6%	104.5%
Total Expense Ratio (TER) p.a.	1.24%	1.28%	1.13%	1.14%	1.02%

<sup>1)</sup> Five-for-one share split as at March 29, 2016 considered

## Share price trend since foundation (in CHF)



■ BB Biotech share      ■ BB Biotech Net Asset Value  
■ Nasdaq Biotechnology Index

Source: Bloomberg, 12/31/2017

## Performance (adjusted for dividends, in local currency)

As of 12/31/2017	1 year	3 years	5 years	11/15/93
Switzerland	+ 23.1%	+ 58.4%	+360.4%	+ 2 116%
Germany	+ 13.1%	+ 62.8%	+383.5%	N.A.
Italy	+ 12.4%	+ 62.5%	+377.3%	N.A.

## Top 10 positions as of December 31, 2017

Ionis Pharmaceuticals	11.0%
Celgene	9.6%
Incyte	9.4%
Neurocrine Biosciences	7.2%
Vertex Pharmaceuticals	5.9%
Gilead	5.3%
Radius Health	4.9%
Halozyme Therapeutics	4.6%
Sage Therapeutics	4.6%
Alexion Pharmaceuticals	4.4%

## Breakdown by sector as of December 31, 2017

Oncology	34.4%
Orphan diseases	26.4%
Neurological diseases	15.2%
Metabolic diseases	10.8%
Infectious diseases	6.1%
Cardiovascular diseases	5.0%
Others	2.1%

## Breakdown by currency as of December 31, 2017

USD	95.5%
DKK	3.9%
EUR	0.4%
CHF	0.2%

## *Positive year for biotech stocks*

For the year, the NBI saw a total return of 21.7% in USD, somewhat behind the total returns of broad US sectors such as the Nasdaq Composite (29.7%) and the Dow Jones Index (28.1%) in USD. Fund flows for the biotech sector were negative in the last quarter, reflecting the cautious stance of generalist investors. BB Biotech believes that this creates potential for fund inflows as sector fundamentals continue to improve in 2018.

## *Record product approvals*

The US FDA approved 46 new drugs in 2017, more than in any of the previous 20 years. Of these, 19 products were developed by biotech companies, 18 by the large pharmaceutical companies and 9 by speciality pharmaceuticals and generic companies. The EU recommendations totaled 35 new substances for 2017, with 14 stemming from biotech companies and 21 from the large and speciality pharmaceutical industry.

## *BB Biotech shares outperform*

For 2017, BB Biotech's total share return of 23.1% in CHF and 13.1% in EUR was a result of the strong portfolio performance. Strengthening of the EUR over the USD was a major headwind for EUR denominated performance. The portfolio Net Asset Value (NAV) increased by 23.4% in CHF, 12.5% in EUR and 29.2% in USD in the same period, which is 7.5% ahead of the Nasdaq Biotech Index (NBI).

## *Attractive dividend yield of 5% also in 2018*

The Board of Directors will propose a record regular dividend of CHF 3.30 per share at the general assembly on March 13, 2018. This is calculated as a 5% dividend yield applied to the average share price during December 2017 – consistent with the dividend policy introduced in 2013.

## *Positive outlook for 2018*

2018 should be another intensive year for BB Biotech, with many important clinical trial results and regulatory approvals expected to keep the biotechnology industry and our holdings in focus. We continue to expect new product launches and their uptake in the market to accelerate the already positive underlying growth in revenues and cash flows experienced by the industry and companies in our portfolio.

### OUTPERFORMANCE BB BIOTECH SHARE

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# 7.5%

(in USD vs Nasdaq Biotechnology Index)

### PERFORMANCE BB BIOTECH SINCE INCEPTION (11/15/1993)

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# 2 116%

(in CHF)

### MARKET CAPITALIZATION AS OF 12/31/2017

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# CHF 3.6 bn

(2016: CHF 3.1 bn)

### DISTRIBUTION FOR FISCAL YEAR 2017 (PROPOSED)

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# CHF 3.30

(2016: CHF 2.75)

### NUMBER OF PORTFOLIO COMPANIES

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# 33

(as at 12/31/2017)

### NUMBER OF APPROVALS 2017

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# 46

(USA, 2016: 22)

### NUMBER OF TAKEOUTS IN PORTFOLIO 2017

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# 2

(Actelion, Kite)

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Schaffhausen, Switzerland, where BB Biotech AG's registered office is located: Dr. Silvia Schanz, Investor Relations and Dr. Christian Koch, Investment Management Team BB Biotech AG.

With a total return for BB Biotech's shareholders of 23.1% in CHF and 13.1% in EUR buoyed by the euro's substantial appreciation against the dollar, BB Biotech delivered a strong performance in 2017. The underlying portfolio performed well, ending the year up 23.4% in CHF, 12.5% in EUR and 29.2% in USD – which is 7.5% ahead of the Nasdaq Biotech Index (NBI). Consolidated and audited full year 2017 data showed a net gain of CHF 688 mn. The Board of Directors proposes a record regular dividend of CHF 3.30 per share at the AGM.

## *Dear shareholders,*

While broad benchmarks such as the Dow Jones (11% in USD), the Nasdaq Composite (7% in USD), the DAX (1% in EUR) and the SMI (2% in CHF) extended 2017 gains in the fourth quarter, the Nasdaq Biotech Index (NBI) lost around 4% in USD in the same period. Fourth quarter volatility for larger cap biotechnology companies led to significant, short-term devaluation. In contrast, smaller and mid cap biotechnology companies continued to grow based on positive clinical trial results and solid product launches.

The US FDA approved 12 new drugs in the fourth quarter 2017, bringing the total number of approvals for the year to 46, more than in any of the previous 20 years. For the year, the NBI saw a total return of 21.7% in USD, somewhat behind the total returns of broad US sectors such as the Nasdaq Composite (29.7%) and the Dow Jones Index (28.1%) in USD. Fund flows for the biotech sector were negative in the last quarter, reflecting the cautious stance of generalist investors. BB Biotech believes that this creates potential for fund inflows as sector fundamentals continue to improve in 2018.

### **BB Biotech's development in the fourth quarter and in FY 2017**

For 2017, BB Biotech's total share return of 23.1% in CHF and 13.1% in EUR was a result of the strong portfolio performance. Strengthening of the EUR over the USD was a major headwind for EUR denominated performance. The portfolio Net Asset Value (NAV) increased by 23.4% in CHF, 12.5% in EUR and 29.2% in USD in the same period.

For the fourth quarter, BB Biotech's share price declined modestly (-0.8% in CHF, -2.3% in EUR). The portfolio NAV decline was -4.2% in CHF, -6.3% in EUR and -4.8% in USD. Consolidated and audited fourth quarter 2017 data indicate a net loss of CHF 156 mn versus last year's loss of CHF 24 mn. Consolidated and audited full year 2017 data showed a net gain of CHF 688 mn compared to a net loss of CHF 802 mn for full year 2016.

### **A proposed dividend of CHF 3.30 per share**

The Board of Directors will propose a record regular dividend of CHF 3.30 per share at the general assembly on March 13, 2018. This is calculated as a 5% dividend yield applied to the average share price during December 2017 – consistent with the dividend policy introduced in 2013.

### **Fourth quarter portfolio update**

The fourth quarter 2017 provided multiple milestones for our portfolio holdings such as clinical news flow, regulatory action, and updates on important product launches.

Sage reported two positive clinical trial results in the fourth quarter, tripling its share price over the closing price in the third quarter. Following the disappointment for Brexanolone to treat patients with super refractory status epilepticus, the company announced that the same drug development candidate, tested positively in two Phase III trials investigating severe postpartum depression. SAGE-217, a novel oral, selective next-generation GABA allosteric modulator sharing similar properties to intravenous Brexanolone, was also successful in treating patients with major depressive disorder.

Celgene experienced a difficult fourth quarter in 2017. The company announced that a combination trial with Revlimid and Rituximab did not achieve superiority over the combination of Rituximab and chemotherapy in previously untreated patients with follicular lymphoma. With the goal to develop a chemotherapy-free regimen for follicular lymphoma patients not achieved, the company continues to develop Revlimid, two additional IMiDs in earlier clinical development, as well as cell-based therapies for lymphoma patients. More importantly, Celgene stopped the clinical trial for GED-0301 (mongersen) in Crohn's disease, an important pipeline candidate in the company's inflammation and immunology division.

Regulatory approvals in the fourth quarter support the continued revenue growth for the industry and our portfolio in the coming quarters and years. Kite, acquired by Gilead in October 2017, received approval of Yescarta (Axicabtagene Ciloleucel) for treating relapsed or refractory large b-cell lymphoma patients. Yescarta is CD19-directed, genetically modified autologous T-cell immunotherapy with around half of all treated patients in the trial having no detectable cancer remaining at six months after receiving a single infusion.

Novo Nordisk gained FDA approval for Ozempic (semaglutide), a once weekly injection for the treatment of adults with type 2 diabetes. Ozempic is expected to compete with Eli Lilly's Trulicity that has gained significant market share in the GLP-1 receptor agonist class and will complement Victoza, Novo Nordisk' once-daily product. More importantly, Novo Nordisk will announce multiple Phase III studies in 2018 for an oral formulation of semaglutide, potentially becoming the first oral treatment option in the GLP class allowing broadening of the target market substantially in the future.

Next to clinical trial results and regulatory product approvals, investors carefully monitor initial market uptake of novel medicines to assess potential profit trajectories. Our portfolio has significant exposure into two important products for severe neurological disorders. Neurocrine launched Ingrezza for the treatment of tardive dyskinesia in the second quarter of 2017 and reported revenues of USD 46 mn for the third quarter, almost double what analysts have predicted. Spinraza, a drug innovated by Ionis and marketed by Biogen, continued its rapid adoption in the spinal muscular atrophy patient population. Reported revenues jumped from USD 47 mn for the first quarter 2017 to USD 203 mn for the second and USD 271 mn for the third quarter. Worries about a slowdown in adoption of Spinraza in the US market repeatedly pressured Ionis' share price. With the US market continuously growing and a substantial revenue opportunity for international markets, we expect Spinraza sales to grow substantially in 2018.

In the metabolic disease space, Radius Health is marketing Tymlos, an anabolic agent to treat osteoporosis, which reported prescription trends and quarterly revenues that did not yet fulfill Wall Street's expectations. However, we analyze the «new to brand» prescriptions, indicating that Radius continuously gains share against Eli Lilly's Forteo. 2018 is expected to be an important year to accelerate Tymlos' revenue trajectory. Express Scripts, a large US pharmacy benefit manager, designated preferred status for Tymlos over Forteo. Additionally, broad CMS coverage could be implemented in 2018 driving additional adoption for Tymlos.

In the oncology field, the PARP inhibitors are re-shaping the ovarian cancer market. Prior to the approval of Tesaro's Zejula, PARP inhibitors have been limited to ovarian cancer patients being BRCA mutation carriers. Zejula proved in clinical trials that not only the BRCA mutation carriers but all cohorts of women with recurrent ovarian cancer following complete or partial response to platinum-based chemotherapies benefited from Zejula. With an uptake of USD 26 mn in the second quarter, the USD 39 mn in the third quarter did not keep up with expectations. We expect significant growth in the coming quarters due to more patients receiving Zejula, longer treatment durations, and additional cancer indications added to Zejula's label.

Significant progress has been made in the field of acute myeloid leukemia (AML). For a long time, the only treatment options were harsh chemotherapies. In 2017 alone, four new medicines were approved for treating AML patients, including Celgene's Idhifa, a targeted medicine approved for AML patients with an IDH2 mutation. Agios, Celgene's licensing partner for Idhifa, is expected to receive approval for IDH1 mutation carriers in 2018, broadening the offering for AML patients even further.

#### **Portfolio adjustments in the fourth quarter**

In the fourth quarter, the remaining holding in Swedish Orphan Biovitrum (SOBI) was sold – thereby closing out a highly profitable holding initiated in early 2011 which realized a 3-fold return on total capital invested. In the large cap segment, profits were taken in Novo Nordisk following its strong recovery and the cash was reinvested in Celgene during a significant sell-off in late October. In the smaller and mid cap segments, BB Biotech bought additional shares of Radius Health, MacroGenics, and Esperion and took profits following the strong performances of Juno Therapeutics, Idorsia, and Alnylam. BB Biotech also invested in Cidara Therapeutics' private placement.

Following management's late year strategic review, new positions were opened in Wave Life Sciences, Voyager Therapeutics, and Akcea Therapeutics. Wave Life Sciences develops stereo-selective nucleic acid therapeutics with a focus on severe neurological diseases. Voyager Therapeutics is developing a gene therapy for advanced Parkinson's disease, and Akcea Therapeutics is addressing serious rare lipid disorders with antisense products.



**Dr. Erich Hunziker**  
Chairman of the Board of Directors

Erich Hunziker has been on the Board of Directors of BB Biotech AG since 2011 and has been elected president in 2013. He previously served as CFO of Roche from 2001 to 2010. From 1983 to 2001 he held various executive positions at Corange, Boehringer Mannheim and, before joining Roche, at Diethelm-Keller-Gruppe, where he ultimately served as CEO. Erich Hunziker earned a Ph.D. in Industrial Engineering from the Swiss Federal Institute of Technology in Zurich. He is also a member of the Boards of Directors of AB2Bio AG and LamKap Bio AG.



**Dr. Clive Meanwell**  
Vice-Chairman of the Board of Directors

Dr. Clive Meanwell is a member of the Board of Directors of BB Biotech AG since 2003. He is also a member of the Board of Directors and CEO of The Medicines Company, which he established in 1996. From 1995 to 1996 he was a founding partner and managing director of MPM Capital L.P. He previously held various positions at Hoffmann-La Roche in Basel and Palo Alto, California. Dr. Meanwell received his M.D. and Ph.D. from the University of Birmingham in the UK where he also trained in medical oncology.



**Prof. Dr. Dr. Klaus Strein**  
Member of the Board of Directors

Prof. Dr. Dr. Klaus Strein has been on the Board of Directors since 2013. He was with Roche from 1998 to 2011, during which time he held various responsibilities, including head of pharma research activities in Germany and of global pharma research. From 1979 to 1998 he served in various positions at Boehringer Mannheim. He holds post-graduate degrees in chemistry and medicine from the University of Heidelberg, where he was also appointed Adjunct Professor. He is also a member of the Board of Directors of NovImmune SA and Chairman of the Board of Directors of LamKap Bio AG.

**Outlook – promising 2018 with an expectation for continued product approvals**

BB Biotech believes that 2018 will continue to bring important product approvals and milestones for the sector and for its portfolio. The FDA continues to improve the efficiency of the drug review process and drugs which address serious and unmet medical needs are expected to move through the process expeditiously.

BB Biotech anticipates continued debate around the US Affordable Care Act. One major change to the Affordable Care Act was included in the new tax bill which passed in late 2017 – namely the repeal of the individual mandate which could reduce the pool of insured individuals. After 2018, healthy and younger individuals will be allowed to opt out of healthcare insurance plans without financial penalty, potentially increasing premiums for those remaining on plan.

As predicted, concerns around drug pricing restrictions by the US government are sporadic more than systematic. But BB Biotech continues to monitor potential changes, particularly with the anticipated appointment of Alex Azar as the

Secretary of Health and Human Services. Azar is a former drug company executive who is considered a pragmatist supporting both innovation and competition.

We believe biotechnology valuations remain compelling at current levels. The financial aspects of the US tax reform bill, including lower corporate tax rates and allowances for repatriation of ex-US cash, may presage both improved and simplified balance sheets for US large cap pharma and perhaps an uptick in M&A activities in biotechnology.

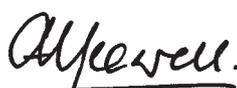
More fundamentally, BB Biotech expects the biotechnology sector to grow based on its strength of innovation and an increasing share of novel drugs in 2018 and beyond. It looks forward to another productive and exciting year in 2018. BB Biotech remains dedicated to identifying leading-edge biotechnology firms developing market dominant drugs based on cutting-edge technologies.

We thank you for the trust you have placed in the Company.

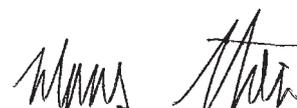
The Board of Directors of BB Biotech AG



Dr. Erich Hunziker, Chairman



Dr. Clive Meanwell



Prof. Dr. Dr. Klaus Strein



2018 should be another intensive year for BB Biotech, with many important clinical trial results and regulatory approvals expected to keep the biotechnology industry and our holdings in focus. We continue to expect new product launches and their uptake in the market to accelerate the already positive underlying growth in revenues and cash flows experienced by the industry and companies in our portfolio.

## *Eventful year for BB Biotech ahead*

New product launches will enable companies to continue investments in their research pipelines and catapult them to the next level of success, secured by increasingly diverse sources of growth. Acquisitions and alliances will remain an additional source of diversification and subsequent growth, made easier by the recent lowering of the corporate tax rate and the ability to repatriate ex-US cash. While debate about drug pricing and changes to the Affordable Care Act that will likely reduce the number of insured individuals in the US will continue to cause some market uncertainty, we continue to believe that the innovation provided by the industry will improve the quality and potentially the overall cost of individual care, thereby supporting strong pricing.

### **Recent and expected product approvals highlight significant revenue growth opportunity**

Investors continue to be keenly focused on the market success of newly introduced individual products and product classes. Interest is focused on the category of the PCSK9 products Praluent (Regeneron/Sanofi) and Repatha (Amgen), CAR-T products Yescarta (Gilead) and Kymriah (Novartis), and PARP inhibitors Zejula (Tesaro), Lynparza (AstraZeneca), and Rubraca (Clovis). Individual products that launched in 2017 and will be monitored closely for their ability to meet full-year sales expectations include Agios/Celgene's Idhifa for acute myeloid leukemia (AML), Ionis/Biogen's Spinraza for spinal muscular atrophy, Neurocrine Biosciences' Ingrezza for tardive dyskinesia, Radius' Tymlos for osteoporosis, and Regeneron/Sanofi's Dupixent for atopic dermatitis. Meanwhile, we expect a number of key approvals and launches in 2018, including Agios' Ivosidenib for AML, Alnylam's Patisiran for amyloidosis, Ionis' Inotersen for familial amyloid polyneuropathy, Neurocrine Biosciences' Elagolix for endometriosis, and Vertex' Tezacaftor/Ivacaftor combination for cystic fibrosis. The plethora of such approvals give us continued confidence in the double-digit revenue growth potential of the BB Biotech portfolio and the biotechnology industry as a whole.

### **Research pipeline investment supports future value creation**

The large number of product approvals and successful product launches has enabled significant investment into the

development of additional novel medicines that could dramatically change practice and improve the quality of life of patients suffering from underserved diseases. In 2017 alone, 46 new products were approved in the US, more than in any of the previous 20 years. Of these, 19 products were developed by biotech companies, 18 by the large pharmaceutical companies and 9 by speciality pharmaceuticals and generic companies. The EU recommendations totaled 35 new substances for 2017, with 14 stemming from biotech companies and 21 from the large and speciality pharmaceutical industry.

We are particularly excited about development stage companies that are investing in new technology platforms that provide the foundation for generating multiple candidates that could treat a variety of unique and diverse indications. These include Alnylam Pharmaceuticals, Ionis Pharmaceuticals, MacroGenics, and Moderna. Companies with individual products that find clinical and market success in multiple indications over time are also of great interest as they provide a continued source of future growth following revenue stabilization in initial indications. Alexion's Soliris is a prime example, with the recent approval in myasthenia gravis and potential approval in neuromyelitis optica adding two layers of growth beyond paroxysmal nocturnal hemoglobinuria (PNH) and atypical hemolytic uremic syndrome (aHUS). Other examples from our portfolio include Incyte's Jakafi, Tesaro's Zejula, and CAR-T products from Celgene and Gilead.

### **Industry consolidation remains a key driver of growth**

Our large cap holdings, including Celgene and Gilead, continue to be aggressive with acquisitions and partnerships while nourishing their internal pipelines to secure revenue and earnings growth in the wake of patent expiries for their key franchises. For Celgene, the early 2018 acquisitions of Impact Biomedicines and Juno Therapeutics followed an already active 2017, during which the company acquired autoimmune disease company Delinia and formed a partnership with oncology company BeiGene. Atop a number of small, early-stage acquisitions, Gilead acquired Kite Pharmaceuticals to establish a stronger presence in oncology and the breakthrough CAR-T technology. We expect additional activity from the company as it attempts to diversify away from its legacy

franchises, HIV and HCV. Other large biotechs and pharmaceutical companies continue to closely follow the progress of small- and mid-cap companies that may help to replenish declining revenue from loss of patent protection or a stronger competitive environment, or to provide sustained growth of an existing franchise. We believe that those companies best characterized by the hallmarks of innovation and pipeline depth will be best suited for acquisition, and that the portfolio of BB Biotech includes many such companies.

### **Drug prices still in focus, regulatory environment remains favorable**

BB Biotech expects continued debate around drug pricing as list prices for existing medications remain on the rise, and companies with highly novel medicines are expected to seek premium prices upon their approval. However, we believe investor concerns that prices will ultimately be restricted will prove to be more sporadic than systematic. We will closely follow changes sought by Alex Azar, who has been appointed Secretary of Health and Human Services and has highlighted reduced drug prices and outcomes-based pricing for the Medicare segment as priorities for his administration. His experience as a drug company executive positions him to understand the balance between rewarding innovation and fostering competition to make the cost of care more affordable.

We also anticipate continued debate around the US Affordable Care Act, changes to which will likely reduce the pool of insured individuals with the repeal of the individual mandate. Indeed, repeal of the mandate will allow healthy and younger individuals to opt out of healthcare insurance plans without financial penalty, which may put pressure on premiums for those remaining on the plans.

A supportive regulatory environment remains critical to the continued success of the biotech industry. During 2017, new PDUFA guidelines, PDUFA VI, were approved by Congress and implementation is underway. The new law ensures the consistent funding of the FDA during fiscal years 2018–2022, enabling the agency to continue to bring important new medicines to the market.

### **Key approvals and clinical trial results provide ample newsflow**

Some of the highlights from the BB Biotech portfolio are the expected approval and launch of products from Agios (ivosidenib for AML), Alnylam (Patisiran for amyloidosis), Celgene (Ozanimod for multiple sclerosis), Ionis (Inotersen for familial amyloid polyneuropathy), Neurocrine Biosciences (Elagolix for endometriosis), and Vertex (Tezacaftor for cystic fibrosis).

There are also many important late-stage data readouts that will impact the valuations of our holdings. These include results with Incyte's IDO inhibitor Epacadostat for melanoma, data with Alexion's next-generation Soliris ALXN1210 for PNH and aHUS, results with Novo Nordisk's oral Semaglutide for type 2 diabetes, data with Idorsia's Ponesimod for relapsing

remitting multiple sclerosis, results with Esperion's bempedoic acid for cholesterol reduction, and data with Intracellular's Lumateperone for bipolar depression. The Phase III results with Incyte's Epacadostat will be particularly important, both for the company and the industry. Indeed, positive data would suggest that the product has multi-billion-dollar potential as an add-on to marketed therapies in the immuno-oncology space, a rapidly evolving field that offers the opportunity to significantly improve the outcomes of patients living with cancer as it matures over the next decade. Moreover, interest in the many other companies participating in the space with different mechanisms of action will be high.

While in earlier stages of testing, data on the following products will be equally impactful. First results from a Phase II trial with Macrogenics' Enoblituzumab and additional data from a Phase II trial with Five Prime's Cabiralizumab will determine if these products have a place in the multi-billion-dollar immuno-oncology market. In addition, we expect Phase II results with Neurocrine Biosciences Valbenazine for pediatric Tourette's syndrome and Cidara's Rezafungin for invasive candidiasis/candidemia. More data from early stage trials with Vertex' triple combinations designed to address all subsets of patients with cystic fibrosis will also be available in the coming month

NUMBER OF DRUG APPROVALS 2017

**46**

(USA, 2016: 22)

**BB Biotech Team, New York**



**Felicia Flanigan**

Since 2004 with the BB Biotech Investment Management Team  
MBA Suffolk University, Boston  
BA Communications, Boston College

**Dr. Stephen Taubenfeld**

Since 2013 with the BB Biotech Investment Management Team  
M.D. and Ph.D. in Neuroscience, Brown University School of Medicine

**Dallas Webb**

Since 2006 with the BB Biotech Investment Management Team  
MBA Texas Christian University of Fort Worth  
BS in microbiology and zoology, Louisiana State University

**New York**

**BB Biotech Team, Curaçao**



**Rudy LeBlanc**

Since 2013 Board member and managing director of the  
BB Biotech branch office in Curaçao.  
Degree in medical science from the Emory University in Atlanta, USA

**Hugo Van Neutegem**

Since 2001 chairman of the BB Biotech branch office in Curaçao  
Tax law, University of Leiden, the Netherlands

**Jan Bootsma**

Since 1995 with BB Biotech AG, Curaçao  
Higher economic education HEAO, Zwolle, Netherlands

**Nathalie Isidora-Kwidama**

Since 2007 with BB Biotech AG, Curaçao  
Modern Business Administration

**Curaçao**

**BB Biotech Team, London**



**Claude Mikkelsen**

Since 2012 Director Investor Relations BB Biotech  
Master's degree in Economy and Law, Aalborg University, Denmark  
INSEAD, France

**BB Biotech Team, Zurich**



**Dr. Daniel Koller**

Since 2004 with the BB Biotech Investment Management Team and its head since 2010  
Master's degree in biochemistry of the Swiss Federal Institute of Technology (ETH) Zurich  
PhD in Biotechnology of the Swiss Federal Institute of Technology (ETH) Zurich and Cytos  
Biotechnology Ltd, Zurich

**Dr. Christian Koch**

Since 2014 with the BB Biotech Investment Management Team  
PhD in Chemoinformatics & Computational Drug Design, ETH Zurich  
Master in Bioinformatics, Goethe University Frankfurt

**Dr. Maurizio Bernasconi**

Since 2017 with the BB Biotech Investment Management Team  
PhD in organic chemistry of the University of Basel  
Master in chemistry, Swiss Federal Institute of Technology (ETH), Zurich

**Dr. Silvia Schanz**

Since 2012 Director Investor Relations BB Biotech  
PhD/doctorate in Biochemistry of the Swiss Federal Institute of Technology (ETH) Zurich  
Master in Biochemistry, minor in Business Administration of the University Freiburg

**Maria-Grazia Iten-Alderuccio**

Since 2007 Director Investor Relations BB Biotech  
Master's degree in Linguistics from the University of Lausanne and Università degli  
Studi di Firenze, Italy

**Michael Hutter**

Since 2008 responsible for Finance & Compliance  
Swiss Chartered Accountant

**Tanja Chicherio**

Since 2013 responsible for Marketing & Communication  
Degree in media and communication sciences with a minor in business administration  
from the University of Zurich

## Phase I

### Idea generation and pre-screening

The investment universe for BB Biotech comprises about 800 companies in the biotech industry worldwide. It includes large caps to microcaps and even later-stage private companies. The Portfolio Management Team monitors this industry actively. In an initial phase the team identifies disease areas where major progress is being made, technological advances are promising, new mechanisms of action are being discovered or technology platforms that could be leveraged for multiple therapies are being developed. To stay highly informed, the team talks to analysts, conducts interviews with doctors and specialists, attends medical conferences, reviews scientific literature, and visits companies on site. The team also regularly evaluates the geographical allocation of its investments by visiting countries or areas that show interesting developments. Once promising investment themes (disease area, technology, etc.) are identified, the universe is reduced from 800 companies to about 300.



#### INVESTMENT UNIVERSE

# 800

(number of companies)

## Phase II

### Due diligence

With the due diligence process the focus switches from «themes» to individual companies and products. Qualitative as well as quantitative screening criteria are applied. Again, doctors and specialists are consulted to learn more about different drug candidates. The objective is to understand the innovation behind a product, to see what benefit the product could provide for the patient, but also if the product makes sense from a health economic standpoint. BB Biotech tries to focus on products that are novel and essentially reduce healthcare costs because of their higher efficiency or better safety. The time horizon for these investments is mid- to long-term. Another important point is the quality of the management, which is assessed in discussions during company meetings. For about 100 companies the team has created and maintains financial models that help to assess the financial position of the company and get a sense of market opportunities or to review the clinical data companies have produced and presented. At the end of this phase the team discusses the investment cases and selects the most promising ideas.

#### FINANCIAL MODELS BB BIOTECH

# 100

(number of companies)



## Phase III

### Investment decision and portfolio construction

If the team feels comfortable with an investment idea, the analyst that covers the company prepares a detailed investment proposal. This includes a financial model, a summary of the clinical data the company has presented, the investment rationale with potential upside and downside as well as the proposal of the size of the investment and at what price range the investment should be built up. This proposal is then presented to the Board during the monthly calls, where the Board of Directors and the team engage in an active discussion about the potential investment. BB Biotech also holds a biannual strategy meeting, where the Board and the Investment Management Team review strategic developments in the biotech industry and meet with the management of the portfolio holdings or of potential investments. Once the Board has approved a proposal, the portfolio managers build the position in a relatively short time, provided that the price levels are within the approved range for investment. This results in a biotech portfolio of around 20 to 35 companies.

#### POSITIONS IN THE PORTFOLIO

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**20 – 35**

(number of companies)



## Phase IV

### Monitoring and risk management

Once the portfolio is established, the monitoring and risk management processes begin. The development of the drug candidates is monitored closely with new clinical data becoming available at medical conferences. The validity of the investment case is continuously assessed as the team regularly meets with management and keeps the financial model updated. If there is a substantial change in the underlying value of a company that requires action, the team will present a proposal to the Board to increase the position, or to exit it, depending on what the reasons for the change are. Additionally, the portfolio managers may adjust the positions in the portfolio by buying when prices are lower than the Net Asset Value estimated with the help of financial modeling or by selling a part of the position on strength, if a stock looks relatively overvalued. However, the Board is always involved in major changes. The portfolio is also monitored with the help of risk management software.

#### NUMBER OF COMPANY MEETINGS

---

**> 100**

(2017)



BB Biotech invests in fast-growing biotechnology companies that are developing and marketing innovative drugs. It focuses on biotech companies whose products address areas of significant unmet medical needs and that are generating above-average sales and profit growth. The focus is primarily on profitable mid- and large-cap companies as well as smaller biotech companies with attractive R&D pipelines, preferably with products already in the final stages of clinical development. A total return of 15% p.a. over a medium- to longer-term investment horizon is targeted.

## *Investment strategy*

### **Focus on equity investments**

The asset classes available to BB Biotech are direct investments in the shares of listed companies, equity interests in unlisted companies, corporate bonds, and options on a range of underlying assets. BB Biotech invests almost exclusively in stocks for liquidity and risk/return reasons. Investments in private companies can account for no more than 10% of the portfolio. These investments will generally be increased if stock markets advance over a longer period of time. Corporate bonds are an alternative primarily when stock market trends are negative. Options on the stocks of portfolio companies will be bought and sold at opportune times and as a means of hedging currency exposure.

### **Fundamental, bottom-up investment process**

Exhaustive, multi-stage due diligence precedes the selection of individual investments. We must have a thorough understanding of every company we invest in. Before an investment is made, the team analyzes a company's financial statements in detail and assesses its competitive environment, R&D pipeline, and patent portfolio as well as its customers' perceptions of its products and services. Close contact with company executives is of high importance to us in this due diligence process, but also afterwards, as we believe that it takes strong leaders to achieve strong results. Having such a profound understanding of the companies in its portfolio improves BB Biotech's investment tactics, allowing it, for example, to exit a position in a timely fashion if there are signs of a significant deterioration in a company's fundamentals.

BB Biotech relies on the long-standing experience of its distinguished Board of Directors and on the fundamental analysis of the experienced Investment Management Team of Bellevue Asset Management Group when making its investment decisions. It can also turn to an extensive international network of physicians and specialists in individual sub-segments of the biotech industry for further support and advice. The Investment Management Team creates detailed financial models for all portfolio holdings and they must provide compelling arguments that these holdings have the potential to double in value over a four-year time

frame. Upside potential is driven in most cases by the power of innovation, the launch of new products for serious or significant illnesses, and successful company management.

### **Portfolio with clear areas of focus**

BB Biotech's investment portfolio will usually consist of 20 to 35 biotechnology companies. This will include five to eight large core positions, which together will account for up to two-thirds of the portfolio. Due to their substantial portfolio weighting, the core portfolio companies must have sound business models and be generating both revenues and profits. No single core position will have a weighting of more than 25%. Smaller positions will be taken in innovative biotech companies with promising R&D pipelines. Europe's biotech sector has produced few truly attractive investment opportunities in recent years, but there has been a wide variety of fast-growing companies to choose from in the USA. This situation is also reflected in BB Biotech's portfolio. As a result of our fundamental stock-picking approach, more than four-fifths of the current portfolio companies are based in the USA.

### **S-curve concept**

New investments in mid-cap companies will have a weighting of between 0.5% and a maximum of 4% to ensure that both upside potential and R&D risks are adequately addressed. Technically, BB Biotech has the flexibility to increase portfolio weightings considerably. Smaller positions may become a top holding as their business develops and milestones such as positive Phase III outcomes, drug approvals, the successful marketing of products, and a sustainable flow of profits are achieved. The top holdings are continually monitored, taking into account their valuations, growth potential and other aspects, and will be reduced if and when appropriate.

## Participations as at December 31, 2017

Company	Number of securities	Change since 12/31/2016	Local currency	Share price	Market value in CHF mn	In % of securities	In % of shareholders' equity	In % of company
Ionis Pharmaceuticals	8 136 334	1 223 162	USD	50.30	398.7	11.0%	11.3%	6.5%
Celgene	3 424 298	(35 000)	USD	104.36	348.1	9.6%	9.8%	0.4%
Incyte	3 698 322	(181 500)	USD	94.71	341.2	9.4%	9.6%	1.8%
Neurocrine Biosciences	3 452 753	301 201	USD	77.59	261.0	7.2%	7.4%	3.9%
Vertex Pharmaceuticals	1 475 445	60 000	USD	149.86	215.4	5.9%	6.1%	0.6%
Gilead	2 774 596	–	USD	71.64	193.6	5.3%	5.5%	0.2%
Radius Health	5 698 799	1 338 400	USD	31.77	176.4	4.9%	5.0%	13.1%
Halozyme Therapeutics	8 520 137	920 305	USD	20.26	168.2	4.6%	4.8%	6.0%
Sage Therapeutics	1 042 439	20 000	USD	164.71	167.3	4.6%	4.7%	2.5%
Alexion Pharmaceuticals	1 354 428	125 000	USD	119.59	157.8	4.4%	4.5%	0.6%
Esperion Therapeutics	2 362 964	1 054 422	USD	65.84	151.6	4.2%	4.3%	9.0%
Agios Pharmaceuticals	2 719 998	(89 530)	USD	57.17	151.5	4.2%	4.3%	5.6%
Novo Nordisk	2 724 775	(361 077)	DKK	334.50	143.2	3.9%	4.0%	0.1%
Alnylam Pharmaceuticals	1 051 338	(140 000)	USD	127.05	130.1	3.6%	3.7%	1.1%
Juno Therapeutics	1 925 000	55 000	USD	45.71	85.7	2.4%	2.4%	1.7%
Tesaro	1 046 193	71 611	USD	82.87	84.5	2.3%	2.4%	1.9%
Regeneron Pharmaceuticals	205 000	(40 000)	USD	375.96	75.1	2.1%	2.1%	0.2%
Macrogenics	2 600 412	680 412	USD	19.00	48.1	1.3%	1.4%	7.1%
AveXis	402 800	50 000	USD	110.67	43.4	1.2%	1.2%	1.3%
Myovant Sciences	3 507 882	315 047	USD	12.64	43.2	1.2%	1.2%	5.8%
Intra-Cellular Therapies	2 200 000	625 000	USD	14.48	31.0	0.9%	0.9%	4.0%
Wave Life Sciences	856 096	856 096	USD	35.10	29.3	0.8%	0.8%	3.1%
Intercept Pharmaceuticals	485 719	230 000	USD	58.42	27.6	0.8%	0.8%	1.9%
Alder Biopharmaceuticals	2 266 008	580 858	USD	11.45	25.3	0.7%	0.7%	3.3%
Voyager Therapeutics	1 539 520	1 539 520	USD	16.60	24.9	0.7%	0.7%	4.9%
Akcea Therapeutics	1 248 650	1 248 650	USD	17.36	21.1	0.6%	0.6%	1.9%
Five Prime Therapeutics	827 500	827 500	USD	21.92	17.7	0.5%	0.5%	2.9%
Cidara Therapeutics	2 295 272	1 251 448	USD	6.80	15.2	0.4%	0.4%	11.3%
Probiodrug	1 050 784	–	EUR	10.60	13.0	0.4%	0.4%	12.8%
Prothena Corp.	350 000	–	USD	37.49	12.8	0.4%	0.4%	0.9%
Novavax	8 330 000	–	USD	1.24	10.1	0.3%	0.3%	2.6%
Idorsia	323 606	323 606	CHF	25.45	8.2	0.2%	0.2%	0.3%
Achillion Pharmaceuticals	1 279 340	–	USD	2.88	3.6	0.1%	0.1%	0.9%
Radius Health warrants, 04/23/2018	107 114	–	USD	17.86	1.9	0.1%	0.1%	
Radius Health warrants, 02/19/2019	71 409	–	USD	18.35	1.3	0.0%	0.0%	
<b>Total securities</b>					<b>3 627.1</b>	<b>100.0%</b>	<b>102.5%</b>	
Other assets					10.7		0.3%	
Other payables					(99.1)		(2.8%)	
<b>Net asset value</b>					<b>3 538.7</b>		<b>100.0%</b>	
BB Biotech registered shares <sup>1)</sup>	–	(15 715)			–			

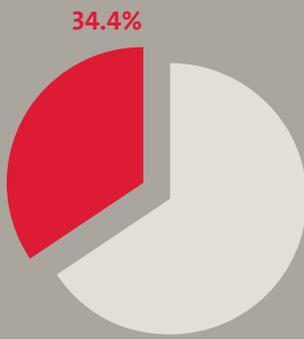
<sup>1)</sup> Correspond to the total of all own shares held including the second trading line

Exchange rates as at 12/31/2017: USD/CHF: 0.97420; DKK/CHF: 15.71020; EUR/CHF: 1.16995





UK is one of the core markets of BB Biotech: Dr. Daniel Koller, Head Investment Management Team, and Claude Mikkelsen, Investor Relations, of BB Biotech AG.



***Oncology** is a branch of medicine dealing with cancers, of which there are more than 150 different kinds. Novel targeted therapy and immunotherapy approaches developed in biotech labs are taking their place alongside conventional treatment and have massively improved patient survival rates in some cases. There is still a vast unmet medical need for new, more effective therapies in oncology. In continuation of an ongoing trend, the greatest advances are expected from the various immunotherapy approaches.*

### BB Biotech's positions

Celgene	9.6%
Incyte	9.4%
Halozyne Therapeutics	4.6%
Agios Pharmaceuticals	4.2%
Juno Therapeutics	2.4%
Tesaro	2.3%
Macrogenics	1.3%
Five Prime Therapeutics	0.5%

### NEWLY DIAGNOSED CANCER PATIENTS PER YEAR

**1.7 mn**

(USA)

Incyte Pharma, Macrogenics and Five Prime Therapeutics are among the top biotech firms involved in developing a new class of drugs called checkpoint inhibitors. In terms of pivotal regulatory trials, all eyes are on our core investment Incyte, which plans to present top-line results for Epacadostat in the treatment of melanoma by mid-2018.

The biggest recent breakthrough has been a gene therapy technology based on chimeric antigen receptor T-cells (CAR-T). Immune cells taken from a patient are genetically engineered to target and destroy cancer cells and then re-infused to the patient. Unlike with conventional treatments, clinical trials of CAR-T therapies have demonstrated a complete disappearance of cancer cells in up to 40% of patients who were no longer responding to standard-of-care treatments. Pioneers of CAR-T therapy include our portfolio investments Juno Therapeutics and Kite Pharma. 2018 will be a crucial year for Juno Therapeutics if JCAR017 is approved to treat non-Hodgkin's lymphoma. Kite Pharma was acquired by our longtime core investment Gilead Sciences in August 2017. The product developed by Kite was granted US FDA approval two months later under the brand name Yescarta. Yescarta's earning power could soar to new heights if the product receives EU approval in 2018.

US company Agios specializes in anticancer drugs that attempt to exploit the differences in metabolism between cancer cells and healthy cells. The company's main efforts have focused on IDH proteins in acute myeloid leukemia (AML). Agios filed for US FDA approval of ivosidenib (an IDH2 inhibitor) for the treatment of relapsed/refractory AML in December 2017.





*«In 2017, the first two drugs based on a gene therapy approach were approved in the US.»*

**Felicia Flanigan**  
Investment Management Team

### Milestones from BB Biotech's portfolio

#### 2015

Revlimid (multiple myeloma)  
**Celgene**

orale Varubi (chemotherapy-induced emesis, CINV)  
**Tesaro**

#### 2016

Vidaza (acute myeloid leukemia)  
**Celgene (US)**

#### 2017

Revlimid (multiple myeloma)  
**Celgene (EU)**

Zejula (ovarian cancer)  
**Tesaro**

Nerlynx (breast cancer)  
**Puma Biotechnology**

Idhifa (leukemia)  
**Agios**

Yescarta (non-Hodgkin-lymphoma)  
**Gilead (Kite) (US)**

#### 2018 E

AG-120 (acute myeloid leukemia)  
**Agios (US)**

Yescarta (non-Hodgkin-lymphoma)  
**Gilead (EU)**

JCAR17 (non-Hodgkin-lymphoma)  
**Juno Therapeutics**

**Luspatercept** (beta thalassemia/MDS)  
**Celgene**

**Epacadostat** (melanoma)  
**Incyte**

**Ruxolitinib** (graft-versus-host-disease)  
**Incyte**

**JCAR17** (non-Hodgkin-lymphoma)  
**Juno Therapeutics**

**Niraparib** (breast cancer)  
**Tesaro**

**Cemiplimab** (cutaneous squamous cell carcinoma)  
**Regeneron**

**Revlimid** (ABC Typ DLBCL/r/r follicular lymphoma)  
**Celgene**

**Abraxane** (pancreatic cancer)  
**Celgene**

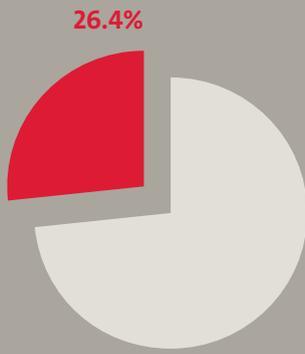
**PEGPH20** (cancer)  
**Halozyme**

Approvals  
**Clinical results**  
**(Region of approval)**

### Oncology in numbers

According to estimates by the World Health Organization (WHO), the annual number of newly diagnosed cases of cancer is set to rise from 14 to 17 million between 2012 and 2020. In the US, 1.7 million new cancer cases will be diagnosed annually, according to forecast by the National Cancer Institute. About a quarter of all new cancer cases will be diagnosed in China, more than in any other country. The most common types of cancer are breast cancer, lung cancer, prostate cancer, and colon and rectum cancer.

Approximately 500 biopharmaceutical companies worldwide are involved in cancer drug research and development. As for the development of new products, 2017 brought hope for many: the number of new cancer treatments approved in the US, the world's largest drug market, rose from 11 in the previous year to 16. Among the approvals worth noting were the first two medicines whose mechanism of action involves a gene-based approach called CAR-T cell therapy. The first gene therapy product, Kymriah from Novartis, was approved in August, and was followed by the approval of Yescarta in October. Experts expect both products to generate peak sales of a billion or more.



*Orphan diseases* are rare conditions that affect no more than 5 out of 10 000 people. More and more biotech companies are engaging in research & development in orphan diseases. Half of the medicines approved last year were developed for this sector. Therapies for inherited rare diseases (orphan diseases) have seen a number of seminal breakthroughs in recent years. The top beneficiaries included our three of our portfolio companies: Ionis Pharmaceuticals, Alnylam Pharmaceuticals and Vertex Pharmaceuticals.

### BB Biotech's positions

Ionis Pharmaceuticals	11.0%
Vertex Pharmaceuticals	5.9%
Alexion Pharmaceuticals	4.4%
Alnylam Pharmaceuticals	3.6%
Avexis	1.2%
Prothena Corp.	0.4%

### NUMBER OF AFFECTED PEOPLE ORPHAN DISEASES

**350 mn**

(worldwide, Global Genes Project)

Our core investment Ionis specializes in antisense RNA technology, which is a natural means to control the production of a protein through its genetic code. In collaboration with Biogen, Ionis launched its first potential blockbuster in late 2017 with the approval of Spinraza for the treatment of spinal muscular atrophy. 2018 could be the year Ionis achieves the ultimate breakthrough in the commercialization of its antisense platform if the two products Inotersen and Volanesorsen are approved. The latter is commercialized by Akcea.

Alnylam's share price more than tripled in the space of a year. The major catalyst here was the announcement in September 2017 of positive top-line results for Patisiran for use in the treatment of TTR amyloidosis, a condition resulting in damage to the nervous system or the heart muscle. Alnylam filed for approval in December 2017 and is expecting approval decisions for the US and Europe in the second half of 2018. Pivotal regulatory data for Givosiran, a drug to treat acute hepatic porphyria, should be out by mid-2018. Alnylam has constructed its product pipeline around its proprietary technology platform for developing therapeutics based on RNA interference (RNAi). This treatment approach selectively blocks the synthesis of specific disease-causing proteins.

Vertex has successfully established itself in a medical and commercial niche market. The company's two drugs Orkambi and Kalydeco for the treatment of cystic fibrosis, a metabolic disorder of the tissues lining the respiratory tract caused by a genetic mutation, are generating billions in sales revenues. New sources of revenue could be tapped in 2018 if a new combination therapy is approved.





«Companies that are active in niche indications have a high pricing power.»

Dallas Webb  
Investment Management Team

### Milestones from BB Biotech's portfolio

2015	2016	2017	2018 E	
Orkambi (cystic fibrosis) <b>Vertex</b>	Alprolix (hemophilia B) <b>Swedish Orphan Biovitrum/ Biogen Idec (USA)</b>	Spinraza (spinal muscular atrophy) <b>Ionis (EU)</b>	VX-661+770 (cystic fibrosis) <b>Vertex</b>	<b>ALXN1210</b> (paroxysmal nocturnal hemoglobinuria) <b>Alexion</b>
Strensiq (hypophosphatasia, HPP) <b>Alexion</b>	Spinraza (spinal muscular atrophy) <b>Ionis (USA)</b>		Orkambi (cystic fibrosis) <b>Vertex (USA, 6 to 11 year olds)</b>	<b>NED001</b> (AL amyloidosis) <b>Prothena</b>
Kanuma (LAL deficiency) <b>Alexion</b>			Inotersen (familial adenomatous polyposis) <b>Ionis (USA)</b>	Approvals <b>Clinical results</b> <b>(Region of approval)</b>
Elocta (hemophilia) <b>Swedish Orphan Biovitrum/ Biogen Idec (EU)</b>			Patisaran (familial adenomatous polyposis) <b>Alnylam (USA)</b>	
			Volanesorsen (familial chylomicronemia syndrome) <b>Ionis (USA)</b>	

### Orphan diseases in numbers

There are various definitions of rare, predominantly inherited diseases. Orphan diseases are defined as conditions affecting fewer than five in 10 000 people in the EU and fewer than 7.5 in 10 000 people in the US. About 7 000 rare inherited diseases have been identified. According to Global Genes Project estimates, 350 million people worldwide suffer from the rare inherited conditions known as orphan diseases. In many such cases, an enzyme deficiency is responsible for causing severe and potentially life-threatening metabolic disorders. Just under half of people affected are children, 30% of whom die of the disease before reaching their fifth birthday. Only 5% of all orphan diseases are treatable at this time.

New regulatory directives and laws to promote the treatment of orphan diseases have prompted a significant uptick in the number of clinical trials over the past few years. Companies that bring a product to market in these niche areas have major pricing clout because of the limited patient populations. Orphan drug margins are therefore quite high.



*Neurological diseases* include conditions such as Alzheimer's, Parkinson's and multiple sclerosis for which few effective treatment options currently exist. Biotech firms are starting to deliver new treatment approaches for neurological disorders and may help in this way to meet the high unmet medical need.

### BB Biotech's positions

Neurocrine Biosciences	7.2%
Sage Therapeutics	4.6%
Intra-Cellular Therapies	0.9%
Wave Life Sciences	0.8%
Alder Biopharmaceuticals	0.7%
Voyager Therapeutics	0.7%
Probiodrug	0.4%

### NUMBER OF PARKINSON'S PATIENTS

**6.3 mn**

(worldwide)

For many years, neurology was a medical sector in which the setbacks in pivotal clinical trials far outnumbered the successful outcomes. The latest development at our portfolio company Sage Therapeutics is proof, however, that a product candidate that has failed to show the hoped-for clinical activity in one therapeutic indication can still make a huge breakthrough in a different disease area. The US biotech company has specialized in drugs that modulate GABA and NMDA receptors on neurons. Its stock price came under pressure in September 2017 when Brexanolone, the most advanced candidate in the pipeline, failed to achieve clinical trial endpoints in the treatment of super refractory status epilepticus, a life-threatening seizure condition in epilepsy patients. The positive turnaround came in November following the publication of very good efficacy data for Brexanolone in the treatment of women with moderate to severe depression after childbirth (postpartum depression, PPD). More good news followed in December with the announcement of positive top-line efficacy results from a clinical trial in patients with depression. An approval decision for the injectable drug in PPD is expected in 2018. The next-generation product for oral use, SAGE-217, is also being tested for PPD and major depression, essential tremor and Parkinson's disease. Promising Phase II results in major depression were reported in December 2017.

Neurocrine Biosciences, another BB Biotech investment whose focus areas include neurological disorders, has also delivered a stellar stock performance. Neurocrine received the green light from the US FDA in early 2017 for Ingrezza for the treatment of tardive dyskinesia. Dyskinesia is characterized by involuntary movements occurring as a side effect of treatment with psychotherapeutic drugs. Another milestone in the company's history is awaited in 2018 with the decision on US approval of elagolix for endometriosis (a painful condition where the tissue lining the uterine cavity grows outside the uterus). Elagolix is expected to generate billions in peak annual sales. Neurocrine licensed the product to pharmaceutical company AbbVie and would receive royalties on product sales if approval is granted.





*«The first effective Alzheimer's therapy could achieve annual sales of up to USD 15 billion.»*

**Dr. Stephen Taubenfeld**  
Investment Management Team

### Milestones from BB Biotech's portfolio

2015	2016	2017	2018 E
		Ingrezza (tardive dyskinesia) <b>Neurocrine</b>	Brexanolone (postpartum depression) <b>Sage Therapeutics</b>
			<b>Eptinezumab</b> (chronic migraine) <b>Alder</b>
			Ozanimod (multiple sclerosis) <b>Celgene</b>
			Approvals <b>Clinical results</b>

### Neurological diseases in numbers

New drug discovery and development in neurology focuses on depression, schizophrenia, migraine, Alzheimer's and addiction. The largest unmet medical need in neurology is Alzheimer's. According to a forecast in the latest World Alzheimer Report, the global prevalence of dementia is set to more than treble to 120 million by 2059 as the global population ages. Industry experts estimate that the annual peak sales of the first approved drug that demonstrates a direct effect on disease progression could approach 15 billion dollars.

Parkinson's is another neurological disease whose prevalence is rising as a result of demographic trends. The NeuroDerm organization estimates that worldwide 6.3 million people have Parkinson's, 1.2 million of whom are in the EU and one million in the United States.

Chronic migraine is another area in which a number of products are now reaching advanced stages of clinical development after decades with no new therapeutic approaches in this indication. Alder Biopharma from BB Biotech's portfolio is among the companies with candidates in the pipeline. More than a billion people worldwide suffer from migraines, of which there are different types and severities.



*Metabolic diseases* may be hereditary or acquired. The spectrum ranges from «lifestyle diseases» like diabetes to rare, fatal hereditary disorders. The Western lifestyle, i.e. a high caloric intake combined with a lack of physical activity, has over the past few decades led to a condition called metabolic syndrome, which is a life-threatening risk factor for coronary heart disease.

### BB Biotech's positions

Radius Health	4.9%
Novo Nordisk	3.9%
Myovant Sciences	1.2%
Intercept Pharmaceuticals	0.8%

### PEOPLE AFFECTED BY METABOLIC SYNDROME

**25%**

(of the 55-65 year olds in Europe)

Most drug development activity in the metabolic disease area focuses on the treatment of diabetes. New drugs in combination with monitoring devices are a stepping stone along the difficult and ultimately perhaps insurmountable path to developing an artificial pancreas. The new systems are designed to enable patients to regulate their blood sugar and insulin levels on a continuous basis in future and thus prevent life-threatening deviations from normal levels.

Type 2 diabetes mellitus is the most common disorder of blood glucose metabolism, accounting for 90% of diabetes cases. New agents such as SGLT2 inhibitors, DDP-4 inhibitors and GLP-1 receptor agonists are being developed to regulate insulin levels in type 2 diabetes. In addition, the drug class of GLP-1 receptor agonists also promote weight loss. This drug class, like SGLT2 inhibitors, leads to a definite reduction in obesity-related mortality, the rate of which is increased in people with diabetes.

The Danish pharmaceutical company Novo Nordisk is the global market leader in insulins with a market share in excess of 40% and is also at the very forefront of the GLP-1 analogue market. With its broad diabetes drug portfolio, the company achieves operating margins far above the pharmaceutical industry average. Ozempic, the GLP-1 agonist approved in the US in early December, gives Novo Nordisk excellent chances of sustaining their leadership for a long time. While the product has been available to date for administration with a once-weekly injection pen, Novo Nordisk plans to submit top-line results for Ozempic in tablet form during the course of 2018. If Ozempic in this more patient-friendly form receives approval, there is a good chance that the product will advance to become the top-selling diabetes drug outright.



*«Ozempic, if approved, could become the best-selling diabetes drug.»*

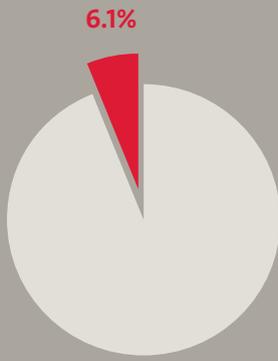
**Dr. Christian Koch**  
Investment Management Team

### Milestones from BB Biotech's portfolio

2015	2016	2017	2018 E
Saxenda (obesity) <b>Novo Nordisk</b>	Ocaliva (primary biliary cholangitis) <b>Intercept (USA)</b>	Tymlos (osteoporosis) <b>Radius Health (USA)</b>	Elagolix (Endometriosis) <b>Neurocrine</b>
Tresiba (diabetes) <b>Novo Nordisk (EU/USA)</b>	Ocaliva (primary biliary cholangitis) <b>Intercept (EU)</b>	Semaglutid sq (type 2 diabetes) <b>Novo Nordisk (USA)</b>	<b>Orale Semaglutid</b> (type 2 diabetes) <b>Novo Nordisk</b>
Praluent (cholesterol) <b>Regeneron/Sanofi</b>			Approvals <b>Clinical results</b> (Region of approval)

### Metabolic diseases in numbers

According to the latest estimates of the International Diabetes Federation (IDF), the number of diabetics worldwide will increase from 415 million in 2015 to 642 million in 2020. China and India will account for half of these cases. The onset of diabetes is strongly associated with weight gain. The World Health Organization (WHO) estimates that 30% to 50% of overweight people also have diabetes. Conversely, 90% of diabetics are overweight or obese (adiposity). The prevalence of a cluster of conditions known as metabolic syndrome in Europeans aged 55–65 is 25%. In people with type 2 diabetes, it is 86%. Metabolic syndrome is defined by the presence of four risk factors: abdominal obesity (adiposity), high blood pressure, dyslipidemia (elevated triglycerides) and insulin resistance that are comorbid conditions or may exacerbate existing conditions. For example, more than 650 million people worldwide are obese, a condition in which an abundance of enlarged fat cells stuffed with triglycerides accumulate in the abdominal area. Obesity, in turn, is strongly associated with two main disorders of diabetes: insulin resistance and in the long term the dysfunction of the beta cells that produce the hormone insulin in the pancreas. Long-term dysregulation of insulin and triglycerides (blood fat) can, in turn, lead to so-called non-alcoholic steatohepatitis (NASH), which is the abnormal build-up of triglycerides in the liver cells, resulting in an inflammatory response over time. NASH is set to become the leading indication for liver transplantation by 2020.



*Infectious diseases* have declined due to improved hygiene, vaccines, and the use of antibiotics, but new epidemics still break out. Biotech drugs have transformed potentially fatal infectious diseases into chronic conditions with a practically normal life expectancy (HIV) or cured them outright (hepatitis C).

### BB Biotech's positions

Gilead	5.3%
Cidara Therapeutics	0.4%
Novavax	0.3%
Achillion Pharmaceuticals	0.1%

### MARKET SHARE GILEAD HEPATITIS C

>60%

(2017)

Thanks to the latest treatments, hepatitis C is now a curable infectious disease. The new drugs are taken in pill form once a day over a period of several months and eliminate the virus completely in more than 95% of all cases. Gilead Sciences is the undisputed market leader with a global market share of more than 60%. Its three drugs Harvoni, Sovaldi, and Epclusa generated aggregate sales of USD 12.8 billion in 2016. However, Gilead can no longer take advantage of its first-mover status on the pricing front, as it was able to do when it launched Sovaldi and Harvoni. Net prices for the drugs, after discounts and other concessions, amounted to less than half of the initial listing price of USD 90 000 per patient. After regulatory approval was granted to other products, the market is now split between Gilead and the pharma manufacturers AbbVie and Merck & Co. In view of the growing market penetration rate as the number of cured patients rises, the slowdown in market growth observed over the past few quarters will gain momentum going forward. New products entering the market will only be able to capture some market share if they shorten the treatment time while delivering the same effect or, in other words, if they offer a complete cure at lower cost.

In the global market for HIV drugs, which have turned this once fatal disease into a chronic medical condition, Gilead has topped the global sales rankings since 2007, but it is facing increasing competition from GlaxoSmithKline's new drug combination therapies. Approval of Gilead's B/F/TAF combination HIV therapy in the US and Europe in 2018 could lead to a renewed upturn in sales. In the anti-inflammatory market, Celgene and its promising Ozanimod treatment are on the verge of a breakthrough. An FDA decision on Celgene's filing of Ozanimod for the treatment of multiple sclerosis (MS) will be announced in 2018. The key question is whether Ozanimod can demonstrate the same efficacy and a more favorable safety profile than Gilenya, a competing product from Novartis that has already been approved.





«New products will only gain market share if they can demonstrate an improved efficacy profile for patients.»

**Dr. Maurizio Bernasconi**  
Investment Management Team

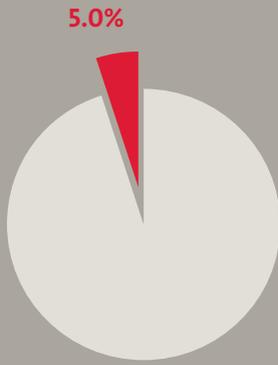
### Milestones from BB Biotech's portfolio

2015	2016	2017	2018 E
<hr/> Genvoya (HIV) <b>Gilead</b>	<hr/> Descovy (HIV) <b>Gilead</b>	<hr/> Dupixent (atopic dermatitis) <b>Regeneron</b>	<hr/> BIC/FTC/TAF (HIV) <b>Gilead</b>
<hr/> Otezla (psoriatic arthritis) <b>Celgene (USA/EU)</b>	<hr/> Odefsey (HIV) <b>Gilead</b>	<hr/> Oluminant (rheumatoid arthritis) <b>Incyte/Eli Lilly (EU/USA)</b>	<hr/> <b>Ozanimod</b> (ulcerative colitis) <b>Celgene</b>
	<hr/> Eplclusa (Hepatitis C) <b>Gilead</b>	<hr/> Kevzara (rheumatoid arthritis) <b>Regeneron</b>	<hr/> Approvals <b>Clinical results</b> <b>(Region of approval)</b>
	<hr/> TAF (HBV) <b>Gilead</b>		

### Infectious diseases in numbers

The universe of anti-infectives can be split into vaccines and antibiotics on the one side and therapies for treating HIV, hepatitis and fungal infections on the other. According to WHO estimates, 500 million people have chronic hepatitis B and 170 million people are infected with hepatitis C. Because of the expensive treatment costs, the target patient populations for the latest hepatitis C treatments, which completely cure the virus, are in the US, where up to four million people are infected, and Europe, where up to ten million people have the disease.

The situation for HIV/AIDS treatments is similar. According to the latest United Nations estimates, about 35 million people worldwide are living with HIV. Less than half of them have access to vital HIV drugs. Looking beyond the viral diseases, the growing resistance of pathogens to antibiotics poses a serious threat. The WHO estimates that multidrug-resistant bacteria currently cause 700 000 deaths a year in hospitals alone. The market for antibiotics is heavily fragmented, particularly because of the growing number of generics in the marketplace. Recently, several ongoing clinical trials failed to produce the desired results.



*Cardiovascular diseases* are still the leading cause of death worldwide. A westernized lifestyle is one of the main risk factors. Timely prevention, detection, and treatment are major goals. New treatment approaches from biotech labs stand to benefit patients and the healthcare system. In the United States alone, more than 10 million people need new medicines because conventional treatments have failed to achieve cholesterol reduction targets.

### BB Biotech's positions

Esperion Therapeutics	4.2%
Akcea Therapeutics	0.6%
Idorsia	0.2%

### DEATHS BY CARDIOVASCULAR DISEASES

**17.7 mn**

(2015, worldwide)

Cholesterol-lowering drugs are one of the most lucrative drug classes from an investor's point of view, although the market for these drugs is also fiercely competitive. Amid eroding prices for chronic disease drugs, new cholesterol-lowering drugs have blockbuster potential provided they are an alternative to statins, which inhibit cholesterol synthesis in the liver.

A new mechanism of action developed by Regeneron Pharma and Amgen is based on monoclonal antibodies that inactivate the protein PCSK9. This enables LDL receptors to develop more effectively, with the result that liver cells are better able to absorb and degrade harmful LDL cholesterol. PCSK9 inhibitors can reduce cholesterol levels by up to half. The primary target group for the agent is high-risk patients in stable health with a history of heart attack or stroke. Another BB Biotech portfolio company, Alnylam, has developed a new therapeutic approach that switches off specific gene fragments that cause disease. Ionis Pharma has already received marketing authorization for Kynamro, a lipid lowering agent, in a niche indication, and is conducting clinical trials with another drug candidate based on the company's proprietary antisense technology platform.

Among the companies in BB Biotech's portfolio, Esperion Therapeutics has the most exciting potential stock catalysts going into 2018. The active substance bempedoic acid for oral use is intended mainly for patients who are unable to tolerate conventional statins or who still have high cholesterol despite statin treatment. This catalyst will depend on whether the next clinical readings for the substance as monotherapy and in combination with Ezetimibe are sufficient to obtain fast-track approval next year.





*«Cholesterol-lowering drugs that show a greater efficacy have the potential to generate billions in sales.»*

**Dr. Daniel Koller**  
Head Investment Management Team

### Milestones from BB Biotech's portfolio

2015

Uptravi (pulmonary arterial hypertension)  
**Actelion (USA)**

2016

Uptravi (pulmonary arterial hypertension)  
**Actelion (EU)**

2017

2018 E

**Bempedoic acid**  
(LDL-lowering)  
**Esperion**

**Bempedoic acid + Ezetimibe**  
(LDL-lowering)  
**Esperion**

Approvals  
**Clinical results**  
(Country of approval)

### Cardiovascular diseases in numbers

Cardiovascular diseases are the leading cause of death worldwide. According to estimates from WHO, 17.7 million deaths in 2015 were attributable to cardiovascular diseases (CVD), of which 7.4 million to coronary heart disease and 6.7 million to stroke. The incidence of CVD is soaring in emerging and developing countries amid growing prosperity and the concurrent spread of unhealthy lifestyles. In the US, the world's largest market for medicines, over half of the population has high cholesterol, one of the major risk factors for CVD.

More than half of all cardiac medications are either cholesterol-lowering drugs or anticoagulants. The best-selling prescription medicines for treating CVD can also be found in these two categories. Given the pressure on healthcare costs, new drug treatments must show greater efficacy or provide a meaningful therapeutic over existing treatments and do so with fewer side effects. Many new products, in the cholesterol-lowering category for example, are targeting patient groups that have not responded to conventional treatment.



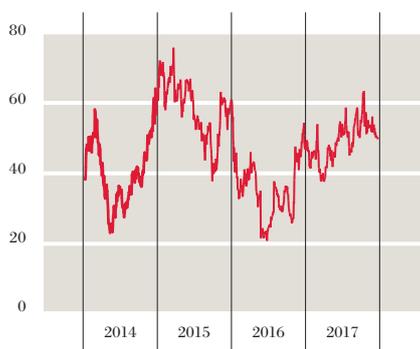


Team New York (f.l.t.r): Dallas Webb, Felicia Flanigan, Dr. Stephen Taubenfeld of the Investment Management Team BB Biotech AG.

MARKET CAPITALIZATION

6.3 bn

(In USD as at 12/31/2017)



**Ionis Pharmaceuticals**

Ionis Pharmaceuticals is the leader in the space of antisense, with over 30 compounds in development using this technology. Antisense allows for the control of protein production at the genetic level. Our focus and investment strategy revolve around the technology platform, which demonstrated significant progress in 2017 with both partnered and proprietary compounds across various severe diseases. Spinraza (partnered with Biogen) was approved in late 2016 following two positive Phase III studies in spinal muscular atrophy, and had a very strong launch throughout 2017. Inotersen, for familial amyloid polyneuropathy, produced positive Phase III data and has been filed in the US and EU. Additionally, Ionis' wholly-owned subsidiary, Akcea, completed a successful IPO and has filed Volanesorsen in the US and EU for familial chylomicronemia syndrome. Our focus going forward is on the company's next generation technologies such as 2.5 and LICA. Thus, Ionis remains an important and truly innovative investment in our portfolio.

MARKET CAPITALIZATION

82.2 bn

(In USD as at 12/31/2017)



**Celgene**

Celgene specializes in oncology and inflammatory diseases and has very strong fundamentals and positive long-term prospects based on products such as Revlimid, Pomalyst, Otezla and its robust pipeline of early-stage products. We expect Revlimid US revenue to continue to grow more than 15% per year, driven by the combined effects of increased prevalence, penetration, duration of treatment. The company's acquisition of Receptos broadened their immunology and inflammation franchise beyond Otezla by gaining access to ozanimod which we expect to be approved in MS this year and continues to be developed for inflammatory bowel disease (IBD). We expect positive news flow from both Celgene and their partners' products in a variety of novel cancer combinations and settings over the next two to three years. Celgene now appears to be rapidly moving toward immuno-oncology by recently gaining partial rights to Durvalumab from AstraZeneca for hematologic malignancies as well as their strategic collaborations with Juno and Bluebird to develop T-cell-based therapies for cancer and autoimmune diseases. The company continues to make strategic deals to bolster its pipeline with promising opportunities.

MARKET CAPITALIZATION

20.0 bn

(In USD as at 12/31/2017)



**Incyte**

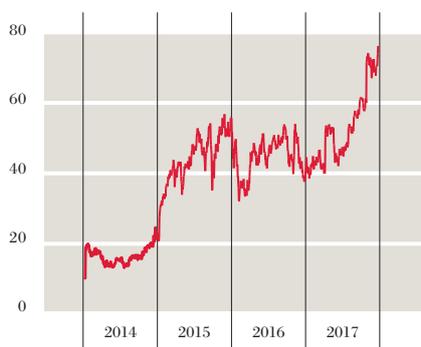
Incyte is focused on hematologic disorders, inflammatory disorders, and cancer. Their marketed product is Jakafi, an oral JAK-2 inhibitor, that received approval in 2011 and 2014, respectively. We estimate that myelofibrosis and polycythaemia vera (PV) represent a USD 3+ bn market opportunity in the US and Europe. Phase III trials in graft versus host disease (GvHD) are also ongoing and could add another USD 500+ mn in sales if positive in 2018. In November 2009, Novartis licensed ex-US rights to Jakafi i. A second-generation JAK-2 inhibitor, Baracitinib, posted positive data from several Phase III trials in rheumatoid arthritis in 2015 and we expect launch into this large market by 2019. Incyte will receive royalties from partner Eli Lilly. Progress on other cancer compounds in its pipeline, including IDO inhibitor Epacadostat, also continues. Indeed, encouraging early results with the combination of Epacadostat and Merck and Bristol-Myers's PD1 inhibitors, Keytruda and Opdivo, in multiple tumor types have been reported. Data from a Phase III trial in melanoma patients are due in H1 of 2018. The company started additional Phase III trials in indications such as lung and head and neck cancer by the end of 2017.

Source: Bloomberg

#### MARKET CAPITALIZATION

# 6.9 bn

(In USD as at 12/31/2017)



#### Neurocrine Biosciences

Neurocrine is a biopharmaceutical company with a focus on women's health and CNS disorders. Its lead candidate, Elagolix, is an oral GnRH antagonist in development for two indications, endometriosis and uterine fibroids. Endometriosis is a condition where part of the endometrium grows outside of the uterus leading to severe pain, painful intercourse, and bleeding. Uterine fibroids is a condition that can lead to painful menstruation and excessive bleeding, and potentially surgical removal of the uterus. Partner AbbVie has filed for approval in endometriosis. AbbVie is also conducting a Phase III program in uterine fibroids, with data expected in early 2018. Neurocrine received approval for Ingressa (Valbenazine) for tardive dyskinesia in mid-2017 and launched the product in the US. The company has also initiated a Phase II dose-escalation study in pediatric Tourette syndrome with data expected in 2018.

#### MARKET CAPITALIZATION

# 40.0 bn

(In USD as at 12/31/2017)



#### Vertex Pharmaceuticals

Vertex's core focus is cystic fibrosis. CFTR potentiator Kalydeco was launched in the US and Europe in 2012 for a subgroup of patients with cystic fibrosis. While the initial market opportunity is limited to around 5% of the patient population, we believe that sales could reach USD 1.0 bn with the inclusion of other small patient populations on the label. Positive Phase III results with the combination of Kalydeco and CFTR corrector VX-809, released in June 2014, enabled Vertex to begin to target the roughly 45% of patients who are homozygous for the most common mutation in the US and Europe in 2015. With this label inclusion, we expect sales of Kalydeco and the Kalydeco/VX-809 combination to reach approximately USD 4 bn. The company is also developing correctors that can be combined with Kalydeco and VX-661 to target the remaining patients who are heterozygous for the mutation. Data from Phase II trials announced in 2017 were highly positive and we expect Phase III trials to start in H1 of 2018 with approval to follow by 2020.

#### MARKET CAPITALIZATION

# 95.6 bn

(In USD as at 12/31/2017)



#### Gilead

Gilead develops drugs primarily for infectious diseases such as HIV, hepatitis B, and hepatitis C, as well as cancer. The first product, Viread, was launched in 2001 and is now firmly established as a key component in treatment regimens for HIV. Most recently, it launched regimens that include a replacement for Viread with a better long-term safety profile, which should enable it to maintain its leadership when Viread goes generic. The introductions of Hepsera and Viread established Gilead as an important player in the treatment of hepatitis B infection. Gilead acquired Pharmasset in early 2012, which enabled it to become the market leader in the USD 20+ bn hepatitis C (HCV) space. Indeed, sales of its lead products, Sovaldi and Harvoni, reached over USD 12 bn in the first nine months of 2016. However, this was followed by a precipitous decline, and we expect a continued decline in future years due primarily to pricing and competition. To offset the declining HCV sales, the company purchased Kite Pharmaceuticals, a leader in CAR-T therapy, in October 2017. The first product, Yescarta, was approved in October 2017 for diffuse large B-cell lymphoma (DLBCL) and we expect label expansions for other hematologic indications to follow.

Source: Bloomberg

MARKET CAPITALIZATION

1.4 bn

(In USD as at 12/31/2017)



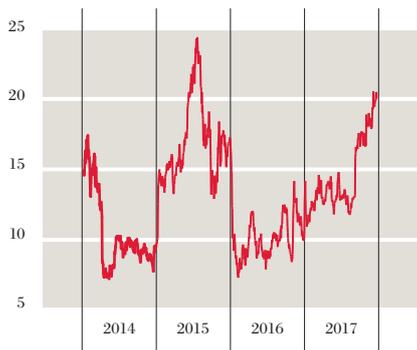
Radius Health

Radius Health is a company focused on women's health and oncology. Its lead product candidate is the subcutaneously delivered Abaloparatide, a synthetic human PTHrP analogue. The faster onset of action and reduction in fractures in nonvertebral sites like the hip and wrist versus Forteo are differentiating and should allow Abaloparatide to capture significant market share. Radius received approval in early 2017, and we expect 2018 to be heavily focused on market access and reimbursement. Importantly, Radius is developing a transdermal patch formulation, which could greatly enhance the outcomes in women with this disease. Transdermal data presented in 2016 showed a meaningful improvement in its profile, and we expect a pivotal study to begin in 2018. Furthermore, the company has RAD1901, a selective estrogen receptor degrader (SERD), in development for estrogen-receptor-positive breast cancer. Following a meeting with the FDA, a potential registrational study will start in 2018.

MARKET CAPITALIZATION

2.9 bn

(In USD as at 12/31/2017)



Halozyme Therapeutics

Halozyme Therapeutics is a biopharmaceutical company with two platforms in its business model. The first is based on partnerships with pharmaceutical companies that use its product rHuPH20 to prepare subcutaneous formulations of intravenous therapies. The company receives a steady flow of royalties from this arm. Partnered products include blockbusters like Avastin and Rituxan as well as newer products such as PCSK9 and Daratumumab. The second platform is PegPH20, which is being tested in the treatment of pancreatic cancer and lung cancer. A Phase III study in pancreatic cancer has started enrollment in the first half of 2016 and is expected to read out on PFS by year end 2018. PegPH20 is also being tested in combination regimens with Keytruda in NSCLC/GC as well as in various tumor types in combination with Roche's Tecentriq.

MARKET CAPITALIZATION

6.8 bn

(In USD as at 12/31/2017)



Sage Therapeutics

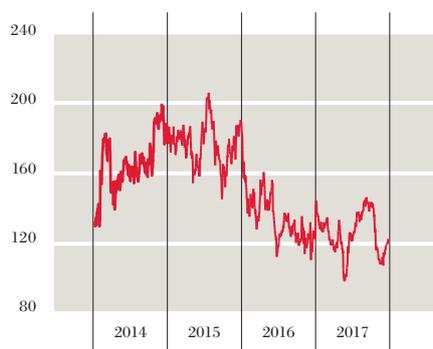
Sage Therapeutics is a clinical-stage biopharmaceutical company focused on developing therapies for rare CNS disorders utilizing their GABA-A receptor-targeted proprietary platform. The company's lead program, Brexanolone, is in Phase III development as an IV treatment for post-partum depression (PPD). Brexanolone has shown rapid and durable efficacy with excellent tolerability, which sets it apart from all classes of drugs currently used in the field of depression and mood disorders. An oral, follow-on version of brexanolone, SAGE-217, has also recently shown significant early clinical success in a Phase II trial in major depressive disorder (MDD), while a Phase II study in PPD is due to read out later this year. SAGE-217 is also being investigated in essential tremor and Parkinson's disease. Sage also has an NMDA program with SAGE-718 in Phase I, targeting several orphan neurological indications.

Source: Bloomberg

MARKET CAPITALIZATION

26.7 bn

(In USD as at 12/31/2017)



Alexion Pharmaceuticals

Alexion is developing drugs for rare disorders. Its lead product Soliris was approved in the US and Europe in 2007 for paroxysmal nocturnal hemoglobinuria (PNH) and we expect sales in PNH to reach about USD 2.0 bn. Atypical hemolytic uremic syndrome (aHUS) is the next indication for which Soliris gained approval in the US and Europe in 2011. We estimate it adds another USD 2.0 bn market opportunity for Soliris. Other indications such as myasthenia gravis and neuromyelitis optica could add an additional USD 1.0 to 2.0 bn in sales. To maintain its dominance, Alexion is in advanced development with a next-generation Soliris, ALXN-1210, which has an improved dosing profile and should report Phase III results in H1 of 2018. To diversify the revenue base away from Soliris, the company received approval of a novel compound for hypophosphatasia, Asfotase Alfa, in March 2015 and sales to date have exceeded expectations. In addition, Alexion gained Kanuma for lysosomal acid lipase (LAL) deficiency via its May 2015 acquisition of Synageva for USD 8.4 bn, and while the launch has been slow, the product should eventually be a more meaningful contributor to revenue.

MARKET CAPITALIZATION

1.7 bn

(In USD as at 12/31/2017)



Esperion Therapeutics

Esperion Therapeutics is focused on the development of treatments for cardio-metabolic diseases. ETC-1002 is the only clinical asset and has completed multiple clinical trials and has now initiated its complete Phase III program. ETC-1002's main target ATP citrate lyase is located upstream of where statins work and ultimately reduces LDL cholesterol by upregulation of the LDL receptor. ETC-1002 has shown LDL cholesterol reduction levels of up to 30% as monotherapy and up to 50% in combination with ezetimibe. In contrast to the recently approved subcutaneously administered PCSK9 antibodies, ETC-1002 poses a convenient and more economic once-daily oral solution. To date ETC-1002 has not shown any significant safety signals such as statin-typical myalgia. Primary markets for ETC-1002 will be the statin-intolerant population as well as additional treatment for patients whose LDL cholesterol levels are not sufficiently controlled with a statin. Phase III monotherapy and fixed-dose combination trial read-outs are due from Q2 to Q4 2018 and regulatory submissions are expected by year-end 2018/early 2019.

MARKET CAPITALIZATION

2.8 bn

(In USD as at 12/31/2017)



Agios Pharmaceuticals

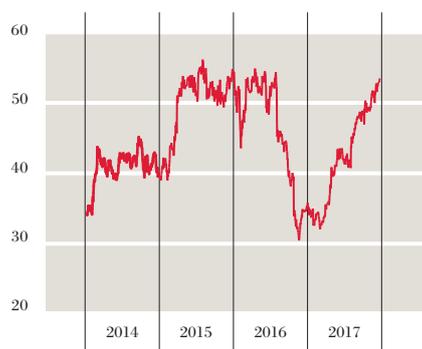
The two most advanced oncology programs of Agios Pharmaceuticals are targeting mutations in the isocitrate dehydrogenase 1 and 2 (IDH1 and IDH2) enzymes, which are implicated in hematologic malignancies and solid tumors. Data with IDH2 inhibitor Idhifa (AG-221) were compelling and due to the high response rate and well-defined group of patients who benefited, the drug was given an accelerated approval in August 2017. We estimate the worldwide market opportunity for Idhifa at USD 750 mn for acute myeloid leucemia (AML). Celgene has worldwide rights to Idhifa, and Agios will receive milestones and an estimated 15% royalty on sales. Data with IDH1 inhibitor AG-120 in AML were also promising and an NDA submission was filed end 2017. Results with AG-120 in rare solid tumors were not as compelling as hoped, and we include little revenue potential from these indications despite continued development. Finally, the company is developing AG-348, a novel compound for the treatment of pyruvate kinase deficiency that reported compelling proof-of-concept data and should lead to the start for pivotal trials in 2018.

Source: Bloomberg

MARKET CAPITALIZATION

135.0 bn

(In USD as at 12/31/2017)



**Novo Nordisk**

Novo Nordisk is a leader in the global diabetes market. Novo's once-weekly GLP-1 analogue, Ozempic (semaglutide SQ), has been approved in the US in December 2017 for type 2 diabetes and will be a significant growth driver for the company. A clean label and a superior data set should allow for a very competitive profile. Additionally, we expect oral semaglutide to garner more attention as we will see Phase III data start to emerge in 2018. This compound, if successful, would be the most efficacious oral anti-diabetic drug ever approved. Tresiba's launch has been going well and should help drive Novo Nordisk's long-term penetration in the modern insulin space. Victoza (daily SQ GLP-1) continues to grow. In 2016, Novo refined its long-term growth expectations downward, as the entire insulin market is facing pricing headwinds in the US, which is now reflected in current estimates.

MARKET CAPITALIZATION

12.6 bn

(In USD as at 12/31/2017)



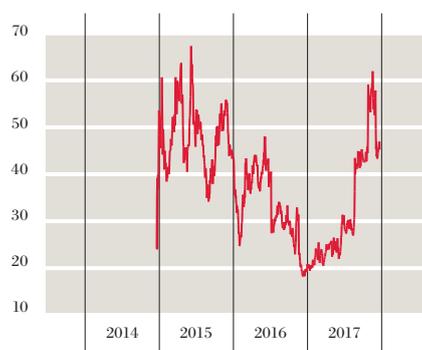
**Alnylam Pharmaceuticals**

Alnylam Pharmaceuticals is the market leader in RNA interference (RNAi) therapeutics. This treatment approach selectively blocks the synthesis of specific disease-causing proteins. Alnylam has a broad pipeline of candidates, including five programs that have advanced to the clinical development stage. The furthest along the pipeline currently awaiting regulatory approval is Patisiran which targets TTR amyloidosis, a rare and serious disorder in patients diagnosed with familial amyloidotic polyneuropathy (FAP). Other interesting programs include Fitusiran, which pursues a revolutionary approach in the treatment of hemophilia and rare bleeding disorders, and Givosiran for the treatment of acute hepatic porphyrias. Both RNAi therapeutics are currently in Phase III development. Alnylam continues to support its collaboration with The Medicines Company in their advancement of inclisiran into Phase III studies which investigates RNAi disruption of PCSK9 for the treatment of hypercholesterolemia. Data thus far have been supportive of a once-quarterly and possibly biannual subcutaneous dose regimen which has obvious advantages over recently approved PCSK9 antibody therapies.

MARKET CAPITALIZATION

5.2 bn

(In USD as at 12/31/2017)



**Juno Therapeutics**

With its collaborators Memorial Sloan-Kettering Cancer Center, Fred Hutchinson Cancer Research Center, and Seattle Children's Research Institute, Juno is a leader in the development of chimeric antigen receptor (CAR) T cells for cancer. The lead compound in development is JCAR017, which targets CD19 for patients with relapsed/refractory diffuse large B cell lymphoma (DLBCL) and other hematologic malignancies. Results from a Phase I/II trial showed a high complete response rate in DLBCL patients with an acceptable safety profile to date. The positive data led to the start of a pivotal trial with JCAR017 that should yield data in 2018. Should the profile seen in the Phase I/II trial hold up, the product could be differentiated from competing CAR-T products on the market from Gilead and Novartis. Celgene has ex-US rights to JCAR017. Meanwhile, Phase I/II trials with additional CARs targeting solid tumors should begin to yield data in 2018.

Source: Bloomberg

MARKET CAPITALIZATION

4.5 bn

(In USD as at 12/31/2017)



Tesaro

The first marketed product of Tesaro, Rolapitant, is a neurokinin-1 (NK-1) receptor antagonist that completed Phase III trials for the prevention of chemotherapy induced nausea and vomiting (CINV) in 2014. The results were positive and approval in the US was received in September 2015. Niraparib is a PARP inhibitor that had shown promising efficacy in patients with BRCA+ breast and ovarian cancer in early trials. In 2016, the company announced highly positive results from a Phase III trial in platinum-sensitive ovarian cancer and approval with a broad label was granted in 2017. Multiple additional trials designed to expand Niraparib's potential in ovarian and other cancers are underway, and some data will be available in 2018. Meanwhile, the company licensed several compounds that gave them an entry into the immuno-oncology space, and clinical trials with those targeting PD1, TIM-3, and LAG-3 are progressing and should yield results in 2018.

MARKET CAPITALIZATION

4.0 bn

(In USD as at 12/31/2017)



Regeneron Pharmaceuticals

Regeneron is focused on developing monoclonal antibodies. The blockbuster success of Eylea, a VEGF inhibitor indicated for ophthalmic disorders, has been the primary driver of growth for the company. We expect near-term growth to continue in 2018 as Eylea gains broader adoption in wet AMD and expands into DME. Regeneron holds a partnership with Bayer Healthcare for the development, marketing, and sale of Eylea outside of the US. Regeneron also holds a partnership with Sanofi, with whom they have commercialized three products thus far and, more importantly, have a deep pipeline of assets the two partners are co-developing. Praluent for hypercholesterolemia is approved by the FDA for heterozygous familial hypercholesterolemia or clinical atherosclerotic cardiovascular disease patients who need additional lowering of LDL cholesterol. Kevzara and Dupixent have recently been approved for rheumatoid arthritis and atopic dermatitis, respectively. With Teva and Mitsubishi Tanabe, the company is also developing Fasinumab, an antibody to nerve growth factor for pain therapy. Regeneron also has collaboration agreements with Intellia Therapeutics to advance CRISPR/Cas gene-editing technology.

MARKET CAPITALIZATION

699 mn

(In USD as at 12/31/2017)



Macrogenics

Macrogenics has multiple compounds in clinical development that were generated using its propriety Fc-optimization technology that simultaneously reduces resp. enhances binding to inhibitory resp. activating FcyRs, thus dramatically increasing antibody-dependent cellular cytotoxicity (ADCC), and its DART (dual-affinity re-targeting) platform. The company believes its DART platform has overcome the challenges of construct instability and short half-lives encountered by other dual-specific antibodies by incorporating proprietary covalent disulfide linkages and particular amino acid sequences that efficiently pair the chains of the DART molecule. This results in a structure with enhanced manufacturability, long-term structural stability, and the ability to tailor the half-lives of the DARTs to their clinical needs. Data from clinical trials with multiple products, including immuno-oncology agent MGA271, are expected through 2018.

Source: Bloomberg

MARKET CAPITALIZATION

3.5 bn

(In USD as at 12/31/2017)



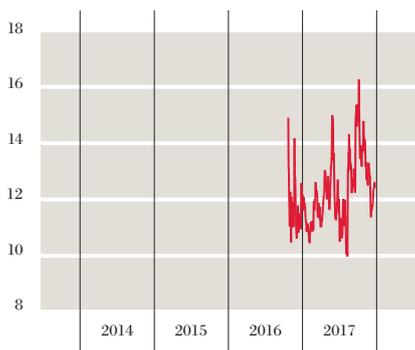
Avexis

Avexis is a clinical stage company using its gene therapy platform to address serious, unmet diseases. Its gene therapy technology utilizes the adeno-associated virus 9 vector (AAV9) to deliver functional genes to cells in order to produce fully function proteins where they are deficient. The company's lead product is AVXS-101, in Phase III for the treatment of spinal muscular atrophy 1 (SMA 1). SMA is a disease where motor neuron lack a functional, crucial protein called SMN1, leading to severe motor deficiencies, muscle wasting, and also death. AVXS-101 is administered only once, and uses the AAV9 vector to deliver the functional SMN1 gene to the motor neurons in SMA patients. In the ongoing Phase I trial, SMA 1 infants have seen dramatic improvements in their motor scores and functionality. Avexis will meet with the FDA in early 2018 to discuss potential accelerated approval based on the Phase I data. The company also plans on starting a Phase I trial in SMA 2 patients imminently. The company will also leverage its platform to bring additional products into development in the coming quarters.

MARKET CAPITALIZATION

770 mn

(In USD as at 12/31/2017)



Myovant Sciences

Myovant is a biopharmaceutical company with a focus on endocrinology in women's and men's health. Its lead candidate, Relugolix, is an oral GnRH antagonist in Phase III development for three indications, endometriosis, uterine fibroids, and advanced prostate cancer. Endometriosis is a condition where part of the endometrium grows outside of the uterus leading to severe pain, painful intercourse, and bleeding. Uterine fibroids is a condition that can lead to painful menstruation and excessive bleeding, and potentially surgical removal of the uterus. Advanced prostate cancer is cancer of the prostate that continues to grow despite castration and/or radiation. Partner Takeda announced positive data from two Phase III trials in uterine fibroids in Japanese women, further validating Relugolix's mechanism of action. We expect data from all three Phase III trials in the US in 2019. Myovant owns worldwide rights outside of Asia.

MARKET CAPITALIZATION

790 mn

(In USD as at 12/31/2017)



Intra-Cellular Therapies

Intra-Cellular Therapies is a biopharmaceutical company developing treatments for disorders that affect the central nervous system. Their wholly owned lead product candidate is ITI-007, or Lumateperone, a 5-HT2A serotonin receptor antagonist that also modulates dopamine and serotonin transporters, which recently completed two Phase III clinical trials for the treatment of schizophrenia. Lumateperone could prove highly differentiated from other anti-psychotics due to its ability to modulate multiple neurotransmitter pathways simultaneously. This was demonstrated in their first pivotal Phase III trial which showed strong efficacy and placebo-like safety. Tolerability and compliance on current schizophrenia therapies is challenging due to a range of motor and metabolic side effects, which is where Lumateperone has proven to be differentiated. Intra-Cellular is also evaluating Lumateperone in two Phase III trials for the treatment of bipolar depression to be completed during the second half of 2018, while another pivotal study investigating agitation in patients with dementia, including Alzheimer's disease, will read out by the end of 2018. The company also has a PDE inhibitor, ITI-214, in Phase I trials evaluating its role in Parkinson's disease and other indications.

Source: Bloomberg

MARKET CAPITALIZATION

**975 mn**

(In USD as at 12/31/2017)



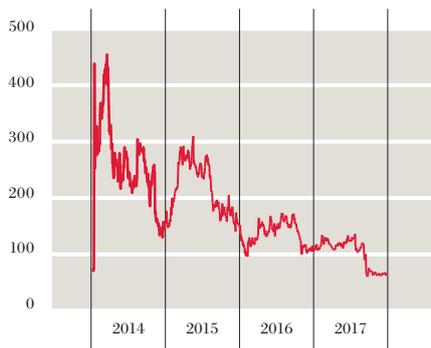
**Wave Life Sciences**

Wave is a leader in the space of stereochemistry, with an initial focus on antisense oligonucleotides (ASOs) and exon skipping. In simple terms, stereochemistry refers to the three-dimensional structure of a molecule and how this affects its chemical properties. Current ASOs can contain hundreds to hundreds of thousands of various enantiomers (stereomixture), many of which do not contribute to efficacy, but could be causing toxicity. Wave is able to specifically design their individual molecules (stereopure) to contain the desired properties, thus potentially enhancing potency and minimizing toxicity. The company's lead product is in Phase I/II development for Huntington's disease and targets very specific point mutations in order to knock down the mutant protein. We expect data in early 2019. Wave's second program recently entered Phase I development for Duchenne muscular dystrophy (DMD) and acts by skipping exon 51. Initial data are expected in the third quarter of 2018.

MARKET CAPITALIZATION

**1.5 bn**

(In USD as at 12/31/2017)



**Intercept Pharmaceuticals**

Intercept Pharmaceuticals is focused on the development of synthetic bile acid analogs for the treatment of cholestatic liver diseases. This disease area primarily includes the highly prevalent non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH) as well as the orphan diseases primary biliary cirrhosis (PBC) and primary sclerosing cholangitis (PSC). Intercept's lead product is obeticholic acid (OCA), a first-in-class farnesoid X receptor (FXR) agonist. OCA has been approved in the US and Europe in 2016. As a second and commercially far more attractive indication, Intercept also started a pivotal trial for NASH. Results from this trial are expected to be published in H1 of 2019. NASH, being an obesity and metabolic syndrome-linked disease, has the potential to take on epidemic proportions in western and emerging societies over the coming years. It is projected to be the leading cause of costly liver transplants and liver cancer by 2020. With currently no drug approved, there clearly is an unmet medical and health economic need for new treatments. Intercept's OCA is the drug furthest in development for NASH and the first to show an anti-fibrotic effect in the liver.

MARKET CAPITALIZATION

**776 mn**

(In USD as at 12/31/2017)



**Alder Biopharmaceuticals**

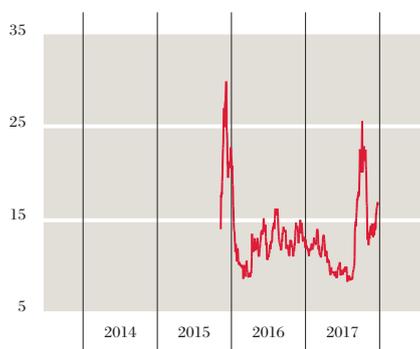
Alder is a clinical-stage company with a differentiated antibody discovery and manufacturing platform to design and select antibodies that have the potential to maximize efficacy in various therapeutic indications including inflammatory and neurological conditions. Their clinical candidate, eptinezumab, is an antibody that inhibits calcitonin gene-related peptide (CGRP), a well-validated molecular target shown to trigger migraine attacks. Eptinezumab has recently completed Phase III clinical testing for the prevention of both chronic and frequent episodic migraines. Data were highly significant and notable for achieving rapid, robust and durable efficacy. Alder is the only company with an anti-CGRP asset that is developing a durable, intravenous formulation to be administered by neurologists in-office – an infusion that could be given every three months, compared to monthly or biweekly self-administered subcutaneous injections at home. The company expects to apply for FDA approval by the end of 2018. A self-administration strategy for Eptinezumab to be dosed every three months is also being developed in addition to two preclinical programs expected to enter the clinic in the future.

Source: Bloomberg

MARKET CAPITALIZATION

522 mn

(In USD as at 12/31/2017)



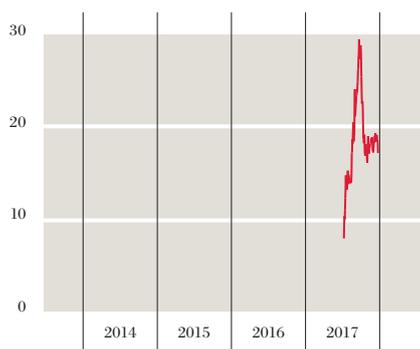
Voyager Therapeutics

Voyager is a clinical-stage biotech company focused on developing novel genetically targeted therapies to treat CNS diseases. The company's lead asset, VY-AADC is an AAV-based gene therapy with the objective of increasing the expression of the enzyme responsible for converting levodopa to dopamine (AADC, L-amino acid decarboxylase) in the brains of advanced Parkinson's disease patients. VY-AADC is currently in Phase Ib with pivotal studies scheduled to begin in 2018. The company is also developing other AAV vectors targeted at increasing expression of a key gene in Friedreich's ataxia, delivering monoclonal antibodies, or silencing/knocking down genes using microRNA delivery in diseases like monogenic SOD1 familial ALS and Huntington's disease. Voyager's discovery engine has generated programs in five CNS indications, and in the next 18 to 24 months, they plan to initiate at least three other clinical programs.

MARKET CAPITALIZATION

1.2 bn

(In USD as at 12/31/2017)



Akcea Therapeutics

Akcea was spun out of Ionis Pharmaceuticals and is developing antisense drugs to treat rare and severe lipid disorders. Its lead product is Volanesorsen, which has successfully completed Phase III development for familial chylomicronemia syndrome (FCS), a rare and debilitating disease characterized by extremely high triglycerides. Akcea has filed for approval and expects to commercialize the product globally. Akcea also has a pipeline of next generation lipid products based on its LICA technology which allows for much lower dosing and higher potency. ANGPTL3-Lrx is in a Phase I/II study for rare hyperlipidemias and will also be evaluated in fatty liver diseases such as NAFLD and NASH. Akcea has two LICA programs partnered with Novartis for larger diseases, APO(a)-Lrx and APOCIII-Lrx for patients with elevated risk factors for cardiovascular disease. Ionis remains a majority shareholder.

MARKET CAPITALIZATION

634 mn

(In USD as at 12/31/2017)



Five Prime Therapeutics

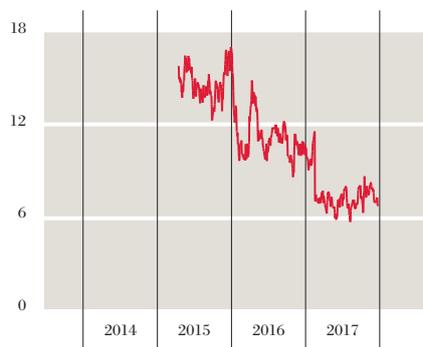
Five Prime has a discovery platform that includes a library of over 5700 human extracellular proteins, generated by a proprietary technology that enables the capture of cDNAs with intact 5 prime ends. It also has developed a range of proprietary screens and characterization tools, including automated cell-based screening systems and a rapid in vivo protein production system, to take advantage of its library and overcome limitations of traditional protein screening methods. Via this platform, the company has isolated the 700 proteins that drive immune cell interactions. The key drug in development is FPA008, a humanized IgG4 anti-CSF1R (macrophage colony stimulating factor) antibody. The lead indication for FPA008 is pigmented villonodular synovitis (PVNS), a macrophage-driven tumor. The company began a Phase II trial in May 2016 and we expect more data in mid-2018. The larger potential for FPA008 is as a combination partner with other immuno-oncology agents. A Phase I/II trial investigating FPA008 as a single agent and in combination with Bristol-Myers' Opdivo is ongoing, and first results from the combination portion showed promise in pancreatic cancer. More data in other solid tumor types are expected in 2018. The company is also developing FPA144, a proprietary ADCC-engineered antibody that inhibits FGFR2b. We expect the start of a Phase III trial in gastric cancer in 2018.

Source: Bloomberg

MARKET CAPITALIZATION

138 mn

(In USD as at 12/31/2017)



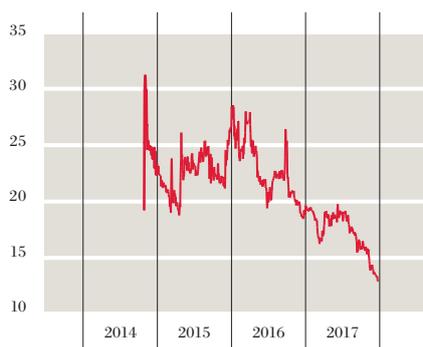
Cidara Therapeutics

Cidara is a biotechnology company focused on treating severe and resistant microbial infections. Its lead product, Rezafungin (in a Phase II study for candidemia and invasive candidiasis), is from the echinocandin class of antifungals but is dosed as a once-weekly infusion, versus daily for the current echinocandins. This would provide the option of treating patients with the best antifungal on an outpatient basis, thus offering significant advantages to both patients and the healthcare system. Initial Phase I data have demonstrated a strong safety profile and confirmed the once-weekly dosing potential. Data read-out is expected in early 2018. Following a constructive meeting with the FDA, a smaller than expected Phase III study will begin in 2018, along with a prophylaxis study in bone marrow transplant. Finally, Cidara is the only company developing an immunotherapy platform for serious infections.

MARKET CAPITALIZATION

105 mn

(In USD as at 12/31/2017)



Probiodrug

Probiodrug is a biotechnology company, located in Halle, Germany, focused on the development of innovative small molecule drugs for the treatment of Alzheimer's disease (AD). The company holds a dominant position in the area of glutaminyl cyclase (QC) inhibition. The role of QC in AD and other inflammatory diseases was discovered, and is comprehensively IP-protected, by Probiodrug. A Phase I study with its lead compound, PQ912, is complete, demonstrating a clean safety profile and initial target inhibition. A Phase II study recently demonstrated target engagement along with other biomarker signals in mild AD patients. The company was founded in 1997, and pioneered the field of DPP4 inhibition for the treatment of type 2 diabetes. Probiodrug sold its DPP4 franchise to OSI Pharmaceuticals in 2004. Probiodrug's pioneering scientific approach targeting QC in AD has the potential to bring a breakthrough treatment to this therapeutic area of great, unmet need.

MARKET CAPITALIZATION

1.4 bn

(In USD as at 12/31/2017)



Prothena Corp.

Prothena is a biotech company focused on the development of antibody-based immunotherapies. Their lead asset, NEODoo1, is currently being investigated in a Phase III clinical trial in AL-amyloidosis, a devastating disease characterized by the accumulation of protein plaques in various organs. NEODoo1 is an antibody designed to bind these plaques and remove them from the affected organs. The company's second asset is in earlier clinical development for the treatment of Parkinson's disease. The company is a spinout of Elan Corporation and their business consists of a substantial portion of Elan's former drug discovery business platform.

Source: Bloomberg

MARKET CAPITALIZATION

401 mn

(In USD as at 12/31/2017)



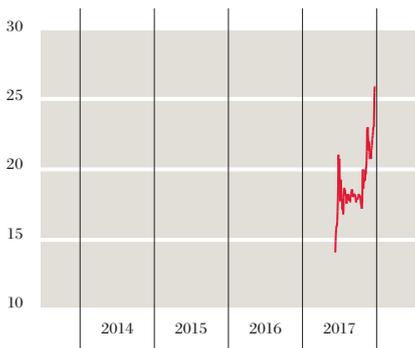
**Novavax**

Novavax is a company specializing in the development of novel vaccines. The most advanced program is a vaccine to prevent RSV infections in infants and older adults. Respiratory syncytial virus (RSV) is a respiratory tract infection which may be fatal in infants, older adults, and people with compromised immune systems. In a Phase II study in older adults, Novavax showed that its vaccine results in 44% fewer symptomatic RSV infections and a more than 60% reduction in severe RSV infections. However, in 2016, the company announced that the Phase III study in the elderly failed due to a much lower event rate than expected. In its Phase II study in pregnant women, Novavax showed that the antibodies are transferred effectively from the mothers to their infants. A corresponding Phase III study has been initiated in pregnant women with data expected in H2 of 2018. Novavax also has a seasonal influenza vaccine, an Ebola vaccine, and a pandemic influenza vaccine in its pipeline.

MARKET CAPITALIZATION

3.1 bn

(In USD as at 12/31/2017)



**Idorsia**

Idorsia is a Swiss-based biotech company that resulted from the spin-off of the development pipeline of Actelion after the acquisition by J&J. The company has a variety of late-stage clinical assets including a DORA (dual orexin receptor antagonist) for the treatment of insomnia, Clazosentan for reversal of cerebral vasospasms and Cenerimod for lupus. Further the company will be eligible to receive royalties from J&J for the S1P1 inhibitor Ponesimod for the treatment of multiple sclerosis and for a next-generation ERA (endothelin receptor antagonist) aimed at treating resistant hypertension. The company is flush with CHF 950 mn in cash following its demerger and listing on the Swiss Stock Exchange, which should give it a runway of two to three years to achieve relevant development milestones. While J&J retains rights to up to 32% of the company through convertible notes, 26% of the company is now under the control of Actelion's former CEO Jean-Paul Clozel.

MARKET CAPITALIZATION

397 mn

(In USD as at 12/31/2017)



**Achillion Pharmaceuticals**

Achillion is developing novel complement inhibitors for indications such as paroxysmal nocturnal hemoglobinuria (PNH), C3 Glomerulopathy (C3G), and other diseases where dysfunction of the complement alternative pathway plays a role. The lead compound is ACH-4471, a complement Factor D inhibitor with the potential to provide an oral alternative to Alexion's blockbuster Soliris, or serve to treat patients who have a sub-optimal response to or fail Soliris. Data from an initial Phase I/II trial showed the drug is active, and additional results from ongoing Phase II trials should better determine its potential. In addition, the company is developing ACH-5228, a next-generation Factor D inhibitor that entered the clinic by the end of 2017.

Source: Bloomberg





# Consolidated financial statements

## Consolidated balance sheet as at December 31

(in CHF 1 000)

	Notes	2017	2016
<b>Current assets</b>			
Cash and cash equivalents		10 730	10 229
Receivables from brokers		–	10 151
Securities at fair value through profit or loss	4	3 627 069	3 205 856
Other assets		–	1
		<b>3 637 799</b>	<b>3 226 237</b>
<b>Total assets</b>		<b>3 637 799</b>	<b>3 226 237</b>
<b>Current liabilities</b>			
Short-term borrowings from banks	5	95 000	205 000
Payables to brokers		–	14 593
Other short-term liabilities	6	4 049	3 483
Tax liabilities		75	142
		<b>99 124</b>	<b>223 218</b>
<b>Total liabilities</b>		<b>99 124</b>	<b>223 218</b>
<b>Shareholders' equity</b>			
Share capital	7	11 080	11 080
Treasury shares	7	–	(859)
Retained earnings	7	3 527 595	2 992 798
		<b>3 538 675</b>	<b>3 003 019</b>
<b>Total liabilities and shareholders' equity</b>		<b>3 637 799</b>	<b>3 226 237</b>
Net asset value per share in CHF		63.90	54.20

The notes on pages 50 to 61 are an integral part of these consolidated financial statements.

The consolidated financial statements were approved by the Board of Directors of BB Biotech AG on February 13, 2018.

## Consolidated statement of comprehensive income for the year ended December 31

(in CHF 1 000)

	Notes	2017	2016
<b>Operating income</b>			
Net gains from securities	4	723 256	–
Dividend income		6 783	8 679
Foreign exchange gains net		6	578
Other income		4	239
		<b>730 049</b>	<b>9 496</b>
<b>Operating expenses</b>			
Net losses from securities	4	–	(773 707)
Finance expenses		(542)	(1 085)
Administrative expenses	8	(37 508)	(32 299)
Other expenses	9	(4 419)	(4 399)
		<b>(42 469)</b>	<b>(811 490)</b>
<b>Operating income before tax</b>	<b>12</b>	<b>687 580</b>	<b>(801 994)</b>
Income taxes	10	(77)	(71)
<b>Net income for the year</b>		<b>687 503</b>	<b>(802 065)</b>
<b>Total comprehensive income for the year</b>		<b>687 503</b>	<b>(802 065)</b>
Income per share in CHF	11	12.42	(14.51)
Diluted income per share in CHF	11	12.42	(14.51)

The notes on pages 50 to 61 are an integral part of these consolidated financial statements.

## Consolidated statement of changes in equity for the year ended December 31

(in CHF 1 000)

	Share capital	Treasury shares	Retained earnings	Total
<b>Balances at January 1, 2015</b>	<b>11 850</b>	<b>(77 670)</b>	<b>3 558 345</b>	<b>3 492 525</b>
Cash distribution	–	–	(130 079)	(130 079)
Trade with treasury shares (incl. change in balance)	–	(41 662)	4 440	(37 222)
Share-based remuneration	–	–	118	118
Total comprehensive income for the year	–	–	652 816	652 816
<b>Balances at December 31, 2015</b>	<b>11 850</b>	<b>(119 332)</b>	<b>4 085 640</b>	<b>3 978 158</b>
<b>Balances at January 1, 2016</b>	<b>11 850</b>	<b>(119 332)</b>	<b>4 085 640</b>	<b>3 978 158</b>
Cash distribution/dividend	–	–	(160 489)	(160 489)
Capital reduction	(770)	133 294	(132 524)	–
Trade with treasury shares (incl. change in balance)	–	(14 821)	2 118	(12 703)
Share-based remuneration	–	–	118	118
Total comprehensive income for the year	–	–	(802 065)	(802 065)
<b>Balances at December 31, 2016</b>	<b>11 080</b>	<b>(859)</b>	<b>2 992 798</b>	<b>3 003 019</b>
<b>Balances at January 1, 2017</b>	<b>11 080</b>	<b>(859)</b>	<b>2 992 798</b>	<b>3 003 019</b>
Dividend	–	–	(152 066)	(152 066)
Trade with treasury shares (incl. change in balance)	–	859	(665)	194
Share-based remuneration	–	–	25	25
Total comprehensive income for the year	–	–	687 503	687 503
<b>Balances at December 31, 2017</b>	<b>11 080</b>	<b>–</b>	<b>3 527 595</b>	<b>3 538 675</b>

The notes on pages 50 to 61 are an integral part of these consolidated financial statements.

## Consolidated statement of cash flow for the year ended December 31

(in CHF 1 000)

	Notes	2017	2016
<b>Cash flows from operating activities</b>			
Proceeds from sales of securities	4	907 095	511 015
Purchase of securities	4	(608 694)	(367 199)
Dividend receipts		6 783	8 679
Payments for services		(41 577)	(36 923)
Income taxes paid		(139)	(171)
<b>Total cash flows from operating activities</b>		<b>263 468</b>	<b>115 401</b>
<b>Cash flows from financing activities</b>			
Cash distribution/dividend		(152 066)	(160 489)
Proceeds from sales of treasury shares	7	18 718	43 933
Purchase of treasury shares	7	(19 083)	(54 168)
(Repayment)/borrowing of bank loans	5	(110 000)	45 000
Interest payments		(542)	(1 085)
<b>Total cash flows from financing activities</b>		<b>(262 973)</b>	<b>(126 809)</b>
Foreign exchange difference		6	578
<b>Change in cash and cash equivalents</b>		<b>501</b>	<b>(10 830)</b>
<b>Cash and cash equivalents at the beginning of the year</b>		<b>10 229</b>	<b>21 059</b>
<b>Cash and cash equivalents at the end of the year</b>		<b>10 730</b>	<b>10 229</b>

The notes on pages 50 to 61 are an integral part of these consolidated financial statements.

## 1. The Company and its principal activity

BB Biotech AG (the Company) is listed on the SIX Swiss Exchange, in the «Prime Standard Segment» of the German Exchange as well as in the «Star Segment» of the Italian Exchange and has its registered office in Schaffhausen, Schwertstrasse 6. Its principal activity is to invest in companies active in the biotechnology industry for the purpose of capital appreciation. The investments are held through its wholly owned subsidiaries.

Company	Capital in CHF 1 000	Capital and voting interest in %
Biotech Focus N.V., Curaçao	11	100
Biotech Growth N.V., Curaçao	11	100
Biotech Invest N.V., Curaçao	11	100
Biotech Target N.V., Curaçao	11	100

## 2. Accounting policies

### General

The consolidated financial statements of the Company and its subsidiary companies (the Group) have been prepared in accordance with International Financial Reporting Standards (IFRS), as well as the provisions of the rules of the SIX Swiss Exchange for Investment Companies. The consolidation is prepared from the financial statements of the Group companies using uniform accounting principles. With the exception of financial assets and liabilities (incl. derivative instruments), which are held at fair value through profit or loss, the financial statements are prepared under the historical cost convention. This requires management to make assumptions and estimates that have an impact on the balance sheet values and items of the income statement in the current financial year. In certain circumstances, the actual values may differ from these estimates.

No new standards, interpretations and amendments to published standards, which are applicable to the Group and valid since January 1, 2017, have been applied in these annual consolidated financial statements.

The following new standards and interpretations were approved, but will only be applicable for the Group prospectively and were not early adopted in these annual consolidated financial statements:

- IFRS 7 (effective January 1, 2018) – Financial instruments – Disclosure – Additional disclosures on transition from IAS 39 to IFRS 9
- IFRS 9 (effective January 1, 2018) – Financial instruments
- IFRS 15 (effective January 1, 2018) – Revenue from contracts with customers
- IFRS 16 (effective January 1, 2019) – Leases
- IFRIC 22 (effective January 1, 2018) – Foreign Currency Transactions and Advance Consideration
- IFRIC 23 (effective January 1, 2019) – Uncertainty over Income Tax Treatments

The Group assessed the potential impact of the above mentioned new standards and interpretations. Based on the analysis the Group concludes that these new standards have no material impact on the Group's accounting policies and overall results and financial position. This also applies to IFRS 9 as all financial instruments are valued at fair value through profit or loss.

### Basis of consolidation

The consolidated financial statements include the Company and the subsidiary companies which are controlled by it. Control is the ability to influence the financial and operating activities of an entity so as to benefit from its activities. Subsidiaries are fully consolidated from the date on which control is transferred to the Company and are deconsolidated from the date that control ceases. The consolidation is performed using the acquisition method. All intercompany transactions and balances with companies included in the consolidation are eliminated. All Group companies have a December 31 year-end.

### Foreign currency translation

Based on the economic environment (primary listing, investors, costs and performance measurement) in which the Company and its subsidiaries operate, the consolidated financial statements of the Group are presented in Swiss francs, which is the Company's and its subsidiaries functional currency. Transactions in foreign currencies are converted at exchange rates as at transaction dates. Assets and liabilities in foreign currencies at year-end are translated at rates of exchange prevailing as at the balance sheet date. Exchange differences are reflected in the statement of income. Translation differences on marketable securities held at fair value through profit or loss are reported as part of the net gains/(losses) from marketable securities.

The following exchange rates have been used for the preparation of these consolidated financial statements:

Currency	12/31/2017	12/31/2016
USD	0.97420	1.02000
EUR	1.16995	1.06725
DKK	15.71020	14.40350
SEK	11.90140	11.19630

### Cash and cash equivalents

Cash and cash equivalents comprise current accounts and call money at banks which have a maturity of three months or less. These are stated at the notional amount as this is a reasonable approximation of fair value due to the short-term maturity.

### Receivables/payables against brokers

Receivables/payables against brokers result from security transactions and do not bear any interest. These are stated at amortized cost which is a reasonable approximation of fair value due to the short-term maturity.

### Financial assets

The Group classifies its financial assets in the following categories: at fair value through profit or loss as well as loans and receivables. Financial assets at fair value through profit or loss comprise marketable securities which are classified as current assets.

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are included in current assets, except when they have maturities of greater than twelve months after the balance sheet date they are classified as non-current assets. The balance sheet items cash and cash equivalents, receivables from brokers and other assets comprise this category.

#### *Marketable securities*

Marketable securities consist of securities, designated at fair value through profit or loss, and derivatives. Initially, securities and derivatives are valued at fair value and are subsequently remeasured at market values based on stock exchange prices or generally accepted valuation models that are based on market conditions existing at each balance sheet date, such as Black-Scholes, earnings multiple and discounted cash flow model. Purchases and sales of marketable securities are accounted for at trade date. Realized gains and losses on security trading are recognized in the statement of income as net realized gains/losses from marketable securities at the day of the transaction. Changes in fair value of securities are recognized as net unrealized gains/losses from marketable securities in the statement of income in the period in which they arise. Marketable securities are derecognized when the rights to receive cash flows from marketable securities have expired or where the Group has transferred substantially all risks and rewards of ownership.

### Income taxes

Current income taxes are calculated on the basis of the applicable tax laws in individual countries and recognized as an expense in the period in which the related profits are made.

Assets or liabilities related to current income taxes are reported in the balance sheet in the items «Current tax assets» or «Current tax liabilities». Tax effects arising from temporary differences between the carrying amounts of assets and liabilities in the Group's balance sheet and their corresponding tax values are recognized, respectively, as «Deferred tax assets» and «Deferred tax liabilities». Deferred tax assets arising from temporary differences and from loss carry-forwards eligible for offset are capitalized if it is likely that sufficient taxable profits will be available against which those temporary differences or loss carry-forwards can be offset. Deferred tax assets and deferred tax liabilities are calculated at the tax rates expected to apply in the period in which the tax assets will be realized, or the tax liabilities settled.

### **Earnings per share**

Basic earnings per share are calculated by dividing the net profit/loss attributable to shareholders by the weighted average number of registered shares in issue during the year, less treasury shares. For the diluted earnings per share, the weighted average number of registered shares in issue and the net profit is adjusted to assume conversion of all dilution potential registered shares. The potential registered shares include all registered shares, which will be issued by exercising warrants or options.

### **Short-term borrowings from banks**

Short-term borrowings are recognized initially at fair value, net of transaction costs incurred. Borrowings are subsequently stated at amortized cost; any difference between the proceeds (net of transaction costs) and the redemption value is recognized in the income statement over the period of the borrowings using the effective interest method. Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least twelve months after the balance sheet date.

### **Treasury shares**

Treasury shares are deducted from shareholders' equity. All profits and losses arising from trading in treasury shares are directly credited/debited to retained earnings. Treasury shares may be acquired and held by the Company or by other members of the consolidated Group.

### **Net asset value per share**

The net asset value per share is calculated by dividing the shareholders' equity by the number of shares outstanding less treasury shares held.

### **Dividend income**

Dividends on marketable securities are recognized in the income statement when the Group's right to receive payment is established.

### **Pension funds**

BB Biotech AG maintains for its employee a defined benefit plan. Due to the immateriality of any potential pension liability or potential pension asset, no disclosures according to IAS 19 are made within these consolidated financial statements.

### **Commitments, contingencies and other off-balance sheet transactions**

The operations of the Group are affected by legislative, fiscal and regulatory developments for which provisions are made where a legal or constructive obligation has been incurred which will probably lead to an outflow of resources that can be reasonably estimated.

### **Critical accounting estimates and judgments**

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group makes estimates and assumptions that are mainly based on market conditions to value these financial instruments. Since these financial instruments are not traded in an active market, inherent difficulties exist to value these financial instruments. These difficulties cannot be eliminated. The difference between the proceeds from sale of these financial instruments and the carrying amount may be material.

The consolidation principles under IFRS 10 require that investment companies no longer consolidate their subsidiaries, which themselves are investment companies. Instead they should be accounted for using the fair value. In the analysis of the first-time adoption of IFRS 10, the Company came to the conclusion that the subsidiaries do not meet the criteria for investment entities under IFRS 10 and acts as an extension of the parent (providing of investment-related services). Thus, the Group continues to consolidated its subsidiaries. The fair value accounting would not have a material impact on the net income and equity.

## **3. Financial risk management**

Within the framework of the law, articles of incorporation and regulations, the asset manager carries out currency and marketable security forward transactions, buys, sells and makes use of options as well as fulfills all necessary obligations that result from these businesses.

### **Credit risk**

The Group is exposed to credit risk, which is the risk that a counterparty will be unable to pay amount in full when due. Impairment provisions are provided for losses that have been incurred by the balance sheet date, if any. The Group maintains business relations only with counterparties with an acceptable credit rating. All transactions in listed securities are settled/paid for upon delivery using approved brokers. The risk of default is considered minimal, as delivery of securities sold is only made once the broker has received payment. Payment is made on a purchase once the securities have been received by the broker. The trade will fail if either party fails to meet its obligation. Other assets consist of prepayments. The Group's credit positions, if any, are monitored on a daily basis by the asset manager and are reviewed on a regular basis by the Board of Directors.

## Market risks

### *Risk associated with changing market prices*

Due to its business activity and the resulting high portion of marketable securities in relation to total assets, the Group is exposed to market price risk arising from uncertainties and fluctuations on the financial and foreign exchange markets.

The Group participates partially, but to a substantial extent, in the capital of its investments. In the case of sales of large parts of these investments, it may be able to influence the market price. The Group's marketable securities positions are monitored on a daily basis by the asset manager and are reviewed on a regular basis by the Board of Directors.

The annual volatility of registered shares BB Biotech AG (reference volatility for the marketable securities) for 2017 is 18.26% (2016: 34.91%). At December 31, 2017, had the value of listed securities increased or decreased by 18.26% (2016: 34.91%) with all other variables held constant, the increase or decrease respectively in net income/loss as well as shareholders' equity would amount to CHF 661.7 mn (2016: CHF 1 117.5 mn).

At December 31, 2017, and 2016 the Company holds no unlisted shares.

### *Interest risk*

Interest rates on liquid funds are based on market rates. The funds are due on demand.

Short-term borrowings from banks are on current and short-term loan accounts with interest, based at market rates. Due to the high level of own funds, the effect of interest payable on the statement of income is insignificant. The majority of the Group's marketable securities are non-interest bearing; as a result, the Group is not subject to significant amounts of risk due to fluctuations in the prevailing levels of market interest rates.

The Group's interest sensitivity is monitored on a daily basis by the asset manager and reviewed on a regular basis by the Board of Directors.

## Currency risk

The Company and its subsidiaries hold assets denominated in currencies other than the Swiss franc, the functional currency. They are therefore exposed to currency risk, as the value of the securities denominated in other currencies will fluctuate due to changes in exchange rates. Depending on the market situation the Group uses foreign currency options or forward contracts to reduce the currency risk.

The following table summarizes the Group's exposure to currency risks:

<b>2017</b>	<b>Net exposure 12/31/ (in CHF 1 000)</b>	<b>Annual volatility (in %)</b>	<b>Potential impact (in CHF 1 000)<sup>1)</sup></b>
USD	3 463 700	7.14	247 274
DKK	143 209	4.91	7 032
EUR	13 039	4.94	644
SEK	4	6.89	–
<b>2016</b>			
USD	2 752 155	7.93	218 246
DKK	113 218	4.57	5 174
SEK	53 156	7.43	3 949
EUR	20 246	4.45	901

<sup>1)</sup> Potential impact on total comprehensive income as well as shareholders' equity with all other variables held constant

The Group's currency position is monitored on a daily basis by the asset manager and is reviewed on a regular basis by the Board of Directors.

### Liquidity risk

The Group invests the majority of its assets in investments that are traded in an active market and can be readily disposed of. The Group's treasury shares, with the exception of shares purchased under a share buy-back program, are considered readily realizable as they are listed on three stock exchanges. The Group could invest a minor part of its portfolio in marketable securities, which are not traded on a stock exchange and may be illiquid. As a result, the Group may not be able to liquidate quickly its investments in these instruments. In addition, the Group has access to a credit line (note 13).

The tables below analyze the Group's financial liabilities into relevant maturity groupings based on the period between the balance sheet date and the contractual maturity date (in CHF 1 000):

At December 31, 2017	Less than 1 month	1–3 months	More than 3 months / no stated maturity
Short-term borrowings from banks	95 000	–	–
Other short-term liabilities	3 652	397	–
<b>Total liabilities</b>	<b>98 652</b>	<b>397</b>	<b>–</b>

### At December 31, 2016

Short-term borrowings from banks	205 000	–	–
Payables to brokers	14 593	–	–
Other short-term liabilities	3 146	337	–
<b>Total liabilities</b>	<b>222 739</b>	<b>337</b>	<b>–</b>

The Group's liquidity position is monitored on a daily basis by the asset manager and is reviewed on a regular basis by the Board of Directors.

### Diversification

The investment portfolio usually consists of 20 to 35 investments. This includes five to eight large core positions, which together will account for up to two-thirds of the portfolio. The maximum share of companies without a stock market listing is 10%.

As per December 31, 2017, the Group held six core investments, representing 48% (2016: six core investments, 55%) of the portfolio. The portfolio is – in line with the strategy – concentrated on a limited number of investments. Risk diversification is therefore limited.

### Fair values

The following table presents the Group's assets that are measured at fair value at December 31 (in CHF 1 000):

2017	Level 1	Level 2	Level 3	Total
<b>Assets</b>				
Securities at fair value through profit or loss				
– Listed shares	3 623 929	–	–	3 623 929
– Derivative instruments	–	3 140	–	3 140
<b>Total assets</b>	<b>3 623 929</b>	<b>3 140</b>	<b>–</b>	<b>3 627 069</b>
<b>2016</b>				
<b>Assets</b>				
Securities at fair value through profit or loss				
– Listed shares	3 201 135	–	–	3 201 135
– Derivative instruments	–	4 721	–	4 721
<b>Total assets</b>	<b>3 201 135</b>	<b>4 721</b>	<b>–</b>	<b>3 205 856</b>

The fair value of financial instruments traded in active markets is based on quoted market prices at the balance sheet date. A market is regarded as active if quoted prices are readily and regularly available and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by the Group is the closing price. These instruments are included in level 1.

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. These valuation techniques maximize the use of observable market data where it is available. The options are valued on the basis of the Black-Scholes model which is based on market conditions existing at each balance sheet date. These instruments are included in level 2.

If one or more of the significant inputs is not based on observable market data, the instrument is included in level 3. The valuation of level 3 instruments is regularly reviewed. As soon as new or adjusted parameters are available the valuation models (earnings multiple model) of unlisted shares are adjusted accordingly. The valuations are reviewed at least once a year. As of December 31, 2017 and 2016, no valuation is necessary as there are no more level 3 investments.

For assets and liabilities carried at amortized cost, their carrying values are a reasonable approximation of fair value.

#### 4. Financial assets

##### Marketable securities

The changes in value of securities at fair value through profit or loss by investment category are as follows (in CHF 1 000):

	Listed shares	Derivative instruments	Total
<b>Opening balance as at 01/01/2016 at fair values</b>	<b>4 109 821</b>	<b>8 808</b>	<b>4 118 629</b>
Purchases	379 793	–	379 793
Sales	(518 859)	–	(518 859)
Net gains/(losses) from securities	(769 620)	(4 087)	(773 707)
<i>Realized gains</i>	119 314	–	119 314
<i>Realized losses</i>	(116 649)	–	(116 649)
<i>Unrealized gains</i>	184 048	–	184 048
<i>Unrealized losses</i>	(956 333)	(4 087)	(960 420)
<b>Closing balance as at 12/31/2016 at fair values</b>	<b>3 201 135</b>	<b>4 721</b>	<b>3 205 856</b>
<b>Opening balance as at 01/01/2017 at fair values</b>	<b>3 201 135</b>	<b>4 721</b>	<b>3 205 856</b>
Purchases	594 901	–	594 901
Sales	(896 944)	–	(896 944)
Net gains/(losses) from securities	724 837	(1 581)	723 256
<i>Realized gains</i>	263 537	–	263 537
<i>Unrealized gains</i>	749 236	–	749 236
<i>Unrealized losses</i>	(287 936)	(1 581)	(289 517)
<b>Closing balance as at 12/31/2017 at fair values</b>	<b>3 623 929</b>	<b>3 140</b>	<b>3 627 069</b>

Marketable securities comprise the following:

Company	Number 12/31/2016	Change	Number 12/31/2017	Market price in original currency 12/31/2017	Valuation CHF mn 12/31/2017	Valuation CHF mn 12/31/2016
Ionis Pharmaceuticals	6 913 172	1 223 162	8 136 334	USD 50.30	398.7	337.3
Celgene	3 459 298	(35 000)	3 424 298	USD 104.36	348.1	408.4
Incyte	3 879 822	(181 500)	3 698 322	USD 94.71	341.2	396.8
Neurocrine Biosciences	3 151 552	301 201	3 452 753	USD 77.59	261.0	124.4
Vertex Pharmaceuticals	1 415 445	60 000	1 475 445	USD 149.86	215.4	106.4
Gilead	2 774 596	–	2 774 596	USD 71.64	193.6	202.7
Radius Health	4 360 399	1 338 400	5 698 799	USD 31.77	176.4	169.1
Halozyne Therapeutics	7 599 832	920 305	8 520 137	USD 20.26	168.2	76.6
Sage Therapeutics	1 022 439	20 000	1 042 439	USD 164.71	167.3	53.2
Alexion Pharmaceuticals	1 229 428	125 000	1 354 428	USD 119.59	157.8	153.4
Esperion Therapeutics	1 308 542	1 054 422	2 362 964	USD 65.84	151.6	16.7
Agios Pharmaceuticals	2 809 528	(89 530)	2 719 998	USD 57.17	151.5	119.6
Novo Nordisk	3 085 852	(361 077)	2 724 775	DKK 334.50	143.2	113.2
Alnylam Pharmaceuticals	1 191 338	(140 000)	1 051 338	USD 127.05	130.1	45.5
Juno Therapeutics	1 870 000	55 000	1 925 000	USD 45.71	85.7	36.0
Tesaro	974 582	71 611	1 046 193	USD 82.87	84.5	133.7
Regeneron Pharmaceuticals	245 000	(40 000)	205 000	USD 375.96	75.1	91.7
Macrogenics	1 920 000	680 412	2 600 412	USD 19.00	48.1	40.0
AveXis	352 800	50 000	402 800	USD 110.67	43.4	17.2
Myovant Sciences	3 192 835	315 047	3 507 882	USD 12.64	43.2	40.5
Intra-Cellular Therapies	1 575 000	625 000	2 200 000	USD 14.48	31.0	24.2
Wave Life Sciences	–	856 096	856 096	USD 35.10	29.3	–
Intercept Pharmaceuticals	255 719	230 000	485 719	USD 58.42	27.6	28.3
Alder Biopharmaceuticals	1 685 150	580 858	2 266 008	USD 11.45	25.3	35.8
Voyager Therapeutics	–	1 539 520	1 539 520	USD 16.60	24.9	–
Akcea Therapeutics	–	1 248 650	1 248 650	USD 17.36	21.1	–
Five Prime Therapeutics	–	827 500	827 500	USD 21.92	17.7	–
Cidara Therapeutics	1 043 824	1 251 448	2 295 272	USD 6.80	15.2	11.1
ProbiDRUG	1 050 784	–	1 050 784	EUR 10.60	13.0	20.2
Prothena Corp.	350 000	–	350 000	USD 37.49	12.8	17.6
Novavax	8 330 000	–	8 330 000	USD 1.24	10.1	10.7
Idorsia	–	323 606	323 606	CHF 25.45	8.2	–
Achillion Pharmaceuticals	1 279 340	–	1 279 340	USD 2.88	3.6	5.4
Actelion	1 181 436	(1 181 436)	–	CHF n.a.	–	260.5
Swedish Orphan Biovitrum	4 449 334	(4 449 334)	–	SEK n.a.	–	53.2
Kite Pharma	800 000	(800 000)	–	USD n.a.	–	36.6
Puma Biotechnology	241 991	(241 991)	–	USD n.a.	–	7.6
PTC Therapeutics	682 912	(682 912)	–	USD n.a.	–	7.6
<b>Listed shares</b>					<b>3 623.9</b>	<b>3 201.2</b>
<b>Total shares</b>					<b>3 623.9</b>	<b>3 201.2</b>
Radius Health, warrants, USD 14, 04/23/2018	107 114	–	107 114	USD 17.86	1.9	2.8
Radius Health, warrants, USD 14, 02/19/2019	71 409	–	71 409	USD 18.35	1.3	1.9
Merck & Co Inc contingent value rights – ex Trius/Cubist	545 927	(545 927)	–	USD n.a.	–	–
<b>Total derivative instruments</b>					<b>3.2</b>	<b>4.7</b>
<b>Total securities at fair value through profit or loss</b>					<b>3 627.1</b>	<b>3 205.9</b>

The marketable securities are deposited with Bank Julius Baer & Co. Ltd., Zurich.

## 5. Short-term borrowings from banks

At December 31, 2017, a CHF 95 mn short-term loan is outstanding, with interest payable at 0.40% p.a. (2016: CHF 205 mn at 0.40% p.a.).

## 6. Other short-term liabilities

(in CHF 1 000)

Other short-term liabilities comprise the following:

	12/31/2017	12/31/2016
Payables to the asset manager	3 400	2 830
Payables to the market maker	91	54
<b>Total liabilities to related parties</b>	<b>3 491</b>	<b>2 884</b>
Other liabilities	558	599
<b>Total liabilities to third parties</b>	<b>558</b>	<b>599</b>
	<b>4 049</b>	<b>3 483</b>

Liabilities to related parties represent unpaid fees, commissions as well as administration costs. Further information on transactions with related parties are disclosed in note 16, «Related party transactions».

## 7. Shareholders' equity

The share capital of the Company consists of 55.4 mn fully paid registered shares (2016: 55.4 mn registered shares) with a par value of CHF 0.20 each (2016: CHF 0.20). CHF 2.2 mn of the retained earnings (2016: CHF 2.2 mn) are undistributable.

	Par value per share in CHF	Nominal value of the share capital in CHF 1 000	Number of shares	Treasury shares number	Outstanding shares number
<b>January 1, 2016</b>	<b>1.00</b>	<b>11 850</b>	<b>11 850 000</b>	<b>711 113</b>	<b>11 138 887</b>
Impact Five-for-one share split as at March 29, 2016	(0.80)		47 400 000	2 844 452	44 555 548
Capital reduction		(770)	(3 850 000)	(3 850 000)	–
Purchases of treasury shares at an average price of CHF 48.01 <sup>1)</sup>				1 144 844	(1 144 844)
Sales of treasury shares at an average price of CHF 50.63 <sup>1)</sup>				(834 694)	834 694
<b>December 31, 2016</b>	<b>0.20</b>	<b>11 080</b>	<b>55 400 000</b>	<b>15 715</b>	<b>55 384 285</b>
<b>January 1, 2017</b>	<b>0.20</b>	<b>11 080</b>	<b>55 400 000</b>	<b>15 715</b>	<b>55 384 285</b>
Purchases of treasury shares at an average price of CHF 57.76				316 553	(316 553)
Sales of treasury shares at an average price of CHF 58.99				(317 308)	317 308
Share allocation Board of Directors (net)				(14 960)	14 960
<b>December 31, 2017</b>	<b>0.20</b>	<b>11 080</b>	<b>55 400 000</b>	<b>–</b>	<b>55 400 000</b>

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the value.

At December 31, 2017 and 2016, the Company has neither an authorized nor a conditional capital.

At the General Shareholders' Meeting held March 17, 2016, a five-for-one share split was approved. The split was effective as of March 29, 2016.

At the General Shareholders' Meeting held March 17, 2016, a resolution was approved to reduce the Company's share capital by CHF 770 000 to a level of CHF 11 080 000. On July 12, 2016, 3 850 000 registered shares at a par value of CHF 770 000 were withdrawn from the commercial register, the capital reduction has thus been concluded.

In addition, at the General Shareholders' Meeting held on March 17, 2016, a resolution to commence a share buy-back program was approved whereby up to 5 540 000 shares may be repurchased by the Company. At December 31, 2017, no shares had been repurchased under this share buy-back program.

## 8. Administrative expenses

(in CHF 1 000)

Administrative expenses comprise the following:

	2017	2016
<b>Fund manager</b>		
– Management fees (incl. VAT)	36 454	31 150
<b>Personnel</b>		
– Board of Directors remuneration	935	1 028
– Wages and salaries	64	64
– Social insurance contributions and duties	55	57
	<b>37 508</b>	<b>32 299</b>

The remuneration model of BB Biotech AG is determined by the Board of Directors.

Since 2014, the remuneration paid to the asset manager is based upon a 1.1% p.a. all-in fee on the average market capitalization without any additional fixed or performance-based elements of compensation, which is paid on a monthly basis. The compensation of the Board of Directors consists since 2014 of a fixed compensation in the amount of CHF 910 per annum (excluding social insurance contributions and duties).

At the General Shareholders' Meeting held March 19, 2014, the variable, share-based remuneration of the Board of Directors for the business year 2013 was approved. Therefore, the vesting period of the performance-based remuneration ended on March 18, 2017. During the three-year vesting period, all performance targets were met. Therefore, 18 445 shares (gross) were due. The payment in lieu was carried out in treasury shares on April 24, 2017. In the financial year 2017, CHF 25 was recognized for equity compensation plans (2016: CHF 118). The cost is included in the position «Administrative expenses».

## 9. Other expenses

(in CHF 1 000)

Other expenses comprise the following:

	2017	2016
Bank charges	552	657
Marketing and financial reporting	2 266	2 038
Legal and consulting expenses	132	139
Other expenses	1 469	1 565
	<b>4 419</b>	<b>4 399</b>

## 10. Taxes

(in CHF 1 000)

	2017	2016
Operating income before tax	687 580	(801 994)
Expected tax rate (Federal tax Switzerland)	7.8%	7.8%
Expected income tax	53 631	(62 556)
Difference between effective local tax rates and the expected Swiss tax rate	53 554	(62 627)
<b>Total income tax</b>	<b>77</b>	<b>71</b>

In the current year, the average effective income tax rate on a consolidated basis was less than 1% (2016: <1%). This low rate is mainly attributable to the fact that a large proportion of operating income was generated by a company situated in Curaçao. As at December 31, 2017, there is no nettable loss carry forward (2016: none).

## 11. Earnings per share

	2017	2016
Total comprehensive income for the year (in CHF 1 000)	687 503	(802 065)
Weighted average number of shares in issue <sup>1)</sup>	55 345 790	55 265 028
<b>Income per share in CHF <sup>1)</sup></b>	<b>12.42</b>	<b>(14.51)</b>
Profit used to determine diluted earnings per share (in CHF 1 000)	687 503	(802 065)
Dilution potential (share-based payments) in shares <sup>1)</sup>	5 675	–
Weighted average number of shares in issue following the dilution <sup>1)</sup>	55 351 465	55 265 028
<b>Diluted income per share in CHF <sup>1)</sup></b>	<b>12.42</b>	<b>(14.51)</b>

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the previous year value.

## 12. Segment information

(in CHF 1 000)

The Group has only one business segment, namely the holding of investments in companies active in the biotechnology industry.

The geographical analysis of the operating income before tax is as follows – all income from financial assets are attributed to a country based on the domiciliation of the issuer of the instrument:

Operating income before tax	2017	2016
USA	606 682	(811 744)
Switzerland	66 748	129 966
Denmark	56 186	(50 278)
Sweden	9 314	(20 171)
Great Britain	(921)	(3 610)
Singapore	(1 611)	–
Ireland	(4 778)	(5 942)
Germany	(7 183)	(8 069)
Curaçao	(36 857)	(32 146)
	<b>687 580</b>	<b>(801 994)</b>

## 13. Assets pledged

At December 31, 2017, the securities in the amount of CHF 3 097.7 mn (2016: CHF 2 695.9 mn) are a collateral for a credit line of CHF 400 mn (2016: CHF 400 mn). At December 31, 2017, a CHF 95 mn short-term loan is outstanding (2016: CHF 205 mn).

## 14. Commitments, contingencies and other off-balance sheet transactions

The Group had no commitments or other off-balance sheet transactions open at December 31, 2017 (2016: none).

The operations of the Group are affected by legislative, fiscal and regulatory developments for which provisions are made where deemed necessary. The Board of Directors concludes that as at December 31, 2017, no proceedings existed which could have any material effect on the financial position of the Group (2016: none).



Profit and loss from financial assets and liabilities are allocated to categories as follows (in CHF 1 000):

2017	Loans and receivables	Financial instruments at fair value through profit or loss	Other financial liabilities	Total
<b>Profit and loss from financial instruments</b>				
Gains from marketable securities	–	723 256	–	723 256
Dividend income	–	6 783	–	6 783
Foreign exchange gains net	6	–	–	6
Finance expenses	–	–	(542)	(542)
<b>2016</b>				
<b>Profit and loss from financial instruments</b>				
Dividend income	–	8 679	–	8 679
Foreign exchange gains net	578	–	–	578
Losses from marketable securities	–	(773 707)	–	(773 707)
Finance expenses	–	–	(1 085)	(1 085)

#### 16. Related party transactions

The asset management and administration of the Company has been delegated to Bellevue Asset Management Group. Based on the 1.1% p.a. all-in fee model, no additional costs incurred at Bellevue Asset Management Group were charged to the BB Biotech Group (2016: none). Purchases and sales of shares traded in Switzerland are partly processed and settled via Bank am Bellevue AG. In addition, Bank am Bellevue AG was mandated with a market making mandate. The commissions for these transactions amount to 0.15%, 0.20%, and 0.25% respectively. The amounts outstanding at the balance sheet date are disclosed in note 6, «Other short-term liabilities».

Detailed information regarding the remuneration model for the Board of Directors and the asset manager are mentioned under note 8, «Administrative expenses».

#### 17. Significant shareholders

The Board of Directors is not aware of any major shareholder with a holding exceeding 3% of all votes as at December 31, 2017 and 2016.

#### 18. Subsequent events

There have been no events subsequent to December 31, 2017, which would affect the 2017 consolidated financial statements.



Report of the statutory auditor  
to the General Meeting of  
BB Biotech AG  
Schaffhausen

## Report on the audit of the consolidated financial statements

### Opinion

We have audited the consolidated financial statements of BB Biotech AG and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December 2017 and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements (pages 46 to 61) give a true and fair view of the consolidated financial position of the Group as at 31 December 2017 and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with the International Financial Reporting Standards (IFRS) and comply with the provisions of article 14 of the Directive on Financial Reporting (DFR) of the SIX Swiss Exchange and with Swiss law.

### Basis for opinion

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the «Auditor's responsibilities for the audit of the consolidated financial statements» section of our report.

We are independent of the Group in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession, as well as the IESBA Code of Ethics for Professional Accountants, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Our audit approach

<b>Overview</b>	Overall Group materiality: CHF 35 387 000
	We concluded full scope audit work at all of the reporting units, which are located in Switzerland and Curaçao.
	Our audit scope therefore addressed 100% of the Group's assets, equity, income, expenses and cash flows.
	As key audit matters the following areas of focus have been identified: <ul style="list-style-type: none"><li>– Valuation of securities</li><li>– Ownership of securities</li><li>– All-in fee calculation</li></ul>

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#### *Audit scope*

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the consolidated financial statements as a whole, taking into account the structure of the Group, the accounting processes and controls, and the industry in which the Group operates.

The Group consists of a holding company located in Switzerland and four reporting entities located in Curacao, which hold investments in companies in the biotechnology industry. Full scope audit work was performed on each reporting entity.

#### *Materiality*

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the consolidated financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the consolidated financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall Group materiality for the consolidated financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate, on the consolidated financial statements as a whole.

<b>Overall Group materiality</b>	CHF 35 387 000
<b>How we determined it</b>	1% of total consolidated shareholders' equity
<b>Rationale for the materiality benchmark applied</b>	We chose total shareholders' equity as the benchmark because, in our view, this is the key metric of interest to investors and it is a generally accepted benchmark for investment companies.

#### *Key audit matters*

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

## Valuation of securities

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### Key audit matter

The investment portfolio comprises investments in marketable securities.

We consider this area to be a key audit matter because of the significant value of the securities in the financial statements.

As set out in note 4 (Schedule of securities) securities amount to CHF 3 627 million or 99.7% of total assets.

The valuation of the securities is prepared by the Investment Manager using the valuation methods disclosed in note 2 (Summary of significant accounting policies). The Board of Directors approves the valuation of the investment portfolio.

### How our audit addressed the key audit matter

We verified the design and implementation of the controls relating to the valuation of securities in order to determine whether the Investment Manager has appropriate controls in place.

We verified the quoted prices of marketable securities by reconciling the prices applied to an independent source different to the source used by the Investment Manager.

We obtained sufficient audit evidence to conclude that the valuation methods were both appropriate and consistently applied by the Board of Directors.

## Ownership of securities

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### Key audit matter

The securities are safeguarded by an independent custodian.

There is a risk that BB Biotech AG may not have sufficient legal entitlement to the securities.

We consider this area to be a key audit matter because of the significant value of the securities in the financial statements.

### How our audit addressed the key audit matter

We examined the ownership of the securities by requesting a confirmation of the security position directly from the custodian.

We obtained sufficient audit evidence to conclude that there is sufficient legal entitlement to the security positions.

## All-in fee calculation

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### Key audit matter

BB Biotech AG has delegated the administration and asset management activities to Bellevue Asset Management AG and its subsidiary. The remuneration is calculated based on the average market capitalisation of the company.

We consider this area to be a key audit matter because it represents a significant expense in the financial statements.

### How our audit addressed the key audit matter

BB Biotech AG has delegated the administration and asset management activities to Bellevue Asset Management AG and its subsidiary. The remuneration is calculated based on the average market capitalisation of the company.

We consider this area to be a key audit matter because it represents a significant expense in the financial statements.

### *Other information in the annual report*

The Board of Directors is responsible for the other information in the annual report. The other information comprises all information included in the annual report, but does not include the consolidated financial statements, the standalone financial statements and the remuneration report of BB Biotech AG and our auditor's reports thereon.

Our opinion on the consolidated financial statements does not cover the other information in the annual report and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information in the annual report and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

*Responsibilities of the Board of Directors for the consolidated financial statements*

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS, article 14 of the Directive on Financial Reporting (DFR) of the SIX Swiss Exchange and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

*Auditor's responsibilities for the audit of the consolidated financial statements*

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

A further description of our responsibilities for the audit of the consolidated financial statements is located at the website of EXPERTsuisse: <http://expertsuisse.ch/en/audit-report-for-public-companies>. This description forms part of our auditor's report.

**Report on other legal and regulatory requirements**

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

PricewaterhouseCoopers AG

Daniel Pajer  
Audit expert  
Auditor in charge

Martin Gubler  
Audit expert

Zürich, 15 February 2018



# Financial statements BB Biotech AG

## Balance sheet as at December 31

(in CHF)

	Notes	2017	2016
<b>Current assets</b>			
Cash and cash equivalents		326 967	320 106
Other current receivables		203	1 189
		<b>327 170</b>	<b>321 295</b>
<b>Non-current assets</b>			
Investments		1 177 069 500	1 177 069 500
		<b>1 177 069 500</b>	<b>1 177 069 500</b>
<b>Total assets</b>		<b>1 177 396 670</b>	<b>1 177 390 795</b>
<b>Current liabilities</b>			
Other current liabilities	2.1	603 619 920	751 594 237
Accrued expenses		135 230	248 378
		<b>603 755 150</b>	<b>751 842 615</b>
<b>Total liabilities</b>		<b>603 755 150</b>	<b>751 842 615</b>
<b>Shareholders' equity</b>			
Share capital	2.2	11 080 000	11 080 000
Legal capital reserves			
– Paid-in capital reserve <sup>1)</sup>		20 579 224	20 579 224
Legal profit reserves			
– General legal reserve		4 500 000	4 500 000
– Reserve for treasury shares <sup>2)</sup>		–	858 769
Other reserves		226 827 756	380 968 987
Retained earnings	5/6	310 654 540	7 561 200
		<b>573 641 520</b>	<b>425 548 180</b>
<b>Total liabilities and shareholders' equity</b>		<b>1 177 396 670</b>	<b>1 177 390 795</b>

<sup>1)</sup> Of which CHF 20 441 000 not confirmed by the Swiss Tax Authorities due to present regulation

<sup>2)</sup> For treasury shares held by subsidiaries

The financial statements were approved by the Board of Directors of BB Biotech AG on February 13, 2018.

## Statement of income for the year ended December 31

(in CHF)

	Notes	2017	2016
<b>Operating income</b>			
Income from investments		300 000 000	–
Other income	2.3	6 092 221	5 996 186
		<b>306 092 221</b>	<b>5 996 186</b>
<b>Operating expenses</b>			
Administrative expenses	2.4	(1 743 583)	(1 641 514)
Other expenses	2.5	(3 813 778)	(3 855 642)
		<b>(5 557 361)</b>	<b>(5 497 156)</b>
<b>Operating income before finance income and taxes</b>		<b>300 534 860</b>	<b>499 030</b>
Finance income		933	2 673
Finance expenses		(23 666)	(15 195)
<b>Operating income before tax</b>		<b>300 512 127</b>	<b>486 508</b>
Tax expenses	2.6	(68 787)	(53 152)
<b>Net income for the year</b>		<b>300 443 340</b>	<b>433 356</b>

## 1. Accounting policies

### General

The financial statements of BB Biotech AG (the Company) have been prepared in accordance with the provisions of commercial accounting as set out in the Swiss Code of Obligations. The financial statements have been prepared under the historical cost convention.

### Cash and cash equivalents

Cash and cash equivalents includes current accounts at banks. These are stated at the notional amount.

### Investments

The investments include the subsidiaries over which the Company has control. The Company controls an entity when the Company 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. Initially and subsequently, investments are valued at historical cost. An impairment is recognized if the value in use is expected to permanently fall below the book value.

Income from investments is recognized in the income statement when the Company's right to receive the dividend payment is established.

### Receivables/liabilities

Receivables/liabilities are classified as current assets/liabilities if maturity is expected to be within twelve month after the balance sheet date. Else, they are classified as long-term assets/liabilities. Receivables/liabilities are recognized at notional value. Receivables/liabilities against related parties include transactions with the Board of Directors as well as companies and affiliates of the asset manager. Receivables/liabilities against group companies result mainly from cash-pooling activities of the Group. The Group consists of BB Biotech AG and the mentioned subsidiaries under 3.3.

### Treasury shares

Treasury shares are deducted from shareholders' equity. All profits and losses arising from trading in treasury shares are included in the income statement. A reserve for treasury shares is built for treasury shares held by subsidiaries. The reserve is based on cost prices.

## 2. Details and explanations to the financial statements

### 2.1 Other current liabilities

The other current liabilities comprise the following:

	2017	2016
Third parties	418 551	382 287
Related parties	157 418	646 711
Group companies	603 043 951	750 565 239
	<b>603 619 920</b>	<b>751 594 237</b>

### 2.2 Shareholders' equity

The share capital of the Company consists of 55.4 mn fully paid registered shares (2016: 55.4 mn registered shares) with a par value of CHF 0.20 each (2016: CHF 0.20). At the General Shareholders' Meeting held March 17, 2016, a five-for-one share split was approved. The split was effective as of March 29, 2016.

At the General Shareholders' Meeting held March 17, 2016, a resolution was approved to reduce the Company's share capital by CHF 770 000 to a level of CHF 11 080 000. On July 12, 2016, 3 850 000 registered shares at a par value of CHF 770 000 were withdrawn from the commercial register, the capital reduction has thus been concluded.

In addition, the General Shareholders' Meeting held March 17, 2016, has approved a share buy-back program, whereby up to 5 540 000 shares may be repurchased by the Company. Until December 31, 2017, no shares had been repurchased under this share buy-back program.

At December 31, 2017 and 2016, the Company has neither an authorized nor a conditional capital.

### 2.3 Other income

Other income comprises the following:

	2017	2016
Income group services	6 088 000	5 992 000
Other income	4 221	4 186
	<b>6 092 221</b>	<b>5 996 186</b>

### 2.4 Administrative expenses

Administrative expenses comprise the following:

	2017	2016
Board compensation	954 033	956 130
Investment manager compensation	714 785	610 785
Staff costs	74 765	74 599
	<b>1 743 583</b>	<b>1 641 514</b>

The remuneration report discloses further details to the Board compensation.

### 2.5 Other expenses

Other expenses comprise the following:

	2017	2016
Marketing and financial reporting	2 266 487	2 037 834
Consulting and audit	256 784	290 254
Bank charges	15 982	170 175
Other expenses	1 274 525	1 357 379
	<b>3 813 778</b>	<b>3 855 642</b>

### 2.6 Tax expenses

Tax expenses comprise the following:

	2017	2016
Income taxes	40 000	31 000
Capital taxes	28 787	22 152
	<b>68 787</b>	<b>53 152</b>

## 3. Other information required by law

### 3.1 Name, legal form and registered office

BB Biotech AG is a limited company according to the Swiss Code of Obligation and has its registered office at Schwertstrasse 6 in Schaffhausen.

### 3.2 Declaration of number of full-time equivalents

The number of full-time equivalents did not exceed 10 in the calendar year 2017 (2016: below 10).

### 3.3 Investments

Investments of BB Biotech AG comprise, in the business years 2017 and 2016, the following subsidiaries:

Company	Capital in CHF	Capital and voting interest in %
Biotech Focus N.V., Curaçao	10 778	100
Biotech Growth N.V., Curaçao	10 778	100
Biotech Invest N.V., Curaçao	10 778	100
Biotech Target N.V., Curaçao	10 778	100

### 3.4 Treasury shares (balances and change)

Treasury shares are partly held by the Company directly and partly by its 100% subsidiary Biotech Target N.V. indirectly.

	BB Biotech AG	Biotech Target N.V.	Total
<b>Balance at January 1, 2016</b> <sup>1)</sup>	<b>3 501 525</b>	<b>54 040</b>	<b>3 555 565</b>
Purchases BB Biotech AG at an average price of CHF 48.96 <sup>1)</sup>	348 475	–	348 475
Purchases Biotech Target N.V. at an average price of CHF 47.60 <sup>1)</sup>	–	796 369	796 369
Sales Biotech Target N.V. at an average price of CHF 50.63 <sup>1)</sup>	–	(834 694)	(834 694)
Capital reduction	(3 850 000)	–	(3 850 000)
<b>Balance at December 31, 2016</b>	<b>–</b>	<b>15 715</b>	<b>15 715</b>
Purchases Biotech Target N.V. at an average price of CHF 57.76	–	316 553	316 553
Sales Biotech Target N.V. at an average price of CHF 58.99	–	(317 308)	(317 308)
Intercompany transfer	14 960	(14 960)	–
Share allocation Board of Directors (net)	(14 960)	–	(14 960)
<b>Balance at December 31, 2017</b>	<b>–</b>	<b>–</b>	<b>–</b>

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the value.

### 3.5 Audit fees

The audit fees comprise the following:

	2017	2016
Audit fees	120 000	125 000
Audit-related fees	2 400	20 600
	<b>122 400</b>	<b>145 600</b>

### 3.6 Commitments and contingencies

The Company had no commitments or other off-balance sheet transactions open at December 31, 2017 (2016: none).

The operations of the Company are affected by legislative, fiscal and regulatory developments for which provisions are made where deemed necessary. The Board of Directors concludes that as at December 31, 2017, no proceedings existed which could have any material effect on the financial position of the Company (2016: none).

### 3.7 Subsequent events

There have been no events subsequent to December 31, 2017, which would affect the 2017 financial statements.

## 4. Other information

### 4.1 Significant shareholders

The Board of Directors is not aware of any major shareholder with a holding exceeding 3% of all votes as at December 31, 2017 and 2016.

### 4.2 Statement of holdings of the Board of Directors

As at December 31, the Board of Directors held the following registered shares of BB Biotech AG:

	2017	2016
Dr. Erich Hunziker, Chairman	1 457 884	1 451 255
Dr. Clive Meanwell, Vice-Chairman	5 163	–
Prof. Dr. Dr. Klaus Strein	88 168	13 000

### 4.3 Management contracts

On behalf of the Company, the Board of Directors has entered into a management contract with Bellevue Asset Management Group (investment manager). In this contract, the investment manager commits to carry out management services relating to the investment activity and management of BB Biotech AG. Under this contract the Company paid in the business year 2017 CHF 714 785 (2016: CHF 610 785) to Bellevue Asset Management AG.

#### 4.4 Annual report and cash flow statement

Due to the fact, that BB Biotech AG prepares consolidated financial statements in accordance with a recognized international accounting standard (IFRS), the Company doesn't prepare, in line with the legal requirements, an annual report and cash flow statement.

#### 5. Movements on retained earnings

	2017	2016
Retained earnings at the beginning of the year	7 561 200	312 057 844
Allocation to other reserves	–	(280 000 000)
Appropriation of other reserves	155 000 000	–
Dividend	(152 350 000)	(24 930 000)
Net income for the year	300 443 340	433 356
<b>Retained earnings at the end of the year</b>	<b>310 654 540</b>	<b>7 561 200</b>

#### 6. Proposal of the Board of Directors for the appropriation of retained earnings

	2017 Proposal of the Board	2016 Resolution passed at the AGM
Retained earnings	310 654 540	7 561 200
Appropriation of other reserves	–	155 000 000
<b>Retained earnings at the disposal of the Annual General Meeting</b>	<b>310 654 540</b>	<b>162 561 200</b>
Dividend	182 820 000	152 350 000
Carry forward to the next period	127 834 540	10 211 200
	<b>310 654 540</b>	<b>162 561 200</b>



Report of the statutory auditor  
to the General Meeting of  
BB Biotech AG  
Schaffhausen

## **Report on the audit of the financial statements**

### *Opinion*

We have audited the financial statements of BB Biotech AG, which comprise the balance sheet as at 31 December 2017, statement of income and notes for the year then ended, including a summary of significant accounting policies.

In our opinion, the financial statements (pages 68 to 73) as at 31 December 2017 comply with Swiss law and the company's articles of incorporation.

### *Basis for opinion*

We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the «Auditor's responsibilities for the audit of the financial statements» section of our report.

We are independent of the entity in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

## **Our audit approach**

### *Audit scope*

We designed our audit by determining materiality and assessing the risks of material misstatement in the financial statements. In particular, we considered where subjective judgements were made; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

### *Materiality*

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall materiality for the financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate, on the financial statements as a whole.

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<b>Overall materiality</b>	CHF 5 736 000
<b>How we determined it</b>	1% of total shareholders' equity
<b>Rationale for the materiality benchmark applied</b>	We chose total shareholders' equity as the benchmark because, in our view, this is the key metric of interest to investors and it is a generally accepted benchmark for investment companies.

*Report on key audit matters based on the circular 1/2015 of the Federal Audit Oversight Authority*  
We have determined that there are no key audit matters to communicate in our report.

*Responsibilities of the Board of Directors for the financial statements*

The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the company's articles of incorporation, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

*Auditor's responsibilities for the audit of the financial statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located at the website of EXPERTsuisse: <http://expertsuisse.ch/en/audit-report-for-public-companies>. This description forms part of our auditor's report.

**Report on other legal and regulatory requirements**

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of available earnings complies with Swiss law and the company's articles of incorporation. We recommend that the financial statements submitted to you be approved.

PricewaterhouseCoopers AG

Daniel Pajer	Martin Gubler
Audit expert	Audit expert
Auditor in charge	

Zürich, 15 February 2018



# Corporate Governance

The following chapter is intended to supplement the annual report with information on corporate governance. As BB Biotech AG is listed on the Swiss, German, and Italian stock exchanges, the Company wishes to be in compliance with the rules and regulations that apply to each of these markets. A great deal of the required information has already been supplied in past sections of the annual report or is available for download on the Internet. In such cases we allow us to refer to the relevant pages in this report or to our website, [www.bbbiotech.com](http://www.bbbiotech.com).

### 1. Introductory remarks with respect to the specific structure of BB Biotech AG as an investment company

BB Biotech AG is an investment company listed on a stock exchange according to article 2 paragraph 3 of the Swiss Federal Act on Collective Investment Schemes (CISA) in the form of a company limited by shares. As a company limited by shares which is listed on a stock exchange, BB Biotech AG is subject to the supervision and regulation by the SIX Swiss Exchange. Therefore, BB Biotech AG is exempted from the supervision of the Swiss Financial Market Supervisory Authority (FINMA) as well as from the regulation pursuant to the CISA.

As an investment company, the sole purpose of BB Biotech AG is the management of the assets of its investors. The BB Biotech group does not pursue any commercial or operational activity beyond the asset management.

### 2. Group structure and shareholdership

Please refer to note 1 of the consolidated annual financial statements. In addition hereto, we wish to advise that the Board of Directors is not aware of any cross-holdings with other companies exceeding a limit of 5% in terms of capital or the number of votes. Information on key stockholders is listed in note 17 to the consolidated annual financial statements. The notifications which have been notified to the Company and the disclosure office of the SIX Swiss Exchange AG during the fiscal year pursuant to article 20 of the Federal Act on Stock Exchanges and Securities Trading and which have been published on the latter's electronic publication platform may be viewed via the search function on <https://www.six-exchange-regulation.com/de/home/publications/significant-shareholders.html>.

### 3. Capital structure

The capital structure is as follows:

(in CHF 1 000)

	Nominal value of the share capital	Authorized capital	Conditional capital
January 1, 2015	11 850	–	–
December 31, 2015	11 850	–	–
January 1, 2016	11 850	–	–
Capital reduction	(770)	–	–
December 31, 2016	11 080	–	–
January 1, 2017	11 080	–	–
December 31, 2017	11 080	–	–

The share capital of the Company consists of 55.4 mn fully paid registered shares with a par value of CHF 0.20 each (2016: 55.4 mn registered shares with a par value of CHF 0.20 each / 2015: 11.85 mn registered shares with a par value of CHF 1 each). At the General Shareholders' Meeting held March 17, 2016, a five-for-one share split was approved. The split was effective as of March 29, 2016.

The change in equity is disclosed in the consolidated financial statement of changes in equity on page 48.

## **4. Board of Directors**

### **4.1 Members, nationality, and stock holdings**

- Dr. Erich Hunziker, Chairman, Switzerland, 1 457 884 registered shares (2016: 1 451 255 registered shares)
- Dr. Clive Meanwell, Vice-Chairman, USA, 5 163 registered shares (2016: none)
- Prof. Dr. Dr. Klaus Strein, Germany, 88 168 registered shares (2016: 13 000 registered shares)

The members of the Board of Directors have no executive functions, neither today nor in the last three years. Moreover, no business relations are in place between the Board members and BB Biotech AG. Detailed résumés are available on our website [www.bbbiotech.com](http://www.bbbiotech.com).

### **4.2 Further mandates of the members of the Board of Directors**

- Dr. Erich Hunziker is a member of the Board of Directors of AB2Bio AG and a member of the Board of Directors of LamKap Bio AG.
- Dr. Clive Meanwell is a member of the Board of Directors and CEO of The Medicines Company.
- Prof. Dr. Dr. Klaus Strein is Chairman of the Board of Directors of LamKap Bio AG and a member of the Board of Directors of NovImmune SA.

### **4.3 Number of permissible external mandates**

The rule with respect to the number of permissible external mandates of members of the Board of Directors can be found in article 23 of the articles of incorporation of the Company. The articles of incorporation are available for download under the following link: [www.bbbiotech.ch/bylaws](http://www.bbbiotech.ch/bylaws).

### **4.4 Election and term of office**

The Board of Directors is elected by a simple quorum for a term of office of one year. There are no limitations on its tenure.

The members of the Board of Directors have first been elected at the following General Meetings:

- Dr. Erich Hunziker: 2011 (Chairman since 2013)
- Dr. Clive Meanwell: 2004 (Vice-Chairman since 2011)
- Prof. Dr. Dr. Klaus Strein: 2013

### **4.5 Internal organization**

The Board of Directors consists of a Chairman, Vice-Chairman and a member. In addition, the members of the Board of Directors are appointed in the following committees:

- Dr. Erich Hunziker, Chairman: Chairman of the Audit Committee
- Dr. Clive Meanwell, Vice-Chairman: Member of the Audit Committee and Chairman of the Remuneration and Nomination Committee
- Prof. Dr. Dr. Klaus Strein, Member: Member of the Remuneration and Nomination Committee

The Board of Directors generally meets once per month via video or telephone conference. In addition, two three-day strategy meetings take place each year. These meetings are attended by representatives of the asset manager commissioned. No ordinary board meetings are held in the months of the strategy meetings. In these meetings, the Board of Directors regularly examines the compliance with the investment guidelines. In addition, the representatives entrusted with the asset management present the respective investment and divestiture proposals before their implementation to the Board of Directors. The latter examines the individual investment proposals with respect to the compliance with the investment strategy as well as the investment process. During the fiscal year 2017, eight ordinary board meetings and two strategy meetings took place.

The members of the Audit Committee hold quarterly meetings, the Remuneration and Nomination Committee holds at least one meeting a year. During 2017, four ordinary meetings of the Audit Committee and one ordinary meeting of the Remuneration and Nomination Committee took place.

### **4.6 Director's dealing**

BB Biotech AG publishes each purchase/sale of BB Biotech AG stocks by members of the Board of Directors as well as by first-degree relatives of such persons within three trading days. This information is made available for 30 days on the website.

## **5. Asset management**

BB Biotech AG as an investment company listed on a stock exchange does not have a management of its own within the meaning of article 716b CO, respectively the Ordinance Against Excessive Compensation in Public Corporations. The Board of Directors of BB Biotech AG has – as it is customary for investment companies – outsourced the asset management based on the management contract to a specialized third company, namely to Bellevue Asset Management Group. The supervision of Bellevue Asset Management Group acting as external asset manager and the taking of core decisions relating to the investment policy remain with the Board of Directors of BB Biotech AG as a non-transferable duty. The management contract is valid for an indefinite period and can be terminated by either party with a notice period of twelve months with effect as per the end of the following calendar year. Detailed information on this mandate and the members of the investment manager involved is available on the website. Since January 1, 2014, the remuneration paid to the asset manager has been based upon a 1.1% p.a. all-in fee on the average market capitalization without any additional fixed or performance-based elements of compensation, which is paid on a monthly basis.

## **6. Remuneration**

See notes 8 and 16 of the consolidated financial statements as well as the remuneration report hereinafter for details relating to the remuneration of the Board of Directors and the process of determining its remuneration.

The rules governing the approval by the General Meeting of the remuneration of the members of the Board of Directors as well as the principles governing the remuneration of the members of the Board of Directors can be found in articles 19–21 of the articles of incorporation of the Company. The articles of incorporation do not contain any provision with respect to loans, credits and pension benefits to the members of the Board of Directors. The articles of incorporation are available for download under the following link: [www.bbbiotech.ch/bylaws](http://www.bbbiotech.ch/bylaws).

## **7. Stockholders' rights of cooperation**

### **7.1 Limitations to voting rights; voting by proxy**

There are no limitations to voting rights and no internal rules at variance from the statutory provisions concerning attendance of a General Meeting. The articles of incorporation do not contain any provision with respect to the issuance of directives to the independent voting rights representative or to the electronic participation at a General Meeting.

### **7.2 General Meeting**

There are no statutory rules relating to the presence of a majority quorum which differ from the statutory provisions. The convening of a General Meeting as well as the request that items be included in the agenda are governed by article 7 of the articles of incorporation of the Company as well as the statutory provisions of law.

### **7.3 Dividend policy**

At present, the Company is pursuing a structured distribution policy. The objective of the Board of Directors is to achieve an annual return of 10% for shareholders via dividends combined with continued share buy-backs. The Board of Directors suggests distributing an annual dividend equivalent to approximately 5% of the average share price in December as well as seeking shareholder authorization for further share buy-backs of approximately 5% p.a.

## **8. Change-of-control and defensive measures**

### **8.1 Obligatory offer for sale**

An opting-out rule is in place.

### **8.2 Change-of-control clauses**

No change-of-control clauses are in place in favor of the Board of Directors.

## **9. Audits**

### **9.1 Duration of mandate and term of office of the lead auditor**

Since the fiscal year 1994, PricewaterhouseCoopers AG has been the official auditor and group auditor of BB Biotech AG. The lead auditor, Daniel Pajer, has been responsible for auditing the Company's books since the fiscal year 2017.

### **9.2 Fees**

The following fees for professional services in the fiscal year ended December 31, 2017, were agreed:

- Audit fees (including interim audit): CHF 120 000
- Fees for audit-related services: CHF 2 400

### **9.3 Instruments of information of the external audit**

The asset manager and the auditors are continually in contact with each other. The auditor is consulted by the Board of Directors where necessary. The auditors attend at least two audit committee meetings per year.

### **10. Information policy/diary of Company events**

Please refer to «Shareholder information» at page 88.

### **11. Trading in own stocks**

BB Biotech AG operates, in line with legal and internal regulations, as an active purchaser/seller of own stocks itself on the market, securing additional liquidity in the process.



# Remuneration Report

This remuneration report for the fiscal year 2017 outlines the remuneration system as well as the remuneration of the members of the Board of Directors of BB Biotech AG. The content and scope of the information contained in this report is in accordance with the provisions of the Ordinance Against Excessive Compensation in Public Corporations (the Ordinance) and with the Directive on Information relating to Corporate Governance (DCG) of the SIX Swiss Exchange.

## **1. Responsibilities and authorities with respect to remuneration**

### **1.1 Introductory remarks relating to the specific structure of BB Biotech AG as an investment company**

The Board of Directors of BB Biotech AG has not made use of its competence to delegate the executive management of all or part of the Company's business pursuant to article 716b CO and therefore manages the business of the Company itself, to the extent it has not been delegated to the investment manager within the framework of the management contract. Accordingly, BB Biotech AG does not have an executive management pursuant to article 716b CO or the Ordinance.

For details, please refer to note 7.

### **1.2 Responsibilities and authorities with respect to the remuneration**

The Remuneration and Nomination Committee is responsible for ensuring that the process relating to the determination of the remuneration is held on a fair and transparent basis and that such process is controlled effectively. The adopted remuneration process shall serve as a basis for an adequate decision with respect to services rendered as well as an appropriate incentive to the individual members of the Board of Directors, taking into account the long-term interests of the shareholders and the Company's success. In addition, the Remuneration and Nomination Committee assists the Board of Directors in determining the principles of the remuneration strategy of BB Biotech AG.

The Remuneration and Nomination Committee submits proposals to the Board of Directors for resolution in the following areas:

- Amount and composition of the aggregate remuneration of the Board of Directors;
- Amount and composition of the remuneration of the Chairman of the Board of Directors;
- Amount and composition of the remuneration of the Vice-Chairman as well as the other members of the Board of Directors;
- Amount and composition of the additional remuneration of the members of a Board of Directors Committee.

Furthermore, the Remuneration and Nomination Committee resolves on conclusion, termination, or amendment of contracts entered into with external asset managers and thus in particular on the amount of the compensation to be paid under the respective contracts.

## **2. Remuneration of the members of the Board of Directors**

### **2.1 Principles**

The remuneration of the members of the Board of Directors is based on the scope of activity and responsibility of the individual members (Chairman of the Board of Directors, Vice-Chairman of the Board of Directors, member of the Board of Directors; involvement in committees: chairmanship of a committee, member of a committee).

The remuneration of the Board of Directors consists of the following elements:

- Fixed remuneration (disbursement by cash compensation);
- Social insurance contributions and duties.

The limitation to a fixed remuneration ensures that the focus of the Board of Directors lies on the long-term success of BB Biotech AG. Its amount takes account of the workload and responsibility of the individual members of the Board of Directors. Therefore, the remuneration of the Board of Directors has been separated from the compensation of the investment manager; thus, the Board of Directors does not have an incentive to take excessively high risks.

Upon request of the Remuneration and Nomination Committee, the entire Board of Directors resolves once a year on the amount of the remuneration of the members of the Board of Directors and the committees.

The Board of Directors had determined the fixed remuneration of its members (as a member of the Board of Directors or a committee) as follows:

	2017 in CHF	2016 in CHF
<b>Function/Responsibility</b>		
Chairman	360 000	360 000
Vice-Chairman	250 000	250 000
Member	250 000	250 000
Chairman of the Remuneration and Nomination Committee	15 000	15 000
Member of the Remuneration and Nomination Committee	10 000	10 000
Chairman of the Audit Committee	15 000	15 000
Member of the Audit Committee	10 000	10 000
	<b>910 000</b>	<b>910 000</b>

## 2.2 Remuneration of the individual members of the Board of Directors in the reporting year (audited)

In the reporting year 2017, the three members of the Board of Directors received a total remuneration of CHF 954 033 (2016: CHF 956 130). From this amount, CHF 910 000 (2016: CHF 910 000) have been paid in the form of a fixed remuneration for the work on the Board of Directors and on the committees of the Board of Directors. The social insurance contributions and the duties amounted to a total of CHF 44 033 (2016: CHF 46 130).

The individual members of the Board of Directors were paid the following remuneration:

### Fiscal year 2017

Name/Function	RNC <sup>1)</sup>	AC <sup>2)</sup>	Period	Fixed remuneration	Committee remuneration	Social insurance contributions and duties	Total
Hunziker Erich, Chairman		X	01.01.2017 – 31.12.2017	360 000	15 000	27 903	402 903
Meanwell Clive, Vice-Chairman	X	X	01.01.2017 – 31.12.2017	250 000	25 000	–	275 000
Strein Klaus, Member	X		01.01.2017 – 31.12.2017	250 000	10 000	16 130	276 130

<sup>1)</sup> RNC = Remuneration and Nomination Committee

<sup>2)</sup> AC = Audit Committee

### Fiscal year 2016

Name/Function	RNC <sup>1)</sup>	AC <sup>2)</sup>	Period	Fixed remuneration	Committee remuneration	Social insurance contributions and duties	Total
Hunziker Erich, Chairman		X	01.01.2016 – 31.12.2016	360 000	15 000	30 000	405 000
Meanwell Clive, Vice-Chairman	X	X	01.01.2016 – 31.12.2016	250 000	25 000	–	275 000
Strein Klaus, Member	X		01.01.2016 – 31.12.2016	250 000	10 000	16 130	276 130

<sup>1)</sup> RNC = Remuneration and Nomination Committee

<sup>2)</sup> AC = Audit Committee

## 3. Remuneration of related parties at non-market conditions

In the reporting year 2017, no remuneration which was not at arm's length terms was paid to related parties (2016: none).

## 4. Remuneration of former members of the corporate bodies

In the reporting year 2017, no remuneration was paid to former members of the corporate bodies (2016: none).

#### **5. Loans and credits to the members of the Board of Directors**

The articles of incorporation of BB Biotech AG do not provide that loans and credits may be granted to the members of the Board of Directors. Accordingly, no loans or credits which BB Biotech AG has granted to current or former members of the Board of Directors or to related parties were outstanding as of December 31, 2017 (December 31, 2016: none).

#### **6. Contractual terms at retirement from BB Biotech AG**

No member of the Board of Directors has a contract with BB Biotech AG providing for a severance payment in the event of leaving BB Biotech AG.

#### **7. Management contracts**

On behalf of the Company, the Board of Directors has entered into a management contract with Bellevue Asset Management Group (investment manager). In this contract, the investment manager commits to carry out management services relating to the investment activity of BB Biotech AG. The management contract is valid for an indefinite period and can be terminated by either party with a notice period of twelve months with effect as per the end of the following calendar year. The remuneration of the investment manager is determined by the respective contract and corresponds to a fixed fee of 1.1% p.a. on the average market capitalization without any additional fixed or performance-based elements.



Report of the statutory auditor  
to the General Meeting of  
BB Biotech AG  
Schaffhausen

### **Report of the statutory auditor on the remuneration report**

We have audited the remuneration report of BB Biotech AG for the year ended 31 December 2017. The audit was limited to the information according to articles 14–16 of the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance) contained in the tables labeled ‘audited’ on pages 85 to 86 of the remuneration report.

#### *Board of Directors’ responsibility*

The Board of Directors is responsible for the preparation and overall fair presentation of the remuneration report in accordance with Swiss law and the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance). The Board of Directors is also responsible for designing the remuneration system and defining individual remuneration packages.

#### *Auditor’s responsibility*

Our responsibility is to express an opinion on the remuneration report. We conducted our audit in accordance with Swiss Auditing Standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the remuneration report complies with Swiss law and articles 14–16 of the Ordinance.

An audit involves performing procedures to obtain audit evidence on the disclosures made in the remuneration report with regard to compensation, loans and credits in accordance with articles 14–16 of the Ordinance. The procedures selected depend on the auditor’s judgment, including the assessment of the risks of material misstatements in the remuneration report, whether due to fraud or error. This audit also includes evaluating the reasonableness of the methods applied to value components of remuneration, as well as assessing the overall presentation of the remuneration report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### *Opinion*

In our opinion, the remuneration report of BB Biotech AG for the year ended 31 December 2017 complies with Swiss law and articles 14–16 of the Ordinance.

PricewaterhouseCoopers AG

Daniel Pajer  
Audit expert  
Auditor in charge

Martin Gubler  
Audit expert

Zürich, 15 February 2018

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## Company profile

BB Biotech AG acquires holdings in companies in the biotechnology growth market and is currently one of the world's largest investors in the sector. The focus of the holdings is on quoted companies that are concentrating on the development and marketing of innovative medicines. For the selection of holdings, BB Biotech AG relies on fundamental analysis by physicians and molecular biologists. The Board of Directors has many years of industrial and scientific experience.

## Official listing and share structure as at December 31, 2017

<b>Foundation:</b>	November 9, 1993; Schaffhausen, Switzerland
<b>Issue price adj. November 15, 1993:</b>	CHF 4.752
<b>Official listing:</b>	December 27, 1993 in Switzerland; December 10, 1997 in Germany; October 19, 2000 in Italy
<b>Share structure:</b>	CHF 11.08 mn nominal, 55 400 000 registered shares with a par value of CHF 0.20 each
<b>Shareholders, free float:</b>	Institutional and private investors, 100.0% free float
<b>Security number Switzerland:</b>	3 838 999
<b>Security number in Germany and Italy:</b>	AoNFN3
<b>ISIN:</b>	CH0038389992

## Shareholder information

The Company publishes its net asset value daily via the major stock market information services and on its website [www.bbitech.com](http://www.bbitech.com). The portfolio composition is published at least every three months within quarterly reports.

## Quotes and reports

<b>NAV:</b>	<b>in CHF</b>	– Datastream: S:BINA – Reuters: BABB – Telekurs: BIO resp. 85, BB1 – (Investdata) – Finanz & Wirtschaft (CH)	<b>in EUR</b>	– Datastream: D:BBNA – Reuters: BABB
<b>Stock price:</b>	<b>in CHF (SIX)</b>	– Bloomberg: BION SW Equity – Datastream: S:BIO – Reuters: BION.S – Telekurs: BIO – Finanz & Wirtschaft (CH) – Neue Zürcher Zeitung (CH)	<b>in EUR (Xetra)</b>	– Bloomberg: BBZA GY Equity – Datastream: D:BBZ – Reuters: BION.DE
			<b>in EUR (STAR)</b>	– Bloomberg: BB IM Equity – Datastream: I:BBB – Reuters: BB.MI

## Corporate calendar 2018

<b>Annual General Meeting 2018</b>	March 13, 2018, 3.00 PM CET Park Casino Steigstrasse 26 CH-8200 Schaffhausen
<b>Interim Report as at March 31, 2018</b>	April 20, 2018, 7.00 AM CET
<b>Interim Report as at June 30, 2018</b>	July 20, 2018, 7.00 AM CET
<b>Interim Report as at September 30, 2018</b>	October 19, 2018, 7.00 AM CET

The BB Biotech annual report is published in English. A translated German and Italian version is also available. In case of any deviations the English shall prevail over the German and Italian text.

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