

2015

ANNUAL REPORT

# EpiScience for Life

4SC 

# 4SC AT A GLANCE

Headquartered in Planegg-Martinsried near Munich, 4SC is a highly innovative biotech company with a focus on research and development. We are a discovery and development company of targeted small molecule drugs in particular for the treatment of cancer diseases in indications with a high medical need. In doing so, we wish to offer affected patients treatment options that are more effective and better tolerated to provide a better quality of life as well as create value for our shareholders, partners and employees.

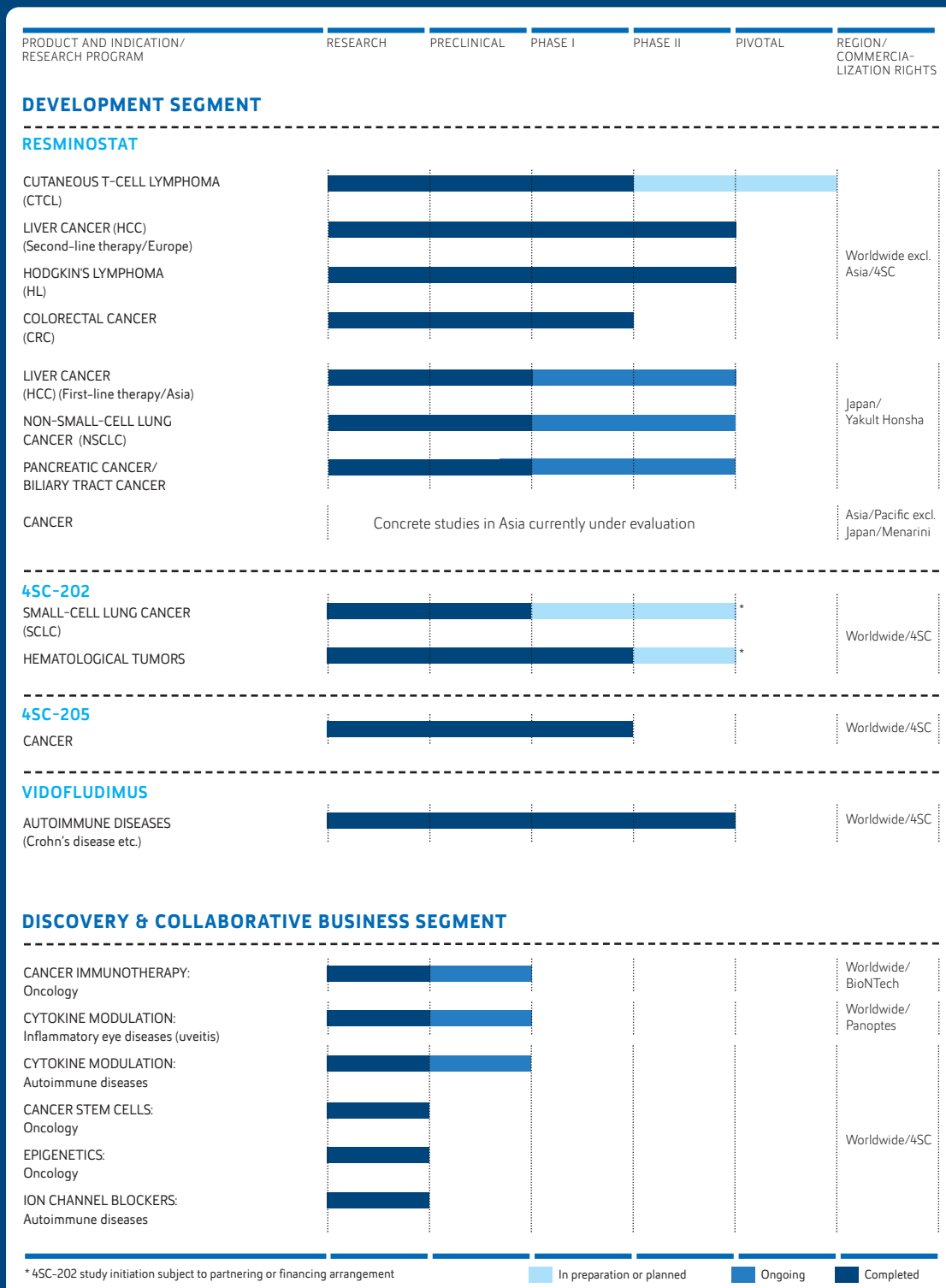
Our product pipeline comprises promising therapeutic programs at various stages of clinical development, as well as early-stage research projects.

We are focusing on attractive fields of research such as epigenetics, cancer stem cells, immune oncology and other, important molecular signaling patterns that contribute to the development and proliferation of severe diseases.

Through development and marketing partnerships with pharmaceutical and biotech companies, we want to bring our programs closer to market approval, thus ensuring commercial success.

We are also strengthening our business model by entering into service and research collaborations in the field of pharmaceutical early-stage research. 4SC was established in 1997. 4SC AG has been listed on the Prime Standard of the Frankfurt Stock Exchange since December 2005 (ISIN DE000A14KL72).

For a biotechnology company like 4SC, a strong product pipeline is an important factor for business success. Our current product pipeline comprises four drug candidates in clinical development and several programs at early research stages. All compound programs are concerned with the treatment of cancers and autoimmune diseases. Together with strong partners, we want to progress these along the path to market approval. The Development segment, which is collectively represented by our parent company 4SC AG, pursues clinical development in indications with a high medical need. In the Discovery & Collaborative Business segment, our subsidiary 4SC Discovery GmbH works on discovering and researching new compounds in attractive fields of research.



## // FIVE-YEAR OVERVIEW 4SC GROUP – KEY FIGURES AT A GLANCE

in € 000's unless stated otherwise

	2015	2014	2013	2012	2011
<b>Results of operations and cash flows</b>					
Revenue	3,266	7,055	4,904	4,353	780
Operating profit/loss	-8,915	-9,437	-10,592	-13,366	-18,793
Net profit/loss for the year	-9,228	-9,696	-10,525	-13,217	-19,071
Earnings per share (basic and diluted) (in €) <sup>1)</sup>	-0.64	-0.95	-1.05	-1.45	-2.30
Monthly use of cash from operations (average)	767	706	597	1,260	1,072
Cash flows from financing activities	28,773	6,778	-60	11,367	11,080

	2015	2014	2013	2012	2011
<b>Financial position and net assets, staff (at year-end)</b>					
Equity	26,428	2,050	11,282	21,813	23,533
Equity ratio (in %)	78.9	13.7	63.7	75.0	73.9
Total assets	33,492	14,934	17,705	29,067	31,838
Cash balance/funds	22,794	3,202	4,899	12,064	15,820
Number of employees (incl. Management Board)	67	66	73	86	96
Number of full-time employees (incl. Management Board)	58	57	56	74	80

	2015	2014	2013	2012	2011
<b>The 4SC share</b>					
Number of shares issued (annual average, in 000's) <sup>1)</sup>	14,344	10,128	10,074	9,234	8,291
Free float on reporting date according to Deutsche Börse (in %)	38.1	35.3	30.3	30.0	26.4
Annual high (Xetra) (in €) <sup>1)</sup>	7.18	8.95	11.00	15.20	24.45
Annual low (Xetra) (in €) <sup>1)</sup>	2.39	4.00	7.85	6.30	6.00
Closing price on reporting date (Xetra) (in €) <sup>1)</sup>	3.83	4.10	8.00	10.15	6.15
Market capitalization on reporting date <sup>1)</sup>	72,642	41,696	80,595	102,255	51,621
Average daily trading volume (all German stock exchanges incl. Tradegate, number of shares) <sup>1)</sup>	29,464	16,721	7,423	11,343	8,644

<sup>1)</sup>To facilitate comparability, the figures were adjusted to reflect the capital reduction and reverse stock split carried out in April 2015.

# CONTENTS

<b>TO OUR SHAREHOLDERS</b>	
Letter to the shareholders	2
Key events in 2015	6
Report of the Supervisory Board	8
Room for the future: 4 reasons why we are proud of 4SC	14

<b>COMBINED MANAGEMENT REPORT</b>	
Business and economic environment	26
Overview of the course of business	30
Results of operations, financial position and net assets	42
Employees	48
Financial and non-financial key performance indicators	49
Report on post-balance sheet date events	53
Report on expected developments	53
Report on opportunities and risks	57
Corporate governance report	69
Course of business of 4SC AG (referring to the HGB single-entity financial statements)	70

<b>FINANCIAL REPORT</b>	
IFRS consolidated financial statements	78
Notes to the IFRS consolidated financial statements	82
Auditor's report	130
Responsibility statement	131
Excerpt from the annual financial statements of 4SC AG (HGB)	132

<b>FURTHER INFORMATION</b>	
Glossary	134
Financial calendar	137
Publishing information	137

## Dear Shareholders and Business Partners,

At 4SC we have a vision: We want to be a leader in researching and developing epigenetic treatments to fight cancer! That is without a doubt an ambitious goal, but we are nonetheless confident that our many years of experience in this field, our strong partners, and our strategy will continually bring us closer to meeting this goal. These success factors and a very promising pipeline were vital in 2015 for making forward-looking decisions and seizing opportunities when they arose.

Our compounds resminostat and 4SC-202 are two epigenetic substances in our portfolio with enormous potential to fight cancer, particularly drug-resistant types. Our declared goal is to obtain regulatory approval for 4SC's first drug, our most advanced substance resminostat, as efficiently, rapidly and safely as possible. We also aim to further develop 4SC-202 swiftly in Phase II trials.

In 2015 the support of our long-time anchor investors and shareholders as well as well-respected life sciences investor Wellington Partners and other new, international investors enabled us to not only raise additional funding of €29 million (gross) from a capital increase, but also to experience a fresh wave of motivation across all departments. This reinforces our confidence that we will be able to achieve our goals.

Our most important resource on this journey is our scientific and research staff. The positive general environment has resulted in other bright minds choosing to share our mission. For instance, pharmaceutical specialist and physician Dr Susanne Danhauser-Riedl joined our team as Chief Medical Officer in 2015. With her help we will shift our operational focus in 2016 more toward the clinical development of resminostat and possible approval requirements.

In order to unlock the potential of resminostat early on and use our resources wisely, 4SC is working with respected partners. In Europe our resources are going toward concentrating on advancing resminostat in the niche indication of cutaneous T-cell lymphoma (CTCL). We conducted an active dialogue with the European Medicines Agency (EMA) concerning the design of the planned Phase II trial. This exchange recently led the EMA to issue us written scientific advice on the basis of which the trial is expected to begin mid-year. Assuming the data is positive, we will



Management Board 4SC AG:

**Enno Spillner**  
Chief Executive Officer/CEO &  
Chief Financial Officer/CFO

Degree in business administration,  
born 1970,  
Management Board member since 2005

**Dr Daniel Vitt**  
Chief Development Officer/CDO &  
Chief Scientific Officer/CSO

Doctor of chemistry,  
born 1968, founding member  
Management Board member since 2000

ideally present initial results as early as the end of 2018 and then use these results to submit an application for conditional marketing authorization in the EU.

Our Japanese partner Yakult Honsha is proceeding systematically with the Phase II trial for the use of resminostat against liver cancer (HCC) in the Japanese market. We expect results from this trial around mid-year. Yakult Honsha is also testing the compound in lung cancer as well as biliary tract and pancreatic cancer indications. In addition, we are confident that our second major partner Menarini, who joined us in 2015, will take concrete steps this year to prepare the clinical testing of resminostat in other countries in the Asia-Pacific region primarily in the indication of liver cancer.

We plan to further extend our strategic partnerships so that we can conduct additional clinical trials with resminostat. After Phase II trial results from Japan in the liver cancer indication are presented, we will review the feasibility of conducting pivotal trials with resminostat in the United States and the EU as well. We have already received the necessary approval for the United States from the Food and Drug Administration (FDA).

4SC-202 is our second epigenetic substance, one that is very innovative and, to our knowledge, has a unique mode of action not seen before. This sets 4SC-202 clearly apart from other drug candidates. In our Phase I trial in hematological malignancies, this compound already showed promise. This positive data and the underlying intellectual property open up the possibility for entering into partnerships or taking advantage of other strategic options for 4SC-202. We see enormous potential for value growth for this product candidate and 4SC in the planned Phase II development.

In 2015 we additionally worked hard on our immune priming activities. In preclinical research, resminostat and 4SC-202 have both already shown the ability to positively influence components of the immune system. Their potential is therefore excellent for making certain other classes of compounds – e.g. checkpoint inhibitors – more effective in combination. The pairing of epigenetic compounds and immunotherapies is already considered a very attractive approach in the fight against cancer.

Finally, we are also seeking partners worldwide for our third oncological compound 4SC-205 so that we can advance its clinical development and soon ensure that this interesting project has promising prospects for the future.



Our team will continue to do its best to realize our vision of becoming a leader in epigenetic drug discovery and development. We have now incorporated this vision into our logo as well:

4SC – EpiScience for Life

As most of the readers may already know, I will not extend my expiring contract as a member of 4SC's Management Board. However, for a transitional period until the end of June, I will continue to be available for the Company with pleasure, full of energy and commitment. Under the direction of the Supervisory Board, we will put every effort into establishing appropriate succession management.

We would like to thank our shareholders for their confidence and support in making the financial year 2015 a successful one. You give us the strength and security we need to focus on our work and achieve success in the long term.

And thank you to all of our employees and partners for your commitment and passion. You go above and beyond for us!

30 March 2016



Enno Spillner  
Chairman of the Management Board

## KEY EVENTS IN 2015

4SC MANAGED TO TAKE IMPORTANT STRATEGIC STEPS TOWARD THE FUTURE IN THE REPORTING YEAR. WE REALIGNED THE DEVELOPMENT STRATEGY FOR OUR MOST ADVANCED COMPOUND RESMINOSTAT AND SIGNIFICANTLY STRENGTHENED THE FINANCIAL FOUNDATION OF 4SC THROUGH A SUCCESSFUL CAPITAL INCREASE.

THE MOST SIGNIFICANT EVENTS OF THE YEAR AT A GLANCE:

### JANUARY

#### **4SC AG: Professor Helga Rübsamen-Schaeff joins the Supervisory Board**

Biotech entrepreneur and pharmaceutical researcher Professor Helga Rübsamen-Schaeff is appointed to the Supervisory Board of 4SC AG.

#### **4SC Discovery GmbH: BEYOND RESEARCH initiative with CRELUX reaches first milestone**

4SC Discovery and its partner CRELUX launch the second project phase in their collaboration with the RQScue Therapeutics working group at the Helmholtz Center Munich to conduct research and drug discovery of new compounds for treating degenerative diseases.

### FEBRUARY

#### **4SC Discovery GmbH: The Company's investee Panoptes Pharma licenses PP-001 compound to Mediolanum**

Mediolanum acquires the marketing rights to the preclinical Panoptes compound PP-001 for the potential treatment of severe inflammatory eye diseases. In turn, Panoptes receives an upfront payment and is also entitled to later development and revenue milestone payments and royalties, which will be shared with 4SC Discovery.

### MARCH

#### **Resminostat: 4SC presents findings on the compound's immunotherapy activity**

The presentation given at the 2015 ITOC2 conference covers new preclinical data on resminostat's activity as an immunomodulator, indicating the compound's potential for combination therapy with immunological drugs.

### APRIL

#### **4SC AG: Dr Susanne Danhauser-Riedl becomes Chief Medical Officer (CMO)**

Dr Danhauser-Riedl, a physician with many years of experience in the fields of hematology and oncology, takes over management of clinical development at 4SC AG on 1 April 2015. Her primary responsibility at 4SC is the further clinical development of the Company's oncology pipeline.

#### **Resminostat: Asia/Pacific licensing partnership signed with Menarini**

4SC signs a licensing and development agreement for resminostat for the Asia/Pacific region – excluding Japan – with Menarini AP, a Singapore-based subsidiary of the Italian pharmaceutical multinational Menarini.

#### **4SC AG: Reverse stock split completed according to plan**

The capital reduction and the 1-for-5 reverse stock split, which had been resolved by the Extraordinary General Meeting on 11 March 2015, is implemented. The 4SC share (stock exchange symbol: VSC) receives a new ISIN (DE000A14KL72) and a new German security identification number (A14KL7).

## **JUNE**

### **4SC-205: Positive results from Phase I trial presented at ASCO**

4SC publishes positive results on the safety, pharmacokinetics and efficacy of the 4SC-205 cancer compound from the Phase I AEGIS trial at the annual meeting of the American Society of Clinical Oncology (ASCO) in Chicago and presents the rationale for an innovative daily dosing scheme in Phase II.

### **Resminostat: Yakult Honsha starts clinical development in pancreatic and biliary tract cancer**

The Phase I trial launched in Japan examines resminostat as monotherapy or in combination with chemotherapy in patients with advanced pancreatic or biliary tract cancer. The main goal of the open-label trial is to determine the recommended dosing scheme for potential subsequent Phase II trials.

## **JULY**

### **Resminostat: Patent protection strengthened further in North America**

The US Patent Office grants the patent for the use of resminostat in cancer indications. In Canada, the composition of matter patent is granted.

### **4SC AG: Capital increase successfully concluded**

4SC AG successfully completes its capital increase for cash and in-kind contributions resolved at the end of June 2015 to finance its research and development programs in the field of cancer therapies. The gross issue proceeds total around €29 million, which is at the upper end of the target range.

## **AUGUST**

### **4SC-202: Patent protection in China expanded**

The Chinese Intellectual Property Office (SIPO) grants a patent relating to the tosylate salt of the epigenetic cancer compound 4SC-202.

## **SEPTEMBER**

### **4SC AG: Confirmation received of a grant of up to €450 thousand from the Eurostars program**

This program involves the investigation of the properties of resminostat and 4SC-202 as immunomodulators, and their possible combination with immunotherapy agents.

### **4SC AG: 4SC organizes a scientific symposium on recent advances in epigenetic drug research**

More than 50 distinguished participants from the international scientific, clinical research and industry community discuss recent advances in epigenetic drug discovery at a forum on “Epigenetic regulation of tumor immunogenicity” organized by 4SC.

# REPORT OF THE SUPERVISORY BOARD



Dr Clemens Doppler  
Chairman of the Supervisory Board

**Dear Shareholders, Dear Sir or Madam,**

In the financial year 2015, 4SC AG managed to take important strategic steps toward its future. With the licensing deal closed with Menarini in April, the further development of resminostat is now fully covered across the entire Asia/Pacific region. In July, 4SC was also able to complete a successful capital increase, thereby generating net proceeds of around €27.5 million from the issue. These resources are expected to secure the Company's financing into the second quarter of 2018. They have been earmarked for use in completing a clinical Phase II trial with resminostat in the indication of CTCL. If successful, this study would establish the basis for applying for an EU conditional marketing authorization for the compound.

Following in-depth discussions with the Management Board, the Supervisory Board of 4SC AG has systematically focused on business development in the financial year 2015. Collaboration between the Boards was consistently open and constructive. The Supervisory Board advised the Management Board on management of the Company and closely monitored related activities. All issues relevant to the Company, decisions requiring approval and strategic decisions were discussed extensively and resolved by mutual agreement. In the report that follows, the Supervisory Board explains the focal points of its activities in the reporting year.

## **Close cooperation with the Management Board**

The Supervisory Board received regular, timely and detailed reports from the Management Board, and was accordingly informed consistently and well in advance about all significant developments of relevance to the Company. At the Supervisory Board meetings, the Management Board reported to us on the Company's performance as well as on current risks and opportunities. The Management Board also informed us of deviations from plans and targets. We closely examined all

topics presented to us and discussed these with the Management Board and within the Supervisory Board at the required level of detail. Where individual items of business or actions proposed by the Management Board required our consent, we were involved at an early stage and adopted the necessary resolutions. In the 2015 financial year, the Supervisory Board believed that there was no reason to conduct additional examinations, such as inspecting the Company's documentation or commissioning experts. The Management Board used monthly written financial reports, phone calls and e-mails on a regular basis to keep us informed in between Supervisory Board meetings. CEO Enno Spillner and the Chairman of the Supervisory Board in particular engaged regularly in bilateral consultation on current topics and developments outside the scheduled sessions. Where necessary, resolutions were also adopted by circular memorandum.

### **Meetings of the Supervisory Board and the Committees in 2015**

In the 2015 financial year, the Supervisory Board met for a total of nine sessions, of which four sessions were conducted as conference calls. The Board was quorate for all sessions. One key focus of our work in the Supervisory Board sessions was our close monitoring of progress in the clinical development of the compounds resminostat and 4SC-202, and the future development strategies for these compounds. Other items of business consisted of upcoming capital and financing topics (reduction of share capital by reverse stock split, capital increase from authorized capital, alternative forms of financing, etc.) for 4SC AG, which were debated and discussed in detail.

In order to further increase the efficiency of the Supervisory Board work, we established Supervisory Board committees at 4SC AG.

The Audit Committee met twice in person and six times via conference call in the reporting year, in part in the presence of Baker Tilly Roelfs AG Wirtschaftsprüfungsgesellschaft, the auditor.

The Human Resources Committee met for three sessions, with two sessions being conducted as conference calls. During the year, these meetings were complemented by close communication between Committee Chairman Dr Clemens Doppler and individual members.

Five of the six sessions of the R&D Committee were held as conference calls. Committee Chairwoman Dr Irina Antonijevic and responsible Management Board member Dr Daniel Vitt were also in active communication throughout the year.

In the 2015 financial year, no Supervisory Board member attended less than half of the sessions of the Supervisory Board and the Committees of which they were a member.

Absent members were comprehensively briefed both before and after each Supervisory Board and Committee session.

### **Other topics from individual sessions of the Supervisory Board, in chronological order:**

Agenda items for the first Supervisory Board session, which was held on 28 January 2015, were the Supervisory Board efficiency review, the achievement of targets by the Management Board for 2012 to 2014, the setting of Management Board targets for 2015 to 2017, and the scheduling of an extraordinary General Meeting in order to agree a reverse stock split. Key agenda items for the session of 13 March 2015 were the adoption of the 4SC AG annual financial statements for 2014 and the approval of the consolidated financial statements. In addition, the Company's Management Board was also authorized to take all necessary steps required to prepare for the execution of a potential capital increase.

In the Supervisory Board session held by conference call on 11 May 2015, the postponement of the Annual General Meeting to 27 July 2015 was agreed and the current status of a potential capital increase was discussed. On 22 June 2015, a resolution defining the “up to” volume of the capital increase was adopted in the form of a circular memorandum. During the fourth and fifth sessions, also conducted as conference calls, the subscription price (session of 2 July 2015) and the final volume of the capital increase (session of 7 July 2015) were subsequently discussed and agreed. One major agenda item for the session of 27 July 2015, which was held following the Company’s Annual General Meeting, was a general debriefing on the minutes of this meeting.

The seventh session of 7 August 2015, which was conducted as a conference call, addressed strategic options, with a particular focus on potential licensing deals for the compound 4SC-202. This discussion was continued on 11 September 2015, with the meeting largely focusing on strategic issues such as the future development of the drug candidate resminostat and the optimum utilization of cash inflows from the capital increase. At its last meeting on 10 December 2015, the Supervisory Board approved the budgets for the years 2016 to 2018 after discussing them at length. An increase of 3% to the basic remuneration paid to Management Board members from 1 January 2016 was also discussed and agreed as appropriate.

#### **Focus of committee work**

In sessions held by the Audit Committee, its members primarily discussed accounting issues, the annual financial statements, the consolidated interim reports and the budget during the reporting period. In this context, the Audit Committee organized quarterly meetings with the CEO to discuss current figures and developments well in advance of the publication of the relevant reports. Another key agenda item for meetings was the mid- to long-term financing of the business and, in this context, the preparation of the investor brochure and the corporate actions agreed on in July 2015.

The Human Resources Committee and the R&D Committee were reconstituted in January 2015.

Throughout the 2015 financial year, the work of the R&D Committee focused strongly on 4SC’s strategic pipeline in the field of research and development. The Committee monitored and supported the work of researchers and 4SC management in the preparation of the planned Phase II trial in the indication of CTCL, supplying scientific input in this context. A second point of focus for the R&D Committee was the further clinical development of 4SC-202 and an evaluation of its potential partners.

Work in the Human Resources Committee focused mostly on contract extension and remuneration for Management Board members.

In our view, a Nomination Committee, which is recommended under the German Corporate Governance Code, does not further enhance our efficiency, which is why several years ago we decided not to establish it and carry out this function in the full Supervisory Board.

The committees’ work was supplemented with numerous telephone calls among committee members and bilateral discussions between members of the Management Board and the relevant committee chairperson. The chairmen of the respective committees regularly reported to the Supervisory Board at its meetings on matters that had been discussed only in the committees.

### **Continuity on the Management Board and Supervisory Board**

Memberships of the Management Board of 4SC AG remained unchanged in the 2015 financial year. As before, the Board consists of its Chairman Enno Spillner and Dr Daniel Vitt, who holds the posts of Chief Development Officer and Chief Scientific Officer. The composition of the Supervisory Board also remained constant, since the terms of office for Joerg von Petrikowsky and Professor Helga Rübsamen-Schaeff, who had both been appointed as members of the Supervisory Board by resolution of the Munich District Court (registration court), were confirmed at the Company's Annual General Meeting of 27 July 2015.

### **Approval of the 2015 annual financial statements**

The Annual General Meeting of 4SC AG on 27 July 2015 elected Baker Tilly Roelfs AG Wirtschaftsprüfungsgesellschaft, 80335 Munich, Germany, to serve as the auditor of the annual and consolidated financial statements for the 2015 financial year. Baker Tilly Roelfs and its responsible senior financial auditor Siegfried Hund were first appointed auditors for the 2013 financial year. The auditing firm audited the single-entity financial statements of 4SC AG prepared in accordance with requirements of the German Commercial Code (Handelsgesetzbuch – HGB) and the 2015 consolidated financial statements prepared in accordance with the International Financial Reporting Standards (IFRSs), as well as the combined management report, issuing an unqualified Auditor's Report. The financial statements, the combined management report and the audit reports were made available to us by the Management Board in due time ahead of our meeting held on 14 March 2016. The Audit Committee discussed details of the single-entity and consolidated financial statements with the auditor and Management Board in advance during three meetings (two conference calls held on 28 January and 19 February 2016 and one meeting held on 14 March 2016). The Supervisory Board was also briefed in the course of its meeting held on 14 March 2016. During this meeting, the Supervisory Board also discussed and examined the financial statements and the combined management report. The assessments made by the Management Board as contained in the combined management report were consistent with those previously communicated in its reports to the Supervisory Board and with our own assessments. The auditor reported to the Audit Committee and the members of the Supervisory Board on the key findings of the audit and was also available to answer further questions. After this thorough examination, the Supervisory Board accepted the recommendation of the Audit Committee and raised no objections to the financial statements and the combined management report, which on our view comply with all legal requirements. We therefore agreed with the auditor's findings on the audit of the annual financial statements and on 14 March 2016 approved the annual financial statements as drawn up by the Management Board. The annual financial statements of 4SC AG are thereby adopted and the consolidated financial statements of 4SC are thereby approved.

### Corporate governance at 4SC

As in previous years, the Supervisory Board also addressed the current priorities of the German Corporate Governance Code (GCGC) during the 2015 financial year. The Management Board and the Supervisory Board take the recommendations of this Code very seriously, and the Company is compliant with only a few exceptions. In the most recent Declaration of Compliance dated 22 February 2016, the Management Board and Supervisory Board therefore stated that the Company has complied, currently complies, and in the future aims to comply with the recommendations of the GCGC, as amended, with the exceptions listed in the Declaration.

For more information on this, also with regard to the details of the Declaration of Compliance, please refer to the corporate governance report of this annual report (chapter 9 of the combined management report). This section also refers to the current Declaration of Compliance.

#### // COMMITTEES OF THE SUPERVISORY BOARD OF 4SC AG SINCE 1 JANUARY 2015 (as at 14 March 2016)

	Supervisory Board	Audit Committee	Human Resources Committee*	R&D Committee*
Dr Clemens Doppler	C	M	C	
Dr Irina Antonijevic	M			C
Helmut Jeggle	M		M	
Dr Manfred Rüdiger	DC	M		M
Joerg von Petrikowsky	M	C		
Prof Dr Helga Rübsamen-Schaeff	M		M	M

\* The Human Resources Committee and the R&D Committee were reconstituted on 26 January 2015.

C = Chairman, DC = Deputy Chairman, M = Member



### **Conflicts of interest and their handling**

The question of potential conflicts of interest was reviewed in every session. No conflicts of interest arose in the financial year 2015. The efficiency review of the Supervisory Board members' work recommended by the GCGC was conducted on the basis of a questionnaire that was developed expressly for this purpose. The results were discussed at the Supervisory Board meeting on 13 March 2015 and the efficiency review was finally approved. The Supervisory Board has decided to routinely review its efficiency every two years. A repeat efficiency review will therefore be performed at the beginning of 2017.

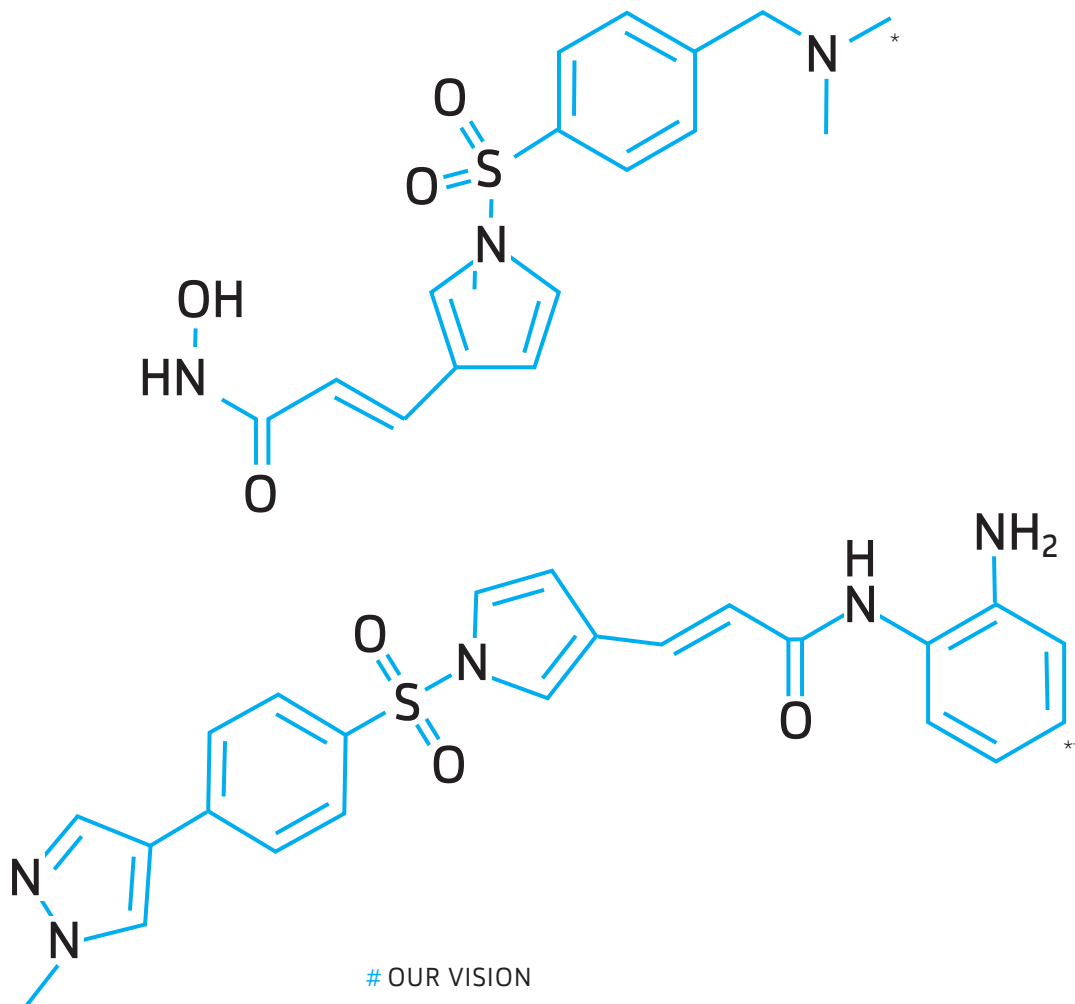
The Supervisory Board thanks the Management Board team and all employees for their daily commitment to the success of our Company.

Planegg-Martinsried, March 2016



**Dr Clemens Doppler**  
Chairman of the Supervisory Board

## ROOM FOR THE FUTURE: 4 REASONS WHY WE ARE PROUD OF 4SC



### # OUR VISION

We want to be one of the leading companies in the field of epigenetic drug research and development. With over 18 years experience in the development of targeted drugs, especially for the treatment of cancers, and two clinical epigenetic products, we are well-positioned for the future. We focus on applying the team and pioneering spirit of our employees while maximizing the transparency, cost-effectiveness and intrinsic value of our business. Our values, our experience and our highly-qualified, committed employees are the key to developing new, effective drugs for which we ultimately achieve market approval. We work with partners and research institutes, maintain close links with the world of scientific research and collaborate to develop new ideas.

Chemical structural formulas of the epigenetic cancer compounds \*resminostat and \*\*4SC-202.

## # Pioneering spirit is our driving force

For us, a pioneering spirit means actively seeking out new challenges. As a biopharmaceutical company, this drives us to look to the future, to continuously develop our knowledge and to make every effort to increase the value of our Company. Applying both their know-how and their belief in the potential of IT (then still in its infancy), already in 1997 the founders of 4SC were developing computerized rapid compound screening tests with the aim of discovering new drugs.

## # Success secures our future

The fact that this endeavor is driven by experience and expertise leads to sound results and recognition, and forms the foundation on which the success of our Company is based. To guarantee the commercial success of our development work, we also enhance the value of our Company: The strategies we deploy for the development of epigenetic compounds lead 4SC into a promising future.

## # Transparency for partners

As a company, 4SC is no “black box”. Transparency protects against inefficiencies and bad decisions. The continuous exchange of data and insights, combined with an open approach to communication, works to create value and long-standing partnerships. This is essential for identifying growth and risk potentials as quickly as possible. In doing so, 4SC can secure itself key competitive advantages in markets with an increasingly rapid change of pace.

## # One team – one goal

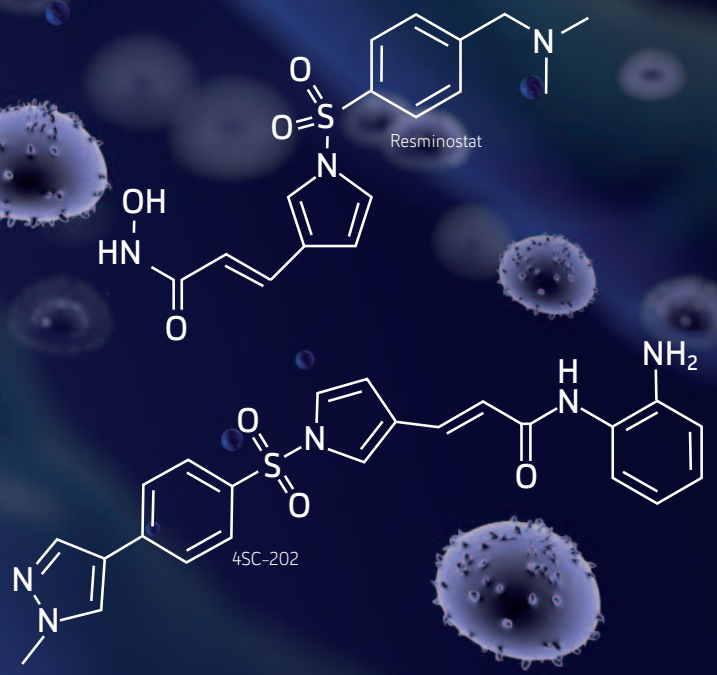
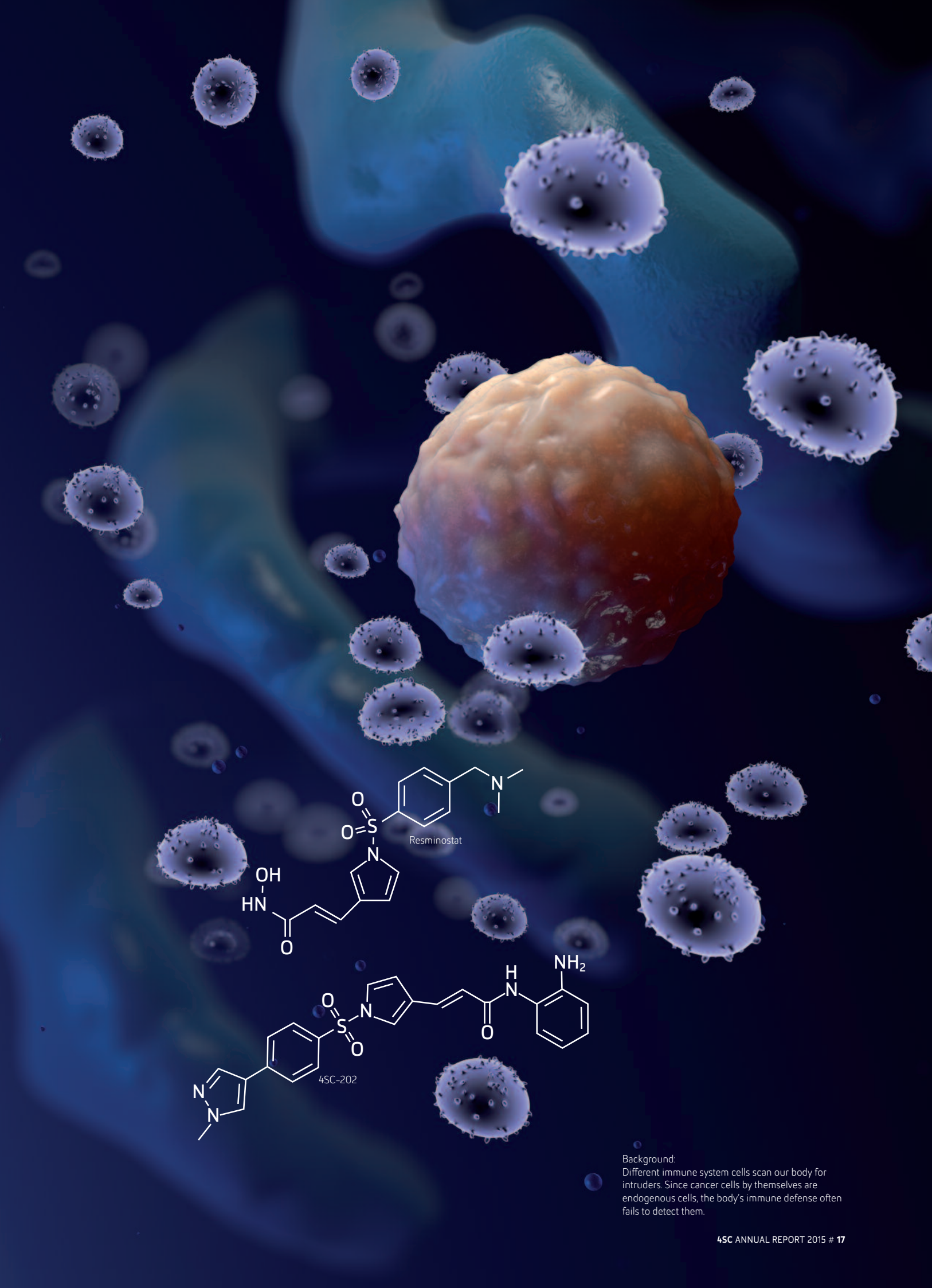
We pool our energies and target their deployment. Our Company values teamwork as one of the utmost important attributes, to ensure we can grow and continue to develop further. Teamwork simplifies the flow of information, reduces the risk of poor decision-making and promotes both motivation and job satisfaction. Our employees contribute a diverse range of abilities, knowledge and experience to their work at 4SC. We are united by our shared values, our sense of fairness to one another and a common goal.

## # Pioneering spirit is our driving force

Seeking answers, making discoveries, finding solutions are three key reasons for the success of human endeavor. We at 4SC are motivated by these factors in our daily work. As a biopharmaceutical company, we are seeking the solution in the fight against cancer. Our field of research is epigenetics, and its interaction with conventional medicines and treatments. With its compounds resminostat and 4SC-202, as well as with its highly interesting approach to the epigenetic sensitization of the immune system (immune priming), 4SC is a key player in one of the most innovative disciplines within modern drug discovery. Since epigenetic changes are cofactors in the genesis of a wide range of illnesses, epigenetic drugs are of economic interest for the pharmaceutical industry.

The decoding of the human genome has provided us with a truly gigantic set of data. Thanks to this work, we can now say which genes are coded in the human DNA. On the other hand, we know that our organism is also decisively influenced by the degree of activity of these genes. Logically, therefore, there must be another system beyond the genetic code capable to control gene activity. We want to understand this "operating system" for the human cell and exploit it to develop new kinds of medicines. In the future, we want to have drugs that can switch genes on or off to activate or deactivate genes that are missing or mutated. We want to control which genetic information is accessible within a cell and which is not, but without interfering with the genetic sequence. Our medicines are the kinds of tools that we need to achieve these goals.

The desire to make discoveries has been with the Company since the very beginning. 4SC has its roots in the field of "smart chemistry". Applying both their know-how and their belief in the potential of IT (then still in its infancy), our founders already developed computerized rapid compound screening tests for new drug discovery as early as in 1997. This quickly gave rise to the desire to develop an in-house drug to be marketed under the 4SC brand. What began as a technology start-up has now developed into an integrated biotechnology company. Today, our business has progressed so far that we can now hold out the hope of an improved quality of life for many cancer patients.



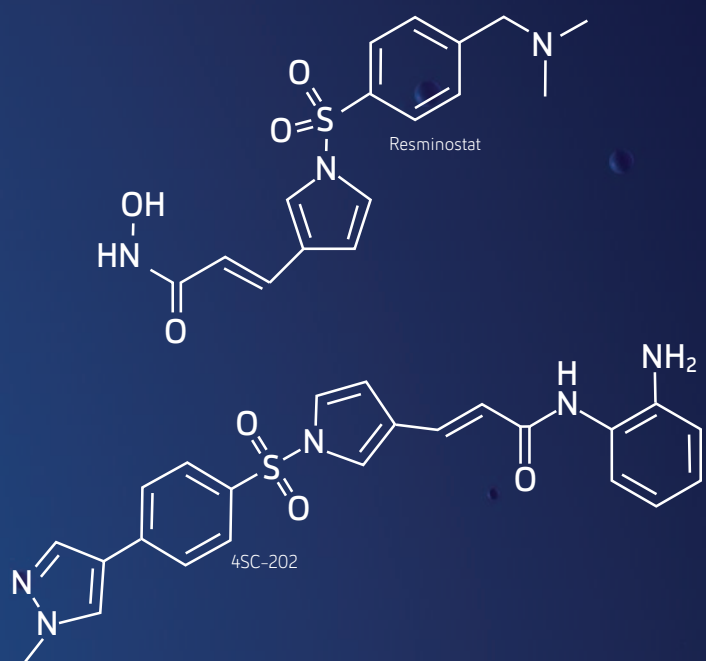
Background:  
Different immune system cells scan our body for intruders. Since cancer cells by themselves are endogenous cells, the body's immune defense often fails to detect them.

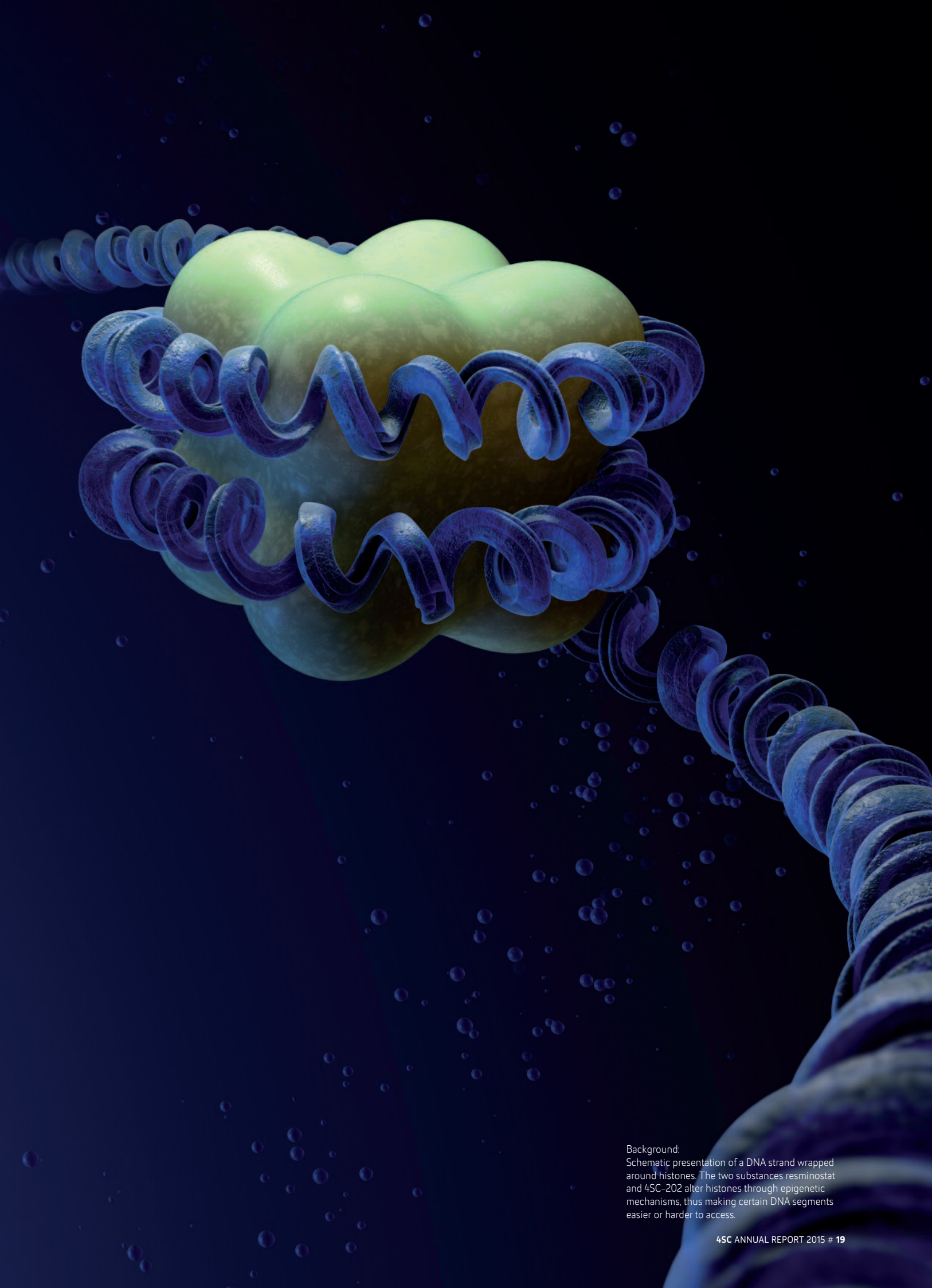
## # Success secures our future

Resminostat is our epigenetic compound that is a highly promising candidate in the fight against a range of cancers. The compound has enormous potential, especially in the fight against resistances. Resminostat makes it possible to sensitize tumor cells so that conventional cancer drugs can regain their potency and resistances can be prevented. After seven years of R&D, and thanks to the collaboration with our partner Yakult Honsha in Japan, we are now awaiting a key milestone for resminostat in the indication of liver cancer.

To increase our chances of commercial success, we are currently concentrating our efforts in Europe on the development of resminostat for the hematological disorder cutaneous T-cell lymphoma (CTCL). Due to the lack of alternatives, the unmet medical need is very large here, and the chances for rapid market approval are correspondingly high. With this amended strategy for resminostat, we have adopted a cost-effective, rapid and highly promising strategy for generating our own revenue from our clinically most advanced product in the space of a few years.

Our second epigenetic product, 4SC-202, is an innovative epigenetic blocker of the "hedgehog" signal transduction pathway. The objective here is to control the signal pathways in cancer stem cells so precisely that we can prevent tumor generation, growth and proliferation. 4SC-202 promises to offer a broad medical benefit and has enormous commercial potential.





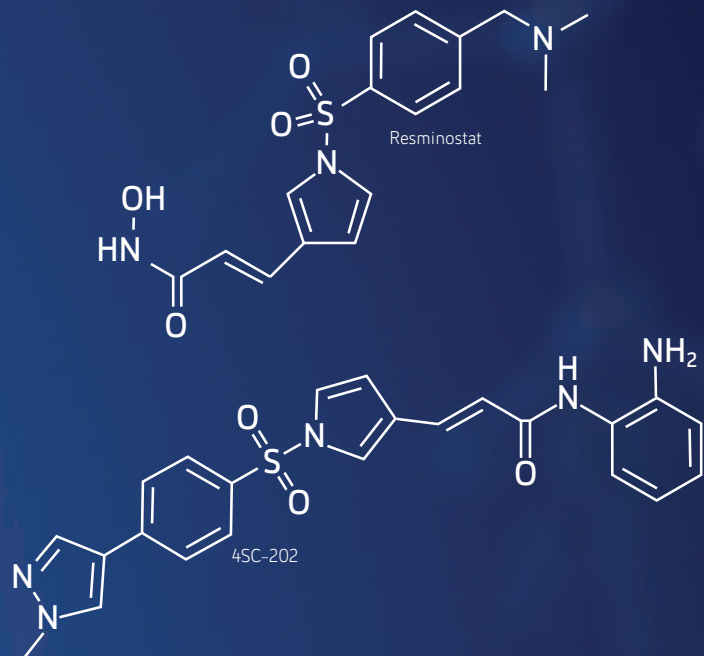
Background:  
Schematic presentation of a DNA strand wrapped  
around histones. The two substances resminostat  
and 4SC-202 alter histones through epigenetic  
mechanisms, thus making certain DNA segments  
easier or harder to access.

## # Transparency for partners

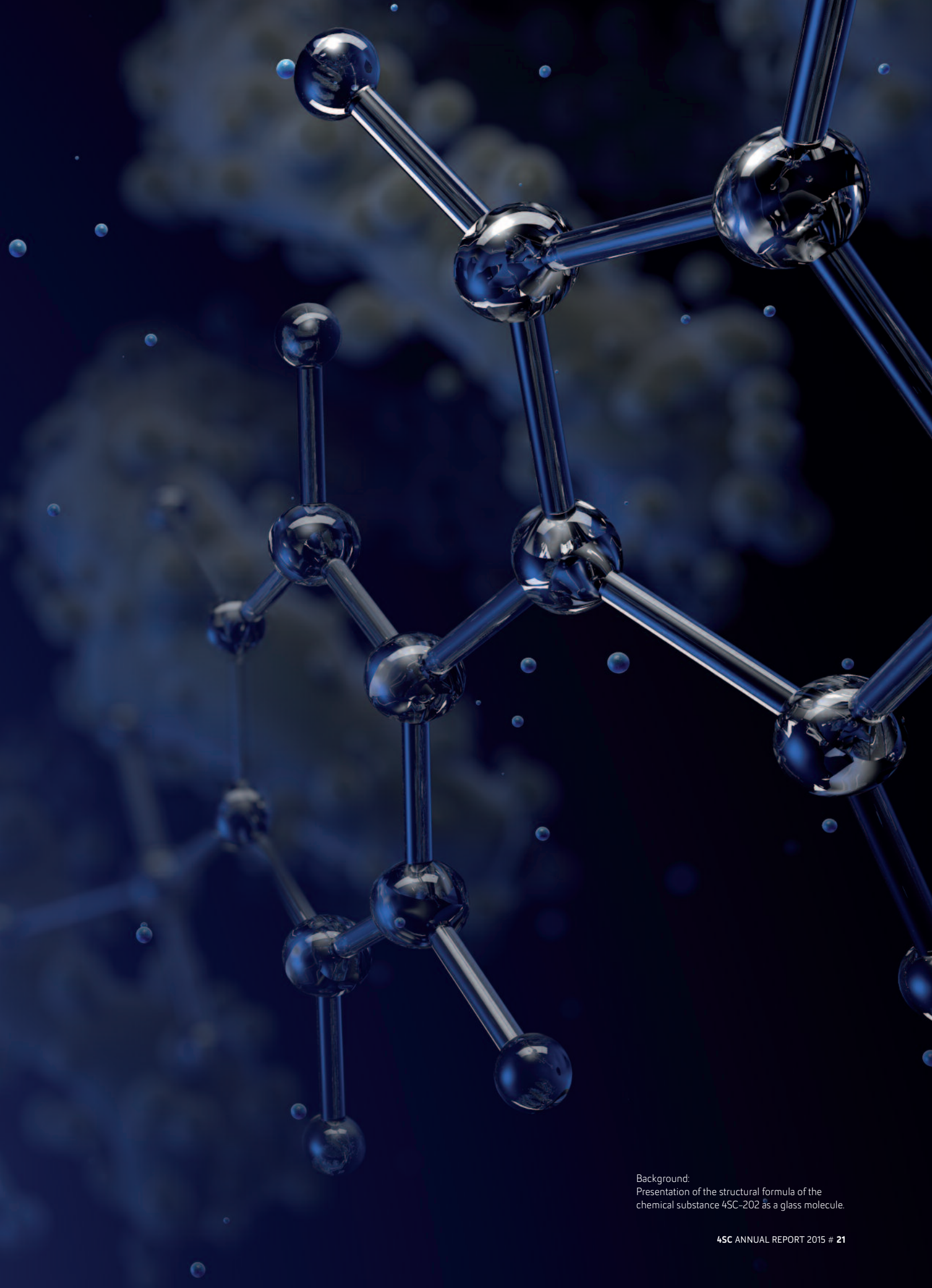
A knowledge-driven company such as 4SC lives from its data and information. Our open-minded approach to information, combined with the continuous exchange of results and a direct communication style, works to create value and long-standing partnerships. An attitude of transparency toward all stakeholders guards against inefficiencies and bad decisions. 4SC has pursued this strategy from its very beginnings, since the fight against cancer cannot be won alone. In this field, close interaction between industry players, the research community, regulators and the capital market is essential. Development costs are high and development horizons are very long. We will be successful in our endeavors only if we succeed in efficiently managing the resources at our disposal.

4SC has successfully convinced the capital market of the chances offered by an amended strategy. For the financing of the Phase II trial of resminostat in CTCL, shareholders and new, distinguished life sciences investors have provided fresh capital amounting to €29 million. This confidence in our management team, employees and our declared goal is the result of open, transparent communication and the systematic publication of Company news.

But transparency at 4SC is not merely confined to communication between the management and owners: we are also proactive about disseminating information in-house and to external partners. This is particularly true of the close contact we maintain with our development partners Yakult Honsha in Japan and Menarini AP in Singapore, and our concerted efforts to support scientific exchange among our Asian partners. The results of the Phase II trial with resminostat in the indication of liver cancer are of great importance for our decision-making and further strategy concerning the European market.





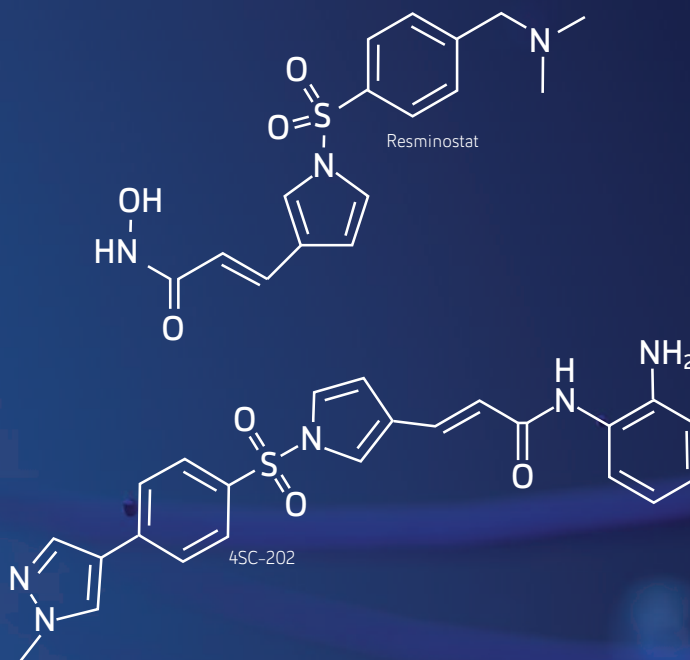


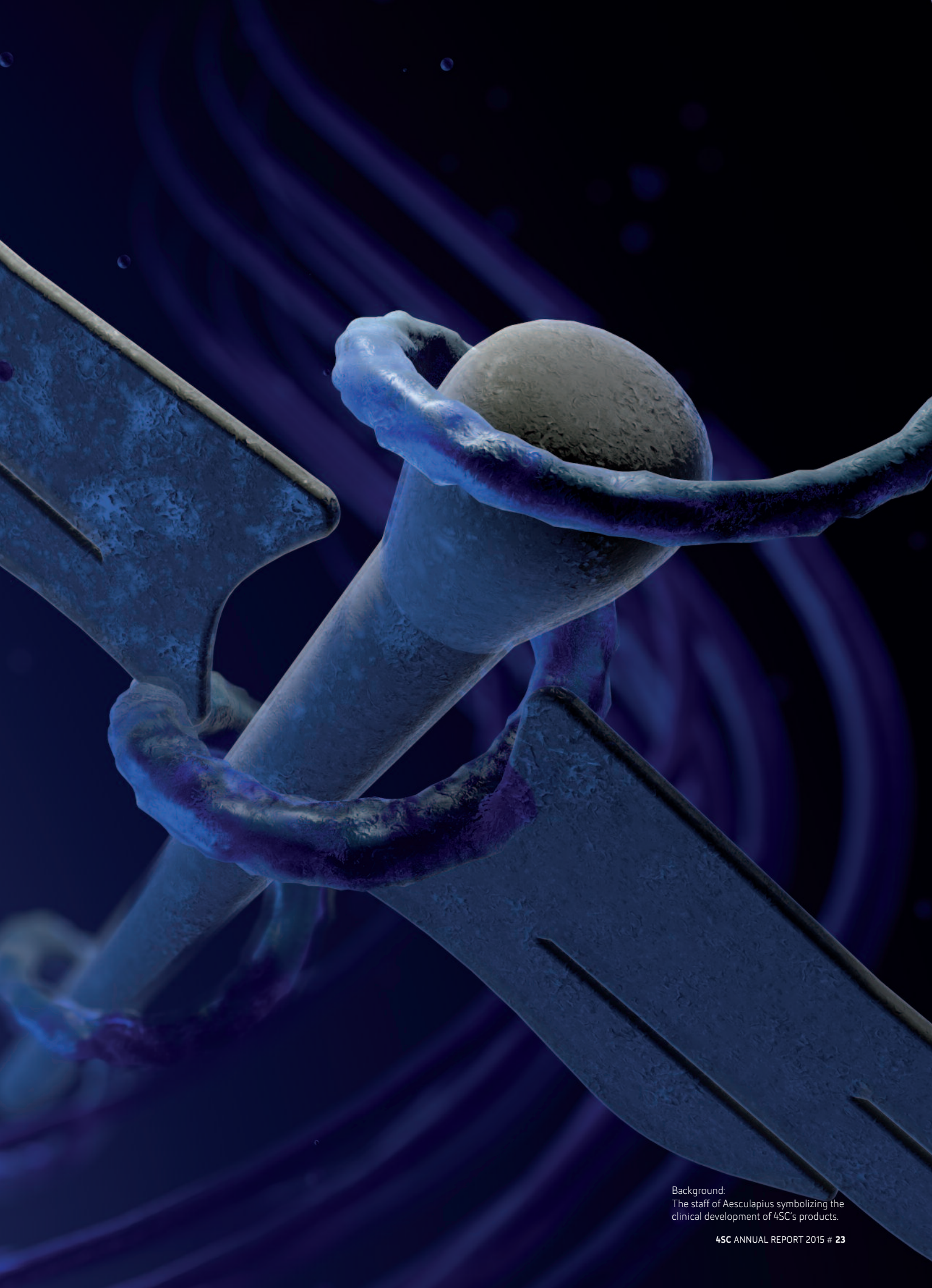
Background:  
Presentation of the structural formula of the  
chemical substance 4SC-202 as a glass molecule.

## # One team – one goal

For any company, success is crucially dependent on its employees. And this is particularly true of a research-based biotech company like 4SC. The abilities, commitment and reliability of each member of staff are decisive factors for success. We are united by our shared values, our sense of fairness to one another and our common goals. For 4SC, team-building both within the Company and beyond has long been a key part of our overall strategy. The interplay of research and development teams, and also between employees working in finance, legal, HR and communications, is a key component of our corporate philosophy. At 4SC, we work together as one to ensure the ultimate success of our candidate compounds.

4SC has also weathered difficult times well and is now well-positioned to master key challenges that the team is already tackling with great enthusiasm. With the further development of resminostat for the treatment of cutaneous T-cell lymphoma (CTCL), a promising market opportunity has now arisen. The confidence of the whole team in the planned clinical Phase II trial in CTCL can be felt throughout the entire Company. Our tasks for achieving this goal have been clearly defined. We have successfully put together the internal core team for the start of this key European study around leading industry experts in this difficult indication. We are convinced that we have the right people on board. Our focus is now on networking this team with external clinical trial partners and service providers, and to implement the study design agreed in early 2016 with the European regulatory authorities as quickly as possible. The team is eagerly awaiting its chance to start clinical development in this niche indication, and thereby give patients in Europe a new treatment option.





Background:  
The staff of Aesculapius symbolizing the  
clinical development of 4SC's products.

# CONTENTS

## COMBINED MANAGEMENT REPORT

<b>1.</b>	<b>BUSINESS AND ECONOMIC ENVIRONMENT</b>	<b>26</b>
1.1	Group structure and business activities	26
1.2	Corporate strategy and objectives	27
1.3	Internal management system	28
1.4	Research and development process	28
<b>2.</b>	<b>OVERVIEW OF THE COURSE OF BUSINESS</b>	<b>30</b>
2.1	Macroeconomic development and developments in the pharma and biotechnology industry	30
2.2	Significant events related to the Company's research and development activities	32
2.2.1	Development segment	32
2.2.2	Discovery & Collaborative Business segment	36
2.3	Significant events at Group level	37
2.4	The 4SC share and capital markets	39
<b>3.</b>	<b>RESULTS OF OPERATIONS, FINANCIAL POSITION AND NET ASSETS</b>	<b>42</b>
3.1	Results of operations	42
3.2	Net assets	45
3.3	Financial position	47
3.4	Overall assessment of economic position	48
<b>4.</b>	<b>EMPLOYEES</b>	<b>48</b>
<b>5.</b>	<b>FINANCIAL AND NON-FINANCIAL KEY PERFORMANCE INDICATORS</b>	<b>49</b>
5.1	Financial key performance indicators	49
5.2	Non-financial key performance indicators	49
5.2.1	Industrial property rights	49
5.2.2	Corporate responsibility and sustainability	50
5.2.3	Procurement	52
5.2.4	Quality assurance	52

6.	REPORT ON POST-BALANCE SHEET DATE EVENTS	53
7.	REPORT ON EXPECTED DEVELOPMENTS	53
7.1	Macroeconomic and sector development	53
7.2	Company outlook	54
8.	REPORT ON OPPORTUNITIES AND RISKS	57
8.1	Risk management system	57
8.2	4SC's exposure to risk	59
8.2.1	Sector-specific risks	59
8.2.2	Risks from the Company's business activities	61
8.2.3	Product development risks	63
8.2.4	Capital market risks	64
8.2.5	Financial risks and balance sheet risks	65
8.2.6	Administrative and other risks	67
8.2.7	Overall assessment of the Company's exposure to risk	67
8.3	Opportunities of 4SC	68
9.	CORPORATE GOVERNANCE REPORT	69
10.	COURSE OF BUSINESS OF 4SC AG (REFERRING TO THE HGB SINGLE-ENTITY FINANCIAL STATEMENTS)	70
10.1	Results of operations of 4SC AG (HGB)	70
10.2	Net assets of 4SC AG (HGB)	72
10.3	Financial position of 4SC AG (HGB)	73
10.4	General statement regarding the Company's economic position	73
10.5	Events after the reporting period	74
10.6	Risks and opportunities	74
10.7	Report on expected developments (outlook)	75
10.8	Publication	75

## 1. BUSINESS AND ECONOMIC ENVIRONMENT

### 1.1 GROUP STRUCTURE AND BUSINESS ACTIVITIES

#### Legal structure of the Group

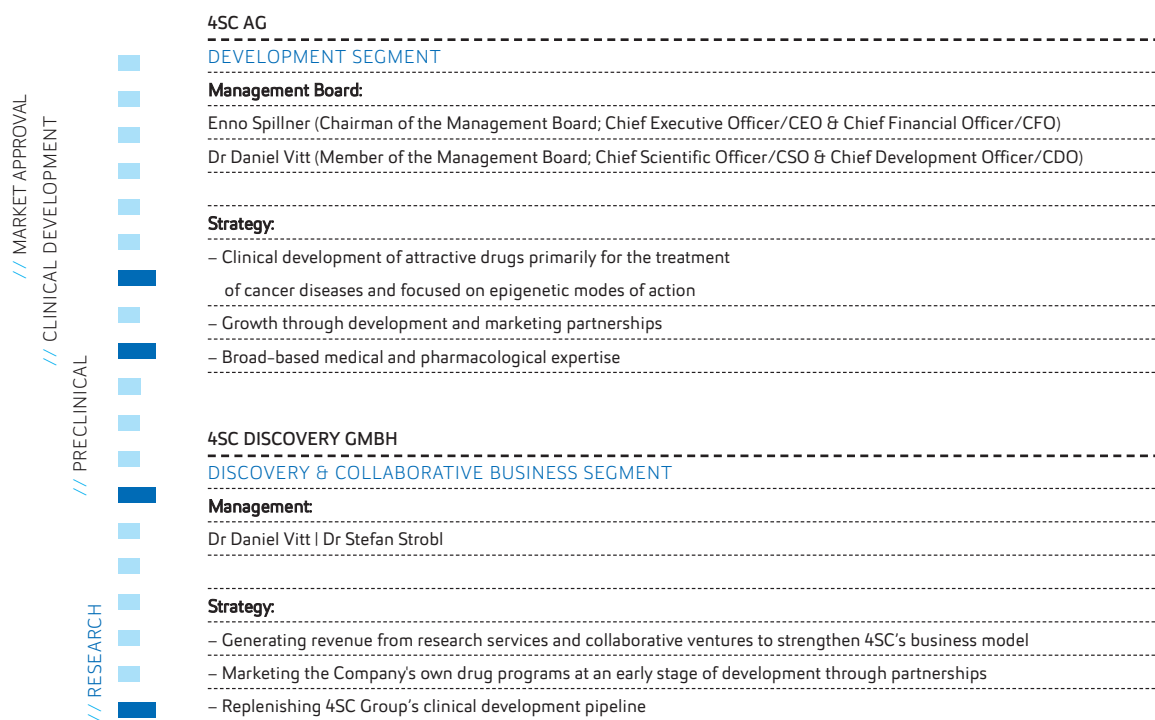
The 4SC Group – hereinafter referred to as “4SC”, “the Company” or “the Group” – comprises the Group parent 4SC AG as well as 4SC Discovery GmbH, which is wholly owned by 4SC AG.

4SC AG is a publicly listed company under German law. The Company is domiciled in Planegg-Martinsried in the district of Munich, Germany. The shares of 4SC AG have been listed in the Prime Standard segment of the Frankfurt Stock Exchange since 15 December 2005.

4SC Discovery GmbH is also domiciled in Planegg-Martinsried, Germany.

Where information provided in this report does not refer to the Group but to the individual entities, these will be explicitly referred to as “4SC AG” or “4SC Discovery GmbH”.

// 4SC-GROUP\*



\* As at 11 March 2016

(i)

4SC HAS EPIGENETICS  
EXPERTISE – EPISCIENCE  
FOR LIFE.

### **Business activities and organization**

4SC is a biotechnology company that researches and develops drugs primarily for the treatment of cancer diseases. The Company has special expertise and clinical products in the field of epigenetics. 4SC's compounds aim to enable new therapeutic methods that offer improved efficacy and tolerability compared to the treatments available to date, both as monotherapy and in combination with other drugs. This approach is intended to enhance treatment benefits for affected patients, coupled with improvements to their life expectancy and quality of life.

The Group's product pipeline, which is protected by a comprehensive portfolio of patents, comprises several drug programs, whose maturity ranges from early-stage research to the various phases of later clinical development. In this context, 4SC is focusing on attractive fields of research such as epigenetics, cancer immunotherapy, cancer stem cells and other, important molecular signaling patterns that contribute to the development and proliferation of cancer in particular. Details of the individual products and progress made in their development during the 2015 financial year, are presented in section 1.4 (Research and Development Process) and section 2.2. (Significant Events Related to the Company's Research and Development Activities) of this combined management report.

In addition, 4SC also owns an in-house technology platform (4SCan®), to enable the identification and optimization of new compounds based on computerized virtual screening methods. The platform offers a more efficient means of discovering new drug candidates. Furthermore, 4SC can utilize this technology platform to act as a business partner for other companies and support them in the course of their drug research activities.

The Group operates in the two complementary segments of Development and Discovery & Collaborative Business. All activities involved in early-stage drug research (drug discovery and lead optimization) and its subsequent commercialization are bundled within the Discovery & Collaborative Business segment, which is handled exclusively by 4SC Discovery GmbH. The Development segment encompasses the activities of 4SC AG, which comprise the later stages of the pharmaceutical development process, i.e. preclinical and clinical development of 4SC drug candidates up to market approval.

## **1.2 CORPORATE STRATEGY AND OBJECTIVES**

Creating product value to increase the value of the Company – 4SC pursues research and development of its drug programs with this aim in mind. The goal is for revenue from existing and future partnerships in drug discovery and development to be increased further so that the Company itself can increasingly finance its medium- to long-term business operations and transition 4SC to sustainable profitability.

In the Development segment 4SC is also working to secure development and marketing partnerships with strong players in the pharmaceutical and biotechnology industry to systematically develop the individual clinical programs toward market maturity and generate cash flows for the Group. This approach is designed to strengthen development work and reduce development risks. The plan is to achieve sustained cash flows by means of upfront and milestone payments from collaboration partners, complemented by revenue from license fees and royalties, thus making a key contribution to the Company's financing and growth.

The goal of the Discovery & Collaborative Business segment is to generate continuous contributions to revenue, earnings and financing through drug discovery services provided in research collaborations with pharmaceutical and biotechnology companies. A further objective is to transfer 4SC's own in-house programs currently in early-stage research to partnerships to enable

further development of these programs and generate additional cash inflows for 4SC, as well as potential to add value over the long term.

### 1.3 INTERNAL MANAGEMENT SYSTEM

To ensure sustainable company growth, 4SC uses a uniform Group reporting and planning system from which it derives financial and non-financial key performance indicators that are continuously monitored. The Group's principal financial control variables are revenue, operating expenses and liquidity status, with one important indicator tracking the expenses incurred for project research and development activities in particular. This is why these expenses are reviewed particularly carefully and compared with the projected figures.

(i)

AVERAGE CASH BURN  
AS A KEY FINANCIAL  
INDICATOR

Factors such as available liquidity, milestone payments and working capital all influence the course of the Company's business. For this reason, systematic cash management is pivotal for 4SC. One key financial indicator in this connection is the average monthly cash burn rate. The ratio of cash funds to the planned average cash burn rate per month makes it possible to estimate for which period the cash balance/funds are expected to suffice.

Of course, the Company's management system also includes performance indicators for research and development. For instance, patient-related indicators include clinical findings regarding the safety, tolerance and efficacy of the drug candidates being developed. 4SC measures the efficiency and success of these processes using, for example, the parameters "observance of schedules and budgets" and "success of clinical trials". Further details of non-financial key performance indicators can be found in section 5.2.

### 1.4 RESEARCH AND DEVELOPMENT PROCESS

#### Early-stage research and preclinical development

The search for new target molecules and their corresponding compounds is typically the first step within the pharmaceutical research and development process at 4SC. Once the target molecule clearly responsible for the occurrence of a disease has been identified, the Company's in-house computerized screening technology is then deployed. It enables efficient research in databases and substance libraries to discover suitable pharmaceutically active compounds that can influence the target molecule's activity or function. Finally, the early-stage research phase ends following the identification and multi-stage chemical, biological and pharmacological optimization of a suitable drug candidate.

In the next stage, the future drug candidate is subjected to a series of preclinical tests that aim to establish its efficacy and safety. These tests include both cell culture models (*in vitro*) and animal testing prescribed by regulators (*in vivo*). Only then can clinical development – i.e. testing the compound in human subjects – finally commence.

#### Clinical Development

In Phase I clinical development, the compound is first given to a small group of typically healthy volunteers (test subjects). In contrast, initial studies in relation to cancers are generally conducted with actual patients. Phase I concludes with an initial assessment of how the human body responds to the new drug. Such an assessment comprises an estimate of the drug's safety and tolerability, as well as its pharmacokinetics (all processes acting on a drug in the body). These include the drug's absorption and distribution in the body, as well as its biochemical metabolization and excretion.



In the Phase II that follows, the compound is tested on a relatively small selection of patients for a set of predefined indications. This phase has a twofold aim: first, to furnish initial proof of the medical efficacy of the compound; second, to enable the determination of a safe and potentially active treatment dose by studying the dose-response relationship.

In clinical Phase III, the efficacy of the drug is tested using a larger and statistically significant patient population. Phase III is intended to supply the decisive data for the drug's efficacy in a specific indication and thus establish the basis for a market authorization application. In parallel, work in this phase also investigates risk-benefit considerations, drug safety aspects and the drug's potential interactions with other medicaments.

An application for approval of the drug can usually be submitted only after the successful conclusion of all three phases. There might also be one further round of tests (Phase IV) after approval. This phase of testing will be used to identify and investigate rare side effects or drug interactions that are detectable only by studying large patient populations.

The entire research and development process of a drug – from identification of the target molecule to market approval – generally takes considerably more than ten years and involves substantial costs. In the course of the research and development process, 4SC actively pursues partnerships with pharmaceutical and biotechnology companies to drive the research and development of its drug candidates toward market approval while safeguarding their commercial success.

### Product pipeline

(i)  
COMPOUNDS FOR INDICATIONS  
WITH A HIGH UNMET MEDICAL  
NEED

The 4SC product pipeline currently comprises a total of four small molecule compounds, all of which are in clinical development (Phase I and Phase II). Three of these programs (resminostat, 4SC-202 and 4SC-205) target the treatment of cancers, while one (vidofludimus) targets the treatment of autoimmune diseases. For both of these areas of disease, there is a high therapeutic need and major economic potential.

Resminostat is an oral epigenetic agent from the class of compounds known as HDAC inhibitors and the most mature drug candidate in the Group's product pipeline. It possesses a broad spectrum of possible deployment options both for solid tumors and malignant hematological disorders. Resminostat is expected to show its therapeutic potential both in combination with conventional cancer drugs and as monotherapy.

(ii)  
RESMINOSTAT – THE MOST  
ADVANCED EPIGENETIC  
ANTI-CANCER COMPOUND

Resminostat has been and is being examined in clinical trials – by 4SC in Europe and its development partner Yakult Honsha Co., Ltd. (Yakult Honsha) in Japan – for the treatment of liver cancer (HCC), colorectal cancer (CRC), Hodgkin's lymphoma (HL), non-small-cell lung cancer (NSCLC) as well as for pancreatic and biliary tract cancer. These studies have or will have examined resminostat in combination therapy with the cancer drugs sorafenib (for HCC), FOLFIRI (for CRC), docetaxel (for NSCLC) and S1 (for pancreatic cancer/biliary tract cancer, and as a monotherapy (for HL). In April 2015, Menarini Asia-Pacific Holdings Pte. Ltd. (Menarini AP), the Singapore-based subsidiary of the Italian pharmaceutical company Menarini Group, became 4SC's partner for the further development of resminostat in the Asia-Pacific region (excepting Japan).

With 4SC-202, a second-generation orally available epigenetic compound that plays a central role in the treatment of the proliferation of cancer cells and the goal-oriented activation of the immune system targeting the cancer, 4SC has at its disposal a further epigenetic compound in clinical development that features a unique mechanism of action. 4SC-202 very successfully completed the clinical Phase I in patients with hematological cancers, and the next step will be to prepare this compound for subsequent Phase II trials. Since the product has not been out-licensed to date, it represents a strategic asset for 4SC.

(i)  
4SC-202 – ANTI-CANCER  
SUBSTANCE WITH A UNIQUE  
EPIGENETIC MODE OF ACTION

(ii)

4SC-205 – ANOTHER  
PROMISING ANTI-CANCER  
COMPOUND

4SC-205 is 4SC's third oncology compound in clinical development. 4SC-205 is an oral inhibitor of the human kinesin spindle protein Eg5. This protein plays an important role in cell division, among other things, and thus also for tumor growth. This product also successfully underwent clinical Phase I testing in patients with solid tumors in 2015.

In the field of autoimmune diseases, the Company's compound vidofludimus has already completed a successful Phase IIa trial assessing its use in the treatment of inflammatory bowel disease (IBD). In line with the decision to refocus 4SC's development strategy, the Company is currently not investing substantial resources in the further development of vidofludimus and will pursue the project solely in a collaboration with external project/financing partners.

In early-stage research, 4SC is pursuing several compound programs in work conducted by its subsidiary 4SC Discovery GmbH. Here, the focus is on the research disciplines of epigenetics, cancer stem cells, cancer immunotherapy and cellular signaling pathways involved in the genesis of cancer and/or chronic inflammatory diseases. One such program has now been transferred to a partnership with another biotechnology company.

The novel program regarding TLR agonists for cancer immunotherapy was licensed out to Mainz-based BioNTech AG. A second anti-inflammatory compound identified by 4SC has been licensed to the Austrian company Panoptes Pharma Ges.m.b.H. for the purposes of further research and development in the field of inflammatory eye disorders. And finally, 4SC Discovery GmbH is in a strategic alliance with CRELUX GmbH based in Planegg-Martinsried, Germany.

Further information on the product pipeline is contained in chapter 2.2, in which the significant events related to the Company's research and development activities are described.

## 2. OVERVIEW OF THE COURSE OF BUSINESS

### 2.1 MACROECONOMIC DEVELOPMENT AND DEVELOPMENTS IN THE PHARMA AND BIOTECHNOLOGY INDUSTRY

#### Macroeconomic development

The pace of the global economy weakened increasingly during the last year. In its most recent forecast issued in January 2016, the International Monetary Fund (IMF) anticipates global economic growth of 3.1% for 2015 (2014: 3.4%). In July the IMF had still projected global growth of 3.3% for 2015. The trends differed in key countries and regions. Compared with 2014, the industrialized economies experienced a slight upturn, for growth of 1.9% (2014: 1.8%). In contrast, economic expansion in emerging and developing countries slowed for the fifth consecutive year to 4.0% (2014: 4.4%). This was due primarily to the faltering economies in some major emerging markets, especially China. In the euro zone, the economy grew by 1.5% in the reporting year (2014: 0.8%), with Germany's growth rate dropping slightly from 1.6% in the previous year to 1.5%. The US economy expanded 2.5% (2014: 2.4%).

## Developments in the pharma and biotechnology industry

Developments in the capital market and financing environment for biotechnology companies present two different pictures in 2015. In North America the benchmark NASDAQ Biotechnology Index again posted a gain of nearly 27% up to mid-July. After several major corrections, however, share prices added only 12% at year-end. The three-year share price rally by biotech shares on the US stock market is over for now. On the other hand, Germany's DAX subsector Biotechnology Index again closed up considerably in 2015, this time by 44%, but from a much lower historical starting point.

The positive mood among German biotech companies went hand-in-hand with a vastly improved financing situation. At €553 million, biotechnology companies acquired some 38% more capital in 2015 than the year before. Venture capital above all saw a hefty year-on-year increase of 53%, and in 2015 private investors poured €263 million into German biotech. Curetis AG was the latest German biotechnology company to join the multi-country Euronext exchange. Overall, though, financing for German companies in the biotech sector continues to hover at a very low level compared with other European regions and particularly the United States.

The generally positive performance in Germany reflects an upswing also emerging in European capital markets. According to a study by BIOCOM AG 191 European biotech firms raised a total of €6.26 billion on stock exchanges in 2015. This represents an 82% increase over the previous year (2014: €3.44 billion). Evidently the most attractive segment for investors was oncology. In the past year 25 European biotechnology companies went public (2014: 25). Of these, 21 decided to be listed in Europe, while only four chose a US exchange. All told they raised capital of €1.21 billion (2014: €1.25 billion).

Industry information service BioCentury reports that during the year under review, 83 companies went public – a slight decline from the record year 2014, which saw 116 IPOs. Issue proceeds totaled US-\$8 billion (2014: US-\$9.1 billion). An additional US-\$29.3 billion was obtained from 224 capital increases, nearly three times as much as in the previous year (2014: US-\$11 billion).

In 4SC's industry and competitive sphere, the following relevant news was reported in the 2015 financial year: The US Food and Drug Administration (FDA) reports that it approved a total of 45 new drugs – the most since 1996. After the prior-year record of 41 approvals, this new high marks another milestone in drug research and development.

Last year there were several significant deals in the epigenetics and immunooncology segments, for example the strategic partnership agreed by biopharmaceutical companies Baxalta and Symphogen for co-developing novel therapeutics against six checkpoint targets.

Gilead Sciences acquired EpiTherapeutics in early May 2015 for US-\$65 million. The Danish biotech company developed a series of unique, selective small molecule inhibitors of epigenetic regulation of gene transcription, in particular histone demethylases.

The US biopharmaceutical company Epizyme raised US-\$117 million from a capital increase in March 2015. Among other projects, Epizyme has earmarked the proceeds for financing worldwide development of its epigenetic EZH2 inhibitor EPZ-438 outside of Japan along with several planned Phase I and Phase II clinical trials with cancer patients. Moreover, Epizyme extended its research partnership with Celgene for another three years in July. The focus here is on developing three novel preclinical epigenetic cancer therapies.

(i)  
POSITIVE SENTIMENT FOR  
BIOTECHNOLOGY IN  
GERMANY, BUT FUNDING  
LEVELS VERY LOW WHEN  
COMPARED INTERNATIONALLY

At the American Society of Hematology (ASH) annual meeting in early December 2015, biotech companies Spectrum Pharmaceuticals and Onxeo presented data from a successful Phase I trial. The study demonstrated that treatment of newly diagnosed peripheral T-cell lymphoma (PTCL) patients with a combination of Belinostat (Beleodaq®) and a standard chemotherapy regimen (CHOP) had an objective response rate of 86% and a complete response rate of 67%. At full-dose intensity, the combination of Belinostat and CHOP was well tolerated. Beleodaq® is a histone deacetylase (HDAC) inhibitor that received approval in the United States for the treatment of relapsed or refractory PTCL.

On the whole, these and other transactions indicate that 4SC as a key player in epigenetics is currently operating in a very dynamic, rapidly growing environment that is increasingly generating interest.

## **2.2 SIGNIFICANT EVENTS RELATED TO THE COMPANY'S RESEARCH AND DEVELOPMENT ACTIVITIES**

4SC's goals and core competency are researching and developing new drugs to treat cancer. As a consequence, the Company's business success is crucially dependent on material progress in the R&D activities involving its own compounds. In this context 4SC concentrates its clinical development efforts on its main value drivers in the field of oncology, and specifically epigenetic products. 4SC prioritized and newly defined some parts of its development strategy in the reporting year. In both the Group segments – Development and Discovery & Collaborative Business – the Company further pursued its research and development activities.

### **2.2.1 DEVELOPMENT SEGMENT**

At the end of the reporting year, the Development segment comprised the oncology drug candidates resminostat, 4SC-202 and 4SC-205 and the autoimmune candidate vidofludimus, with the two epigenetic products resminostat and 4SC-202 at the forefront of in-house development.

## **ONCOLOGY**

### **Focus of 4SC on epigenetic cancer therapies**

In 2015, 4SC further strengthened its position in the field of epigenetic cancer therapies. Scientific opinion leaders and 4SC believe that epigenetics is now one of the most promising approaches in the fight against cancer. Epigenetics is a term used to describe functionally relevant changes to genetic regulation caused by external or environmental factors, which, unlike mutations, do not involve a change in the nucleotide sequence. Instead, they control gene transcription and consequently cause genes to be activated or silenced without altering the underlying DNA sequence. Alongside genetic mutations, epigenetic 'programming errors' are very often the reason why previously healthy cells subsequently turn cancerous. The idea is for epigenetic compounds to correct these mistakes in genetic regulation and interrupt or combat the mechanism that is responsible for the onset of cancer.

As part of the Eurostars funding program launched in October 2015, 4SC will continue to conduct preclinical research on its epigenetic compounds. 4SC's investigation will focus especially on the immunomodulatory properties of resminostat and 4SC-202, and on their potential combination with immunotherapy agents, while also continuing to evaluate deployment options in other indications. Eurostars is a European Union funding program that provides targeted support to market-oriented R&D collaborations pursued by small and medium-sized enterprises. The program is scheduled to run for three years. Under this program, 4SC will receive a grant of up to €450 thousand from the German Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung).

## RESMINOSTAT

The HDAC inhibitor resminostat is 4SC's most advanced substance. Administered in tablet form, the compound has many different applications in solid tumors and hematological malignancies. It is expected that resminostat will achieve its full therapeutic potential not merely when used as a monotherapy but especially when combined with other cancer drugs.

(i)

RESMINOSTAT RESEARCH  
CONDUCTED IN FIVE  
INDICATIONS SO FAR

Resminostat has been and is being examined in clinical trials – by 4SC in Europe and its development partner Yakult Honsha in Japan – for five indications to date. Yakult Honsha is currently trialing resminostat in Asia in two Phase II studies in the indications of liver cancer (HCC) and non-small-cell lung cancer (NSCLC), and in a Phase I study in patients with pancreatic cancer or biliary tract cancer. Moreover, 4SC itself already successfully completed a Phase IIa clinical trial with resminostat in the indication of Hodgkin's lymphoma (HL) and a Phase I trial in the indication of colorectal cancer (CRC). Menarini Asia-Pacific Holdings Pte. Ltd. (Menarini AP) has been 4SC's partner since April 2015 for the further development of resminostat in the Asia-Pacific region (excluding Japan). Currently Menarini AP is investigating the clinical development possibilities for resminostat in this region.

### Resminostat development strategy

In 2015 4SC worked intensively on its resminostat development strategy, breaking it down into three parts: 4SC development in the indication of cutaneous T-cell lymphoma (CTCL) with a view to rapid market approval in Europe, further development in the indication of HCC based on the expected Phase II data from Japan and testing of the immunomodulatory activity of resminostat.

### Preparations for Phase II trial in CTCL

4SC has set itself the goal of achieving first-time regulatory approval for its candidate compound resminostat as quickly as possible. Currently a randomized, placebo-controlled Phase II clinical trial with resminostat in the hematological niche indication of advanced cutaneous T-cell lymphoma (CTCL) is being prepared in Europe. HDAC inhibitors have already proven effective in this indication and two compounds of this class have already been approved for CTCL in the United States and other non-European countries. No HDAC inhibitor has been approved for this indication in Europe to date, however.

(i)

FOCUS ON CTCL  
NICHE INDICATION

In accordance with current planning, resminostat will be investigated in this clinical Phase II trial as a maintenance therapy for patients with advanced CTCL who have previously received a systemic tumor debulking therapy. Ideally, 4SC will be able to apply to the regulatory authorities in Europe for conditional marketing authorization on the basis of the results of this Phase II trial, refining the study design and development planning in talks with clinical professionals with expertise in CTCL. The first round of selection interviews was started with potential clinical research organizations (CROs) responsible for organizing and conducting the study. In October 2015, 4SC submitted an application to the European Medicines Agency (EMA) in what is known as the “scientific advice process”. In January 2016, 4SC was invited by the EMA to clarify open questions related to the completion of a planned drug development study and to discuss the planned study design in a scientific discussion meeting. Based on this discussion, the EMA issued written scientific advice to 4SC at the end of January. The study will be carried out in the coming years incorporating this advice.

### Phase I and Phase II clinical trials by Yakult Honsha in Japan

Yakult Honsha continues to make progress with its development of resminostat in Japan.

(ii)

SUCCESSFUL COLLABORATION  
WITH YAKULT HONSHA IN  
JAPAN

4SC’s development partner is currently testing the compound in Asian patient populations in the indications listed in the section above on resminostat. 4SC is following Yakult Honsha’s randomized Phase II trial in advanced liver cancer (HCC) with particular interest. The trial is testing the combination therapy of resminostat with sorafenib compared to monotherapy with sorafenib, the current standard treatment for HCC. The above study is also investigating the potential predictive biomarker ZFP64 under randomized conditions. In the medium term, 4SC also intends to continue developing resminostat in the indication of liver cancer (HCC) in Europe and the USA. In this application, the Company has already successfully completed a Phase IIa trial as a second-line treatment and considers both the medical need and the market potential to be particularly high. To ensure that 4SC’s in-house study plans are as accurate and relevant as possible, however, the Company intends to await a comprehensive analysis of the results on time to progression, overall survival and the ZFP64 biomarker from the ongoing Phase II trial being conducted by Yakult Honsha in Asian patients.

### Preclinical trials on the activity of resminostat as an immunomodulator

(iii)

IMMUNE PRIMING –  
ADDITIONAL INTERESTING  
OPTIONS FOR RESMINOSTAT

In a third step, resminostat is also to be developed in the context of immune priming (i.e. the activation of the immune system to better combat cancer) – ideally for subsequent clinical combination with immunotherapy agents such as checkpoint inhibitors. While this is a relatively new potential field of application, 4SC believes that immune priming offers enormous market potential.

In 2015, 4SC presented initial preclinical data for resminostat at medical conferences, showing how resminostat can additionally activate the immune system in a specific fashion. In future, resminostat could thus improve the response rates of patients to treatment with cancer immunotherapy treatments such as checkpoint inhibitors that have already been approved or are in clinical development. In the reporting period, 4SC proceeded with the preclinical trials evaluating resminostat’s potential as an immunomodulator.

### Patent protection expanded

Last year 4SC extended patent protection for resminostat. The US Patent Office has granted the patent for the use of resminostat (monotherapy and combination therapy) in all cancer indications. In addition, the Canadian patent authority has granted the composition of matter patent for resminostat. Resminostat thus has composition of matter protection in all major markets including the US, Europe, Japan, China, South Korea, Russia, India, and now also Canada.

### 4SC-202

4SC's second epigenetic drug candidate currently in clinical development is 4SC-202, an orally available, selective inhibitor of the epigenetic targets LSD1 as well as HDAC 1, 2 and 3. 4SC-202 uses epigenetic modifications to influence two key signal transduction pathways used by cells: hedgehog and WNT. Both pathways play a key role in the development, growth and proliferation of cancer cells and are also present in cancer stem cells. To the best of 4SC's knowledge, 4SC-202 is the only blocker of the SMO-independent hedgehog pathway in clinical development and therefore could be a treatment option for those cancers for which other hedgehog inhibitors to date have shown no efficacy or a quick build-up of resistance. This is a strong differentiating factor for 4SC-202. Since 4SC-202 differs markedly from resminostat in terms of both its mechanism of action and its chemical structure, and as the compounds' potential fields of therapy are dissimilar, 4SC-202 optimally extends and expands the 4SC clinical product pipeline.

Based on the very good safety results and indications of efficacy from the Phase I TOPAS trial in patients with advanced hematological malignancies, 4SC continued negotiating last year with potential financing and industrial partners in order to ensure the continued development of 4SC-202 in various Phase II clinical trial programs.

Patent protection for 4SC-202 was also strengthened further. In August 2015, the Chinese Intellectual Property Office (SIPO) granted a patent relating to the tosylate salt of the compound. Since this salt form has already been utilized in a successfully completed clinical Phase I trial with 4SC-202, the patent constitutes a key component within 4SC's global patent strategy for the compound. The patent complements the composition of matter patents for 4SC-202, which have been granted in 61 countries, including patents in the major markets USA, Europe, China, Japan, Russia, and India.

### 4SC-205

4SC-205 is the third oncology compound in clinical development at the Company. Administered orally, 4SC-205 inhibits the human kinesin spindle protein Eg5 which plays a crucial role in cell division and, it is assumed, in tumor growth as well. Cell division inhibitors such as the chemotherapy drug Taxol already have a long history of highly successful deployment in cancer therapy, although the side effects are sometimes severe. Thanks to its special mode of action and an optimized dosing scheme, some of the severe side effects common with other compounds do not occur with 4SC-205. To the best of the Company's knowledge, 4SC-205 is the only oral Eg5 inhibitor currently in clinical development anywhere in the world.

(i)

4SC-202 - ATTRACTIVE  
COMPLEMENT OF THE  
PRODUCT PIPELINE

(i)

4SC-205 – CLINICAL RESULTS  
AS A GOOD BASIS FOR FUTURE  
PARTNERSHIPS

Following the completion of the Phase I AEGIS trial on 59 patients with advanced solid tumors in early 2015, 4SC released good clinical results on 4SC-205 at the Annual Meeting of the American Society of Clinical Oncology (ASCO) mid-year. Daily doses of the compound showed good profiles of safety and tolerability and very good linear pharmacokinetic parameters. Specifically, no peripheral neuropathies (secondary diseases of the nervous system) were observed in the entire study. These serious side effects, which affect the nervous system, typically occur with conventional anti-mitotic (i.e. cell division inhibiting) chemotherapeutic agents. In addition, a recommended daily dose of 20 mg was established in the trial for a possible Phase II development. At this dose, several patients experienced several months of stabilization of their disease, which can be interpreted in this previously extensively treated patient group as a promising initial indication of efficacy.

Building on these encouraging Phase I results, the Company is currently exploring scenarios for a further clinical development with external experts and potential partners.

## AUTOIMMUNE DISEASES

### VIDOFLUDIMUS

Vidofludimus is a 4SC compound in the field of autoimmune diseases. This oral drug candidate has exhibited promising results in an initial clinical Phase IIa trial in the field of inflammatory bowel disease (IBD). Due to its refocusing strategy adopted in 2014, 4SC is not investing any appreciable resources in the further development of this compound at this time. That said, the Company is making every effort to facilitate the clinical development of this compound – in the indication of Crohn's disease, for example – with external partners and investors. In this context, 4SC reformulated the vidofludimus active ingredient as a specific salt form in the reporting year. Compared to the previous form of the compound, the Company believes that the salt form offers considerable pharmacokinetic advantages and strengthens the patent position with new patents as well as patents with longer terms.

### 2.2.2 DISCOVERY & COLLABORATIVE BUSINESS SEGMENT

The Discovery & Collaborative Business segment comprises the activities involved in the discovery, early-stage research and subsequent commercialization of drug compounds. Among other things, the concentration here is on the research disciplines of epigenetics, cancer stem cells, cancer immunotherapy and cellular signaling pathways involved in the genesis of cancer and/or chronic inflammatory diseases.

(ii)

INTERESTING COLLABORATION  
IN EARLY-STAGE RESEARCH

The activities of 4SC Discovery GmbH (4SC Discovery) include a partnership with BioNTech AG (Mainz, Germany) and a technology and sales partnership with CRELUX GmbH (CRELUX). In early 2015, the joint BEYOND RESEARCH initiative of 4SC Discovery and CRELUX reached the first milestone in a drug discovery project for Helmholtz Center Munich. The first stage of the collaboration with the RQScue Therapeutics working group for researching new compounds for treatment of degenerative diseases was successfully completed, and the second project phase was started. The work is funded by the Bavarian Ministry of Economic Affairs and Helmholtz Center Munich.



A research collaboration in the field of inflammatory skin diseases started in 2013 with the Danish pharmaceutical company LEO Pharma A/S (LEO Pharma) was completed as planned at the end of March 2015. LEO Pharma did not exercise a license option agreement. As a result, 4SC Discovery GmbH retains all data and rights to the compounds that have been researched under this partnership.

In February 2015, 4SC's Austrian investee Panoptes Pharma Ges.m.b.H (Panoptes), Vienna, signed a license agreement with Mediolanum Laboratoires Leurquin S.A. (Mediolanum), France.

As a result, Mediolanum acquired the marketing rights to Panoptes's compound PP-001 in two key European countries. In return, Panoptes received an upfront payment and is eligible for later developmental and sales milestones and royalties in the event of market approval. PP-001 is currently in preclinical development as a potential next-generation treatment for serious inflammatory eye diseases such as non-infectious uveitis. PP-001 was originally discovered by 4SC Discovery GmbH. In 2013, 4SC Discovery transferred the patents for PP-001 to Panoptes and received a 24.9% equity stake in Panoptes in return. Further financing in 2015 diluted the 4SC Discovery interest to 22.1%. 4SC Discovery is entitled to subsequent performance-based milestone payments from Panoptes and royalties generated with PP-001.

## 2.3 SIGNIFICANT EVENTS AT GROUP LEVEL

### Staff changes

At the beginning of January 2015, biotech entrepreneur and pharmaceutical research manager Prof Dr Helga Rübsamen-Schaeff was appointed as a new member of the Supervisory Board of 4SC AG. From 2006 until 2015, Prof Dr Rübsamen-Schaeff acted as Managing Director and CEO of the Wuppertal-based biopharma company that she founded, AiCuris GmbH, and since 1 March 2015 has acted as Chairwoman of the Advisory Board. From 1994 to 2006, she held various managerial positions in Antiviral and Anti-infective Research at Bayer AG.

In April 2015, Dr Susanne Danhauser-Riedl joined 4SC's management and the clinical oncology team as Chief Medical Officer (CMO). She is responsible in particular for the further development of 4SC's oncology pipeline and will be in charge of the preparation and subsequent performance of the planned Phase II clinical trial with resminostat in the indication of cutaneous T-cell lymphoma (CTCL). Previously, she spent almost ten years with the pharmaceutical company GlaxoSmithKline, where she was one of the persons responsible for life cycle management of cancer drugs including clinical development in Germany. She also has over twelve years experience as a doctor and scientist in hematology/oncology.

### Collaborations

On 14 April 2015, a license and development partnership was agreed for 4SC's anti-cancer compound resminostat for the Asia/Pacific ("APAC") region – excluding Japan – with Singapore-based Menarini Asia-Pacific Holdings Pte. Ltd. ("Menarini AP"). Menarini AP, a member of the largest Italian biopharmaceutical group, the Menarini Group, received the exclusive licensing rights for the development and marketing of resminostat in all APAC countries, including among others China, South Korea, Australia, Thailand, Philippines, Indonesia, and Vietnam. Menarini AP is thus

(i)

STRENGTHENING THE TEAM  
WITH EXPERIENCED INDUS-  
TRY EXPERTS

responsible for the clinical development, regulatory approval and commercialization of resminostat in China, and other territories included in the agreement, in all oncological indications, and in particular liver cancer (HCC). 4SC received an upfront payment and will receive upfront and milestone payments totaling approximately up to €95 million from Menarini AP payable upon achieving specified development, regulatory and commercialization milestones. In addition, 4SC will be eligible to double-digit royalties linked to product sales of resminostat in the APAC region.

### Corporate actions

At the Extraordinary General Meeting of 4SC AG held on 11 March 2015, the shareholders adopted all agenda items with the required majority and resolved to reduce the Company's share capital to €10,169,841 by consolidating the no-par value shares issued in a 5 to 1 ratio. This measure was entered in the commercial register in two steps on 7 April 2015 and 15 April 2015. The stock quotation was officially changed effective 27 April 2015. The 4SC share received a new German securities identification number (A14KL7) and a new ISIN (DE000A14KL72) on 27 April 2015. The stock exchange symbol remains unchanged (VSC). The aim of the measure was to raise the 4SC share price in a sustained manner above the notional value of €1.00 per share and to give the Company more flexibility to undertake any future corporate actions.

In May 2015, convertible notes from the financing arrangement with the US investor Yorkville were converted into a total of 46,805 shares. The number of outstanding shares as at 31 December 2015 reporting date was 18,966,646.

(i)

MEDIUM-TERM  
FINANCING SECURED

On 22 June 2015 the Management Board with the approval of the Supervisory Board resolved two capital increases from authorized capital. These were carried out successfully at the end of June/beginning of July. The gross issuing proceeds totaling €29 million were at the upper end of the targeted range. In the cash capital increase, 7,250,000 offer shares were issued at a subscription price of €4.00 per share to existing shareholders via pre-emptive rights as well as to new institutional shareholders in a rump placement. The new shares were placed with prestigious life science investors from the United States and Europe. European venture capital company Wellington Partners was acquired as a new anchor investor. Baader Bank AG conducted the cash capital increase as global coordinator and sole bookrunner.

By way of a capital increase in return for contributions in kind, debt was converted into equity. Furthermore, 1,500,000 consideration shares were issued at the same issue price of €4.00 for the purpose of settling the material portion of €6 million of a shareholder loan from Santo Holding (Deutschland) GmbH.

As a result, the Company's share capital was increased by €8,750,000, from €10,216,646 to a total of €18,966,646, while partially utilizing authorized capital. The cash capital increase was entered in the commercial register on 9 July 2015, the capital increase against contributions in kind was entered in the commercial register on 17 July 2015.

This corporate action serves to finance the Company's research and development programs in the field of cancer therapies, in particular a planned Phase II clinical trial of its lead oncology compound resminostat in the tumor indication of cutaneous T-cell lymphoma (CTCL). The proceeds will also be used to fund preparation of Phase II clinical development with the compound 4SC-202, the initiation of new development and marketing partnerships and the business operations of 4SC. In total this capital increase should secure the Company's financing beyond the first quarter of 2018.

## 2.4 THE 4SC SHARE AND CAPITAL MARKETS

The 2015 stock market year was a turbulent one for 4SC AG. The Company's share price was down 7% and trailed benchmark indices considerably, although biotech industry shares saw gains for another consecutive year. Despite a correction in this segment in fall 2015, the benchmark NASDAQ Biotechnology index added 12% during the year, while the German DAXsubsector Biotechnology Index posted a gain of 44%.

Marked by strong fluctuations, the stock market environment was very volatile on the whole. In 2015 the capital markets were influenced by the expansive monetary policy of central banks, turbulence on Chinese exchanges, interest rate increases and terrorism, particularly in the Middle East. Germany's leading share index, the DAX, closed 2015 with a gain of nearly 10%.

### 4SC share price performance and trading volume

In the wake of a very positive start to the year on international stock markets, 4SC AG's share price also rose sharply in the first quarter. Bolstered by positive corporate news and an optimistic prevailing mood for German biotechnology stocks, the Company's shares reached their high for the year at €7.18 on 7 April 2015. This was followed by strong profit-taking in some cases. The mood on international exchanges darkened considerably in the third quarter. In addition to the Chinese market crash, the key driver was fear of an interest rate turnaround in the United States. Moreover the climate in the biotechnology sector deteriorated due to growing criticism by US politicians of pricing, especially of specialty drugs, which sparked a discussion about price controls for the US drug market. The price of 4SC shares subsequently dropped to their lowest level for the year (€2.39) on 23 October 2015. In the fourth quarter 4SC shares initially moved sideways and then began a year-end rally in mid-December. The closing price on 30 December 2015 was €3.83, 7% lower than at the beginning of the year. All stated share prices were adjusted to reflect the capital reduction entered in the commercial register in April 2015 and the 1-for-5 reverse stock split.

The average daily trading volume of 4SC shares across all German stock exchanges, including Tradegate, of 29,228 shares (adjusted for the reverse stock split) continued to develop positively in the 2015 financial year. This constitutes an increase of 75% compared with the previous year (average of 16,721 shares, adjusted). In the course of 2015 the share of stocks in free float increased to 38.1%.

(i)  
TRADING VOLUME IN  
CONTINUED UPWARD TREND

### Capital increases secure additional financing and change the shareholder structure

In line with the updated strategy, the capital reduction in April laid the groundwork for 4SC to raise fresh capital in early July 2015 for further capital market activities. As part of the capital increase, 4SC was able to acquire additional prestigious life science investors from the United States and Europe as new shareholders. Long-term majority shareholder Santo Holding has expressed to the Company its confidence in this corporate action. According to 4SC's management, Santo Holding held 48.1% of the Company's shares at the reporting date. It was likewise gratifying that Wellington Partners, which usually makes ground-floor investments, has acquired an interest in

4SC and has even become an anchor investor. Other major institutional investors with long-standing ties to the Company are FCP and Roland Oetker.

### Transparent dialogue with the capital markets at center of investor relations activities

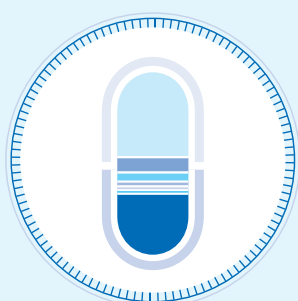
4SC AG focuses on maintaining an open and transparent dialogue with institutional and retail investors, analysts and the press. Last year, the Management Board and investor relations team were also available regularly for face-to-face individual and group discussions.

In addition to numerous investor road shows in Germany, other EU member states, Switzerland, the United States, China and Singapore, 4SC was showcased at various investor and capital market conferences during the financial year. These included:

Kempfen & Co Lifescience Conference, New York, USA  
 DVFA Spring Conference, Frankfurt am Main, Germany  
 BioEquity Europe, Vienna, Austria  
 MKK Munich Capital Market Conference, Munich, Germany  
 Baader Investment Conference, Munich, Germany  
 Jefferies Autumn 2015 Global Healthcare Conference, London, United Kingdom  
 German Equity Forum, Frankfurt am Main, Germany

## // SHAREHOLDER STRUCTURE

as estimated by management, in percent



31.12.2015



31.12.2014

	31.12.2015	31.12.2014
Santo Holding	48.1	49.2
FCP	7.2	9.7
Wellington Partners	6.6	-
Roland Oetker	3.5	5.8
HeidelbergCapital	2.7	4.2
Founders & management	0.7	1.0
Other	31.2	30.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

## Research

In 2015 financial analysts from the following banks and brokerage firms regularly issued commentary and recommendations on 4SC's share: Edison Research (London), equinet (Frankfurt am Main), EQUI.TS (Frankfurt am Main) and Kempen & Co. (Amsterdam).

### // KEY FIGURES OF THE 4SC SHARE as at 31 December 2015

Securities identification number (SIN)*	A14KL7
International securities identification number (ISIN)*	DE000A14KL72
Stock exchange symbol	VSC
Type of shares	Bearer shares
Number of shares	18,966,646
Market segment	Prime Standard
Marketplace	Xetra and all other German stock exchanges
Designated sponsor	ODDO SEYDLER BANK AG
First day of trading	15 December 2005
Earnings per share for the year (basic and diluted) (in €)	-0.64
Number of shares issued (annual average) (in thousand)**	14,344
Free float***	38.1%
Annual high (Xetra) (in €)	7.18
Annual low (Xetra) (in €)	2.39
Closing price on reporting date (Xetra) (in €)	3.83
Daily trading volume (all German exchanges incl. Tradegate, annual average)	29,228

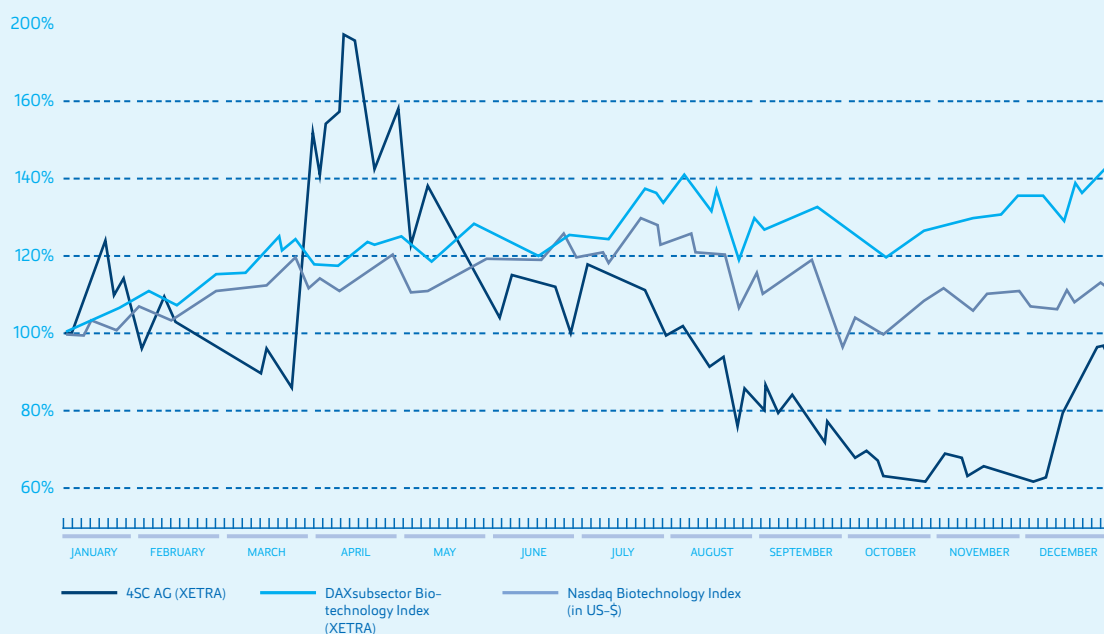
\* Since the capital reduction and the reverse stock split in April 2015, 4SC shares have been listed under a new SIN and ISIN.

\*\* The value is adjusted by the 2015 reverse stock split.

\*\*\* As defined by Deutsche Börse.

### // SHARE PRICE

2015, beginning of the year = 100%



### 3. RESULTS OF OPERATIONS, FINANCIAL POSITION AND NET ASSETS

The 4SC Group reports consolidated figures for both the 2015 and 2014 financial year. Since the beginning of 2012, the 4SC Group has reported in two operating segments: Development and Discovery & Collaborative Business.

#### 3.1 RESULTS OF OPERATIONS

##### Revenue

Consolidated revenue fell to €3,266 thousand in the financial year 2015, down 54% from the previous year (2014: €7,055 thousand).

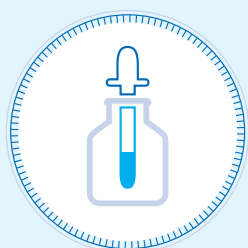
In the Development segment, revenue of €2,296 thousand (2014: €3,778 thousand) was generated, corresponding to 70% of consolidated revenue. This segment revenue comprised the proportional reversal of the deferred income recognized in connection with the partnerships for the development of resminostat entered into in 2011 with Yakult Honsha Co., Ltd. (Yakult Honsha) and in 2015 with Menarini Asia-Pacific Holdings Pte. Ltd. (Menarini AP) in the amount of €1,085 thousand (2014: €894 thousand) and with allocations to Yakult Honsha and Menarini AP of the costs to produce the resminostat compound totaling €1,211 thousand (2014: €2,884 thousand).

The Discovery & Collaborative Business segment contributed 30% to consolidated revenue in the reporting year. At €970 thousand, segment revenue was therefore considerably below the prior-year level (2014: €3,277 thousand). Revenue of €431 thousand from the research collaboration with Mainz, Germany-based BioNTech AG and its subsidiary was recognized in the reporting period (2014: €1,108 thousand). Another €346 thousand in segment revenue in 2015 (2014: €1,624 thousand) stems from the research partnership with LEO Pharma A/S of Denmark, which was discontinued as planned after the first quarter of 2015. In the reporting year, there was no revenue (2014: €431 thousand) attributable to the proportional reversal of the deferred income item set up for the upfront payment of €1,000 thousand from LEO Pharma.

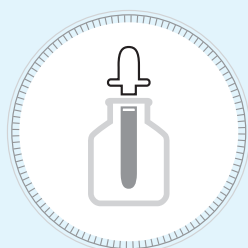
(i)  
REVENUE DOWN DUE  
TO LOWER INFLOWS FROM  
PARTNERSHIPS

## // REVENUES

in € 000's



Revenue 2015



Revenue 2014

	2015	2014
Revenue	3,266	7,055
Operating expenses	12,365	16,550
Operating profit/loss	-8,915	-9,437
Consolidated net profit/loss	-9,228	-9,696
Earnings per share (in €)	-0.64	-0.95*

\* The value is adjusted by the 2015 reverse stock split.

## Operating expenses

Operating expenses, comprising the cost of sales, distribution costs, research and development costs and administrative costs, fell to €12,365 thousand in 2015, a decrease of 25% on the prior-year figure (2014: €16,550 thousand). Of the total expenditure, €9,712 thousand (2014: €13,420 thousand) was attributable to the Development segment and €3,920 thousand (2014: €4,338 thousand) to the Discovery & Collaborative Business segment.

The main reason for the decline in operating expenses is the sharp reduction in the cost of sales, which dropped 57% in the reporting period to €1,763 thousand (2014: €4,080 thousand). On the one hand, this reduction was largely due to lower costs as a result of decreased revenue in the Discovery & Collaborative Business segment. On the other hand, expenses were lower in the reporting year for production (which began in 2014) of the resminostat compound for clinical trials in Japan. These costs are mostly allocated to 4SC's partner Yakult Honsha.

Research and development costs were down 15% in 2015 to €7,255 thousand (2014: €8,504 thousand), but at 59% (2014: 51%) still constitute the largest block of operating expenses. The year-on-year decline was mainly due to the smaller number of ongoing clinical trials despite both the increase in preparatory expenditure for a planned trial with resminostat in the CTCL indication and the decrease in expenses for optimizing the resminostat production process. This stands in contrast to a rise in staff costs due to a greater number of employees with clinical expertise hired in preparation for the Phase II CTCL study.

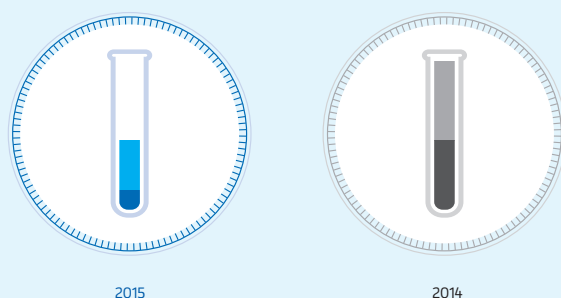
Administrative costs amounted to €2,999 thousand in the 2015 financial year, down 4% year-on-year (2014: €3,120 thousand). For the most part, this decrease was due to the still very restrictive management of the funds freed up by cost-cutting measures and structural adjustments in recent years.

Distribution costs, which consist of the costs incurred by business development and strategic planning and marketing activities, were down 59% in 2015 on account of the decline in activities to initiate collaboration projects in Asia. They amounted to €348 thousand (2014: €846 thousand).

(i)  
SIGNIFICANT REDUCTION  
IN R&D COSTS

## // SEGMENT REVENUE

in € 000's



	2015		2014	
	in € 000's	in Percent	in € 000's	in Percent
■ Development	2,296	70	3,778	54
■ Discovery & Collaborative Business	970	30	3,277	46
<b>Revenue in total</b>	<b>3,266</b>	<b>100</b>	<b>7,055</b>	<b>100</b>

### Operating profit/loss

On the back of substantially lower revenue and a disproportionately higher decrease in operating costs, 4SC's operating loss improved by 6% in 2015, receding to €-8,915 thousand (2014: €-9,437 thousand). The Development segment reported an operating loss of €6,181 thousand (2014: €8,554 thousand), while an operating loss of €2,734 thousand (2014: €883 thousand) was recorded by the Discovery & Collaborative Business segment.

### Net finance income/loss

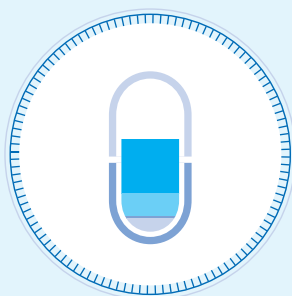
Compared with the previous year, net finance income fell in 2015 to €-273 thousand (2014: €-189 thousand), primarily because of the surge in interest expense to €355 thousand in the reporting period (2014: €234 thousand). This item arose primarily in connection with the draw-down of the loan from Santo Holding (Deutschland) GmbH and from the convertible note agreement signed with YA Global Master SPV Ltd. (Yorkville). In contrast, a positive effect was exerted by the rise in finance income to €24 thousand (2014: €6 thousand), which was achieved due to the additional funds made available by the capital increase in July 2015, despite continued low interest rates on the capital markets. The share in the profit/loss of associates increased by 9% year-on-year to €58 thousand (2014: €39 thousand).

### Taxes

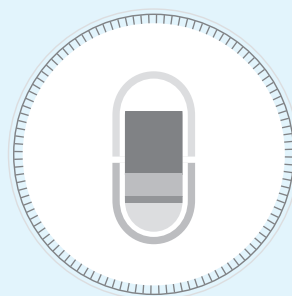
In the reporting period, the 4SC Group incurred expense of €40 thousand from current income taxes in the form of a non-creditable, merely deductible Singaporean withholding tax (2014: €70 thousand).

## // OPERATING EXPENSES

in € 000's



2015



2014

	2015	2014
■ Research and development costs	7,255	8,504
■ Administrative costs	2,999	3,120
■ Distribution costs	348	846
■ Cost of sales	1,763	4,080
<b>Total</b>	<b>12,365</b>	<b>16,550</b>



### Consolidated net loss

The consolidated net loss improved by 5% to €9,228 thousand in 2015 on the basis of the developments described, (2014: €9,696 thousand).

### Earnings per share

There was a marked change in the total number of shares in 2015. Due to the capital reduction entered in the commercial register in April 2015 and the 1-for-5 reverse stock split, the total number of shares was initially reduced from 50,849,206 (31 December 2014) to 10,169,841. Also in the second quarter of 2015, 4SC's financing partner Yorkville converted a total of 46,805 4SC shares. In the third quarter of 2015, 8,750,000 new shares were issued on the basis of the capital increases, raising the total number of shares to 18,966,646 on 31 December 2015. The average number of shares declined accordingly to 14,346,446 in the financial year 2015 (2014: 50,642,249 shares).

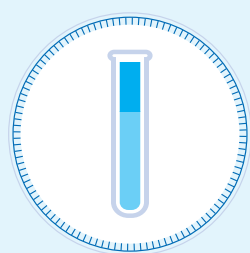
Due to the improved result, the loss per share was down to €0.64 in the financial year 2015 (2014: loss of €0.19 or, adjusted for the reverse stock split in 2015: €0.95).

## 3.2 NET ASSETS

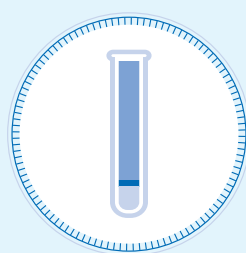
### Non-current assets

Non-current assets grew from €10,639 thousand as at 31 December 2014 to €11,077 thousand as at 31 December 2015. The key reason for this development was the acquisition of a long-term financial asset in the form of a borrower's note loan. At €9,123 thousand, intangible assets continued to be the largest non-current asset item (31 December 2014: €9,836 thousand), followed by property, plant and equipment at €357 thousand (31 December 2014: €425 thousand). The

## // STRUCTURE OF THE STATEMENT OF FINANCIAL POSITION

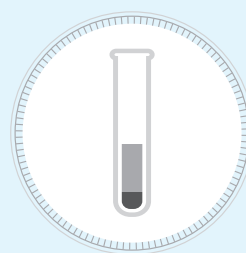


Assets

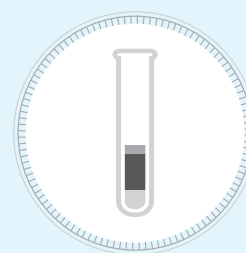


2015

Equity and Liabilities



Assets



2014

Equity and Liabilities

Assets	2015		2014	
	in € 000's	in Percent	in € 000's	in Percent
■ Non-current assets	11,077	33	10,639	71
■ Current assets	22,415	67	4,295	29
<b>Total</b>	<b>33,492</b>	<b>100</b>	<b>14,934</b>	<b>100</b>

Equity and Liabilities	2015		2014	
	in € 000's	in Percent	in € 000's	in Percent
■ Equity	26,428	79	2,050	14
■ Non-current liabilities	1,471	4	8,042	54
■ Current liabilities	5,593	17	4,842	32
<b>Total</b>	<b>33,492</b>	<b>100</b>	<b>14,934</b>	<b>100</b>

increase in financial assets from €220 thousand as at 31 December 2014 to €278 thousand as at 31 December 2015 is due to the write-up on the equity interest in quattro research GmbH recognized using the equity method, which achieved a positive contribution to earnings in the reporting year.

### Current assets

The sharp increase in current assets to €22,415 thousand as at 31 December 2015 (31 December 2014: €4,295 thousand) resulted from the corporate action successfully completed in the reporting year. Trade accounts receivable decreased in the period under review to €94 thousand (31 December 2014: €652 thousand), chiefly because of the partnership with BioNTech AG.

### Equity

The strong increase in equity from €2,050 thousand as at 31 December 2014 to €26,428 thousand as at 31 December 2015 is primarily attributable to the successful corporate actions completed in July 2015, i.e. a capital increase in return for cash and contributions in kind. Equity was reduced by the accumulated deficit, which rose to €138,184 thousand as at 31 September 2015 due to the loss for the period of €9,228 thousand (31 December 2014: €128,956 thousand).

Furthermore, there was a neutral reclassification within equity in connection with the capital reduction implemented in the second quarter through the 1-for-5 reverse stock split.

The equity ratio rose significantly by 65.2 percentage points from 13.7% as at 31 December 2014 to 78.9% as at 31 December 2015 as a consequence of the increase in equity and the reduction of debt in connection with the capital increase in return for contributions in kind.

### Current and non-current liabilities

Non-current liabilities were down 82% compared with the 2014 reporting date (31 December 2014: €8,042 thousand) to €1,471 thousand as at 31 December 2015. The main reason for this decrease is the conversion into equity of €6,000 thousand of the loan provided by 4SC's majority shareholder Santo Holding (Deutschland) GmbH as part of the capital increase in return for contributions in kind in July 2015. The remaining outstanding loan amount totaling €1,962 thousand was reclassified to current liabilities as at the reporting date. The other non-current liabilities continue to consist largely of deferred income in connection with the partnerships entered into with Yakult Honsha and Menarini AP amounting to €1,433 thousand as at 31 December 2015 (31 December 2014: €1,788 thousand).

Current liabilities increased by 16% to €5,593 thousand (31 December 2014: €4,842 thousand). These primarily consist of other liabilities and deferred income of €2,943 thousand (31 December 2014: €3,526 thousand). Another €1,962 thousand is attributable to the remaining liabilities to shareholders (31 December 2014: €6,131 thousand). Advances received on grants from the German federal government and the EU decreased by €151 thousand to €307 thousand (31 December 2014: €458 thousand). Current liabilities also include trade accounts payable in the amount of €688 thousand (31 December 2014: €993 thousand).

(i)  
EQUITY UP CONSIDERABLY  
DUE TO CAPITAL INCREASE

### **Total assets/Total equity and liabilities**

Total assets/total equity and liabilities rose sharply by 124% to €33,492 thousand as at 31 December 2015 (31 December 2014: €14,934 thousand). Three opposing factors essentially brought about the change in total assets/total equity and liabilities: firstly, the increase in equity as a result of the successful corporate actions; secondly, the reduction in borrowed capital, particularly the shareholder loan, due to conversion into equity; and thirdly, the reduction in the loss incurred.

## **3.3 FINANCIAL POSITION**

### **Cash flows from operating activities**

A total of €8,958 thousand was used for operating activities in the 2015 financial year. The difference compared with the negative earnings before taxes of €9,188 thousand resulted in particular from non-cash expense items such as straight-line depreciation and amortization, or on the income side, the reduction in the deferred income item, and cash items such as the decrease in trade accounts receivable or the countervailing decline in trade accounts payable and other liabilities. In the prior-year period of 2014, cash outflows from operating activities came to €-8,372 thousand with a pre-tax loss of €9,696 thousand.

### **Cash flows from investing activities**

The cash outflows from investing activities in financial year 2015 amounted to €1,541 thousand (2014: €897 thousand). The purchase of financial instruments used cash of €1,318 thousand (2014: cash inflow of €1,000 thousand). In addition, the Company invested €114 thousand (2014: €3 thousand) in intangible assets and €109 thousand (2014: €100 thousand) in property, plant and equipment.

### **Cash flows from financing activities**

The cash flows of €28,773 thousand from financing activities in the reporting period resulted from in some cases countervailing effects. The draw-down of further tranches of the shareholder loan from Santo Holding (Deutschland) GmbH totaling €1,500 thousand (2014: €6,000 thousand) had a positive effect. In addition, Yorkville's conversion of the convertible note issued into shares of 4SC AG had a positive financing effect of €135 thousand (2014: €317 thousand). The cash capital increase of €29,000 thousand (gross) that was completed in July 2015 had the greatest positive effect. In contrast, the transaction costs of €1,474 thousand to be deducted had a negative effect. The repayment of the remaining debt of Yorkville's convertible note amounting to €200 thousand and the reduction of the convertible note by conversion into shares amounting to €135 thousand (2014: €461 thousand) also had a negative effect.

### **Funds**

As at 31 December 2015, the Company had cash and securities totaling €21,476 thousand (31 December 2014: €3,202 thousand). Additional funds in the amount of €1,318 thousand were invested in a long-term borrower's note loan.

(i)  
FUNDS INCREASED  
SUBSTANTIALLY

### 3.4 OVERALL ASSESSMENT OF ECONOMIC POSITION

Revenue was lower on the one hand due to the decrease in allocations to Yakult Honsha of manufacturing costs and on the other hand to the reduction in business from research partnerships at 4SC Discovery. The Company's loss from operating activities declined by 6% accordingly. Cost-cutting in all areas, particularly in production of the resminostat compound, prevented a sharper decrease. Other major costs arose as a result of optimization of the manufacturing process for resminostat begun in the previous year and of the intensive work required to prepare for the planned resminostat trial in the CTCL indication. The increased length of the clinical studies with the 4SC-202 and 4SC-205 drug candidates over the original estimates also gave rise to additional costs. The net loss in 2015 was trimmed by a total of 5% year-on-year. The Company had sufficient liquidity at all times during the 2015 financial year. The cash capital increase gave a significant and sustainable boost to the Company's liquidity. The financing of the ongoing programs was not in jeopardy at any time. This was ensured in particular by the cash inflows from the corporate action carried out successfully in July 2015, the agreements on convertible bonds of up to €15,000 thousand entered into with Yorkville in the previous year as well as by the shareholder loan with Santo Holding (Deutschland) GmbH of up to €10,000 thousand.

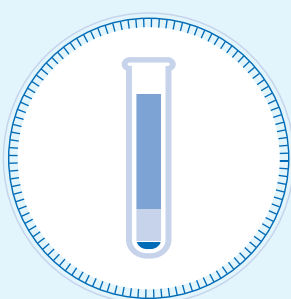
The Group's economic development in the 2016 financial year again proceeded according to plan up until the preparation of this combined management report.

### 4. EMPLOYEES

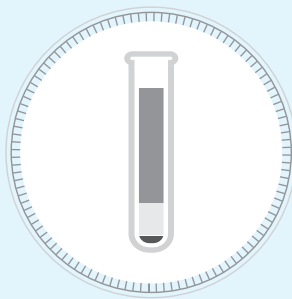
At the end of the reporting period, the 4SC Group had 67 employees (including the Management Board of 4SC AG and executive management of 4SC Discovery GmbH) (31 December 2014: 66). The Development segment had 39 employees at year-end (31 December 2014: 40), while the

#### // TOTAL NUMBER OF EMPLOYEES

as at 31 December



2015



2014

	31.12.2015	31.12.2014
Research & Development	50	50
Administration & Sales	15	14
IT	2	2
<b>Total</b>	<b>67</b>	<b>66</b>

Discovery & Collaborative Business segment had 28 (31 December 2014: 26). At Group level, the average number of employees in 2015 was 68, an increase of 5% on the previous year (2014: 65).

4SC adheres to a balanced personnel policy, filling the relevant positions with the most qualified employees. The share of female employees remained identical to the previous year at 55% (31 December 2014: 55%). Furthermore, the Company offers flexible working arrangements that enable its employees with children in particular to balance career and family. As at the 31 December 2015 reporting date, 25% (31 December 2014: 29%) of the workforce were working part-time. Including part-time employees and employees on parental leave, the Company had 58 full-time employees (full-time equivalents, FTEs) at the end of 2015 (31 December 2014: 57 FTEs). Of these FTEs, 76% (31 December 2014: 71%) worked in research and development, and 24% (31 December 2014: 29%) in business development and administration.

Until February 2014, 4SC also had trained one chemical laboratory technician who was hired by the Company for a permanent position after passing the final exam. The Company is not training any chemical laboratory technicians at present.

Staff costs amounted to €5,056 thousand in the reporting period, an increase of 4% year-on-year (€4,882 thousand). This rise is primarily attributable to the slightly higher number of employees. Staff costs include €-2 thousand (2014: €3 thousand) arising from non-cash expenses for stock option programs.

## **5. FINANCIAL AND NON-FINANCIAL KEY PERFORMANCE INDICATORS**

### **5.1 FINANCIAL KEY PERFORMANCE INDICATORS**

Over time, research and development processes generate product value via data, validation and commercialization, thereby increasing the Company's value. Various key performance indicators are used for purposes of optimal planning, management and control of business development. Further details of financial key performance indicators can be found in section 1.3.

### **5.2 NON-FINANCIAL KEY PERFORMANCE INDICATORS**

#### **5.2.1 INDUSTRIAL PROPERTY RIGHTS**

For a research-based biotechnology company such as 4SC having a strong portfolio of industrial property rights is crucial. It both enhances the competitive position of the Company's proprietary development programs on route to marketability and supports their potential future market success. 4SC's patent management efforts further strengthened and strategically optimized the existing patent portfolio in the reporting period.

The total number of patents issued worldwide increased slightly to 361 in 2015 (31 December 2014: 357). The number of patent applications pending in 2015 was also up slightly to 182 (31 December 2014: 173), while the total number of patent families remained the same as in the previous year at 26.

(i)

FOCUSING THE PATENT  
PORTFOLIO IN LINE WITH  
THE PRODUCT STRATEGY

### Development segment

In the Development segment, the Group held 292 patents and had 65 patent applications pending in a total of 14 patent families as at the close of 2015. As a result, the total number of patents issued and patent applications in this segment declined slightly year-on-year, which was due to a continued focus on the patent portfolio in line with the product strategy.

For resminostat, 4SC's lead compound in oncology, the Company holds a total of 146 patents, including 59 composition-of-matter patents. The resminostat compound is protected in all of the world's key pharmaceutical markets, such as those in the USA, Europe, Japan, China, South Korea, India and Russia. Moreover, 4SC holds patents on resminostat's mesylate salt used in formulating the compound as well as patents on the compound's manufacturing process in key pharmaceutical markets. Another building block of the resminostat patent strategy, the national phase of patent applications for the potential HDAC biomarker ZFP64, was initiated during the year under review.

4SC also holds extensive patent portfolios for 4SC-202 and 4SC-205, the Company's newer clinical oncology compounds, which were further reinforced with additional patents granted in individual countries. For 4SC-202, 4SC holds substance patents in the world's major markets. These guarantee comprehensive protection covering development and later marketing, particularly in the United States, Europe and key countries of the Asia/Pacific region, such as Japan, China, Korea, Taiwan, India and Australia. The approval processes for the more specific patents on the salt form used in clinical trials are proceeding with some success, which is reflected in patent approvals in the United States and China.

Vidofludimus enjoys extensive protection thanks to substance patents as well as patents valid for a much longer period on the substance's calcium salt. In the reporting year, 4SC was awarded patents on the calcium salt in China and Japan, among other countries.

### Discovery & Collaborative Business segment

At the end of the reporting year, the Discovery & Collaborative Business segment patent portfolio comprised 69 patents held and 117 patent applications pending, in 15 patent families. Year-on-year, the overall total of patents held in this segment has therefore increased by 20%. The number of pending patent applications rose by around 14%.

Other new patent applications to obtain protection for promising Discovery & Collaborative Business projects in the early research phases were filed or are still in the examination phase at the World Intellectual Property Organization (WIPO).

Besides its patents, 4SC also owns a variety of rights to strategically important word and word/picture marks. Overall, 4SC's extensive portfolio of intellectual property rights illustrates the Company's research and innovative strength, which is further bolstered by a forward-looking patent strategy for the development and later commercialization of future drugs.

## 5.2.2 CORPORATE RESPONSIBILITY AND SUSTAINABILITY

### Employee safety and environmental protection

Corporate responsibility is an important topic at 4SC. The Company places a high value on ensuring the maximum possible safety of its employees and on protecting the environment. Appropriate measures are therefore continuously implemented, reviewed and optimized in all processes.

The occupational health and safety committee serves as a core instrument to fulfill these tasks. It is comprised of two safety officers, the biological safety officer, the company medical officer and the safety specialist. The company medical officer is an external expert as before, but since 1 January 2015 a 4SC employee with the requisite training has been employed in the position of safety specialist. The occupational health and safety committee assists 4SC's management in all aspects of occupational safety, occupational healthcare, the safe handling of hazardous substances and biomaterials, as well as compliance with legal requirements.

Going forward, the risk assessments required by the German Occupational Health and Safety Act will be conducted on a regular basis by the Company's own occupational safety professional. Furthermore, all laboratory employees once a year receive training on the handling of hazardous substances and genetically modified organisms in accordance with applicable hazardous substance regulations. All new members of staff also receive safety training, which is tailored to their place of work – laboratory or office – as appropriate. This year for the first time, a risk assessment of psychological stress was conducted by the members of the occupational health and safety committee.

Alongside these personnel and organizational measures, the technical and structural requirements for the handling, storage and transport of hazardous substances and biomaterials are meticulously observed. These include the provision of personal protective equipment, effective fire safety mechanisms, biological safety areas and systems for laboratory facilities. All relevant mechanisms and apparatus have received the prescribed regulatory permits, and are inspected and serviced on a regular basis. Last but not least, 4SC's waste disposal concept also helps to protect the environment. The professional and environmentally compatible disposal of hazardous waste is carried out by a specialist company.

4SC Discovery GmbH is fully integrated into the 4SC Group's occupational health and safety structure. Due to the systematic implementation and observance of occupational safety measures, not a single notifiable incident occurred in the reporting year.

### **Ethical responsibility**

4SC also relies on data derived from animal testing in order to research and develop new drugs. This serves both to achieve the requisite goals in scientific terms and satisfy statutory requirements. However, the Company is committed to reducing tests involving animals to the minimum and replace them to the extent possible with alternatives, such as cell culture testing. All experiments involving animal subjects conducted by 4SC in the reporting year were performed only after obtaining regulatory approval and were monitored on a continuous basis by an external animal welfare officer.

4SC commissioned carefully selected contract research organizations to perform several animal studies and clinical studies on people. In this context, 4SC places particular emphasis on compliance with official requirements as well as ethical and scientific quality standards.

### 5.2.3 PROCUREMENT

Procurement, logistics processes and warehousing at 4SC are organized and handled by a central procurement department. These processes are defined and fixed. Close coordination between purchasing on the one hand and both bookkeeping and the Research & Development department on the other hand ensures that all processes - from obtaining orders to paying the invoices - run smoothly and cost-efficiently.

The Group has a broad supplier base in order to ensure that it is not dependent on any one supplier. The required goods are generally sourced based on quality, pricing and availability. In the reporting year, persistent renegotiation once again brought improvements to delivery terms and prices with several suppliers while keeping purchasing volumes unchanged. The Company continued to play an active role in the purchasing consortium for the Munich biotech region.

4SC cooperates with various providers of research and development services especially in pharmacology, toxicology, metabolism, analytics, production, clinical development, pharmacovigilance and statistics. The selection of partners is contingent on the specific requirements of the given project. In addition to quality, observance of deadlines and price, the key selection criteria are experience and references in the respective field and the applicable regulatory parameters.

### 5.2.4 QUALITY ASSURANCE

The research and clinical development of new drugs requires the observance of the very highest standards of safety and quality. This practice aims to reduce the risks to the safety of humans and the environment while also minimizing threats to the Company's economic position.

In light of the above, 4SC has installed a quality management system according to "GxP" guidelines. The abbreviation GxP is an umbrella term referring to guidelines that codify quality standards used in an industry. Such guidelines include Good Laboratory Practice (GLP), Good Clinical Practice (GCP) and Good Manufacturing Practice (GMP). This quality management system ensures that internal processes, workflows and company policies can be formulated and monitored in accordance with national and international law, resolutions, directives and statutory orders.

4SC's quality assurance work also includes drawing up an annual audit program. This involves taking a risk-based approach to determining which of the many external companies and service providers to which 4SC entrusts work – such as CROs (for performing clinical studies) or contract manufacturers (for producing compounds and investigational medicinal products) – are to be audited for compliance with the required quality standards in the course of ongoing clinical trials.

The head of the Company's Quality Unit reports to the CEO and works closely with the latter to coordinate all of the actions to be taken. This approach ensures risks can be minimized while achieving a high standard of quality. This standard ensures the quality of the investigational medicinal products while guaranteeing reliable and accurate data collection and analysis to achieve an optimum level of safety for patients and volunteers.

(i)

HIGHEST STANDARDS  
OF QUALITY AND SAFETY



## 6. REPORT ON POST-BALANCE SHEET DATE EVENTS

(i)

EMA SCIENTIFIC ADVICE  
RECEIVED FOR CONDUCTING  
THE PHASE II TRIAL WITH  
RESMINOSTAT IN CTCL

4SC received written scientific advice from the European Medicines Agency (EMA) in January 2016 based on discussions held previously. This advice will be incorporated into the planned Phase II trial of resminostat in CTCL later this year.

In January 2016, the US Food and Drug Administration (FDA) approved 4SC's Investigational New Drug (IND) application for running a clinical trial with resminostat in combination with the standard therapy sorafenib for initial treatment of patients with HCC.

Also in January 2016, 4SC Discovery GmbH reached an agreement with Omeicos Therapeutics GmbH (Omeicos) whereby 4SC will conduct pharmaceutical chemical analysis and synthesis activities for Omeicos for a maximum period of one year.

(ii)

IND APPROVAL FOR  
CARRYING OUT CLINICAL  
STUDIES WITH RESMINOSTAT  
IN HCC OBTAINED FROM  
THE FDA

## 7. REPORT ON EXPECTED DEVELOPMENTS

The following paragraphs contain forecasts and expectations regarding future developments. Actual results might differ substantially from these estimates of likely developments if uncertainties were to arise or if the assumptions underlying the forecasts turn out to be incorrect.

### 7.1 MACROECONOMIC AND SECTOR DEVELOPMENT

According to its January 2016 forecast, the International Monetary Fund (IMF) expects to see the global economy expand by 3.4% in the current year, thus marking a slight rise compared with the previous year (2015: 3.1%). IMF experts continue to expect low oil prices and a general decline in commodities prices. The expected further slowing of economic growth in China and ongoing geopolitical tensions in many regions are difficult-to-predict risks affecting economic performance in many parts of the world again in 2016. For the euro zone, the IMF forecasts an increase of 1.7% (2015: 1.5%), with growth in Germany also at 1.7% (2015: 1.5%). The US economy will expand at a somewhat faster pace year-on-year, adding 2.6% (2015: 2.5%). In contrast, economic growth in Asia as a whole will slow to 6.3% (2015: 6.6%). The slowdown in the rate of expansion in China, the largest economy, will be even steeper, with growth declining from 6.9% in 2015 to 6.3% this year.

According to industry information service BioCentury, the boom in the biotech sector will not continue this year as before. After three years of rising income and market share, big pharma will find it increasingly difficult to stay at this high level. Nonetheless, analysts expect a number of notable milestones to be reached this year, reports BioCentury, but the focus is more on clinical data than approvals or market launches. The cancer indication, particularly immuno-oncology, is likely to remain at the very top of the list for fund managers because in the course of the year it is expected that ground-breaking data will increasingly be released, particularly regarding combination therapies.

The assessment by Investment News Network experts is very similar: They anticipate continued volatility in the biotechnology market in 2016. Experts project additional mergers and acquisitions, although individual transaction volumes will not be quite as high as the level recently attained. The impetus for further M&A activity will come from continued price pressure and the resulting

market consolidation, according to the investment specialists. Increased cooperation between small and large biotech firms is expected primarily in the field of immunooncology. The main source of uncertainty this year remains the influence of the political sphere. For instance, Democratic candidate for US President Hillary Clinton has announced that she will fight excessive drug prices if elected.

The German biotech sector started out very optimistic in 2016 and is confident about further growth. A majority of companies want to hire new employees and boost capital expenditure on research and development beyond current levels, as indicated in a survey by the biotechnology industry association "BIO Deutschland" in cooperation with the industry magazine |transkript. Bioeconomy company BRAIN AG was the first German biotech firm to go public on the Frankfurt Stock Exchange since 2006, raising €31,500 thousand in February 2016. This could trigger a series of other IPOs in Germany.

The trend toward again raising capital through IPOs is underway, according to a BIOCUM study, with pan-European Euronext emerging as the favorite exchange. The key reason for this could be stepped-up EU support for the industry. The aim is to make available significantly more money for research and development in the future, for instance, via the Horizon 2020 program. However, the first two months of the year have not been easy for the capital markets and biotech and pharmaceutical share prices have come under massive pressure. The number and volume of IPOs and financing rounds in the industry are also down considerably compared with the prior-year period.

In 2016 the German Association of Research-Based Pharmaceutical Companies (Verband der forschenden Pharmaunternehmen) expects a double-digit number of new cancer drugs to obtain European approval for use in Germany, primarily in the indications of non-small-cell lung cancer (NSCLC), multiple myeloma and various forms of leukemia. Several of these introduce novel modes of action to oncology, for instance the use of oncolytic viruses that attack cancer cells and activate the immune system to fight them.

## 7.2 COMPANY OUTLOOK

### Further operating and strategic development

The 4SC Group will continue to pursue its focused research and development strategy with the two epigenetic products resminostat and 4SC-202 at the forefront of in-house development. The primary operational focus is on the planned clinical development of the oncology compound resminostat in the indication of advanced cutaneous T-cell lymphoma (CTCL) with the goal of achieving regulatory approval for resminostat in this indication in the EU as quickly as possible. Currently 4SC is preparing a randomized, placebo-controlled Phase II clinical trial in the indication of advanced CTCL. The consultation with the European Medicines Agency (EMA) was concluded in January 2016. Based on this discussion, 4SC received a written scientific advice at the end of January. The study will be carried out in the coming years incorporating this advice. Selection of the CROs for conducting the study is underway and is expected to be completed in the second quarter of 2016. As things stand today, 4SC assumes that the first trial centers for patient admission will be able to be opened by the summer of 2016. If patient recruitment proceeds as planned, 4SC estimates that results from the trial will be available in the second half of 2018. At this time, 4SC expects that in an ideal scenario it will be able to apply for conditional approval in the EU based on this data, which could then lead to market approval in the EU in 2019.

(i)  
FOCUS OF CLINICAL  
DEVELOPMENT ON  
RESMINOSTAT IN THE  
INDICATIONS CTCL AND HCC

4SC anticipates detailed trial results in the course of 2016 from the Phase II trials currently being conducted by Yakult Honsha in Japan with resminostat in NSCLC and HCC. 4SC's focus is particularly on the HCC data, which will also serve as the foundation for the Company's own development of resminostat for the HCC indication in Western patient populations. The Company does not intend to develop the drug in NSCLC for this indication in the West for reasons including the competitive environment in this indication.

In addition to the Phase II trial in CTCL, the possible development of resminostat in Western patient populations in the liver cancer (HCC) indication in particular therefore remains a strategic focus for 4SC. Once the anticipated data from the randomized Phase II trial conducted by Yakult Honsha in HCC in Asia – which is also evaluating the potentially predictive biomarker ZFP64 – has been made available, 4SC will use this to examine in depth options for its own further development of resminostat in the Western world and ideally implement these. In addition to positive data from the corresponding trial being conducted in Asia, 4SC's own clinical HCC activities would hinge on its ability to ensure adequate financing for the trial or to identify a partner that would advance the development of resminostat in HCC in the Western world in collaboration with 4SC. At the end of 2015, 4SC submitted an Investigational New Drug (IND) application for this purpose in the United States, which was successfully confirmed in early 2016.

Furthermore, 4SC assumes that in the future its new Asian license and development partner Menarini AP will firm up their plans with respect to the development of resminostat in countries in the Asia-Pacific region (excluding Japan). 4SC believes that Menarini AP intend to focus their work on the development of resminostat in the indication of liver cancer (HCC).

The Company very successfully completed the clinical Phase I trial (TOPAS study) with its second epigenetic cancer compound 4SC-202 in patients with advanced hematological tumors. 4SC sees attractive development opportunities as a result and will further pursue options for clinical development in Phase II trials. Ideally, these will be implemented together with possible industry or financial partners or, if necessary, by 4SC on its own. Due to the mode of action of 4SC-202 and the clinical Phase I data, 4SC currently favors two study scenarios: one of a solid tumor indication such as small-cell lung cancer (SCLC) and one of a hematological indication. Since the product has not been out-licensed to date, it represents a strategic asset for 4SC.

4SC will also make every effort to further advance its ongoing preclinical trials for evaluating the immune priming potential of resminostat and 4SC-202 which, if successful, would offer substantial additional value and market potential.

On the basis of the positive results of a completed Phase I trial of the candidate compound 4SC-205 on patients with advanced solid tumors, 4SC is currently reviewing possible collaborations for the clinical development of 4SC-205. 4SC will continue its search for suitable partners for further development. Here, an academic partner that would conduct further clinical research on 4SC-205 for particularly suitable patient populations in investigator initiated trials would be interesting.

(i)  
FURTHER DEVELOPMENT  
OF 4SC-202 ENVISAGED IN  
A PHASE II TRIAL

(ii)  
PARTNER SEARCH FOR 4SC-205

Regarding vidofludimus, a clinical compound in the field of autoimmune diseases, 4SC remains committed to negotiating with investors and industry partners to enable the further development of this drug candidate by an external party. Since 4SC's activities focus on epigenetic products, 4SC will not allocate any appreciable company funds to the further clinical development of vidofludimus at this time.

Overall, 4SC is seeking to secure further licensing deals with companies from the pharmaceutical and biotech sectors to ensure the further clinical development of its products and generate additional company assets. The aim is to achieve a short-term flow of funds while optimally exploiting these development programs' value creation potential over the long term.

The Discovery & Collaborative Business segment, which comprises the activities involved in the discovery, early-stage research and subsequent commercialization of drug compounds by 4SC Discovery GmbH, performed below expectations in the 2015 financial year. One reason for this was the termination of the research collaboration with LEO Pharma at the end of March 2015. The modest performance of the Discovery & Collaborative Business segment reinforces management's intention to focus even more on drug development going forward and to review the strategy for 4SC Discovery in early 2016. Nevertheless, 4SC Discovery is pursuing the signing of license deals and other collaboration agreements, ideally to ensure the further development of its own research programs currently in development and generate additional income.

#### Financial forecast

4SC AG generated net issue proceeds of around €27,500 thousand from the cash capital increase completed successfully at the beginning of the third quarter of 2015. 4SC had funds of €22,794 thousand at the end of the financial year. The Management Board currently estimates that the funds earmarked for the Company's financing will probably be sufficient until after the start of 2018 and will therefore fund the key portions of the CTCL trial.

(i)  
FINANCING EXPECTED TO  
BE SUFFICIENT UNTIL AFTER  
THE START OF 2018

Based on current financial planning and the operating activities announced, the Management Board is expecting an average monthly cash burn rate from operations of €1,200 thousand for full-year 2016. This planned increase, especially in research and development expenses, is predominantly due to the costs of preparing for and performing the anticipated Phase II clinical trial of resminostat in the CTCL indication and higher staff costs, particularly due to additions to the clinical team. The projected revenue from operating activities is expected to increase somewhat due to 4SC AG's existing partnerships. 4SC Discovery's revenue performance is viewed with cautious optimism, but continues to depend primarily on further strategic decisions regarding the further development of 4SC Discovery GmbH. For 2016, 4SC expects a greater consolidated net loss than in 2015 due to stepped up clinical activities. 4SC projects continued annual net losses in the short to medium term as well.

The average monthly operating cash burn rate for full-year 2015 increased from originally projected less than €200 thousand to substantially higher €767 thousand. On the expense side, this was due to the increased length of the two clinical studies with the 4SC-202 and 4SC-205 drug candidates over the original estimates, the additional development costs in the production process for resminostat and costs incurred for the preparation and performance of the planned

Phase II clinical trial of resminostat in the CTCL indication. Moreover, the income originally projected for 2015 was delayed or could not be generated in the projected amount.

The positive operating cash flow for the past year expected for 4SC Discovery was not achieved due to collaborations being terminated or licenses returned. For the 2016 financial year the continued aim of 4SC's research subsidiary is to enter into new research agreements with pharmaceutical and biotech companies or academic partners and/or licensing partnerships or other forms of collaboration to ideally ensure the further development of its own research programs and to generate additional income.

4SC is well positioned for 2016 and beyond. This assessment is based on the Company's existing attractive development programs – particularly for the compound resminostat and the Phase II trial in advanced CTCL beginning in the first half of 2016 as well as for the other anti-cancer compounds 4SC-202 and 4SC-205. Moreover, 4SC also expects the ongoing clinical trials being conducted by the Company's Japanese partner Yakult Honsha with resminostat to inject positive momentum, especially with regard to HCC.

(i)  
4SC WELL-POSITIONED  
BASED ON ATTRACTIVE  
DRUG CANDIDATES

## **8. REPORT ON OPPORTUNITIES AND RISKS**

### **8.1 RISK MANAGEMENT SYSTEM**

#### **4SC's risk management and internal control system**

The 4SC Group pursues active, systematic risk management to eliminate risks with suitable measures or to minimize remaining risks. The business risks of 4SC mainly relate to the research and development of drugs, the protection of intellectual property, the cooperation with partners, the preservation of equity and the Group's sufficient medium- and long-term financing. These risks must be reviewed continually and, if appropriate, entered into in a controlled fashion to leverage the Company's opportunities to their fullest.

As early as 2002, 4SC implemented a comprehensive computer-aided risk management system in compliance with the German Control and Transparency in Business Act (Gesetz zur Kontrolle und Transparenz im Unternehmensbereich, KonTraG). This system is an important part of corporate management and monitoring.

Following a defined process, the risk officers from the different business units identify, analyze and assess individual risks with regard to the following criteria: probability of occurrence, potential loss amount, time period to which the risks relate, and the existing and planned countermeasures. At regular intervals, these risk officers inform 4SC's risk management officer, who in turn informs management of the status of risks. Risks with the potential to endanger the Company's existence as a going concern are required to be reported immediately. Based on this, the Management Board and the Supervisory Board decide how the Company handles the identified risks.

The 4SC Group's internal control system (ICS) was set up to supplement the risk management system and ensures monitoring of the Company's activities by employing various rules such as signatory powers, controlled specification and verification documents, policies, standard operating procedures (SOPs), work instructions, the two-person integrity (TPI) principle, spot checks, self-inspections, employee training and emergency planning.

The application of these rules is obligatory for all operating units. 4SC's quality management activities are based on specifications containing the requirements for the product on offer or instructions for tasks to be carried out, e.g. the creation of job and job function descriptions. Also used are verification documents, which are records or documents that document the achieved results or provide objective proof of activities carried out, e.g. in the form of an audit report.

Group-wide signatory powers define which employees are authorized to sign orders and invoices. These are assigned depending on the amount of the order or invoice, whether it was budgeted and whether the signatory is a project employee or project manager, or a Management Board or executive management member.

4SC's research and development programs are discussed at regular meetings such as the project manager meeting. These meetings ensure close coordination between the research and development teams and with the Management Board. At project manager meetings, which are normally held on a weekly basis, advances in the Company's clinical development programs are presented and discussed. Project manager meetings are attended by the Management Board member responsible for research and development, the project managers of the four clinical development programs for resminostat, 4SC-202, 4SC-205 and vidofludimus, and the alliance manager for the resminostat partnerships with Yakult Honsha and Menarini AP.

#### **Risk management and internal control system in the financial reporting process**

In terms of the Group's financial reporting process, the internal control and risk management system ensures that the accounting is uniform and is conducted in accordance with statutory rules and generally accepted accounting principles as well as International Financial Reporting Standards (IFRSs). It includes work instructions, compliance with the two-person integrity principle, spot checks and emergency planning. Continual training for the financial team contributes substantially to ensuring that all statutory requirements relating to the Group are implemented securely and completely in the Company.

The controls for ensuring the regularity and reliability of the Group's financial reporting process primarily constitute automated checks, such as validation checking of financial figures and system access monitoring on the basis of a rights model. They are supplemented by manual checks, such as deviation and trend analyses made on the basis of defined key figures, as well as comparisons with budget figures. In addition, the key financial indicators are discussed and analyzed regularly with the operating units.

The Group's controlling system rests on three pillars: planning, monitoring and reporting. Taking the strategic planning into account, 4SC prepares three-year plans for internal steering and controlling purposes both for the Group and for the individual companies, 4SC AG and 4SC Discovery GmbH. The necessary data related to steering and controlling are furnished to the Management Board every month based on both these plans and the current actual figures. There are also quarterly reports on the development of business, progress in the research and development programs, the activities in human resources, public relations and investor relations, business development as well as on patents as non-financial key performance indicators. These management tools allow both the Management Board and Controlling to identify, assess and address opportunities and risks adequately. These reports are also made available to the Supervisory Board.

(i)

SOPHISTICATED INTERNAL  
CONTROL AND RISK  
MANAGEMENT SYSTEM

The IFRS financial statements are prepared in accordance with uniform rules and regulations. The manageable size of the bookkeeping team ensures uniform presentation of all like items. Specific access rules are defined in the enterprise resource planning (ERP) system. Any changes in these rights are subject to approval by the responsible members of the Management Board. This ensures the security of all postings and the respective separation of functions in the system as a whole.

## **8.2 4SC'S EXPOSURE TO RISK**

4SC is exposed to different individual risks which are related to each other and can affect each other, in a positive or negative way. Should these risks manifest themselves, either individually or together with other risks or other circumstances, this may severely compromise or prevent 4SC's business activities, its achievement of key corporate goals and/or its ability to refinance itself, as well as adversely affecting the Company's results of operations, financial position and net assets and/or share price to a significant degree.

### **8.2.1 SECTOR-SPECIFIC RISKS**

#### **Competition**

The defining characteristics of the biotech industry are short technology cycles, long development cycles and substantial investments in clinical research and development to achieve marketable products. 4SC is exposed to the risk that new technologies could appear on the market that could be used to successfully develop new products in the indications addressed by the Company faster or less expensively, and thus also possibly to bring them to market sooner, or prevent registration of 4SC's products in whole or in part. 4SC assumes that competition in the biotechnology industry will intensify overall, especially given that in the past two years or so, many young, innovative companies, particularly in the United States, have obtained very long-term financing.

Furthermore, there is a risk that regulators may approve competitors' products in the same indications ahead of those of 4SC, whether this is due to their possibly superior efficacy or tolerability. As a result, the products that 4SC is developing and plans to license might not be approved at all or only to a limited extent or might fail to gain a sufficiently strong or extended market position. This could make it impossible for 4SC to enter into licensing partnerships for its proprietary compounds or cause a cooperation or licensing partner to fail in its efforts to advance or market these in a way that makes sense economically. As a result, 4SC would not generate any milestone payments or royalties in future under existing or planned licensing agreements with pharmaceutical and biotech companies.

#### **Product development (general)**

The success of 4SC depends on the research and development programs. As a product-focused biotechnology company, 4SC is exposed to drug development risks, which are high due to a compound's long development period.

(i)  
COMPETITION FURTHER  
INTENSIFIED

Typical risks include the following:

- Individual products are ineffective, have side effects that are severe or difficult to tolerate, or cannot be formulated or produced such that they cannot be successfully advanced.
- External service providers become insolvent, which could result in a delay in development or in relevant data not being usable.
- External service providers are unable to meet the quality requirements applicable to an ongoing project.
- The responsible authorities do not grant the requisite approvals at all or only with restrictions or after a delay.

4SC has several drug candidates at present that are in early-stage and clinical development phases. The risks arising from and dependence on a single compound can be reduced by maintaining a diversified product pipeline, although all products cannot be weighted equally in terms of their value. Although the study results available to date indicate that the compounds that are currently in the clinical development pipeline are safe to use and well-tolerated, 4SC cannot rule out that in on-going or pending clinical studies they may turn out not to be sufficiently efficacious in treating patients, or side effects may emerge which are classed as relevant to safety. This is also true for findings from ongoing clinical trials being conducted by the Company's license partners, such as Yakult Honsha in Asia. Any negative or unclear findings from their clinical trials could have a similar effect for 4SC as corresponding findings from its own clinical trials. Such findings might delay the development of a compound or cause its development to be terminated, which could have a negative impact on 4SC's results of operations, financial position and net assets and its stock exchange valuation.

#### **Trends in healthcare policy**

In the medium to long term, the pharma and biotech industry is dependent to a certain degree on trends in national and international healthcare systems. It remains the aim of healthcare policy to lower healthcare costs. More and more restrictive regulatory and reimbursement conditions could have an adverse effect on achievable drug prices and thus impact revenue from drug sales and royalties.

The difficult economic conditions in many healthcare systems mean that healthcare policy is continuing to have a growing influence on the remuneration of new drugs, and indirectly on the business rationale of companies for seeking regulatory approval, which could have an adverse effect on the industry. Furthermore, health insurance funds and government institutions are increasing the pressure to reduce prices for medication. The benefit of medications is being measured with complex regulations, which is increasing the administrative burden and making it more difficult to obtain regulatory approval. The German federal government, for example, expects such measures to continue to deliver significant cost savings and/or quality improvements in the healthcare sector. Among others, this means that in the future pharmaceutical companies will no longer be able to set their own prices, e.g. in the German market. This may have an adverse effect on the remuneration structure and profitability of individual compounds. It could therefore become



financially unattractive for pharmaceutical companies to get products approved in certain markets. In addition, this may even prevent products from being approved for commercialization at all due to tougher approval conditions.

#### **Administrative proceedings**

The business operations of 4SC are subject to extensive legal regulations and controls. The development and marketing of new products can be hampered by administrative proceedings over which the Company has only limited control. For instance, 4SC requires approval from the authorities to carry out clinical studies and operate its own research facilities. The loss, expiry or withdrawal of such approval can lead to delays in the advancement of 4SC's research and development projects.

### **8.2.2 RISKS FROM THE COMPANY'S BUSINESS ACTIVITIES**

#### **Development and licensing deals**

The 4SC Group specializes in researching and developing small-molecule compounds for the treatment of cancer and autoimmune diseases. Achieving profitability and securing independent financing both require 4SC to generate corresponding revenue, for instance from upfront payments, milestone payments or royalties under license agreements with pharmaceutical and biotech companies as well as under research and cooperation agreements. The revenue generated to date is not yet sufficient for this purpose. In light of these facts, and also considering the future need to incur large research and development expenses, the Company will continue to post negative operating results for the time being. In order to become profitable in the medium term, 4SC has to enter into suitable agreements with the pharmaceutical industry or other biotechnology companies. The development of the respective products could be delayed and/or result in lower revenue and thus reduce the project's value if 4SC fails to gain such partners at all or if it can only do so at economically unfavorable terms. Any delay in negotiations concerning development and licensing deals with respect to the Company's proprietary drug programs also presents a risk. If 4SC were to be dependent on a partnership not yet finalized or financing for further clinical development of a product, this could delay clinical development. The same is true for the receipt of upfront payments, which the Company aims for at the start of such partnerships. This in turn would adversely affect the financial and liquidity planning of the Company.

Furthermore, should a new or existing cooperation or licensing partner fail in its attempts to progress, to license or to market a compound, e.g. because of negative data from its own clinical trials, this could result in 4SC failing to receive milestone payments or further royalties under this partnership, and possibly to the partnership being discontinued. Moreover, possible clinical trials planned by 4SC itself for the same compound could be hampered or prevented entirely, and the overall value of the product could be impaired significantly with the corresponding negative consequences for 4SC's financial and liquidity planning, refinancing and/or share price. Profitability, which the Company plans to achieve in the medium term, could be delayed further or even forestalled entirely.

(i)  
RESEARCH COLLABORATIONS  
AND PARTNERSHIPS MAKE  
IMPORTANT CONTRIBUTION TO  
PROJECT FINANCING

(i)

STRONG PARTNER ESSENTIAL  
FOR SUCCESSFUL  
COMMERCIALIZATION**Marketing risks**

4SC has marketed only a small number of products so far and does not possess a distribution or marketing structure. The Company must cooperate with other entities to market its drug and product candidates after approval. Since it can only exert limited influence on these companies, 4SC's revenue also depends on the performance of its partners. 4SC AG will generally participate in the revenue generated from its products through license fees and payments contingent on reaching previously defined targets (milestone payments). The Company's net assets, financial position and results of operations might be negatively affected to a material extent if the Company fails to close the requisite distribution and marketing cooperation agreements at reasonable terms or if such cooperation agreements do not bring about the expected success. The same is true when cooperation agreements are terminated prematurely, options are not exercised, or individual terms and conditions in existing contracts are amended. A decision by 4SC to establish its own distribution and marketing organization in certain regions would entail a substantial expenditure in terms of money and time. The establishment of such entities can also run into unforeseen difficulties or fail altogether. In turn this could delay the market launch of the Company's products, which could have a significantly negative effect on the Group's net assets, financial position and results of operations.

**Cooperation partners**

4SC currently generates most of its revenue from agreements with only a few cooperation partners. In the 2015 financial year, BioNTech AG (Mainz, Germany), Yakult Honsha (Japan), Menarini AP (Singapore) and LEO Pharma (Denmark) generated 94% of revenue. The research collaboration with LEO Pharma was terminated on 31 March 2015. If one or more of these important partnerships were to be terminated, if payments were not made, or if planned new partnerships did not materialize, this would have an adverse effect on 4SC's revenue and earnings. Since early 2012, 4SC has increased its focus on generating higher revenue from activities in the earlier stages of drug research. This is to be achieved particularly through entry of the subsidiary 4SC Discovery GmbH into research and licensing partnerships with pharmaceutical and biotech firms in the areas of drug discovery and optimization. Failure by 4SC to continue existing collaborations – as in the case of LEO Pharma this year – and/or to find new cooperation partners would jeopardize the Company's attempts to boost its revenue, which in turn could have an adverse effect on its future results of operations and financial position.

**Business activities of 4SC Discovery GmbH**

The research subsidiary 4SC Discovery GmbH, which has been in operation since the beginning of the 2012 financial year, aims to generate a positive cash flow from operations from the corresponding revenue to make a contribution to the Group's financing. This goal was achieved in part in recent years. If the company were unable to generate sufficient income from existing collaborations and/or new business going forward, 4SC Discovery GmbH would be forced to rely on support from 4SC AG, which in turn would present 4SC AG with considerable financial challenges, adversely affecting the financial situation of the entire Group, and delaying or preventing entirely the completion of other key projects.

### Patents and trademarks

Proprietary technologies and developments are protected by 4SC and its various legal entities through industrial property rights as well as through comprehensive patenting and licensing strategies. However, it cannot be ruled out that third parties may object to patent applications made by 4SC during the patent approval process or even challenge the validity of patents. It can also not be ruled out that 4SC may become involved in patent disputes with third parties. Any legal ruling against 4SC's patents – generally following lengthy and cost-intensive legal proceedings – could impede the Company's continued development. Even imminent or actual proceedings could have a material adverse effect on the Company's economic situation and market capitalization. No such objections have been raised or are known to 4SC at this time.

## 8.2.3 PRODUCT DEVELOPMENT RISKS

### Collaboration with external service providers in research and development

4SC currently does not own or operate any facilities for the manufacture of pharmaceutical products. Because it does not have the requisite governmental permit, the Company depends on subcontractors (Contract Manufacturing Organizations – CMOs). These furnish the pharmaceutical substances for 4SC's products, manufacture them in clinical and commercial quantities, formulate and optimize product preparation and ultimately produce the drug. 4SC's dependence on such external suppliers and manufacturers exposes it to risks.

In particular, this concerns timely and sufficient deliveries in terms of quantity and quality as well as compliance with governmental requirements and quality assurance standards. The occurrence of this risk could result in the postponement or termination of ongoing clinical studies or in the postponement or cancellation of individual clinical studies with the attendant consequences for the development of the respective drugs. 4SC is also dependent on clinical research organizations (CROs) in connection with preclinical and clinical development. Any failure on the part of a cooperation partner in question to exercise due care could jeopardize the development of 4SC's compounds and possibly even cause the respective study to be discontinued. Moreover, the CROs must fulfill governmental requirements and quality assurance standards that 4SC can only influence to a limited degree even though the CROs are carefully selected and regularly monitored and audited.

### Patient recruitment

Another risk of drug development is the necessity to recruit a sufficient number of suitable subjects or patients for clinical studies. This can encounter delays, given the complex medical circumstances that surround clinical studies (e.g. attractiveness of a study, study design, inclusion criteria, competitive situation, patient population, locations). In addition, clinical study centers might be unable to recruit a sufficiently large number of patients for the clinical study in question or generate evaluable data because other clinical studies are being conducted concurrently or a center's internal organizational processes show sustained quality deficiencies. In turn, this could jeopardize the studies' timeline and execution and result in delays. To push forward with the studies, 4SC might thus be forced to include additional clinical centers in the ongoing studies, which in turn would involve significant additional costs.

(i)  
EXPERIENCED SERVICE  
PARTNERS FOR THE  
DEVELOPMENT PROCESS

## 8.2.4 CAPITAL MARKET RISKS

### Additional financing

The Company will continue to require a large amount of capital in the medium to long term if it is to realize its corporate and development goals. Meeting this need requires the Company to generate enough revenue from licenses or cooperation deals. However, if product development costs exceed such income – as is the case now – and the Company's reserves no longer suffice, the Company would have to raise additional funds in the form of equity or borrowings. In this regard there is no guarantee that 4SC will be able to raise such funds on time, in the amount required, at economically viable conditions, or at all. This could prevent the Company from making important investments, particularly in research and product development. Furthermore, 4SC could be forced to stop developing one or more products and therefore shrink its product pipeline. This could weaken the Company's competitive position and negatively affect the Company's results of operations, financial position and net assets.

At the beginning of the third quarter of 2015, 4SC AG generated net issue proceeds of around €27,500 thousand from a capital increase. Based on current financial planning, the Management Board estimates that these funds will be sufficient to finance the Company into the year 2018. Nonetheless, 4SC could be forced to rely on prematurely raising additional funds on the capital markets, for example due to additional clinical trials, cooperation partners not reaching anticipated milestones or changes in planning assumptions. If the Company raises capital by issuing new shares, existing shareholders could see a potentially significant dilution of their shares.

In addition, the Company points out that if 4SC's share price falls, additional capital measures might be ruled out in the event that the share price drops to €1.00 or below for an extended period (as was the case temporarily in the 2014 financial year and for most of the first quarter of 2015), because €1.00 is the lower legal limit for par value in the issue of new shares. In order to reduce this risk, the Company consolidated the no-par value shares issued in a 5 to 1 ratio in April 2015 and reduced the share capital at the time to €10,169,841. In total, 4SC AG's share capital amounted to €18,966,646 at the end of the year.

### Shareholder loan from Santo Holding (Deutschland) GmbH

In order to finance the operational preparations for the planned clinical development of resminostat and to cover the Company's ongoing costs, 4SC AG agreed a loan of up to €10,000 thousand with Santo Holding (Deutschland) GmbH in June 2014. The loan carried interest of 8% p.a. (maturity date) and ran until the end of 2016. As per its financial planning, 4SC AG could draw down the credit line in tranches until 31 December 2015. In connection with the capital increase in July 2015, €6,000 thousand of this shareholder loan was converted to equity. The remaining amount of the shareholder loan as at 31 December 2015 was €1,500 thousand plus interest, which was repaid early at the end of February 2016.

### Influence by a few principal shareholders

As defined by section 21 of the German Securities Trading Act (Wertpapierhandelsgesetz - WpHG) in conjunction with section 25 of the WpHG, 4SC has four principal shareholders which have exceeded notification thresholds at time this Group management report has been prepared. Together, these

(i)

SIGNIFICANT CAPITAL  
REQUIRED FOR RESEARCH  
AND DEVELOPMENT  
ACTIVITIES

(ii)

ANCHOR SHAREHOLDERS  
PROVIDE STABLE FOUNDATION

shareholders hold just over 65% of the share capital and voting rights. Certain principal shareholders taken together could control resolutions passed by Annual General Meetings when other shareholders are present in fewer numbers and thus, regardless of the voting behavior of the remaining shareholders, decisively influence material decisions taken by 4SC AG. This could influence 4SC's future business transactions as well as the future membership of the Supervisory Board and thus, indirectly, the Management Board. On account of the comparatively low liquidity of the 4SC shares traded on the stock exchange, future sales of shares by the principal shareholders on a large scale over the stock exchange could also have a material adverse effect on the price of 4SC shares which in turn would reflect negatively on the Company's market capitalization.

## **8.2.5 FINANCIAL RISKS AND BALANCE SHEET RISKS**

### **Cash investments**

The Company invests available free cash in a way that generates interest if possible. All of these funds are invested safely (investment grade) in overnight and term deposits that entail only minor liquidity and default risks. Transactions with international partners where contractual payment terms are made in a currency other than the euro entail a currency risk. This risk includes the relative decrease or increase of the euro vis-à-vis the other currencies during the period until payment of the liability or receivable. For this purpose, 4SC does not engage in hedging transactions but instead endeavors to settle its own obligations in foreign currencies, primarily US dollars, British pounds and Swiss francs, thereby mitigating the risk of exchange rate fluctuations.

### **Notice of loss pursuant to section 92(1) German Stock Corporation Act (Aktiengesetz - AktG).**

4SC is a company which has yet to achieve profitability and has posted operating losses in all of the past financial years. Given the scope of its research and development expenses, over time these losses have accumulated into large loss carryforwards. These loss carryforwards are offset against equity and could result in a loss amounting to half the Company's share capital under German commercial law - despite the share premium from the issued shares. In this case, section 92(1) of the AktG requires the Company to immediately convene a General Meeting, as was the case in 2007 and 2013. The notice of loss in an ad hoc disclosure and the holding of such a General Meeting would result in organizational and financial expenditures for 4SC and could have a negative impact on the price of its shares, among others because of the notice of loss.

### Allowance of tax loss carryforwards

Pursuant to the last notification received concerning the separate determination of residual loss carryforwards as at 31 December 2014, 4SC has corporate tax loss carryforwards of €149,045 thousand and trade tax loss carryforwards of €148,060 thousand. This notification is subject to a review by the taxation authority. In the period since 31 December 2014, which to date has not been subject to a tax assessment, considerable additional losses were incurred. As a result, the loss carryforwards for corporate income tax are expected to increase to approximately €159,052 thousand and the loss carryforwards for trade tax will likely rise to some €156,409 thousand as at 31 December 2015. The risks resulting from this are described in the second next paragraph.

As at 1 January 2008, the application of section 8c of the German Corporate Income Tax Act (Körperschaftsteuergesetz, KStG) relating to the use of cumulative loss carryforwards, which is problematic for the industry, was introduced under the German Business Tax Reform Act. Any transfer of more than 25% to 50% of the subscribed capital within a five-year period results in a partial elimination of tax losses carried forward whereas any transfer of more than 50% of the subscribed capital results in a complete elimination thereof. As part of the Citizens' Relief Act (Bürgerentlastungsgesetz) that took effect in the summer of 2009 and the German Growth Acceleration Act (Wachstumsbeschleunigungsgesetz) that took effect on 1 January 2010, the German parliament has taken steps to ease the limitations on loss carryforwards. Whilst these statutes partially mitigate the problem, they do not eliminate it. Furthermore, legal situation continues to be uncertain due to ongoing and pending court cases as well as pending legislative processes at national and European level.

In recent years, 4SC has seen some changes among its shareholders, capital increases and investments from new shareholders, all of which remains likely in future. At the same time, new operating assets of significant scope have been acquired. section 8c of the KStG could have a negative impact on 4SC's future after-tax results and equity. It is possible in 4SC's view therefore, that tax authorities might adopt the position that existing loss carryforwards may no longer be partially or fully offset against future profits. This would have a material negative impact on the Company's after-tax earnings once it reaches profitability, result in premature income tax payments and have a negative influence on liquidity.

### Risks in connection with the impairment losses on capitalized assets in the case of discontinuation of certain development programs

4SC's statement of financial position contains capitalized assets in the fixed assets item, for instance in the form of intangible assets and patents from acquired or transferred development programs and goodwill, which are subject to an inherent risk of losing value. An impairment loss must be recognized if the regular impairment test reveals that there are objective indications of impairment which, in turn, arise from events that may have occurred after the initial measurement of the asset or if the termination of programs is resolved or the continued development of the programs no longer appears to be realistic due to a lack of funding. This would have a negative effect on the net assets, financial position and results of operations of 4SC because such impairment losses must be recognized in profit or loss.

(i)  
EXPERIENCED TEAM  
OF SCIENTISTS

## 8.2.6 ADMINISTRATIVE AND OTHER RISKS

### Key personnel and holders of know-how

The success of 4SC largely depends on its senior management and qualified key scientific and technical personnel. Many of these employees have many years of experience and are hard to replace. Although competition for highly-skilled personnel in the biotechnology and pharmaceutical sector is very intense, 4SC has so far usually succeeded in filling the most important positions with suitable staff on reasonable employment terms. However, if the Company were to lose key managerial, scientific or technical personnel who could not be replaced adequately, or could be replaced only after a considerable delay or by incurring substantial search and hiring costs, this could be detrimental to the Company's competitiveness and/or earnings situation.

### Legal risks

In the course of its business activities, the Company is subject to a variety of risks relating to corporate law, capital market law, stock market law, labor and tax law, patent law and other types of law. In order to reduce these to a minimum and to additionally prevent the occurrence of legal errors, 4SC's management takes many of its decisions after consultation with experts in and outside of the Company, such as specialized lawyers.

### Other risks

Other risks related to environmental protection, IT security, purchasing as well as general safety requirements are not deemed significant. Here, 4SC has taken organizational precautions in order to fulfill the requirements in question and control the internal processes.

## 8.2.7 OVERALL ASSESSMENT OF THE COMPANY'S EXPOSURE TO RISK

From today's perspective, the Company perceives only a few factors that could jeopardize the existence of 4SC as a going concern in the 2016 financial year, taking all aforementioned risks into account. However, the value of individual products or 4SC's overall capital market valuation could be significantly adversely affected by negative clinical data from ongoing trials and/or unfulfilled expectations from partnerships. The Company's management is convinced that its opportunities outweigh any of the risks related especially to the development and financing of drug candidates. Thanks to its attractive and diversified pipeline, its technical expertise and existing early-stage research partnerships, 4SC is positioned well overall.

The Management Board believes that the funds at 31 December 2015 in connection with the currently projected expense and revenue planning as well as the capital increase completed in the third quarter of 2015, which generated net proceeds of €27,500 thousand, should be sufficient to finance the Company likely into 2018.

(i)

4SC ACTIVE IN HIGH-PROSPECT  
AREAS OF CANCER RESEARCH

### 8.3 OPPORTUNITIES OF 4SC

#### Epigenetics and immune priming

Forecasts indicate that the epigenetics market is likely to grow an average of nearly 27% per year in the coming years and in 2018 reach a total volume of US-\$12 billion. As a pioneer and expert in the field of epigenetic cancer immunotherapy 4SC AG can benefit from this exponential growth. Both resminostat and 4SC-202 are products with an epigenetic mechanism of action.

There are also significant opportunities in the Company's "immune priming" activities. Activation and improvement of cancer patients' immune systems is currently one of the most important issues in the entire biotechnology industry. While this therapeutic approach is still in its infancy, the combination of epigenetic substances such as those of 4SC and immunotherapies is already considered to be very promising, and a cancer therapy that holds a lot of potential for the future. In 2016 4SC will deliver further data that could form the foundation of additional industry partnerships.

#### Senior management team strengthened

Among other steps, the considerable expansion of the Company's senior management team, for example in clinical development with the addition of new Chief Medical Officer (CMO) Dr Susanne Danhauser-Riedl, will contribute to 4SC's ability to increasingly take advantage of these opportunities. Senior management's key responsibilities include continually analyzing the market and competition as well as monitoring the scientific and clinical market environment in order to discover new alternative applications for 4SC's products. In addition, senior management is tasked with identifying opportunities for developing additional markets, such as the United States, with the aim of building a presence there and leveraging the existing opportunities on the ground.

(ii)

TARGETING NEW REGIONS

#### Project-related progress enhances the Company's enterprise value

Several of 4SC's products might reach important milestones in the short and medium term. In all likelihood, this will have a positive impact both on the assessment of individual programs and the measurement of the Company's aggregate value. This is true in particular if new clinical trials with compounds are started or such compounds successfully complete a study phase.

#### Single product candidates can generate several programs

In the past, 4SC's research and development programs have shown repeatedly that a single compound can be suitable for use in various indications. This can enlarge the product pipeline and increase the value of the respective project, which would result in risk diversification at 4SC. One such example is the oncological compound resminostat, which has been or is being evaluated by 4SC and its partner Yakult Honsha in clinical studies in a total of six different indications to date: liver cancer (HCC), Hodgkin's lymphoma (HL), colorectal cancer (CRC), non-small cell lung cancer (NSCLC) and, since 2015, pancreatic and biliary tract cancer. Due to the inflow of funds from the capital increase and the licensing and development agreement signed with Menarini AP in April 2015, 4SC has the opportunity to research the efficacy of resminostat more comprehensively, for instance in additional indications. Currently, the Company is focusing on further clinical research into resminostat in a seventh tumor indication, cutaneous T-cell lymphoma (CTCL).



### **External partnerships and licensing agreements enhance the Company's enterprise value**

4SC is involved in intensive and regular discussions with potential partners in the pharmaceutical industry. These days, pharmaceutical companies are entering into cooperation agreements and licensing partnerships for new products at increasingly earlier development stages. A number of factors contribute to this development. For one, many patents for existing products are expiring and, for another, there were setbacks in several development projects of pharmaceutical companies. As a result, partnerships between pharmaceutical and biotech companies are increasingly being structured to the benefit of the biotech industry. 4SC has benefited from this trend in the resminostat licensing deals with Yakult Honsha and Menarini AP. 4SC has programs in the stages of development that are interesting for pharmaceutical companies. Such partnerships may also validate 4SC's programs and – for example in the form of licensing revenue, upfront payments and milestone payments received as well as royalties – attest to the Company's business model and strengthen its results of operations, financial position and net assets.

### **Takeovers**

In addition to the in-licensing of compounds, pharmaceutical and biotech companies are also increasingly interested in acquiring entire companies to obtain access to promising compounds and noteworthy technologies. This trend has been underscored by very lively M&A activity in this industry in recent years. The premiums that are paid above such companies' current market value usually are significant. This could benefit 4SC's shareholders.

### **Licensing revenue from patents**

4SC's broad and well-positioned patent portfolio can generate additional licensing revenue if other developers are forced to use such patent rights in order to advance their own projects. Granting the use of its patent rights would enable 4SC to generate licensing revenue and improve its financial position, results of operations and net assets.

## **9. CORPORATE GOVERNANCE REPORT**

The Corporate Governance Report, the Statement on Corporate Governance pursuant to section 289a of the German Commercial Code (Handelsgesetzbuch, HGB) and the description of the Working Practices of the Management Board and the Supervisory Board have been published on the Company's website [www.4sc.com](http://www.4sc.com) under Corporate Governance in the Investors section.

Reference to

- a) Remuneration Report pursuant to sections 289 (2) no. 5 and 315 (2) no. 4 of the German Commercial Code in the Corporate Governance Report and in the notes in section 10;
- b) Takeover-related Disclosures pursuant to sections 289 (4) and 315 (4) of the German Commercial Code in the Corporate Governance Report and in the notes in section 7.11.

(i)

4SC AG GENERATES MOST OF THE CONSOLIDATED REVENUE AND ASSUMES KEY MANAGEMENT FUNCTIONS

## 10. COURSE OF BUSINESS OF 4SC AG (REFERRING TO THE HGB SINGLE-ENTITY FINANCIAL STATEMENTS)

The management report of the Group's parent, 4SC AG, and the Group management report of 4SC for the 2015 financial year have been combined in accordance with section 315(3) German Commercial Code (HGB) in conjunction with section 298(3) HGB. In addition to the reporting on the 4SC Group, we outline the development of 4SC AG. As a rule, the combined management report therefore also includes all mandatory components for 4SC AG.

4SC AG is the parent company of the 4SC Group with its headquarter in Planegg-Martinsried, Germany. Its operations are focused on the clinical development of new compounds. 4SC AG generated 70% of consolidated revenue in this area of business in 2015. The principal management functions of the entire Group are the responsibility of 4SC AG's Management Board. Among other things, the Management Board defines the Group strategy, allocates resources such as investment funds and is responsible for managing the Group's executives and finances. The Management Board of 4SC AG also makes decisions about communication with the Company's main target groups, especially with the capital markets, shareholders and business partners. 4SC AG's economic environment is largely identical to that of the Group and is described in section 2 of the combined management report. As at 31 December 2015, 4SC AG had 39 employees, including two Management Board members. The annual financial statements of 4SC AG have been prepared in accordance with the provisions of the German Commercial Code (HGB) and the German Stock Corporation Act (AktG).

### 10.1 RESULTS OF OPERATIONS OF 4SC AG (HGB)

#### Revenue

4SC AG's revenue amounted to €2,296 thousand in the 2015 financial year, a decrease of 39% compared with the previous year (2014: €3,778 thousand). The year-on-year change is due in particular to the milestone reached in the previous year in the partnership with Yakult Honsha as well as to significantly lower allocations of costs in connection with the production drive for the resminostat compound implemented during large parts of 2014 on behalf of Yakult Honsha.

Revenue comprised the proportional reversal of the deferred income recognized in connection with the partnerships entered into with Yakult Honsha and Menarini AP in 2011 and 2015 for resminostat in the amount of €1,085 thousand (2014: €894 thousand) as well as allocations to Yakult Honsha and Menarini AP of the costs to produce the resminostat compound totaling €1,211 thousand (2014: €2,884 thousand).

#### Other operating income

4SC AG's other operating income increased by 22% to €1,369 thousand (2014: €1,119 thousand). This item mainly includes income from cost allocations to affiliated companies – resulting from ongoing clearing transactions with 4SC Discovery GmbH, for example in the form of personnel expenses and project costs charged on – as well as income from sub-letting to CRELUX GmbH since June 2014, income from receivables already written off, investment grants and the reversal of provisions and expired liabilities.

### **Cost of materials**

The cost of materials fell by 45% to €1,053 thousand (2014: €1,903 thousand) and is associated with the production of the resminostat compound for Yakult Honsha. It mainly contains expenses for purchased services in the amount of €1,052 thousand (2014: €1,897 thousand).

### **Staff costs**

4SC AG's staff costs amounted to €3,464 thousand, up 4% from the prior year (2014: €3,332 thousand). The reasons for this are employee turnover as well as minor salary adjustments.

### **Amortization and write-downs of intangible fixed assets and depreciation and write-downs of tangible fixed assets**

Amortization and write-downs of intangible fixed assets and depreciation and write-downs of tangible fixed assets decreased by 3% to €800 thousand (2014: €822 thousand).

### **Other operating expenses**

4SC AG's other operating expenses fell 21% to €6,029 thousand (2014: €7,585 thousand). The major items here are third-party services provided by external and affiliated companies, legal and consulting costs, occupancy costs and investor relations costs.

### **Net finance income/loss**

4SC AG's net finance loss increased by €198 thousand to €335 thousand (2014: €137 thousand). This was mainly the result of increased interest expense for the shareholder loan received from Santo Holding (Deutschland) GmbH in 2014 and for an interest-bearing upfront payment for the manufacturing costs of the resminostat compound provided by Yakult Honsha, plus the interest on unconverted components of a tranche of the convertible bond issued to Yorkville.

### **Result from ordinary activities**

The result from ordinary activities fell by 8% to €-11,201 thousand compared with the previous year (2014: €-10,357 thousand).

### **Cost of loss absorption**

A loss of €7,768 thousand arose in 2015 from the control and profit transfer agreement based on which 4SC AG has absorbed the losses of 4SC Discovery GmbH since 2012 (2014: loss of €1,475 thousand).

### **Net profit/loss for the year**

The developments described drove up 4SC AG's net loss for the year by €5,397 thousand to €15,824 thousand (2014: €10,427 thousand). Together with the loss carried forward from the previous year in the amount of €126,144 thousand, the net accumulated losses thus amount to €141,968 thousand.

## 10.2 NET ASSETS OF 4SC AG (HGB)

### Fixed assets

4SC AG's fixed assets declined year-on-year to €17,203 thousand as at the reporting date (31 December 2014: €17,918 thousand). This reduction was mainly due to the pro-rata depreciation and amortization of fixed assets and the low level of new investments.

### Current assets

The growth in current assets to €23,088 thousand at the close of the 2015 financial year (31 December 2014: €3,165 thousand) was primarily attributable to the increase in the cash funds. This comprises the items securities as well as cash in hand and bank balances. In total, these two items increased to €22,500 thousand (31 December 2014: €2,803 thousand) as a result of the operating loss incurred by 4SC AG and the simultaneous addition of new capital from the corporate action completed in July 2015 and additional borrowed capital mainly through the shareholder loan.

### Equity

The significant growth in equity by €19,404 thousand to €25,822 thousand as at 31 December 2015 (31 December 2014: €6,418 thousand) was primarily due to the two corporate actions in July 2015, i.e. a cash capital increase and a capital increase in return for contributions in kind, less the net loss for the year of €15,824 thousand. The accumulated deficit therefore rose to €141,968 thousand (31 December 2014: €-126,144 thousand). Furthermore, there was a neutral reclassification within equity in connection with the capital reduction implemented in the second quarter through the 1-for-5 reverse stock split.

The equity ratio rose considerably by 33.6 percentage points from 30.2% as at 31 December 2014 to 63.8% as at 31 December 2015 as a consequence of the increase in equity and the corporate actions and the reduction of debt in connection with the capital increase in return for contributions in kind.

### Other provisions

The other provisions decreased by 52% to €658 thousand (31 December 2014: €1,382 thousand), largely due to the reduction in consulting services and outsourced scientific services.

### Liabilities

Liabilities rose slightly to €13,974 thousand as at 31 December 2015 (31 December 2014: €13,425 thousand). On account of the control and profit transfer agreement concluded with 4SC Discovery GmbH on 6 August 2012 with retroactive effect to 1 January 2012, the absorption of 4SC Discovery GmbH's loss of €7,768 thousand (31 December 2014: €-1,475 thousand) makes up the majority of the liabilities item. Added to this are €472 thousand (31 December 2014: €-1,089 thousand) resulting from ongoing clearing transactions with this subsidiary. There were also liabilities in the amount of €1,962 thousand (31 December 2014: €6,131 thousand) resulting from the shareholder loan from Santo Holding (Deutschland) GmbH. Furthermore, liabilities from the deferred income items were attributable to the upfront payments made by Yakult Honsha in 2011 and Menarini AP in 2015 in the amount of €2,597 thousand (31 December 2014: €2,682 thousand) and trade payables of €545 thousand (31 December 2014: €871 thousand).

### **Total assets/Total equity and liabilities**

Total assets/total equity and liabilities of 4SC AG amounted to €40,454 thousand as at 31 December 2015, up 91% on the figure at the end of the previous year (31 December 2014: €21,225 thousand). Opposing factors were at play here. The increase in available funds on account of the capital increase and the subsequent decrease in borrowings due to the capital increase in return for contributions in kind had a positive effect, while the reduction in equity as a result of the net loss for 2015 had a negative effect.

## **10.3 FINANCIAL POSITION OF 4SC AG (HGB)**

### **Cash flows from operating activities**

A total of €10,403 thousand was used for the operating activities of 4SC AG during the 2015 reporting period (2014: €-8,361 thousand). The difference compared with the loss from ordinary activities of €8,016 thousand (2014: €8,882 thousand) resulted largely from the following circumstances during the 2015 financial year: non-cash expenses such as straight-line depreciation and amortization or on the income side, the reduction in the deferred income item, and cash items such as the decrease in trade accounts receivable or the countervailing decline in trade accounts payable and other liabilities.

### **Cash flows from investing activities**

The cash outflows from investing activities in financial year 2015 amounted to €1,427 thousand (2014: €-968 thousand). The purchase of financial instruments used cash of €1,342 thousand (2014: cash inflow of €1,000 thousand). Additionally, the Company invested €85 thousand (2014: €100 thousand) in property, plant and equipment. No investments were made in intangible assets (2014: €3 thousand).

### **Cash flows from financing activities**

The cash inflows from financing activities in the reporting year amounted to €30,300 thousand (2014: €6,973 thousand). On the one hand, these comprised additional tranches of the €1,500 million shareholder loan (2014: €6,000 thousand). The cash capital increase of €29,000 thousand (gross) that was completed in July 2015 had the greatest positive effect. Repayment of the remaining debt of Yorkville's convertible bond amounting to €200 thousand (2014: €0) reduced this item.

### **Funds**

The cash funds amounted to €21,158 thousand at the reporting date. Since additional funds of €1,342 thousand were invested in borrower's note loans, the total funds of 4SC AG amounted to €22,500 thousand as at 31 December 2015 (31 December 2014: €2,803 thousand).

## **10.4 GENERAL STATEMENT REGARDING THE COMPANY'S ECONOMIC POSITION**

A key contributory factor to the decrease in cost of materials was the lower costs incurred to produce the resminostat compound for 4SC's cooperation partner, Yakult Honsha. However, the focus on clinical development and adjustment of personnel structures increased expenses somewhat compared with the prior year. The manufacturing costs allocated to Yakult Honsha were also lower. However, the absorption of a loss in the amount of €7,768 thousand (2014: €1,475 thousand) under the control and profit transfer agreement with 4SC Discovery triggered additional expenses. The Company had sufficient liquidity at all times during the 2015 financial year. The cash capital increase gave a significant and sustainable boost to the Company's

liquidity. The financing of the programs was not in jeopardy at any time. This was ensured in particular by the gross cash inflows of €29,000 thousand from the corporate action carried out successfully in July 2015, the agreements on convertible bonds of up to €15,000 thousand entered into with Yorkville in the previous year as well as by the shareholder loan with Santo Holding (Deutschland) GmbH of up to €10,000 thousand. The economic development of 4SC AG proceeded according to plan in the 2015 financial year and up until the preparation of the combined management report in the 2016 financial year.

### 10.5 EVENTS AFTER THE REPORTING PERIOD

The events after the reporting period are described in section 6 of the combined management report of the 4SC Group.

### 10.6 RISKS AND OPPORTUNITIES

The performance of 4SC AG is essentially subject to the same risks and opportunities as that of the 4SC Group. 4SC AG generally shares in the risks to which its equity investments and subsidiaries are exposed, corresponding to its stake in these companies. On account of statutory and contractual contingencies, the relationships to the equity investments and subsidiaries can also put pressure on 4SC AG. As the parent company of the 4SC Group, 4SC AG is part of the Group-wide risk management system. For more information please refer to section 8.1 of the combined management report.

A description of the internal control system for 4SC AG required by section 289(5) of the German Commercial Code is also provided in section 8.1.

4SC AG is also exposed to the following two risks:

#### **Risks from fair value adjustments in connection with the transfer of various assets from 4SC AG to 4SC Discovery GmbH**

In order to be able to commence operations with 4SC Discovery GmbH at the beginning of 2012, important tangible and intangible assets, particularly from the area of research, were transferred by way of contributions in kind from 4SC AG to 4SC Discovery GmbH. These assets were measured and capitalized at 4SC Discovery GmbH, triggering fair value adjustments amounting to €9,064 thousand at 4SC AG. Their carrying amount as at the closing date was €1,139 thousand.

If it is foreseeable that the Company will not succeed in providing sufficient liquidity for the further development of these products or will not be able to verify the marketability of the products, or should the further development of these products not be scientifically or technically feasible, the capitalized items will be re-tested for impairment and adjusted in value, if necessary. This could have a material adverse effect on the results of operations and financial position of 4SC AG according to HGB.

#### **Risks relating to a control and profit transfer agreement between 4SC AG and 4SC Discovery GmbH**

The control and profit transfer agreement concluded retrospectively to the beginning of financial year 2012 between 4SC AG and 4SC Discovery GmbH could be terminated early in certain circumstances, e.g. if the shareholder structure of 4SC Discovery GmbH were to change due to the addition of new external shareholders. A new control and profit transfer agreement could only be concluded and be relevant for tax purposes with the next Annual General Meeting and it is possible that 4SC AG's Annual General Meeting might not approve such an agreement again. This could mean that both companies might no longer be permitted to be consolidated at tax level which, in

turn, could have an adverse effect on the companies' results of operations, financial position and net assets. The same applies if, for example, a new shareholder of 4SC Discovery GmbH does not accept a new control and profit transfer agreement. Due to the control and profit transfer agreement, the poor business performance of 4SC Discovery GmbH can directly affect the business performance of 4SC AG, which in turn can adversely affect the Company's results of operations, financial position and net assets.

### 10.7 REPORT ON EXPECTED DEVELOPMENTS (OUTLOOK)

Expectations concerning 4SC AG's continued performance in the next two years are virtually identical to the outlook for the 4SC Group, which is described in detail in the report on anticipated developments for the Group in section 7.2. 4SC AG aims to generate cash inflows and increasing revenue by forging alliances in the form of development cooperation deals and licensing agreements for its clinical development programs. The planned increase, especially in research and development expenses, is predominantly due to the costs of preparing for and performing the planned Phase II clinical trial of resminostat in the CTCL indication and higher staff costs, particularly due to additions to the clinical team. As a result, the Company expects the net profit/loss from operations for 2016 and 2017 to deteriorate further year-on-year, and the cash burn rate and operating loss to increase again. 4SC projects continued annual net losses in the short to medium term as well.

4SC AG had funds of €22,500 thousand at the end of the 2015 financial year. Based on the statements in the Group's report on anticipated developments in section 7 and the control and profit transfer agreement with the wholly-owned subsidiary 4SC Discovery GmbH, the financing of the parent company, 4SC AG, is ensured beyond the first quarter of 2018. The Management Board of 4SC AG is careful to point out that should it prove impossible to generate sufficient additional cash flows with the planned operating income of 4SC AG or 4SC Discovery GmbH, especially in the form of cooperation deals or partnerships, additional capital requirements would have to be met by raising further equity and/or borrowings to ensure the Company's continued existence in the long term.

As the parent company of the 4SC Group, 4SC AG expects to be able to benefit from the assumed positive development of the 4SC Group in 2015 and beyond.

### 10.8 PUBLICATION

The annual financial statements of 4SC AG prepared in accordance with the provisions of the German Commercial Code and the German Stock Corporation Act and the combined management report are published in the electronic Federal Gazette.

Planegg-Martinsried, 11 March 2016

The Management Board:

Enno Spillner  
Chairman of the Management Board

Dr Daniel Vitt  
Member of the Management Board

(i)  
POSITIVE OUTLOOK

# CONTENTS

## FINANCIAL REPORT

<b>IFRS CONSOLIDATED FINANCIAL STATEMENTS</b>	78
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME	78
CONSOLIDATED STATEMENT OF FINANCIAL POSITION – ASSETS	79
CONSOLIDATED STATEMENT OF FINANCIAL POSITION – EQUITY AND LIABILITIES	79
CONSOLIDATED STATEMENT OF CASH FLOWS	80
CONSOLIDATED STATEMENT OF CHANGES IN EQUITY	81
<b>NOTES TO THE IFRS CONSOLIDATED FINANCIAL STATEMENTS</b>	82
1. GENERAL DISCLOSURES	82
1.1 Parent company	82
1.2 Companies included in the consolidated financial statements	82
1.3 Changes in the group of consolidated companies	83
1.4 Release of the financial statements	83
2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES	83
2.1 Basis of preparation	83
2.2 Principles of consolidation	84
2.3 Effects of the application of new standards	84
2.4 Key accounting policies	85
2.5 Use of estimates	94
3. SEGMENT REPORTING	95
4. DISCLOSURES ON THE CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME	97
4.1 Revenue	97
4.2 Staff costs	97
4.3 Cost of sales	98
4.4 Distribution costs	99
4.5 Research and development costs	99
4.6 Administrative costs	100
4.7 Other income	100
4.8 Depreciation and impairment losses	100
4.9 Net finance income/loss	101
5. INCOME TAX, DEFERRED TAXES AND WITHHOLDING TAX	102
6. EARNINGS PER SHARE	104



7.	DISCLOSURES ON THE STATEMENT OF FINANCIAL POSITION	105
7.1	Intangible assets	105
7.2	Property, plant and equipment	106
7.3	Investments accounted for using the equity method	107
7.4	Other investments	108
7.5	Inventories	109
7.6	Trade accounts receivable	109
7.7	Receivables from associates	109
7.8	Cash and cash equivalents	110
7.9	Current income tax assets	110
7.10	Other assets	110
7.11	Equity	111
7.12	Trade accounts payable	114
7.13	Accounts payable to associates	114
7.14	Other liabilities and deferred income	114
7.15	Other disclosures on financial instruments	116
7.16	Other financial obligations	119
8.	DISCLOSURES ON THE STATEMENT OF CASH FLOWS	120
9.	STOCK OPTION PROGRAMS	121
10.	REMUNERATION OF THE MANAGEMENT BOARD AND THE SUPERVISORY BOARD	122
10.1	Management Board	122
10.2	Supervisory Board	124
11.	OTHER INFORMATION	126
11.1	Related party transactions	126
11.2	Corporate Governance Code pursuant to section 285 no. 16 German Commercial Code	127
11.3	Reportable equity investment pursuant to section 160(1) no. 8 German Stock Corporation Act	128
11.4	Auditor's fees pursuant to section 314(1) no. 9 German Commercial Code	128
11.5	Average number of employees pursuant to section 314(1) no. 4 German Commercial Code	128
12.	EVENTS AFTER THE REPORTING PERIOD	129
	<b>AUDITOR'S REPORT</b>	130
	<b>RESPONSIBILITY STATEMENT</b>	131
	<b>EXCERPT FROM THE ANNUAL FINANCIAL STATEMENTS OF 4SC AG (HGB)</b>	132
	INCOME STATEMENT	132
	BALANCE SHEET	133

# IFRS CONSOLIDATED FINANCIAL STATEMENTS

for the year from 1 January to 31 December 2015

## // CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

in € 000's

	Notes	2015	2014
Revenue	4.1	3,266	7,055
Cost of sales	4.3	-1,763	-4,080
<b>Gross profit</b>		<b>1,503</b>	<b>2,975</b>
Distribution costs	4.4	-348	-846
Research and development costs	4.5	-7,255	-8,504
Administrative costs	4.6	-2,999	-3,120
Other income	4.7	184	58
<b>Operating profit/loss</b>		<b>-8,915</b>	<b>-9,437</b>
<b>Net finance income/loss</b>			
Share in the profit of equity-accounted investees	4.9	58	39
Finance income	4.9	24	6
Finance costs	4.9	-355	-234
<b>Net finance income/loss</b>		<b>-273</b>	<b>-189</b>
<b>Earnings before taxes</b>		<b>-9,188</b>	<b>-9,626</b>
Income tax expense	5.	-40	-70
<b>Profit/loss for the period = Consolidated comprehensive income/loss</b>		<b>-9,228</b>	<b>-9,696</b>
<b>Earnings per share (basic and diluted; in €)</b>	6.	<b>-0.64</b>	<b>-0.95*</b>

\* To facilitate comparability, the number of shares used for the calculation of the 2014 figure was adjusted to reflect the capital reduction and reverse stock split carried out in 2015.

See the attached notes.

## // CONSOLIDATED STATEMENT OF FINANCIAL POSITION - ASSETS

in € 000's

	Notes	31.12.2015	31.12.2014
<b>Non-current assets</b>			
Intangible assets	7.1	9,123	9,836
Property, plant and equipment	7.2	357	425
Investments accounted for using the equity method	7.3	278	220
Other investments	7.4	1,318	0
Other assets	7.10	1	158
<b>Total non-current assets</b>		<b>11,077</b>	<b>10,639</b>
<b>Current assets</b>			
Inventories	7.5	20	25
Trade accounts receivable	7.6	94	652
Receivables from associates	7.7	8	23
Cash and cash equivalents	7.8	21,476	3,202
Current income tax assets	7.9	1	18
Other assets	7.10	816	375
<b>Total current assets</b>		<b>22,415</b>	<b>4,295</b>
<b>Total assets</b>		<b>33,492</b>	<b>14,934</b>

See the attached notes.

## // CONSOLIDATED STATEMENT OF FINANCIAL POSITION - EQUITY AND LIABILITIES

in € 000's

	Notes	31.12.2015	31.12.2014
<b>Equity</b>			
Subscribed capital		18,967	50,849
Share premium		143,829	78,339
Reserves		1,816	1,818
Accumulated deficit		-138,184	-128,956
<b>Total equity</b>	7.11	<b>26,428</b>	<b>2,050</b>
<b>Non-current liabilities</b>			
Liabilities to shareholders	7.14	0	6,131
Other liabilities	7.14	38	123
Deferred income	7.14	1,433	1,788
<b>Total non-current liabilities</b>		<b>1,471</b>	<b>8,042</b>
<b>Current liabilities</b>			
Trade accounts payable	7.12	688	993
Accounts payable to associates	7.13	0	6
Liabilities to shareholders	7.14	1,962	0
Convertible notes issued	7.14	0	317
Other liabilities	7.14	1,779	2,632
Deferred income	7.14	1,164	894
<b>Total current liabilities</b>		<b>5,593</b>	<b>4,842</b>
<b>Total equity and liabilities</b>		<b>33,492</b>	<b>14,934</b>

See the attached notes.

## // CONSOLIDATED STATEMENT OF CASH FLOWS

in € 000's

	Notes	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Earnings before taxes		-9,188	-9,626
<b>Adjustment for statement of comprehensive income items</b>			
Depreciation, amortization and impairment losses	4.8	1,003	1,095
Net finance income/loss		273	189
Stock options		-2	3
Other non-cash items		21	-97
<b>Changes in statement of financial position items</b>			
Inventories		5	-2
Trade accounts receivable		558	-306
Receivables from associates		15	-23
Current income tax assets		17	55
Other assets		-284	397
Trade accounts payable		-305	318
Accounts payable to associates		-6	-22
Other liabilities		-938	1,041
Deferred income		-85	-1,324
Interest received		7	5
Interest paid		-9	-5
Income taxes paid		-40	-70
<b>TOTAL CASH FLOWS FROM OPERATING ACTIVITIES</b>	<b>8.</b>	<b>-8,958</b>	<b>-8,372</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Purchase of intangible assets		-114	-3
Purchase of property, plant and equipment		-109	-100
Purchase of financial investments		-1,318	0
Sale of financial investments		0	1,000
<b>TOTAL CASH FLOWS FROM INVESTING ACTIVITIES</b>		<b>-1,541</b>	<b>897</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>			
Payments to subscribed capital	8.	7,297	477
Payments to share premium		20,311	-16
Payments for/from the repayment/issuance of convertible bonds		-335	317
Payments of shareholder loans		1,500	6,000
<b>TOTAL CASH FLOWS FROM FINANCING ACTIVITIES</b>	<b>8.</b>	<b>28,773</b>	<b>6,778</b>
<b>NET CHANGE IN CASH AND CASH EQUIVALENTS</b>		<b>18,274</b>	<b>-697</b>
+ Cash and cash equivalents at the beginning of the period		3,202	3,899
<b>= CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD</b>		<b>21,476</b>	<b>3,202</b>

See the attached notes.

The consolidated statement of cash flows was prepared in accordance with the provisions of IAS 7.

## // CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

in € 000's

	Consolidated notes	Subscribed capital	Share premium	Reserves		Accumulated deficit	Total
				Reserves stock options	Retained earnings		
<b>Balance on 01.01.2014</b>		<b>50,372</b>	<b>78,355</b>	<b>1,748</b>	<b>67</b>	<b>-119,260</b>	<b>11,282</b>
Options issued (ESOP 2009/2010)				2			2
Options issued (ESOP 2009/2011)				1			1
Capital increase from the conversion							
of convertible bonds	7.11	477	-16				461
Consolidated comprehensive income/loss 2014						-9,696	-9,696
<i>Consolidated profit/loss 2014</i>						-9,696	-9,696
<b>Balance on 31.12.2014</b>		<b>50,849</b>	<b>78,339</b>	<b>1,751</b>	<b>67</b>	<b>-128,956</b>	<b>2,050</b>
<b>Balance on 01.01.2015</b>		<b>50,849</b>	<b>78,339</b>	<b>1,751</b>	<b>67</b>	<b>-128,956</b>	<b>2,050</b>
Options issued (ESOP 2009/2010)				-2			-2
Options issued (ESOP 2009/2011)				0			0
Capital increase from the conversion							
of convertible bonds	7.11	47	88				135
5:1 capital reduction		-40,679	40,679				0
Capital increase 08.07.2015		7,250	20,276				27,526
Non-cash capital increase 17.07.2015		1,500	4,447				5,947
Consolidated comprehensive income/loss 2015						-9,228	-9,228
<i>Consolidated profit/loss 2015</i>						-9,228	-9,228
<b>Balance on 31.12.2015</b>		<b>18,967</b>	<b>143,829</b>	<b>1,749</b>	<b>67</b>	<b>-138,184</b>	<b>26,428</b>

See the attached notes.

For more information on components and changes in equity, see item "7.11 Equity" of the notes.

# NOTES TO THE IFRS CONSOLIDATED FINANCIAL STATEMENTS

for the financial year from 1 January to 31 December 2015

## 1. GENERAL DISCLOSURES

### 1.1 PARENT COMPANY

The consolidated financial statements of 4SC comprise 4SC AG as the parent company, which is headquartered at 82152 Planegg-Martinsried, Germany, Am Klopferspitz 19a, and has been recorded in the Commercial Register of the Munich District Court under HRB no. 132917, and the following wholly owned and fully consolidated subsidiary:

- 4SC Discovery GmbH, Planegg-Martinsried, Germany

The purpose of 4SC AG is the identification, research and optimization of drugs and the development, use and marketing of chemical, biotechnological and computer processes.

4SC AG is authorized to engage in all transactions that are expedient to and foster the achievement of the corporate purpose. For this purpose, the Company is also permitted to found, acquire or obtain equity interests in and assume the management of other enterprises domestically and abroad, lease companies or business operations, enter into intercompany agreements, particularly profit transfer and control agreements, and establish branch offices and other outlets domestically and abroad.

### 1.2 COMPANIES INCLUDED IN THE CONSOLIDATED FINANCIAL STATEMENTS

4SC AG consolidates 4SC Discovery GmbH (together the Group or 4SC) as an affiliated in accordance with IFRS 10.

4SC Discovery GmbH was recorded in the Munich Commercial Register on 14 December 2011 and commenced operations on 1 January 2012. The object of this company is the identification, investigation and optimization of new compounds and therapeutic agents, in the form of both research services and proprietary compounds, as well as the development and marketing of innovative chemical, biotechnology and computer simulation processes for the development of drug candidates. This company shares the premises of 4SC AG. In a capital increase in return for contributions in kind, both tangible and intangible assets belonging to the research activities of 4SC AG were transferred to the subsidiary. Assets comprise all those projects and products including the related intellectual property (IP) rights, for which no early development candidate (EDC) has been defined yet as well as 4SC's proprietary technology platforms for modeling, screening and drug discovery and optimization.

The following companies were also taken into account in these financial statements:

Company / Domicile	Measured as	Measured acc. to
Panoptes Pharma Ges.m.b.H., Vienna, Austria	Associate	IAS 28
quattro research GmbH, Planegg-Martinsried, Germany	Associate	IAS 28

### **1.3 CHANGES IN THE GROUP OF CONSOLIDATED COMPANIES**

In 2015, there were no changes in the group of consolidated companies compared with the previous year.

### **1.4 RELEASE OF THE FINANCIAL STATEMENTS**

The Management Board approved the consolidated financial statements for release on 11 March 2016. The Supervisory Board is authorized to revise the consolidated financial statements after approval by the Management Board.

## **2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

### **2.1 BASIS OF PREPARATION**

These consolidated financial statements were prepared pursuant to section 315a of the German Commercial Code (Handelsgesetzbuch, HGB) and in accordance with the accounting principles of the International Financial Reporting Standards (IFRS) - as adopted by the EU - and pursuant to the requirements of the International Accounting Standards Board (IASB). The recommendations of the Standing Interpretations Committee (SIC) and the International Financial Reporting Interpretations Committee (IFRIC) have been taken into account. All of the IFRSs and IFRICs adopted by the European Commission have been taken into account; IFRS and IFRIC not yet adopted, however, have not yet been taken into account. New standards issued by the IASB and adopted by the European Commission are applied without exception starting in the financial year in which their application becomes mandatory.

Due to the factors explained under 8.2.7 in the combined management report, these financial statements were prepared on the assumption that the Company will continue operating as a going concern.

The financial year corresponds to the calendar year. The consolidated financial statements are prepared in euros. The degree of precision used in the presentation is thousands of euros (€000's). Differences may result from commercial rounding of exact figures.

The consolidated statement of financial position is broken down into current and non-current assets and liabilities; the statement of comprehensive income has been prepared using the cost of sales method. Where items in the consolidated statement of financial position and in the consolidated statement of comprehensive income are summarized in the interests of clarity, this is explained in the consolidated notes.

4SC classifies assets and liabilities as current if they are expected to be liquidated or redeemed within twelve months following the reporting date, if they are held primarily for trading purposes, or if they constitute cash and cash equivalents.

## 2.2 PRINCIPLES OF CONSOLIDATION

All intra-group transactions are eliminated; revenue, expenses, and earnings, as well as receivables and liabilities between the Group companies, are offset against each other.

## 2.3 EFFECTS OF THE APPLICATION OF NEW STANDARDS

### Initial mandatory application

The following standards amended or newly issued by the IASB which must be applied to the consolidated financial statements for the period ended 31 December 2015 affect the consolidated financial statements of 4SC as follow:

Standard Interpretation*	Title	Effective date for annual periods beginning on	Adopted by the EU	Effects on 4SC**
GAS 21	Statement of Cash Flows	01.01.2015	Yes	None
IAS 19 (A)	Defined Benefit Plans: Employee Contributions	01.02.2015	Yes	None
IFRIC 21	Levies	17.06.2014	Yes	None
	IFRS Annual Improvements Cycle 2010-2012	01.02.2015	Yes	None
	IFRS Annual Improvements Cycle 2011-2013	01.07.2014	Yes	None

\* (A) Amended.

\*\* Standards marked "Yes" are considered likely to affect the consolidated financial statements and are currently being reviewed by the Group. No material effects on the consolidated financial statements are expected from those marked "None".

### Accounting standards issued, but not yet applied

The IASB recently issued the following new or amended standards relevant to 4SC from the current perspective. However, since these standards are not required to be applied and have not yet been adopted by the EU, they were not applied to the consolidated financial statements for the period ended 31 December 2015. The new standards or amendments to existing standards must be applied in annual periods beginning on or after their effective date. They are not usually applied earlier, even though some standards permit this.



Standard Interpretation*	Title	Effective date for annual periods beginning on	Adopted by the EU	Effects on 4SC**
IFRS 9	Financial Instruments	01.01.2018	No	Yes
IFRS 14	Regulatory Deferral Accounts	01.01.2016	No	None
IFRS 15	Revenue from Contracts with Customers	01.01.2018	No	Yes
IFRS 10 and IAS 28 (A)	Sales or Contributions of Assets between an Investor and Its Associate/ Joint Venture	01.01.2016	No	None
IFRS 10, 12 and IAS 28 (A)	Investment Entities: Applying the Consolidation Exception	01.01.2016	No	None
IFRS 11 (A)	Accounting for Acquisitions of Interests in Joint Operations	01.01.2016	Yes	None
IAS 16 and IAS 38 (A)	Clarification of Acceptable Methods of Depreciation and Amortization	01.01.2016	Yes	None
IAS 16 and IAS 41 (A)	Bearer Plants	01.01.2016	Yes	None
IAS 27 (A)	Equity Method in Separate Financial Statements	01.01.2016	Yes	None
	IFRS Annual Improvements Cycle 2012–2014	01.01.2016	Yes	None
IAS 1 (A)	Disclosure Initiative	01.01.2016	Yes	None

\* (A) Amended.

\*\* Standards marked "Yes" are considered likely to affect the consolidated financial statements and are currently being reviewed by the Group. No material effects on the consolidated financial statements are expected from those marked "None".

\*\*\* For annual periods beginning on or after the date.

Moreover, some additional standards and interpretations have been issued which are not relevant to the consolidated financial statements from today's perspective.

## 2.4 KEY ACCOUNTING POLICIES

The following accounting policies were of significance in preparing these consolidated financial statements. 4SC applied these accounting policies uniformly for similar transactions, other events and contingencies.

### Foreign currency items

Foreign currency transactions are initially measured by using the spot exchange rate applicable at the respective transaction date (IAS 21.21). On each reporting date, monetary items in a foreign currency are translated at the closing rate in accordance with IAS 21.23. In contrast, non-monetary items that were measured in terms of historical cost in a foreign currency are translated using the exchange rate prevailing on the date of the transaction.

Exchange differences arising on translating monetary items at rates different from those at which they were translated on initial recognition are recognized in profit or loss in the period in which they arise in accordance with IAS 21.28. They are shown under net finance income/loss.

### Intangible assets

Intangible assets acquired are recognized in accordance with IAS 38. They are initially recognized at cost, if the recognition requirements of IAS 38.18 are met. Intangible assets

are subsequently recognized at cost less accumulated amortization using the straight-line method or less impairment losses.

Research costs are expensed in the period incurred in accordance with IAS 38.54. Development costs are recognized if the criteria in accordance with IAS 38.57 are met. Given the risks existing until commercialization, 4SC does not fully meet the requirements of IAS 38.57 for recognizing internally generated intangible assets. Developments costs are therefore also expensed in the period in which they are incurred. The useful lives of and depreciation methods applied to intangible assets are reviewed and adjusted as necessary at the end of each financial year.

### **Goodwill**

Goodwill reported in the consolidated statement of financial position under intangible assets results from merging the original 4SC GmbH into 4SC AG in the year 2000. Goodwill was recognized at cost and amortized using the straight-line method based on a useful life of ten years until the end of financial year 2004. The provisions of IFRS 3 have been adopted for financial years starting on or after 1 January 2005. Accordingly, amortization of goodwill has been discontinued since the 2005 financial year; instead, goodwill is tested for impairment once a year in accordance with IAS 36 ("impairment test"). An impairment loss is recognized on goodwill if the recoverable amount is lower than the carrying amount of the asset. The recoverable amount of an asset is the higher of the asset's fair value less costs to sell and its value in use. As goodwill does not generate independent cash flows, the recoverable amount is determined for the cash-generating unit relevant to such goodwill, or to which it can be most appropriately attributed.

4SC allocates this goodwill to the vidofludimus project as the smallest possible cash-generating unit for the purpose of impairment testing. For impairment test purposes, the value in use of the project is compared with the carrying amount of the goodwill. A risk-adjusted cash flow forecast is prepared for determining the value in use. The cash flows determined are discounted applying a risk-adjusted discount rate in line with market conditions.

In accordance with IAS 38.118, the development of intangible assets is shown in the statement of changes in non-current assets under item "7.1 Intangible assets".

### **Property, plant and equipment**

Property, plant and equipment are recognized at cost less cumulative depreciation using the straight-line method. The carrying amounts of property, plant and equipment are tested for impairment whenever there are indications that an asset's carrying amount may exceed its recoverable amount. IAS 36.6 defines recoverable amount as the higher of an asset's fair value less costs to sell and its value in use. The useful lives of and depreciation methods applied to property, plant and equipment are reviewed and adjusted as necessary at the end of each financial year.

Maintenance and repairs are expensed as incurred while replacements and improvements, if the item qualifies for recognition as an asset, are recognized. Gains resulting from the sale or retirement of fixed assets are recognized in other operating income, losses from the sale or retirement of fixed assets are recognized under the area of activity concerned.

In accordance with IAS 16.73, the development of property, plant and equipment is shown in the statement of changes in non-current assets under item "7.2 Property, plant and equipment".

### **Equity investments**

As at the reporting date, 4SC has equity interests in two companies via 4SC AG and in one company via 4SC Discovery GmbH; these are recognized as associates in accordance with IAS 28 or as investments in accordance with IAS 39 depending on the degree of influence 4SC AG has in each case.

The company quattro research GmbH, Planegg-Martinsried, Germany, in which 4SC holds a 48.8% stake, was founded as an independent entity at the beginning of January 2004. 4SC has a significant but not controlling influence on the company's business policy as it only appoints one of the three Advisory Board members. The stake held in the entity is thus recognized as an associate using the equity method in accordance with IAS 28. The reporting date and accounting policies employed for similar business transactions and events are the same for 4SC AG and this associate. If quattro research GmbH posts losses, the carrying amount of this equity investment could fall to € nil.

In early July 2013, 4SC Discovery GmbH sold the worldwide, exclusive rights to its substance SC53842 and its derivatives to Panoptes Pharma Ges.m.b.H., Vienna, Austria. This substance will be developed by Panoptes for eye diseases, but can also be used in other indications with the exception of inflammatory bowel disease (IBD) and rheumatoid arthritis (RA) for which 4SC Discovery GmbH retains the rights. In return, 4SC Discovery GmbH received a direct equity investment of 24.9% as well as claims to later performance-based milestone payments and royalties based on the sales revenue generated with the compound. In October 2015 financing at Panoptes Pharma Ges.m.b.H, Vienna, in which 4SC Discovery GmbH did not participate diluted the company's interest to 22.1%. It has no controlling influence on the company's business policy as it only appoints one of the three Advisory Board members. The stake held in the entity is thus recognized as an associate using the equity method in accordance with IAS 28. The reporting date and accounting policies employed for similar business transactions and events are the same for 4SC AG and this associate. The carrying amount of the equity investment takes account of all risks as at the reporting date.

### **Inventories**

Inventories of raw materials and consumables are recognized at the lower of cost and net realizable value in accordance with IAS 2.9. The FIFO method is applied for allocation purposes in accordance with IAS 2.27.

**Trade accounts receivable**

Trade accounts receivable are recognized at the original invoiced amount less allowances for bad debts. These allowances for bad debts are based on the management's assessment of the recoverability of specific customer accounts receivable and are made insofar as there are objective indications that the amounts due will not be paid in full in accordance with the invoice terms originally agreed.

**Receivables from associates**

Accounts receivable from associates are recognized at cost less an allowance for bad debts. Cost either corresponds to the value of the consideration at the effective date or is measured at the amount in which reimbursement is expected.

Allowances for bad debts are based on the management's assessment of the recoverability of specific accounts receivable and are made insofar as there are objective indications that the amounts due will not be paid in full in accordance with the terms originally agreed.

**Other financial assets**

The other financial assets are financial instruments as defined by IAS 39. Depending on the individual case, they are classified as follows:

- financial assets at fair value through profit or loss
- available-for-sale financial assets
- held-to-maturity financial assets

Classification of financial assets into measurement categories is made on initial recognition.

Financial instruments accounted for at fair value through profit or loss include securities which are allocated to the category "held for trading". Gains and losses from subsequent measurement are recognized in profit or loss in accordance with IAS 39.55a.

Financial instruments that are categorized as "available for sale" are measured at fair value. The resulting gains and losses from measurement at fair value - with the exception of impairment losses in accordance with IAS 39.67 ff - are recognized directly in equity under revaluation surplus as per IAS 39.55b until the financial asset is derecognized. At that point in time, the cumulative gain or loss previously recorded in equity is reclassified to profit or loss. However, the interest calculated using the effective interest method is recognized in profit or loss. This measurement also applies to the equity investments in Quiescence Technologies LLC, which are also classified as available for sale in accordance with IAS 39.

Financial instruments classified as held to maturity are initially measured in accordance with IAS 39.43 at fair value including transaction costs that are directly attributable to the acquisition of the financial instruments. In accordance with IAS 39.46b, the instruments are subsequently measured at amortized cost using the effective interest method.

The carrying amounts of these financial assets are reviewed at regular intervals or at least at every reporting date as to whether there is an active market for the respective assets and whether there are objective indications of impairment. With regard to equity instruments, a significant or long-term reduction of fair value is an objective indication of impairment. Such an impairment loss is expensed immediately.

In accordance with IAS 1.60, financial instruments are classified as non-current or current assets, depending on their remaining life as at the reporting date. Financial instruments with a remaining life of more than one year as at the reporting date are shown as other investments among non-current assets. Financial instruments with a remaining life on the reporting date of less than one year are shown as other financial assets among current assets, insofar as they do not meet the recognition criteria as defined by IAS 7.7. Analogous to the financial instruments as defined by IAS 39, fixed deposits that have a term of more than three months calculated from the date of acquisition are shown as other financial assets. If the other financial assets meet the recognition criteria as defined by IAS 7.7, they are shown as cash equivalents.

#### **Other assets**

Other assets comprise all receivables that are not shown as separate items in the statement of financial position. They are measured at an amount equivalent to the anticipated level of reimbursement.

#### **Cash and cash equivalents**

Cash consists of cash on hand, bank balances and short-term time deposits. Cash equivalents comprise other short-term and highly liquid investments with a term of no more than three months calculated from the date of acquisition, which are subject only to insignificant fluctuations in value. Receivables recognized at their nominal value.

#### **Stock options**

The accounting for stock options granted to employees and the Management Board is handled according to the guidelines of IFRS 2 Share-based Payment. Under IFRS 2, the Company is required to spread the estimated fair values of stock options and other benefits at the measurement date as remuneration cost over the period in which the employees provide the services associated with the grant of equity instruments.

**Trade accounts payable/accounts payable to associates**

Trade accounts payable and accounts payable to associates are current liabilities in accordance with IAS 1.60 and are accordingly carried at their settlement amount. They are derecognized when the underlying obligation has been discharged or expires.

**Provisions and accruals**

Provisions and accruals are recognized in accordance with IAS 37.14 whenever current legal or factual obligations exist arising from a historical event, an outflow of resources is probable and a reliable estimate of the obligation is possible.

According to IAS 37.11, provisions can be distinguished from accruals because there is uncertainty about the timing or amount of the future expenditure required in settlement. Accruals are recognized according as part of other liabilities, whereas provisions are reported separately.

Where a provision entails a range of possible outcomes, and each point in that range is as likely as any other, the mid-point of the range is used in accordance with IAS 37.39.

**Other liabilities**

In addition to accruals, other liabilities also comprise all payment obligations of the Company that are not shown as separate items in the statement of financial position. They are carried at their settlement amount.

**Convertible notes issued**

4SC entered into an agreement with YA Global Master SPV Ltd. (“Yorkville”) in which Yorkville undertakes to subscribe to convertible notes in the amount of up to €15,000 thousand.

Under the terms of the agreement, Yorkville is obligated until 31 December 2016 to purchase convertible notes in a total nominal amount of €15 million at an issue price corresponding to 95% of the nominal amount if 4SC AG requests so. 4SC AG may issue the convertible notes in tranches of €500 thousand each at its discretion. Each tranche comprises 500 bearer notes carrying equal rights, each with a nominal value of €1 thousand, which may be transferred without the Company’s approval. The convertible notes will only be issued and may only be traded in lots with a total nominal value of at least €125 thousand.

The convertible bonds carry no interest, have a term of up to nine months and may be converted into shares of 4SC by the bearer at any time. The conversion price equals the volume-weighted average trading price of 4SC shares during a five-day period prior to the time of conversion, less a 5% discount, but it cannot be lower than 80% of the closing price of 4SC shares during the five-day period prior to the Management Board’s resolution to issue the convertible notes.

The convertible notes will be issued without pre-emptive rights of the existing shareholders.

The proceeds from the issuance of these convertible notes provide key support for ensuring the Company's funding in the short and medium term.

The first two tranches of €500 thousand each were issued exclusively to Yorkville in March and September 2014 excluding the pre-emptive rights of existing shareholders at a subscription price of 95% of the nominal amount. These tranches generated aggregate proceeds of €950 thousand for 4SC after deducting a 5% discount for Yorkville. A total of 524,197 new no-par value bearer shares of the Company were converted from the two tranches.

In principle, the convertible notes are compound financial instruments that are divided into a repayment obligation (debt component) and a conversion right (equity component). The full amount of the convertible notes has been classified as a debt component because the conversion rate was not determined beforehand. Transaction costs of €339 thousand incurred when the convertible note was issued; they were deducted and recognized as interest expense over the term of the bond. In the reporting year, interest income of €44 thousand (2014: € -85 thousand) was recognized in profit or loss due to the early repayment of the individual notes.

#### **Loan agreement with Santo Holding (Deutschland) GmbH**

In June 2014, 4SC AG agreed a loan of up to €10,000 thousand with its main shareholder, Santo Holding (Deutschland) GmbH. This loan is earmarked for financing the costs of preparing for the planned clinical development of resminostat and for covering part of the Company's ongoing administrative costs. The loan, which carries interest of 8% p.a., runs until the end of 2016 (maturity date) and could be drawn down in tranches up to 31 December 2015. Both early repayment and a reduction in the available loan amounts are possible under certain conditions. If the loan is not repaid until the end of its term, 4SC AG has granted Santo Holding (Deutschland) GmbH options for acquiring 4SC Discovery GmbH or certain assets of this subsidiary. Under certain circumstances, there is also a possibility that a loan repayment could be made by issuing new shares as part of a potential capital increase. A total of €1,500 thousand (2014: €6,000 thousand) flowed to 4SC AG from this financing agreement in the 2015 financial year. Furthermore, at the beginning of July 2015, 1,500,000 consideration shares were issued at an issue price of €4.00 in return for contributions in kind for the purpose of settling the material portion of €6,000 thousand of the existing shareholder loan from Santo Holding (Deutschland) GmbH.

#### **Deferred income**

Unless all criteria for recognition as revenue are met, non-refundable upfront payments received in connection with out-licensing agreements concluded are reported as deferred income, which is recognized in profit or loss over the probable development life of the products or the option period.

### Income tax

The actual tax liabilities arising from income taxes for the current and previous periods are to be recognized as liabilities pursuant to IAS 12.12 for the amounts as yet unpaid. In the event that the amount incurred and already paid for the current or previous period exceeds that owed for the period concerned, the difference is to be recognized as an asset. The refund claims or liabilities are measured at the amount corresponding to the expected level of refund from the tax authorities or payment to the tax authorities. The given amount is calculated on the basis of the tax rates and laws applicable as at the reporting date.

Deferred taxes are accounted for in the statement of financial position in accordance with IAS 12. They are recognized on the basis of temporary differences in the recognition of assets and liabilities between the IFRS financial statements and the tax accounts. To this end, those tax rates are used which apply on the reporting date or such future tax rates as have already been announced. Deferred tax assets on unused tax losses are carried as assets pursuant to IAS 12.34 in an amount corresponding to the resulting deferred tax liability if it is probable that a future taxable profit will be available in order to realize the claim. In accordance with IAS 1.56, deferred tax assets and liabilities must not be shown as current assets and liabilities.

### Revenue recognition

The business model of 4SC is aimed at generating revenue from licensing agreements (depending on the design of the given contract in the form of upfront payments, milestone payments, cost reimbursements under a development cooperation, and royalties). 4SC generates additional revenue by making both the technology platform and know-how available as a service package to partners and customers in the pharmaceutical and biotechnology industry under cooperation agreements through the subsidiary, 4SC Discovery GmbH.

Upfront payments are due as prepayments at the start of a given development cooperation. Revenue recognition requires an analysis of the overall circumstances and is therefore contingent on the content of the relevant contract. Providing all conditions in IAS 18.14 have been satisfied, revenue is recognized when the service has been rendered and the material risks of ownership have been transferred to the customer. Where individual conditions have not been met, upfront payments are recognized as deferred income. The income is then reversed to profit or loss on a pro-rata basis over the term of the contract, the expected development period or based on the terms of the agreed options.

Milestone payments are contingent upon the achievement of contractually stipulated targets. The attainment of these milestones depends largely on meeting specific requirements, so that the resulting revenue is only posted as such once contractual milestones have been fully achieved and, if agreed, has been confirmed by the business partner.

Royalties are income from the sale of products and product candidates in connection with research performed pursuant to cooperation agreements. Royalties are recognized as revenue as at the date upon which the cooperation partner generates external sales



that result in royalties. Income from licenses granted for specific, contractually-defined periods is deferred and recognized as revenue pro rata temporis over the duration of the license.

Irrevocably sold licenses are posted as revenue for the full amount as at the date of transfer of usage rights if no further obligations exist for 4SC.

Sales from cooperation agreements are accounted for under research services rendered in connection with the cooperation contracts concerned. The given amounts are in general calculated in line with their service character on the basis of flat sums per scientist service billed (full-time equivalent, FTE). Settlement for the services rendered is recognized as trade accounts receivable until payment by the customers. Amounts received prior to the rendering of services are recognized as advances received before being reversed to profit or loss as at each reporting date in accordance with the current progress of services rendered as per project management.

#### **Cost of sales**

Cost of sales comprises staff, material, consulting and other costs incurred directly attributable to the generation of revenue as well as commission.

#### **Distribution, research and development as well as administrative costs**

The following costs are classified as distribution, research and development as well as administrative costs:

- Direct staff and material costs
- Depreciation, amortization and impairment losses
- Other direct costs
- Prorated overheads

Research costs are defined as costs that are incurred in connection with the planned research performed to gain new scientific knowledge. They are expensed as incurred in accordance with IAS 38.54.

Development costs are defined as expenses incurred to put research results into technical and commercial practice. They are recognized as intangible assets if the criteria pursuant to IAS 38.57 are met. At 4SC, the risks involved up until the commercialization of its products mean the requirements for the recognition of development costs as intangible assets in accordance with IAS 38 are not met in full. Development costs are therefore also expensed in the period in which they are incurred.

#### **Government grants**

In accordance with IAS 20.12, government grants are recognized in profit or loss on a systematic basis in the period in which the entity recognizes as expenses the related costs for which the grants are intended to compensate. As funding represents the reimbursement of research expenditures, such amounts offset research and development costs for the relevant period; specific explanations are provided in the notes.

**Other income**

Other income includes all income from operating activities which is not shown as finance income or does not represent the reimbursement of research expenditures. For the most part, 4SC generates income from the reimbursement of expenses. Such reimbursements are made in the amount of the actual costs incurred or plus a previously agreed administration fee, depending on the individual case.

**2.5 USE OF ESTIMATES**

In preparing these consolidated financial statements, it was necessary for the Management Board to make estimates and discretionary decisions which influence the disclosed value of assets and liabilities, the disclosed value of uncertain assets and contingent liabilities as at the reporting date, as well as expenses and income within the reporting period. Estimates and discretionary decisions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. 4SC makes estimates and assumptions concerning the future. Actual results could differ substantially from the expected developments.

As at the reporting date, the Management Board has essentially made the following assumptions concerning the future and has identified other key sources of estimation uncertainty:

**Impairment losses**

The impairment test for goodwill requires the estimation of the value in use on the basis of anticipated future cash flows of the cash-generating unit and of the appropriate discount rate. Different factors such as lower than expected sales and subsequent lower net cash flows, as well as changes in the discount rate, could have considerable consequences for the determination of fair value and, ultimately, the level of goodwill impairment. The probability of market entry, market potential and potential market share are also factors for projecting the cash flow and thus for determining the value in use.

When testing the impairment of receivables, the Management Board must assess their recoverability on the basis of the customer's creditworthiness. Changes in the customer's creditworthiness could lead to a valuation allowance for receivables.

**Measurement of equity investments**

The Management Board had to assess whether 4SC AG exercises control with regard to quattro research GmbH, in which case the company would have to be consolidated in accordance with IFRS 10. The Management Board determined that quattro research GmbH does not influence the Group's activities and cash flows, but as well that conditions which would constitute control of quattro research GmbH do not exist either. Nor have the conditions been met in the Management Board's view for a consolidation of the company as special purpose entities in accordance with IFRS 12.

Furthermore, an assessment had to be made whether 4SC Discovery GmbH exercises control over Panoptes Pharma Ges.m.b.H., in which case the company would have to be consolidated in accordance with IFRS 19. The Management Board determined that Panoptes Pharma Ges.m.b.H. does not influence the Group's activities and cash flows, but as well that conditions which would constitute control of Panoptes Pharma Ges.m.b.H. do not exist either. Nor have the conditions been met in the Management Board's view for a consolidation of the company as special purpose entities in accordance with IFRS 12.

#### **Reserves ESOP/Expenditure from stock options**

The accounting for stock options granted to employees and the Management Board is handled according to the guidelines of IFRS 2. In doing so, the Management Board must carry out estimates of the number of equity instruments expected to be exercisable. Deviations from these estimates influence the amount of reserves for stock options reported as equity, as well as the expenses posted during the financial year.

### **3. SEGMENT REPORTING**

Segment reporting has been prepared in accordance with the principles of IFRS 8. An operating segment is a component of an entity (the Group) that engages in business activities, generates both revenue and income and incurs expenses. Commercial success is monitored regularly by the Company's chief operating decision-maker, i.e. the Management Board of 4SC. By definition, financial information is available for each individual operating segment.

The Group's management structure and structure of its intra-group reporting form the basis for segmentation. Segment results and segment assets contain components that may be directly attributable to a single segment or allocated to all segments on a reasonable basis.

Segment information is prepared using essentially the same accounting policies as those used for the consolidated financial statements.

Since 1 January 2012, 4SC has used two operating segments – "Development" and "Discovery & Collaborative Business" – as its segment reporting format in line with its internal control (management approach). Each individual operating segment, along with its core business and core projects, is set out below.

#### **Development**

The Development segment comprises the clinical and preclinical development work for drug candidates from the Group's product pipeline and is conducted by the Group's parent company 4SC AG. It currently comprises the development programs for resminostat, 4SC-202, 4SC-205 and vidofludimus.

## Discovery & Collaborative Business

The Discovery & Collaborative Business segment comprises the activities collectively handled by 4SC Discovery GmbH, namely drug discovery and early-stage research plus subsequent commercialization, in particular through service business and research collaborations related to drug discovery and optimization.

There was no intersegment revenue. The segment results were as follows:

### // SEGMENT RESULTS FOR 2015

in € 000's										
	Development		Discovery & Collaborative Business		Not allocated		Consolidation		Group	
	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014
<b>Revenue (total)</b>	<b>2,296</b>	<b>3,778</b>	<b>970</b>	<b>3,277</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,266</b>	<b>7,055</b>
External revenue	2,296	3,778	970	3,277	0	0	0	0	3,266	7,055
Intersegment revenue	0	0	0	0	0	0	0	0	0	0
<b>Other income</b>	<b>1,235</b>	<b>1,088</b>	<b>216</b>	<b>178</b>	<b>0</b>	<b>0</b>	<b>-1,267</b>	<b>-1,208</b>	<b>184</b>	<b>58</b>
<b>Operating expenses</b>	<b>-9,712</b>	<b>-13,420</b>	<b>-3,920</b>	<b>-4,338</b>	<b>0</b>	<b>0</b>	<b>1,267</b>	<b>1,208</b>	<b>-12,365</b>	<b>-16,550</b>
of which research and development costs	-5,261	-7,212	-2,841	-2,067	0	0	847	775	-7,255	-8,504
of which cost of sales, distribution costs and administrative costs	-4,451	-6,208	-1,079	-2,271	0	0	420	433	-5,110	-8,046
<b>Segment result</b>	<b>-6,181</b>	<b>-8,554</b>	<b>-2,734</b>	<b>-883</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-8,915</b>	<b>-9,437</b>
<b>Net finance income/loss</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-268</b>	<b>-185</b>	<b>0</b>	<b>0</b>	<b>-273</b>	<b>-189</b>
<b>Earnings before taxes</b>	<b>-6,183</b>	<b>-8,556</b>	<b>-2,737</b>	<b>-885</b>	<b>-268</b>	<b>-185</b>	<b>0</b>	<b>0</b>	<b>-9,188</b>	<b>-9,626</b>
Income tax expense	-40	-70	0	0	0	0	0	0	-40	-70
<b>Net profit/loss for the year</b>	<b>-6,223</b>	<b>-8,626</b>	<b>-2,737</b>	<b>-885</b>	<b>-268</b>	<b>-185</b>	<b>0</b>	<b>0</b>	<b>-9,228</b>	<b>-9,696</b>
<b>Item of the statement of financial position &amp; fixed assets</b>										
Current assets	378	128	194	892	21,843	3,275	0	0	22,415	4,295
Non-current assets	9,235	9,926	246	336	1,596	377	0	0	11,077	10,639
<b>Total segment assets</b>	<b>9,613</b>	<b>10,054</b>	<b>440</b>	<b>1,228</b>	<b>23,439</b>	<b>3,652</b>	<b>0</b>	<b>0</b>	<b>33,492</b>	<b>14,934</b>
Current liabilities	2,854	3,703	415	816	2,324	323	0	0	5,593	4,842
Non-current liabilities	1,433	1,787	0	0	38	6,255	0	0	1,471	8,042
Equity	0	0	0	0	26,428	2,050	0	0	26,428	2,050
<b>Total segment liabilities</b>	<b>4,287</b>	<b>5,490</b>	<b>415</b>	<b>816</b>	<b>28,790</b>	<b>8,628</b>	<b>0</b>	<b>0</b>	<b>33,492</b>	<b>14,934</b>
Capital expenditure	199	32	24	71	0	0	0	0	223	103
Depreciation, amortization and impairment losses	890	891	113	204	0	0	0	0	1,003	1,095

The Discovery & Collaborative Business segment generated 30% of external revenue. A total of 11% of total revenue was generated from research agreements in Europe (excluding Germany), mostly from Denmark-based LEO Pharma A/S. Germany was responsible for 17% of total revenue, mostly from Mainz-based BioNTech AG. Another 72% of total revenue was generated by the Development segment, primarily with Yakult Honsha Co., Ltd. in Asia.

The external revenue of €2,296 thousand in the Development segment is mainly attributable to out-licensing and cooperation agreements with Yakult Honsha Co., Ltd. in connection with resminostat; it was generated in Asia. The research collaboration business has made the German company BioNTech AG the customer generating the

highest revenue in the Discovery & Collaborative Business segment (€429 thousand). Another €346 thousand in external revenue is attributable to the research collaboration business with Denmark's LEO Pharma A/S. Of the trade receivables reported as at 31 December 2015, €53 thousand is accounted for by BioNTech AG. A further €33 thousand was attributable to additional collaboration agreements and research collaborations, of which €10 thousand was generated in German markets.

All non-current assets are based in Germany.

The item, "Unallocated current assets" in the reporting period principally comprise cash and cash equivalents of €21,476 thousand.

## 4. DISCLOSURES ON THE CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

### 4.1 REVENUE

Consolidated revenue decreased year-on-year to €3,266 thousand (2014: €7,055 thousand). The Discovery & Collaborative Business segment contributed €970 thousand to consolidated revenue (2014: €3,277 thousand). This figure is entirely attributable to service revenue from research collaborations. The marked year-on-year decline has three main reasons: Firstly, the cost allocations for third-party services to the cooperation partners invoiced in the current reporting period were significantly lower than in the prior-year period. Secondly, deferred income from an upfront payment received in February 2013 in connection with a license option agreement with LEO Pharma A/S was recognized only up until August 2014, in line with planning. Thirdly, the research collaboration with LEO Pharma A/S was terminated according to plan at the end of March 2015.

Revenue in the Development segment of €2,296 thousand (2014: €3,778 thousand) comprised the proportional reversal of the deferred income recognized in connection with the partnerships entered into with Yakult Honsha Co. Ltd. and Menarini Asia-Pacific Holdings Pte. Ltd. in 2011 and 2015 for resminostat in the amount of €1,085 thousand, and allocations to Yakult Honsha Co., Ltd. and Menarini Asia-Pacific Holdings Pte. Ltd. of the costs to produce the resminostat compound totaling €1,211 thousand (2014: €2,884 thousand). The year-on-year change is due in particular to the milestone reached in the previous year in the partnership with Yakult Honsha Co., Ltd. as well as to significantly lower allocations of costs in connection with the production drive for the resminostat compound implemented during large parts of 2014 on behalf of Yakult Honsha Co., Ltd.

The allocation of revenue by segments, products and services as well as by geographical regions can be seen in the segment reporting in section 3 of the notes to the consolidated financial statements.

### 4.2 STAFF COSTS

in € 000's			
	2015	2014	Change in %
Salaries	4,208	4,102	3
Social security contributions	850	777	9
Stock options	-2	3	-167
<b>Staff costs</b>	<b>5,056</b>	<b>4,882</b>	<b>4</b>
Employees and Management Board (annual average)	68	65	5

The Company's staff costs increased by 4% in 2015 to €5,056 thousand (2014: €4,882 thousand), due mainly to a small rise in employee numbers. Furthermore, only a small number of salary increases were granted in the reporting period.

In 2015, funds accruing through salary waiver were appropriated for direct insurance for the benefit of Company staff and the Management Board. These contributions are classified as defined contribution plans and are recognized and measured in accordance with IAS 19.44. Total expenditures in connection with defined contribution plans amounted to €163 thousand in the reporting year (2014: €168 thousand). In addition, a total of €645 thousand (2014: €576 thousand) was paid to statutory social security funds.

The stock options granted to staff and Management Board members during the reporting year were shown as staff costs in accordance with IFRS 2. A total of €-2 thousand in staff costs arose in the 2015 financial year from the options (2014: €3 thousand).

In the statement of comprehensive income, staff costs are included in line items cost of sales, distribution costs, research and development costs as well as administrative costs, according to their functional affiliation.

### 4.3 COST OF SALES

in € 000's			
	2015	2014	Change in %
Staff	424	773	-45
External services	1,101	2,466	-55
Material	59	327	-82
Depreciation, amortization and impairment losses	68	77	-12
Patents	98	412	-76
Commission	0	9	-100
Other	13	16	-19
<b>Cost of sales</b>	<b>1,763</b>	<b>4,080</b>	<b>57</b>

On the one hand, the decrease in the cost of sales from €4,080 thousand in 2014 to €1,763 thousand in the reporting period can be attributed to the production costs incurred in the Development segment to produce the resminostat compound for Yakult Honsha Co., Ltd., which were mainly incurred in the previous year. This is reflected in the external services and staff costs items. On the other hand, the cost of sales item also includes expenses in connection with the execution of the collaborative business consolidated in the Discovery & Collaborative Business segment, which was down considerably in the reporting year.

#### 4.4 DISTRIBUTION COSTS

in € 000's			
	2015	2014	Change in %
Legal and other consulting	34	522	-93
Staff	172	149	15
Travel and conferences	94	73	29
Other	48	102	-53
<b>Distribution costs</b>	<b>348</b>	<b>846</b>	<b>-59</b>

Distribution costs, which consist of the costs incurred by the Business Development and Strategic Planning & Marketing units, decreased by 59% year-on-year to €348 thousand during the reporting period (previous year: €846 thousand). The reduction in legal and other consulting costs was the key factor here; these mostly related to expenses required for collaboration start-up activities in Asia in the previous year.

#### 4.5 RESEARCH AND DEVELOPMENT COSTS

in € 000's			
	2015	2014	Change in %
Staff	3,171	2,713	17
External services	1,541	2,879	-46
Depreciation, amortization and impairment losses	871	951	-8
Patents	417	229	82
Rental costs including ancillary costs	717	749	-4
Material	319	274	16
Software licenses	228	237	-4
Travel and conferences	159	137	16
Other	285	567	-50
Grants (EU and German Ministry of Education and Research)	-453	-233	94
<b>Research and development costs</b>	<b>7,255</b>	<b>8,504</b>	<b>-15</b>

Research and development costs declined by 15% to €7,255 thousand in 2015, from €8,504 thousand in 2014. Reasons for the year-on-year decline were mainly the smaller number of ongoing clinical trials despite a simultaneous increase in preparatory expenditure for a planned trial with resminostat in the CTCL indication, lower expenses for optimizing the resminostat production process, but also an increase in staff costs due to employee hiring for clinical expertise.

## 4.6 ADMINISTRATIVE COSTS

in € 000's			
	2015	2014	Change in %
Staff	1,289	1,246	3
Investor Relations	538	403	33
Legal and other consulting	282	594	-53
Rental costs including ancillary costs	207	199	4
Supervisory Board	137	154	-11
Depreciation, amortization and impairment losses	64	66	-3
Insurance, fees and contributions	61	104	-41
Travel and conferences	134	76	76
External services	121	99	22
Other	166	179	-7
<b>Administrative costs</b>	<b>2,999</b>	<b>3,120</b>	<b>-4</b>

Administrative costs amounted to €2,999 thousand in the reporting period, a slight reduction of 4% year-on-year (2014: €3,120 thousand). In general, this is the result of the very restrictive use of funds following the earlier cost-cutting measures and structural adjustments.

## 4.7 OTHER INCOME

in € 000's			
	2015	2014	Change in %
Sublease	92	54	70
Income from bankruptcies	55	0	n/a
Income from the reversal of liabilities	32	0	n/a
Other	5	4	25
<b>Other income</b>	<b>184</b>	<b>58</b>	<b>217</b>

There was a year-on-year increase in other income by 217% to €184 thousand in 2015 (2014: €58 thousand) due to the higher income from the sub-letting of premises as well as non-recurring income from asset allocation from an insolvency and the expiration of a liability.

## 4.8 DEPRECIATION AND IMPAIRMENT LOSSES

in € 000's			
	2015	2014	Change in %
Amortization of and impairment losses on intangible assets	827	819	1
Depreciation of property, plant and equipment	176	276	-36
<b>Depreciation and impairment losses</b>	<b>1,003</b>	<b>1,095</b>	<b>-8</b>



Depreciation, amortization and impairment losses decreased by 8%, from €1,095 thousand in 2014 to €1,003 thousand in 2015. Amortization of and impairment losses on intangible assets – which mainly stemmed from the capitalization of the rights acquired from Nycomed and the recognition of an asset for customer loyalty as defined by IAS 38 plus the corresponding amortization – rose slightly, whereas depreciation of and impairment losses on property, plant and equipment declined because new investments were minimal only.

In the statement of comprehensive income, depreciation, amortization and impairment losses are included in line items cost of sales, research and development costs, and administrative costs.

#### 4.9 NET FINANCE INCOME/LOSS

Net finance income/loss includes the result derived from the accounting of the stakes held in associates using the equity method, among others. This concerns the measurement of the equity investments in quattro research GmbH and Panoptes Pharma Ges.m.b.H. Further explanation can be found under item "7.3 Investments accounted for using the equity method".

in € 000's			
	2015	2014	Change in %
Share in the profit/loss of quattro research GmbH	58	39	49
<b>Profit/loss from investments accounted for using the equity method</b>	<b>58</b>	<b>39</b>	<b>49</b>

The income shown under net finance income/loss is comprised as follows:

in € 000's			
	2015	2014	Change in %
Interest-bearing investment of cash and cash equivalents	20	3	567
Income from exchange rate differences	4	1	300
Securities measured through profit or loss	0	2	-100
<b>Finance income</b>	<b>24</b>	<b>6</b>	<b>300</b>

The rise in finance income was principally due to the funds from the capital increase in July 2015.

The expenses shown under net finance income/loss are comprised as follows:

in € 000's			
	2015	2014	Change in %
Expenses from exchange rate differences	9	6	50
Interest on the convertible notes/bonds	-44	84	-152
Interest on the shareholder loan	331	143	131
Interest on upfront payment from Yakult Honsha Co., Ltd.	34	0	n/a
Securities measured through profit or loss	24	0	n/a
Other interest expense	1	1	0
<b>Finance costs</b>	<b>355</b>	<b>234</b>	<b>52</b>

The increase in interest expense still results from the substantial increase in borrowed capital in 2014 in connection with the shareholder loan from Santo Holding (Deutschland) GmbH and the convertible notes issued to Yorkville. For the convertible bonds, an effective interest rate was assumed for the period in which the bonds are not converted. This proved to be too high because of the premature termination of the convertible bond, thus resulting in income. In addition, Yakult Honsha Co., Ltd. provided an interest-bearing upfront payment for the manufacturing costs of the resminostat compound.

## 5. INCOME TAX, DEFERRED TAXES AND WITHHOLDING TAX

The income taxes recognized in the income statement are made up as follows:

in € 000's			
	2015	2014	Change in %
Current tax expense	-40	-70	43
Deferred tax income	0	0	0
<b>Income tax expense (-)/income (+)</b>	<b>-40</b>	<b>-70</b>	<b>43</b>

The determination of the effective tax rate for the purpose of calculating deferred taxes is based on the following assumptions: In Germany, taxes on income and earnings comprise the corporate income tax, the solidarity surcharge and trade tax. As a result of the German Business Tax Reform Act in 2008 (Unternehmensteuerreformgesetz, UntStRefG) the corporate income tax rate in Germany as at 1 January 2008 is 15%. To calculate deferred taxes, an effective tax rate of 15.83% was applied for corporate income tax (including the solidarity surcharge), and a rate of 10.5% was applied for trade tax. As was the case for the previous year, the total tax rate as at 1 January 2015 is therefore 26.33%.

As in the previous year, at 31 December 2015 deferred tax assets were carried in the amount of the deferred tax liabilities that arose. These were offset in the statement of financial position because they relate to income taxes levied by the same taxation authority. Consequently, the deferred tax liabilities of €63 thousand resulting from taxable temporary differences are set off against deferred tax assets in the same amount.

Deferred tax assets and liabilities as at 31 December 2015 and 31 December 2014 are distributed as follows across the statement of financial position:

in € 000's			
	2015	2014	Change in %
Intangible assets	60	54	11
Investments accounted for using the equity method	-3	-3	0
Other financial assets	-7	0	n/a
Other liabilities	13	32	-59
Deferred tax assets	-63	-83	24
<b>Deferred tax assets and liabilities</b>	<b>0</b>	<b>0</b>	<b>0</b>

The deferred tax liabilities reported under intangible assets arose from the use of different recognition criteria for an asset resulting from customer loyalty programs recognized in accordance with IFRSs. In connection with the investments, they stem from the different measurements of the equity investment in quattro research GmbH under IFRS versus tax law. In the other liabilities they arise from different recognition criteria applicable to deferred liabilities under IFRS and tax law.

The value of tax losses unrecognized as deferred tax assets but reportable per IAS 12.81 (e) is as follows as at the reporting date:

in € 000's		
	2015	2014
Tax loss carryforward	159,212	148,565
Reduction for deferred tax liabilities	-239	-315
Effective tax rate (in %)	26.33	26.33
<b>Value of the tax loss carryforwards</b>	<b>41,858</b>	<b>39,034</b>

This calculation is based on the assumption that the tax rates applicable after 1 January 2015 will still be valid in the future upon achieving the value of the taxable losses carried forward, and that 4SC's losses carried forward will still be able to be utilized in full.

In general, losses may be carried forward indefinitely to offset future profits, although some restrictions apply with regard to the use of losses carried forward in relation to section 8c of the German Corporate Income Tax Act (Körperschaftsteuergesetz, KStG). The criteria mentioned there – various shareholder changes, capital increases, the addition of new shareholders and a significant infusion of new operating assets – which could result in a pro-rated elimination of tax loss carryforwards, applied to 4SC during the past years. Because of the currently prevailing legal uncertainty, which has arisen in connection with the interpretation of the provisions applicable in this context, and the attitude the competent revenue authorities might adopt, 4SC considers it a possibility that the current losses carried forward will, in future, no longer be available for the purpose of offsetting against profits. 4SC will, however continue to petition for the admissibility of its loss carryforwards.

The reconciliation of expected income tax and the effective tax expense/income is as follows:

in € 000's		
	2015	2014
Earnings before taxes	-9,188	-9,626
Expected tax income at a tax rate of 26.33% (2014: 26.33%)	2,419	2,535
Income (+)/expense (-) shown in the statement of comprehensive income	-40	-70
<b>Difference to be explained</b>	<b>2,459</b>	<b>2,605</b>
Unrecognized tax loss carryforwards	2,744	2,539
Non-deductible expenses	16	21
Ineligible foreign withholding tax	29	52
Temporary differences for which no deferred taxes were recognized (capital increase costs)	-382	0
Other differences	52	-7
<b>Total reconciliation</b>	<b>2,459</b>	<b>2,605</b>

## 6. EARNINGS PER SHARE

The basic earnings per share are calculated in accordance with IAS 33.9 ff. by dividing the profit/loss for the period attributable to the shareholders (numerator) by the average weighted number of shares outstanding in the reporting period (denominator).

	2015	2014
Based on net profit/loss for the year (in €000's)	-9,228	-9,696
Based on average number of shares (in thousand)	14,344	10,128*
<b>Earnings per share (basic and diluted, in €)</b>	<b>-0.64</b>	<b>-0.95*</b>

\* To facilitate comparability, the number of shares used for the calculation of the 2014 figure was adjusted to reflect the capital reduction and reverse stock split carried out in 2015.

Given 4SC's loss and the fact that the share price has currently dropped below the exercise price of the stock options, i.e. all of the stock options are currently "out of the money", the options issued are not dilutive. As a result, the diluted and basic earnings per share are identical.

### Potential equity instruments:

The Company's Annual General Meetings on 28 June 2006, 29 June 2007, 5 June 2008, 15 June 2009, 21 June 2010, 6 August 2012 and 9 May 2014 decided to increase the Company's share capital conditionally. These resolutions could mean that undiluted earnings per share could potentially be diluted in future if option rights are granted to members of the Management Board and employees of the Company or shares are granted to the owners or creditors of convertible bonds to be issued, participation rights and/or warrants. Details about the conditional capital can be found under items "7.11 Equity" and "9. Stock option programs".

## 7. DISCLOSURES ON THE STATEMENT OF FINANCIAL POSITION

### 7.1 INTANGIBLE ASSETS

The development of intangible assets pursuant to IAS 38.118 is shown in the statement of changes in non-current assets.

In € 000's											
	Useful life from 1 to 18 Years	Cost			Amortization and impairment losses				Carrying amounts		
		Balance on 01.01.2015	Additions 2015	Diposals 2015	Balance on 31.12.2015	Balance on 01.01.2015	Balance 2015	Diposals 2015	Balance on 31.12.2015	Balance on 31.12.2015	Balance on 31.12.2014
<b>Intangible assets</b>											
Software and patents	1-18	14,214	0	0	14,214	6,370	737	0	7,107	7,107	7,844
Customer loyalty	4.75	480	114	0	594	274	90	0	364	230	206
Goodwill	n/a	1,786	0	0	1,786	0	0	0	0	1,786	1,786
<b>Intangible assets</b>		<b>16,480</b>	<b>114</b>	<b>0</b>	<b>16,594</b>	<b>6,644</b>	<b>827</b>	<b>0</b>	<b>7,471</b>	<b>9,123</b>	<b>9,836</b>

Changes in intangible assets during the previous year were as follows:

In € 000's											
	Useful life from 1 to 19 Years	Cost			Amortization and impairment losses				Carrying amounts		
		Balance on 01.01.2014	Additions 2014	Diposals 2014	Balance on 31.12.2014	Balance on 01.01.2014	Balance 2014	Diposals 2014	Balance on 31.12.2014	Balance on 31.12.2014	Balance on 31.12.2013
<b>Intangible assets</b>											
Software and patents	1-19	14,210	4	0	14,214	5,628	741	0	6,370	7,844	8,582
Customer loyalty	5.75	480	0	0	480	197	77	0	274	206	283
Goodwill	n/a	1,786	0	0	1,786	0	0	0	0	1,786	1,786
<b>Intangible assets</b>		<b>16,476</b>	<b>4</b>	<b>0</b>	<b>16,480</b>	<b>5,825</b>	<b>819</b>	<b>0</b>	<b>6,644</b>	<b>9,836</b>	<b>10,651</b>

With the exception of the goodwill recognized in the statement of financial position, there were no intangible assets with indefinite useful lives. There were no internally generated intangible assets.

The figure reported for software and patents includes three key patents with carrying amounts of between €921 thousand and €4,681 thousand (2014: €1,011 thousand to €5,188 thousand) whose residual amortization period is between 9.25 years and 11.17 years (2014: 10.25 to 12.17 years).

Additions in the reporting year relate to customer loyalty items in connection with the collaboration agreed with Menarini Asia-Pacific Holdings Pte. Ltd. during the reporting year.

In the statement of comprehensive income, the amortization and impairment of intangible assets mainly is included in line items cost of sales, research and development costs and administrative costs.

In € 000's			
	2015	2014	Change in %
Cost of sales	68	77	-12
Research and development costs	732	732	0
Administrative costs	27	10	170
<b>Amortization of intangible assets</b>	<b>827</b>	<b>819</b>	<b>1</b>

## Goodwill

Pursuant to IAS 36.80 ff., goodwill is not amortized, but rather subject to an impairment test at least once a year.

The impairment test conducted at the end of the reporting year did not indicate a need for adjustment of the value recognized as at 31 December 2015. For the impairment test, the value in use of the vidofludimus program was compared with the carrying amount of goodwill. The result was that the value in use turned out to be higher than the carrying amount. The value in use is determined essentially by means of the following factors: The discount factor is 10.87% (2014: 10.87%) and determines at which interest rate future cash flows will be discounted. The probability of a market entry, assumed to be 13.7% (2014: 13.7%), depends on the development phase that the project is in. The maximum anticipated sales are based on an estimate by 4SC and depend primarily on expected market shares, future patent numbers and anticipated revenue per patient. The expected cash flows have been calculated for the period up to 2038, on the basis of corresponding patent terms in addition to taking into account a commercialization phase following the expiration of patent protection and a growth rate of 1% of the terminal value.

The sensitivity analysis showed a €6,100 thousand reduction in the value in use if the discount rate increased by 10% and a €4,400 thousand reduction if the market overall contracted by 10%. Both scenarios would not result in a need to recognize an impairment loss on the goodwill.

## 7.2 PROPERTY, PLANT AND EQUIPMENT

The development of property, plant and equipment pursuant to IAS 16.73 is shown in the statement of changes in non-current assets.

in € 000's											
	Useful life from 0 to 12 Years	Cost				Amortization and impairment losses				Carrying amounts	
		Balance on 01.01.2015	Additions 2015	Diposals 2015	Balance on 31.12.2015	Balance on 01.01.2015	Balance 2015	Diposals 2015	Balance on 31.12.2015	Balance on 31.12.2015	Balance on 31.12.2014
Office equipment	6-12	164	1	0	165	140	5	0	145	20	24
Laboratory equipment	1-12	646	62	6	702	413	60	6	467	235	233
Leasehold improvements	1.5-12	526	0	0	526	396	63	0	459	67	130
Other operating and office equipment	1-11	155	0	0	155	146	3	0	149	6	9
IT equipment	1-11	436	26	5	457	407	26	5	428	29	29
Other	0-3	147	20	20	147	147	20	20	147	0	0
<b>Property, plant and equipment</b>		<b>2,074</b>	<b>109</b>	<b>31</b>	<b>2,152</b>	<b>1,649</b>	<b>177</b>	<b>31</b>	<b>1,795</b>	<b>357</b>	<b>425</b>

The development of property, plant and equipment in the previous year was as follows:

in € 000's											
	Useful life from 0 to 13 Years	Cost			Amortization and impairment losses				Carrying amounts		
		Balance on 01.01.2014	Additions 2014	Diposals 2014	Balance on 31.12.2014	Balance on 01.01.2014	Balance 2014	Diposals 2014	Balance on 31.12.2014	Balance on 31.12.2014	Balance on 31.12.2013
Office equipment	7-13	164	0	0	164	131	9	0	140	24	33
Laboratory equipment	2-13	583	63	0	646	279	134	0	413	233	305
Leasehold improvements	2.5-13	526	0	0	526	333	63	0	396	130	193
Other operating and office equipment	2-12	155	0	0	155	136	10	0	146	9	19
IT equipment	2-12	424	12	0	436	373	34	0	407	29	51
Other	0-4	147	25	25	147	146	26	25	147	0	1
<b>Property, plant and equipment</b>		<b>1,999</b>	<b>100</b>	<b>25</b>	<b>2,074</b>	<b>1,398</b>	<b>276</b>	<b>25</b>	<b>1,649</b>	<b>425</b>	<b>602</b>

Additions in the reporting year primarily relate to investments for the replacement or enhancement of equipment in the various areas. 4SC is under no obligation to acquire property, plant and equipment.

The depreciation of property, plant and equipment is shown in its entirety in the statement of comprehensive income under the items, research and development and administrative costs.

in € 000's			
	2015	2014	Change in %
Research and development costs	139	220	-37
Administrative costs	37	56	-34
<b>Depreciation of property, plant and equipment</b>	<b>176</b>	<b>276</b>	<b>-36</b>

### 7.3 INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD

Investments accounted for using the equity method concerns shares held in quattro research GmbH and Panoptes Pharma Ges.m.b.H. The respective key figures of quattro research GmbH as at 31 December 2015 are as follows:

in € 000's			
	2015	2014	Change in %
Revenue	1,706	1,348	27
Net profit/loss for the year	119	79	51
Total assets	1,391	1,094	27
Equity	701	581	21
Liabilities	691	513	35

The profit posted by quattro research GmbH raises the carrying amount of the shares held by 4SC to €278 thousand of the reporting date (31 December 2014: €220 thousand).

The respective key figures of Panoptes Pharma Ges.m.b.H. as at 31 December 2015 are as follows:

in € 000's			
	2015	2014	Change in %
Revenue	10	10	0
Net profit/loss for the year	-346	-471	27
Total assets	1,341	1,392	-4
Equity	-579	-442	-31
Liabilities	1,920	1,834	5

The loss posted by Panoptes Pharma Ges.m.b.H. lowered the carrying amount of the shares held by 4SC Discovery GmbH in 2013; as at the reporting date it remained at € nil.

#### 7.4 OTHER INVESTMENTS

This item in the statement of financial position reflects financial instruments within the meaning of IAS 39 with a remaining life of more than one year as at the reporting date. This includes the equity investment in Quiescence Technologies LLC and the borrower's note loan held for the purpose of achieving higher interest income.

The 10% stake in Quiescence Technologies LLC was acquired in December 2006. But its carrying amount is still € nil due to a lack of clarity in regards to Quiescence Technologies LLC's financial situation.

The borrower's note loans held are classified as held-to-maturity financial assets in accordance with IAS 39, which means that they are subsequently measured at amortized cost by applying the effective interest method.

Since amortized cost and the carrying amounts shown are suitable approximations of the fair values, the Company refrains from reporting fair values in accordance with IFRS 7.29 (a).

The terms and conditions of financial assets as at 31 December 2015 were as follows:

in € 000's			
	Carrying amount	Term in months	Interest rate in %
Financial instruments with a remaining life of less than one year			
Deutsche Bank AG, borrower's note loan	1,318	16	0.48



## 7.5 INVENTORIES

in € 000's			
	31.12.2015	31.12.2014	Change in %
Consumables	17	22	-23
Solvents	3	3	0
Chemicals	0	0	0
<b>Inventories</b>	<b>20</b>	<b>25</b>	<b>-20</b>

Inventories decreased by €5 thousand year-on-year.

Material costs amounting to €383 thousand (2014: €625 thousand) were recorded as an expense during the reporting year. In part, these were shown as inventories during the financial year; however, the other part was used directly for the respective projects and therefore recorded directly as expenses.

## 7.6 TRADE ACCOUNTS RECEIVABLE

in € 000's			
	31.12.2015	31.12.2014	Change in %
Germany	79	351	-77
EU	0	301	-100
Import/export	15	0	n/a
<b>Trade accounts receivable</b>	<b>94</b>	<b>652</b>	<b>-86</b>

On 31 December 2015, as on the reporting date of the previous year, there were no bad debt allowances for trade accounts receivable in accordance with IAS 39.63 f.

Trade accounts receivable mainly result from research cooperation deals with BioNTech AG and Menarini AP Holdings Pte., Ltd. No trade accounts receivable were due on the reporting date; they were paid by early March 2016, as contractually stipulated.

## 7.7 RECEIVABLES FROM ASSOCIATES

The accounts receivable from associates as at the reporting date concerned Panoptes Pharma Ges.m.b.H., Vienna, Austria. The receivable shown amounts to €8 thousand (31 December 2014: €23 thousand). The receivable was not yet due on the reporting date and was paid in early February 2016, as contractually stipulated.

## 7.8 CASH AND CASH EQUIVALENTS

This item in the statement of financial position comprises cash on hand and bank balances. As at the previous year's reporting date, this item also included financial instruments as defined by IAS 39 and fixed deposits which serve the purpose of meeting short-term payment obligations. They have an original term of no more than three months and are only subject to insignificant variations in value.

in € 000's			
	31.12.2015	31.12.2014	Change in %
Financial instruments with an original term of less than three months calculated from the date of acquisition	0	116	-100
Bank balances	21,475	3,085	596
Cash on hand	1	1	0
<b>Cash and cash equivalents</b>	<b>21,476</b>	<b>3,202</b>	<b>571</b>

## 7.9 CURRENT INCOME TAX ASSETS

4SC receives interest from its fixed deposits, money market funds and securities. Financial institutions are required to withhold tax and solidarity surcharge on such interest income. Because the Company reported a net loss for the 2015 financial year, it has a tax refund claim with regard to the taxes it has paid.

in € 000's			
	31.12.2015	31.12.2014	Change in %
<b>Current income tax assets</b>	<b>1</b>	<b>18</b>	<b>-94</b>

The current income tax assets as at 31 December 2015 comprise a claim for withholding tax on investment income for the 2015 financial year that the tax office has not yet refunded. The prior-year figure included refund claims for 2013 and 2014.

## 7.10 OTHER ASSETS

in € 000's			
	31.12.2015	31.12.2014	Change in %
Prepaid expenses	212	157	35
Current tax assets	198	52	281
Rent deposit IZB West	157	157	0
Advances paid for third-party services	196	10	1,860
Government grants	44	155	-72
Other	10	2	400
<b>Other assets</b>	<b>817</b>	<b>533</b>	<b>53</b>

Other assets are presented in the statement of financial position according to IAS 1.60 as separate classifications.

in € 000's

	Total receivables		thereof non-current		thereof current	
	31.12.2015	31.12.2014	31.12.2015	31.12.2014	31.12.2015	31.12.2014
Prepaid expenses	212	157	1	1	211	156
Current tax assets	198	52	0	0	198	52
Rent deposit IZB West	157	157	0	157	157	0
Advances paid for third-party services	196	10	0	0	196	10
Government grants	44	155	0	0	44	155
Other	10	2	0	0	10	2
<b>Other assets</b>	<b>817</b>	<b>533</b>	<b>1</b>	<b>158</b>	<b>816</b>	<b>375</b>

Based on the information available today, there are no indications giving rise to doubts regarding grant funding. Rent deposits serve to safeguard the landlord's claims.

Prepaid expenses primarily comprise prepaid invoices under maintenance contracts, online research and licenses. The advances paid for third-party services comprise payments for external services that were made before the service in question was rendered.

## 7.11 EQUITY

### Share capital and shares

The share capital of 4SC as at 31 December 2015 amounts to €18,966,646. It is composed of 18,966,646 no-par value bearer shares. Each share represents €1.00 4SC's share capital, entailing one vote at the Annual General Meeting. Share capital is fully paid-in at this time.

During an Extraordinary General Meeting in March 2015, the shareholders of 4SC AG approved the reduction of share capital from €50,849,206 by €40,679,465 to €10,169,841 by retiring one share with a face value of €1 and consolidating the remaining shares issued in a ratio of 5:1 from 50,849,205 to 10,169,841 shares. This measure was entered in the commercial register on 7 April 2015 with an ex-dividend date of 15 April 2015. From an accounting perspective, the capital reduction effected a reclassification within equity at 4SC AG, from subscribed capital to the capital reserves. The amount of equity and total assets did not change.

4SC shares are securitized under global non-coupon certificates held in custody by Clearstream Banking AG, Frankfurt am Main, Germany, a central securities depository. The shareholder's right to issuance of individual certificates is excluded pursuant to article 6(3) of the Articles of Association of 4SC AG.

in € 000's

Subscribed capital as at 01.01.2015	50,849
Changes in financial year 2015	
of which contribution to capital reserves pursuant to the provisions governing simplified capital reduction	-40,679
of which convertible bonds	47
of which capital increase	7,250
of which capital increase in return for contributions in kind	1,500
<b>Subscribed capital as at 31.12.2015</b>	<b>18,967</b>

### Conditional capital

The Company's Annual General Meetings decided to increase the Company's share capital conditionally as follows:

Conditional capital	Amount (€000's)	AGM resolution dated	Purpose
II	114	28.06.2006/ 21.06.2010	Granting of options to members of the Management Board and Company employees with a term of up to ten years ("REPLACEMENT ESOP 2001")
IV	305	28.06.2006/ 21.06.2010	Granting of options to members of the Management Board and Company employees as well as employees of affiliated companies with a term of up to ten years ("ESOP 2006")
V	6,976	06.08.2012	Granting of shares to owners and/or creditors of still to be issued convertible bonds and/or warrants, income debentures and/or participation rights (or a combination of these instruments)
VI	1,000	15.06.2009	Granting of options to members of the Management Board and Company employees as well as employees of affiliated companies in Germany and abroad with a term of up to ten years ("ESOP 2009")
VII	7,500	09.05.2014	Granting of shares to owners and/or creditors of still to be issued convertible bonds and/or warrants, income debentures and/or participation rights (or a combination of these instruments)

### Authorized capital

The Annual General Meeting on 2 May 2013 authorized the Management Board to increase the Company's share capital, with the approval of the Supervisory Board, until 1 May 2018, once or repeatedly, by up to €25,185,907 in return for contributions in cash or in kind by issuing, once or repeatedly, an aggregate total of up to 25,185,907 new no-

par value bearer shares (Authorized Capital 2013/I). Capital increases in the 2015 financial year reduced the number of shares by 8,750,000, resulting in 16,435,907 shares remaining as at 31 December 2015.

#### **Share premium**

The share premium consists of premiums paid by shareholders in the course of capital increases executed in financing rounds. Pursuant to IAS 32.35, transaction costs of an equity transaction are accounted for as a deduction from equity, net of any related income tax benefit.

#### **Reserves**

The item in the statement of financial position, reserves, comprises the following individual items:

The ESOP reserve decreased slightly to €1,749 thousand (2014: €1,751 thousand) year-on-year and corresponds to the amount of the share options granted during the reporting year and the previous years to employees and the Management Board, which have been measured in accordance with the provisions of IFRS 2. The calculation is explained under item "9. Stock option programs".

The retained earnings of €67 thousand as at 31 December 2015 remained unchanged compared to the previous year.

#### **Appropriation of earnings**

The accumulated deficit of €138,184 thousand (2014: €128,956 thousand) is carried forward to new account.

#### **Capital management disclosures**

Since the Company posted a net loss for the year, the primary objectives of capital management are to retain a sufficiently high amount of liquid reserves to enable the further development of the project pipeline and technology without significant limitations, and to maintain or re-strengthen equity. Accordingly, an increase in the accumulated deficit and thus a further reduction in equity must be minimized to the extent possible without compromising progress of the R&D programs. Management keeps a close eye on the equity ratio and the total of the items reported under equity. A very restrictive handling of financial reserves is a prerequisite for the achievement of these goals. Furthermore, the acquisition of additional liquid funds is also one of the main options in terms of realizing these objectives. Given the Company's development stage and risk profile, raising equity is usually the only action that can be taken in this context. The loan from Santo Holding (Deutschland) GmbH is rather an exception in this context. The Company's goal remains to generate revenue in order to reach break-even and reduce the losses carried forward.

Capital management as a whole concerns management of equity and loss carryforwards. Mainly as a result of the positive effect of the cash/non-cash capital increase carried out in the reporting year on the one hand, and the net loss posted for the year on

the other hand, equity rose from €2,050 thousand as at 31 December 2014 by €24,378 thousand to a total of €26,428 thousand as at 31 December 2015.

No changes were made in the strategy or objectives with regard to capital management during the reporting year.

## 7.12 TRADE ACCOUNTS PAYABLE

in € 000's			
	31.12.2015	31.12.2014	Change in %
Germany	272	577	-53
EU	328	284	15
Other countries	88	132	-33
<b>Trade accounts payable</b>	<b>688</b>	<b>993</b>	<b>-31</b>

Trade accounts payable decreased by 31% year-on-year. They primarily result from outsourced scientific services and patent services, but also from legal and consulting services invoiced at the end of the year.

## 7.13 ACCOUNTS PAYABLE TO ASSOCIATES

As at the reporting date, there were no liabilities toward associates (31 December 2014: €6 thousand).

## 7.14 OTHER LIABILITIES AND DEFERRED INCOME

in € 000's			
	31.12.2015	31.12.2014	Change in %
Deferred income	2,597	2,682	-33
Accrued liabilities	993	1,894	34
Tax liabilities (wage & church tax)	90	85	-30
Advances received	721	764	337
Liabilities to shareholders	1,962	6,131	n/a
Bonds issued	0	317	n/a
Deposits received	10	10	n/a
Other payables	3	2	n/a
<b>Other liabilities</b>	<b>6,376</b>	<b>11,885</b>	<b>108</b>

Other liabilities are presented in the statement of financial position according to IAS 1.60 as separate classifications.

in € 000's						
	Total liabilities		thereof non-current		thereof current	
	31.12.2015	31.12.2014	31.12.2015	31.12.2014	31.12.2015	31.12.2014
Deferred income	2,597	2,682	1,433	1,788	1,164	894
Accrued liabilities	993	1,894	0	114	993	1,780
Tax liabilities (wage & church tax)	90	85	0	0	90	85
Advances received	721	764	0	0	721	764
Liabilities to shareholders	1,962	6,131	0	6,131	1,962	0
Bonds issued	0	317	0	0	0	317
Deposits received	10	10	0	10	10	0
Other payables	3	2	0	0	3	2
<b>Other liabilities</b>	<b>6,376</b>	<b>11,885</b>	<b>1,433</b>	<b>8,043</b>	<b>4,943</b>	<b>3,842</b>

Accrued liabilities were comprised as follows as at the reporting date:

in € 000's				
	31.12.2015	31.12.2014	Change in %	
Invoices outstanding	375	781	-52	
Bonus paid to Management Board & the executive management	144	156	-8	
Remuneration of the Supervisory Board	137	154	-11	
Legal consulting	13	285	-95	
Financial statements preparation and auditing costs	131	150	-123	
Personnel liabilities	110	306	-64	
Renovation IZB West	44	41	7	
Contribution to employer's liability insurance	10	11	-9	
Other	29	10	190	
<b>Accrued liabilities</b>	<b>993</b>	<b>1,894</b>	<b>-48</b>	

The non-current portion of deferred income item results from the liabilities relating to the upfront payment made by Yakult Honsha, Co. Ltd. in April 2011 and by Menarini Asia-Pacific Holdings Pte. Ltd. in April 2015. These are released as revenue on a pro rata basis over the entire assumed development period for resminostat. The current portion of the deferred income item in the amount of €1,164 thousand results from the above-mentioned liabilities relating to Yakult Honsha Co., Ltd. and Menarini Asia-Pacific Holdings Pte. Ltd. The non-current accrued liabilities result from long-term Management Board bonuses and outstanding invoices.

All other accrued liabilities are of a current nature. A total of €2,835 thousand were added, €3,659 thousand were used, and €91 thousand were reversed. There is only insignificant insecurity regarding the amount of actual utilization. There are no claims for reimbursement against third parties.

## 7.15 OTHER DISCLOSURES ON FINANCIAL INSTRUMENTS

### Carrying amounts and fair values according to measurement categories

in € 000's

	Measurement category pursuant to IAS 39	Measurement as at 31.12.2015		Measurement as at 31.12.2014	
		Carrying amount	Fair value	Carrying amount	Fair value
Trade accounts receivable	LaR	94	94	652	652
Receivables from investees	LaR	8	8	23	23
Current income tax assets	LaR	1	1	18	18
Other non-current assets	LaR	1	1	157	157
Other current assets	LaR	816	816	375	375
Fixed deposits and bank balances	LaR	21,476	21,476	3,202	3,202
<b>Financial assets at fair</b>					
value through profit and loss – held for trading	AFVPL	0	0	0	0
Held-to-maturity financial assets	HtM	1,318	1,318	0	0
Available-for-sale financial assets	AFS	0	0	0	0
Accounts payable to shareholders	AC	-1,962	-1,962	-6,131	-6,131
Trade accounts payable	AC	-688	-688	-993	-993
Accounts payable to associates	AC	0	0	-6	-6
Other non-current liabilities	AC	-1,471	-1,471	-114	-114
Other current liabilities	AC	-2,943	-2,943	-1,558	-1,558
<b>Total</b>		<b>16,650</b>	<b>16,650</b>	<b>-4,375</b>	<b>-4,375</b>
<b>Of which aggregated by IAS 39 measurement category</b>					
Financial assets at fair value through profit or loss	AFVPL	0	0	0	0
Held-to-maturity investments	HtM	1,318	1,318	0	0
Loans and receivables	LaR	22,396	22,396	4,427	4,427
Available-for-sale financial assets	AFS	0	0	0	0
At amortized cost	AC	-7,064	-7,064	-8,802	-8,802

### Valuation methods

Trade accounts receivable and other assets mainly have short remaining terms. The values recognized represent the approximate fair value. The majority of the non-current other assets shown is interest-bearing; their carrying amount and fair value are therefore identical. These were security guarantees (deposits) lodged with the landlord. The fixed deposits and bank balances are also interest-bearing; carrying amount and fair value are therefore also identical.

The primary financial instruments existing as at the reporting date were classified as financial assets at fair value through profit or loss or held-to-maturity financial assets in accordance with IAS 39.

Of the financial instruments at fair value through profit or loss, gains and losses from subsequent measurement are recognized in profit or loss. Bank statements and other



bank confirmations serve to verify the fair value as at year-end. In accordance with IAS 39.46 b, financial instruments classified as held-to-maturity are subsequently measured at amortized cost using the effective interest method. Bank statements and other bank confirmations also serve to verify the value as at year-end.

Trade accounts payable, accounts payable to associates and other liabilities predominantly have short remaining terms. Hence their carrying amounts correspond approximately to their fair value at the reporting date.

The assets are continuously reviewed on the basis of these measurement criteria. Hedge accounting is not applicable.

### Fair value hierarchy

Both the primary financial instruments that are recognized at fair value through profit or loss as at the reporting date and the securities that were classified held to maturity in the previous year were allocated to Level 1 (prices in active markets) and Level 2 (directly observable assets) in accordance with IFRS 13.76 ff. No reclassifications of fair values from or into another hierarchy level were made in 2015.

### Net results according to measurement categories

The net result of the financial instruments in the reporting year, in accordance with IAS 39 is composed of the following:

	Subsequent measurement					Net result 2015
	Interest result	At fair value	Currency translation	Impairment loss	Disposal	
Financial assets at fair value through profit or loss						
held for trading	0	0	0	0	0	0
Held-to-maturity investments	17	-24	0	0	0	-7
Loans and receivables	2	0	4	0	0	6
Available-for-sale financial assets	0	0	0	0	0	0
Liabilities at amortized cost	0	0	-9	0	0	-9
<b>Total</b>	<b>19</b>	<b>-24</b>	<b>-5</b>	<b>0</b>	<b>0</b>	<b>-10</b>

In the previous year, the net result of the financial instruments, in accordance with IAS 39, was comprised as follows:

in € 000's

	Interest result	At fair value	Subsequent measurement		Disposal	Net result 2014
			Currency translation	Impairment loss		
Financial assets at fair value through profit or loss						
held for trading	0	0	0	0	0	0
Held-to-maturity investments	2	2	0	0	0	4
Loans and receivables	1	0	1	0	0	2
Available-for-sale financial assets	0	0	0	0	0	0
Liabilities at amortized cost	0	0	-6	0	0	-6
<b>Total</b>	<b>3</b>	<b>2</b>	<b>-5</b>	<b>0</b>	<b>0</b>	<b>0</b>

The interest from financial instruments as defined in IAS 39 is shown in net finance income, as are the other components of the net result.

### Risks from financial instruments

#### 1. Liquidity, counterparty credit and interest rate risks related to liquid reserves

4SC possesses liquid reserves that are invested in order to earn interest as long as these funds are not needed. Currently, all of these funds are invested in safe forms of investment – with a good or very good credit rating – such as borrower's note loans that entail only insignificant liquidity and counterparty credit risks. These securities do not expose the Company to an interest rate risk. As at the reporting date, all the invested funds had short maturities and thus would not be sensitive to changes in interest rates.

More information is contained in the report on opportunities and risks in section 8 of the combined management report.

#### 2. Liquidity risk inherent in financial liabilities

4SC has financial liabilities, i.e. contractual obligations to deliver liquid assets to another party. These are presented in the statement of financial position under trade accounts payable, accounts payable associates and other liabilities. Because most of the financial liabilities are current, they are not subject to liquidity risk.

#### 3. Currency risks

4SC executes transactions with international business partners where contractual payment terms are made in a currency other than the euro, exposing the Company to a currency risk in the items, loans and receivables and liabilities at amortized cost. This

risk includes the relative decrease or increase of the euro vis-à-vis the other currencies during the period until payment of the liability or receivable.

4SC does not engage in hedging transactions but instead endeavors to pay its own obligations in foreign currencies, thereby mitigating the risk of exchange rate fluctuations. For this reason, US dollars (US-\$) are bought when the exchange rate is favorable. As at 31 December 2015, 4SC had bank accounts in US dollars worth € nil (31 December 2014: € nil).

Liabilities denominated in foreign currencies as at 31 December 2015 were limited to the equivalent of €9 thousand in US dollars (US-\$). Varying exchange rates and their impact on assets and liabilities were simulated in a sensitivity analysis so as to determine the effects on profit or loss. A gain or decline by 10% in the value of the euro versus the foreign currency in question would have changed the outcome as follows as at 31 December 2015:

in € 000's

	31 December 2015		31 December 2014	
	Increase	Decrease	Increase	Decrease
Euro vs. US dollar	-1	1	-2	2
Euro vs. Swiss franc	0	0	0	0
Euro vs. British pound	0	0	-2	2

If euro and foreign currency exchange rates had remained stable in the financial year just ended, the net loss of 4SC would not have changed (2014: no change).

#### 4. Counterparty credit risks in connection with receivables

In addition, 4SC is subject to the risk of a possible loss due to bad debt in terms of the loans and receivables category. The Group has receivables on its books, all or some of which may be settled with a delay or may not be settled at all. This would lead to valuation allowances being made on such receivables, and would thus have a negative impact on the Company's net assets, financial position and results of operations.

4SC's maximum counterparty credit risk in connection with receivables is equivalent to the carrying amount of the trade accounts receivable, i.e. €102 thousand as at the reporting date (2014: €675 thousand). To reduce the counterparty credit risk, the Company regularly runs its business relationships through different evaluation scenarios and fosters intensive customer relationships.

#### 7.16 OTHER FINANCIAL OBLIGATIONS

Other financial obligations for the years subsequent to the reporting date include facilities and office space rented by 4SC. This lease was renewed for five more years on 2 November 2011 and runs until 31 December 2016. Purchase options do not exist. The lease contains terms for adjusting the rent: Rent per month for office and laboratory space including common and functional space was increased by €0.50/m<sup>2</sup> for 2015 and subsequently increases by a further €0.50/m<sup>2</sup> in 2016.

There are no financial obligations under leases as at the reporting date.

There are no finance lease agreements.

Future payments due pursuant to agreements mentioned break down as follows:

in € 000's	
2016	896
from 2017	0
<b>Total</b>	<b>896</b>

The statement of comprehensive income for the reporting year contains expenses of €823 thousand from the leases (2014: €828 thousand). 4SC did not have any expenses under leases in 2015 and the previous year.

Financial obligations above and beyond those under leases basically stem from scientific service contracts, including external services in connection with the execution of the clinical and preclinical studies. This entails obligations up to an amount of €1,139 thousand (2014: €1,266 thousand); the maturity is contingent on the progress of the respective study.

## 8. DISCLOSURES ON THE STATEMENT OF CASH FLOWS

The development of cash and cash equivalents is shown in the table below:

in € 000's			
	2015	2014	Change in %
Cash flows from operating activities	-8,958	-8,372	7
Cash flows from investing activities	-1,541	897	-272
Cash flows from financing activities	28,773	6,778	325
<b>Net change in cash and cash equivalents</b>	<b>18,274</b>	<b>-697</b>	<b>2,722</b>
+ Cash and cash equivalents at the beginning of the period	3,202	3,899	-18
<b>= Cash and cash equivalents at the end of the period</b>	<b>21,476</b>	<b>3,202</b>	<b>571</b>

In addition to cash and cash equivalents, 4SC had no other financial assets, borrower's note loans and bearer notes as at the reporting date. Taken together, these items comprise the cash balance/funds:

in € 000's			
	31.12.2015	31.12.2014	Change in %
Cash and cash equivalents at the end of the period	21,476	3,202	571
Other financial assets	1,318	0	n/a
<b>Cash balance/funds</b>	<b>22,794</b>	<b>3,202</b>	<b>612</b>

## 9. STOCK OPTION PROGRAMS

The table below provides an overview of stock option programs issued to date as well as tranches and option terms:

Option program	Tranche	Issue	Subscription price	Subscription ratio <sup>1</sup>	Outstanding on		Issued in 2015	Expired in 2015	Exercised in 2015	Outstanding on		Max. number of shares available on 31.12.2015	Fair value	Cumulative staff costs <sup>2</sup>	Staff costs in 2015
					Issued	01.01.2015 <sup>3</sup>				31.12.2015	31.12.2015				
Unit		€			in 000's	in 000'	in 000'	in 000'	in 000'	in 000'	in 000'	in 000'	€	€	€
ESOP 2001	2001/1	31.03.01	48.00	2:1	74	0	0	0	0	0	0	0	n. m.	0	0
ESOP 2001	2001/2	10.10.01	48.00	2:1	110	0	0	0	0	0	0	0	n. m.	0	0
ESOP 2001	2002	30.06.02	60.00	2:1	120	0	0	0	0	0	0	0	n. m.	0	0
ESOP 2001	2003	30.09.03	25.40	2:1	318	0	0	0	0	0	0	0	3.70	52	0
ESOP 2004	2004	30.09.04	21.20	2:1	122	0	0	0	0	0	0	0	3.60	62	0
ESOP 2004	2005	30.09.05	21.20	2:1	93	0	0	0	0	0	0	0	3.55	53	0
ESOP 2004	2006/1	30.05.06	22.65	2:1	26	0	0	0	0	0	0	0	3.70	19	0
ESOP 2006	2006/2	25.08.06	19.00	1:1	296	40	0	0	0	40	40	40	8.55	436	0
REPLACEMENT-ESOP 2001	2006/3	25.08.06	19.00	1:1	166	16	0	0	0	16	16	16	7.70	183	0
ESOP 2006	2007	26.11.07	18.25	1:1	9	2	0	1	0	1	1	1	7.45	14	0
ESOP 2006	2008	22.08.08	17.25	1:1	43	1	0	0	0	1	1	1	7.50	62	0
ESOP 2009	2009	26.11.09	16.45	1:1	888	113	0	5	0	108	108	108	5.20	829	0
ESOP 2009	2010	26.11.10	15.45	1:1	18	1	0	0	0	1	1	1	3.85	11	-4
ESOP 2009	2011	30.11.11	7.20	1:1	18	3	0	0	0	3	3	3	3.25	10	2
<b>Total</b>					<b>2,301</b>	<b>176</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>170</b>	<b>170</b>	<b>170</b>		<b>1,731</b>	<b>2</b>

<sup>1</sup> The tranches affected by the December 2004 capital reduction had a subscription ratio of 2:1.

<sup>2</sup> Cumulative staff costs are calculated until the end of holding period.

<sup>3</sup> The figures as at 1 January 2015 were adjusted for the capital reduction and reverse stock split carried out in 2015.

All option tranches issued are exercisable only in return for shares. Authorized Capital I through IV and Conditional Capital VI were adopted to fulfill exercise of options issued.

Tranches issued since 25 August 2006 have a term of ten years. Half of the options under the "ESOP 2006" and "ESOP 2009" programs may be exercised a minimum of two years after the issue date. Another 25% are exercisable one year thereafter, and the remaining 25% in another year's time thereafter. All of the options of the "2006/3" tranche are exercisable after two years. The subscription rights may be exercised on condition that the applicable reference price exceeds the exercise price by more than 1/240th between the date on which the option is issued and the onset of the respective exercise period in the previous month.

The weighted average remaining term of all tranches outstanding is 2.87 years. The exercise prices of all outstanding tranches range from €3.25 to €8.55.

An overview of weighted average exercise prices is given below:

Exercise prices (weighted, €)		
	2015	2014
Options outstanding as of 01.01.	17.10	3.42
Options issued in the reporting period	---	---
Options expired in the reporting period	16.60	3.34
Options outstanding as of 31.12.	17.11	3.42
Options exercisable as of 31.12.	17.11	3.43

\* The figures as at 1 January 2015 were adjusted for the capital reduction and reverse stock split carried out in 2015.

## 10. REMUNERATION OF THE MANAGEMENT BOARD AND THE SUPERVISORY BOARD

### 10.1 MANAGEMENT BOARD

The total remuneration paid to the members of the Management Board amounted to €511 thousand (2014: €601 thousand) in the reporting year. Of this total amount, €47 thousand (2014: €47 thousand) represents contributions to defined contribution plans according to IAS 19.7. As in the previous year, pro-rated staff costs attributable to options included in overall remuneration amounted to €0 thousand for the reporting year.

Individual Management Board member remuneration for the reporting year breaks down as follows:

Remuneration in € 000's									
	Fix		Variable		Staff costs arising from options		Total		
	2015	2014	2015	2014	2015	2014	2015	2014	
Dr Daniel Vitt	201	201	16	18	0	0	217	219	
Dr Bernd Hentsch	0	63	-23	0	0	0	-23	63	
Enno Spillner	301	301	16	18	0	0	317	319	
<b>Remuneration of the Management Board</b>	<b>502</b>	<b>565</b>	<b>8</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>511</b>	<b>601</b>	

The following overviews show the shares and stock options held by members of the Management Board as at the 31 December 2015 reporting date.

Number of shares				
	Shares* 01.01.2015	Purchase	Sale	Shares on 31.12.2015
Dr Daniel Vitt	83,361	0	0	83,361
Enno Spillner	14,760	0	0	14,760
<b>Share held</b>	<b>98,121</b>	<b>0</b>	<b>0</b>	<b>98,121</b>

\* The figures as at 1 January 2015 were adjusted for the capital reduction and reverse stock split carried out in 2015.

Number of stock options					Options = maximum number of shares available
	Options* 01.01.2015	Additions	Expired	Exercised	
Dr Daniel Vitt	28,520	0	0	0	28,520
Enno Spillner	44,640	0	0	0	44,640
<b>Shares held</b>	<b>73,160</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>73,160</b>

\* The figures as at 1 January 2015 were adjusted for the capital reduction and reverse stock split carried out in 2015.

No stock options were issued to the members of the Management Board in the 2015 financial year.

In addition to the fixed remuneration, of which a percentage is paid out at the end of each month, current benefits owed to the members of the Management Board resulting from a portion of the variable remuneration totaled €62 thousand as at 31 December 2015.

For the Management Board members Enno Spillner and Dr Daniel Vitt, an agreement was signed in 2010 in the context of rearranging the Management Board's directors' contracts, stipulating that in the event of a takeover by a third party and when the Management Board is to be dissolved as a result, their salaries (fixed salary plus Bonus I and II) would be fully paid out for the remaining term of their contract, but for a minimum period of 15 months. Furthermore, in the event that a controlling interest is acquired in the Company the regulations on the expiry of stock options for the Management Board members are rescinded, i.e. all stock options issued to the members of the Management Board up to the termination date would remain with the Management Board members regardless of the termination of their employment. Apart from this, there are no post-employment or termination benefits owed to the Management Board members.

As at the reporting date, the members of the Company's Management Board were also members of the following control bodies and Supervisory Boards:

Dr Daniel Vitt

- Advisory Board member for quattro research GmbH, Planegg-Martinsried (since January 2004)
- Member of the Advisory Board of Nexigen GmbH, Bonn (since July 2008)

Enno Spillner

- Member of the Supervisory Board and Chairman of the Audit Committee of Nanobiotix S.A., Paris, France (since June 2014)
- Member of the Advisory Board of Faculty Club G2B, Planegg-Martinsried (since November 2014)

## 10.2 SUPERVISORY BOARD

The total remuneration paid to the members of the Supervisory Board amounted to €137 thousand (2014: €134 thousand). Individual Supervisory Board member remuneration for the reporting year breaks down as follows:

in € 000's		Remuneration	
	Occupation	2015	2014
Dr Thomas Werner (Chairman until 18.09.2014)	– Retired	0	29
Klaus Kühn (Deputy Chairman until 18.09.2014)	– Retired	0	20
Dr Irina Antonijevic	– Director Clinical Research at Genzyme (Sanofi Group), Cambridge, MA, USA	17	16
Dr Clemens Doppler (Chairman since 19.09.2014)	– Partner & Managing Director of Heidelberg Capital Asset Management GmbH, Heidelberg, Germany; – Managing Director of HeidelbergCapital General Partner GmbH, Heidelberg, Germany	35	24
Helmut Jeggle	– COO/Managing Director of Athos Service GmbH, Munich, Germany – Managing Director of AT Impf GmbH, Munich, Germany – Managing Director of AT Newtec GmbH, Munich, Germany – CFO / Managing Director of Apceth GmbH & Co. KG, Munich, Germany – Managing Director of Apceth Biopharma GmbH, Ottobrunn, Germany – Managing Director of Apceth Verwaltungs GmbH, Munich, Germany – Managing Director of Klinge Pharma GmbH, Bad Ems, Germany – Managing Director of Neuraxpharm Holding GmbH, Munich, Germany – Managing Director of Santo Venture Capital GmbH, Holzkirchen, Germany – Managing Director of Salvia GmbH, Holzkirchen, Germany – CFO/Managing Director of NX Biotech GmbH, Holzkirchen, Germany – Managing Director of Santo International Holding GmbH, Holzkirchen, Germany – Authorized representative of Santo Holding (Deutschland) GmbH, Holzkirchen, Germany	17	20
Dr Manfred Rüdiger (Deputy Chairman since 19.09.2014)	– CEO of Kiadis Pharma N.V., Amsterdam, The Netherlands; – CEO of Kiadis Pharma B.V., Amsterdam, The Netherlands; – Managing Director of Kiadis Pharma Canada, Inc., Saint- Laurent, Quebec, Canada; – Managing Director of Kiadis Pharma Deutschland GmbH, Munich, Germany	28	22
Joerg von Petrikowsky (since 28.10.2014)	– German public auditor and tax consultant	18	3
Prof Dr Helga Rübbsamen-Schaeff (since 02.01.2015)	– Chair of the Scientific Advisory Board of AiCuris GmbH & Co. KG, Wuppertal, Germany	22	0
<b>Remuneration of the Supervisory Board</b>		<b>137</b>	<b>134</b>



The following overview shows the shares held by members of the Supervisory Board as at the 31 December 2015 reporting date.

Number of shares held	Shares*			Shares 31.12.2015
	01.01.2015	Purchase	Sale	
Dr Manfred Rüdiger	1,500	0	0	1,500
Dr Clemens Doppler	3,719	0	0	3,719
<b>Shares held</b>	<b>5,219</b>	<b>0</b>	<b>0</b>	<b>5,219</b>

\* The figures as at 1 January 2015 were adjusted for the capital reduction and reverse stock split carried out in 2015.

As at the reporting date, the members of the Company's Supervisory Board were also members of the following control bodies and Supervisory Boards:

Dr Clemens Doppler

- Merlion Pharmaceuticals Inc., Singapore, member of the Supervisory Board
- Nanogate AG, Quierschied-Göttelborn, Germany, member of the Supervisory Board
- Vasopharm GmbH, Würzburg, Germany, member of the Advisory Board

Helmut Jeggle

- AFFiRiS AG, Vienna, Austria, member of the Supervisory Board
- APK ALUMINIUM UND KUNSTSTOFFE AG, Merseburg, member of the Supervisory Board
- BioNTech AG, Mainz, Germany, Chairman of the Supervisory Board
- Ganymed Pharmaceuticals AG, Mainz, Germany, member of the Supervisory Board
- Glycotope GmbH, Berlin, Germany, member of the Advisory Board
- Sidroga AG, Zoffingen, Switzerland, President of the Management Board
- Si02 Medical Products Inc., Auburn, Alabama, USA, member of the Advisory Board
- VANGUARD AG, Berlin, Germany, member of the Supervisory Board

Prof Dr Helga Rübsamen-Schaeff

- E. Merck KG, Darmstadt, Germany, member of the Board of Partners
- Merck KGaA (listed), Darmstadt, Germany, member of the Supervisory Board
- E. Merck KG, Darmstadt, Germany, Chair of the Research Council
- AiCuris GmbH & Co. KG, Wuppertal, Germany, Chair of the Scientific Advisory Board
- Bonn University Clinic, Bonn, Germany, member of the Supervisory Board

Dr Irina Antonijevic, Dr Manfred Rüdiger and Joerg von Petrikowsky did not hold any positions in other control bodies or Supervisory Boards as at the reporting date.

## 11. OTHER INFORMATION

### 11.1 RELATED PARTY TRANSACTIONS

4SC engaged in the following significant business transactions with related parties in the period from 1 January to 31 December 2015:

#### **quattro research GmbH, Planegg-Martinsried, Germany (associate)**

4SC maintains legal relations with quattro research GmbH, in which it has held a 48.8% stake of the share capital since its founding at the beginning of 2004. The software service contract that existed between the companies, on the basis of which quattro research GmbH renders services for improvement, further development, user support, further training and database maintenance with respect to software created by 4SC for supporting research activities was rescinded effective at the end of 2011. A new contract with terms and conditions that are more favorable for 4SC was signed in January 2012. This contract had a net volume of €120 thousand in the 2015 financial year (2014: €151 thousand). In the reporting period, a software license was purchased from quattro research GmbH for less than €1 thousand. As at the reporting date, there were no liabilities toward quattro research GmbH (31 December 2014: €6 thousand).

#### **Panoptes Pharma Ges.m.b.H., Vienna, Austria (associate)**

4SC Discovery GmbH maintains legal relations with Panoptes Pharma Ges.m.b.H., in which it holds a 22.1% stake of the share capital. In the 2015 financial year, 4SC Discovery GmbH billed a net amount of €3 thousand for contract services (2014: €22 thousand). As at the reporting date, the receivables from Panoptes Pharma Ges.m.b.H. amounted to €8 thousand (31 December 2014: €23 thousand); these receivables were paid on time in early February 2016.

#### **Santo Holding (Deutschland) GmbH, Holzkirchen, Germany (other related parties)**

4SC Discovery GmbH maintains legal relations with Santo Holding (Deutschland) GmbH, Holzkirchen, Germany. In June 2014, 4SC AG agreed a loan of up to €10 million with its main shareholder, Santo Holding (Deutschland) GmbH. This was earmarked for financing the costs of preparing for the planned clinical trial of the resminostat compound in the liver cancer indication and for covering part of the Company's ongoing administrative costs. The loan, which carries interest of 8% p.a., runs until the end of 2016 (maturity date) and could be drawn down in tranches up to 31 December 2015. A total of €1,500 thousand (2014: €6,000 thousand) flowed to 4SC from this financing agreement in the 2015 financial year. Furthermore, at the beginning of July 2015 1,500,000 consideration shares were issued at an issue price of €4.00 in return for contributions in kind for the purpose of settling the material portion of €6,000 thousand of the existing shareholder loan from Santo Holding (Deutschland) GmbH. As at the reporting date, there were liabilities to Santo Holding (Deutschland) GmbH in the amount of €1,962 thousand (2014: €6,131 thousand).

#### **BioNTech AG and BioNTech RNA Pharmaceuticals GmbH (formerly Ribological GmbH), Mainz, Germany (other related parties)**

4SC Discovery GmbH maintains legal relations with BioNTech AG, Mainz, Germany, and its subsidiary RNA Pharmaceuticals GmbH, which both belong to the Santo Holding

(Deutschland) GmbH Group, Holzkirchen, Germany. On 17 December 2012, a licensing agreement was concluded for TLR antagonists. Under the agreement, 4SC Discovery GmbH received an upfront payment of €2,500 thousand from BioNTech AG and is entitled to subsequent performance-based payments on achievement of specific sales milestones and to royalties. Furthermore, at the start of 2013, a service partnership was launched at standard market terms in which 4SC Discovery GmbH will identify new small-molecule, anti-cancer compounds for defined therapeutic targets and optimize these for BioNTech AG. In the financial year 2015, this contract had a net volume of €416 thousand (2014: €1,092 thousand) with respect to BioNTech AG and €14 thousand net (2014: €44 thousand) with respect to RNA Pharmaceuticals GmbH. As at the reporting date, the receivables from BioNTech AG amounted to €63 thousand (31 December 2014: €212 thousand); they were repaid in January 2016. There were no receivables from BioNTech RNA Pharmaceuticals GmbH as at the reporting date (31 December 2014: €14 thousand).

#### **AiCuris GmbH & Co.KG, Wuppertal, Germany (other related party)**

4SC Discovery GmbH maintains legal relations with AiCuris GmbH & Co.KG, Wuppertal, Germany, which also belongs to the Santo Holding (Deutschland) GmbH Group, Holzkirchen, Germany. In November 2013, a collaboration between 4SC Discovery GmbH and CRELUX GmbH (both in Planegg-Martinsried, Germany) on the one hand and AiCuris GmbH & Co. KG (Wuppertal, Germany) on the other was arranged. The objective of the collaboration is the identification and validation of innovative small-molecule compounds targeting pathogen-specific interactions in infectious diseases. This contract had a net volume of €12 thousand in the 2015 financial year (2014: €12 thousand). No liabilities existed toward AiCuris GmbH & Co.KG as at 31 December 2015, nor are there currently any joint activities.

#### **Other related party transactions**

Beyond this, there were no further business transactions with related parties in the reporting period where the transaction volume in each case exceeded €10 thousand or where the total annual transaction volume is likely to exceed €10 thousand. No liabilities existed from these transactions as at 31 December 2015.

### **11.2 CORPORATE GOVERNANCE CODE PURSUANT TO SECTION 285 NO. 16 GERMAN COMMERCIAL CODE**

On 23 February 2015 and 22 February 2016, the Company's Management Board and Supervisory Board declared in accordance with section 161 German Stock Corporation Act (Aktiengesetz, AktG) that they are in compliance, with a few exceptions, with the recommendations of the "Government Commission on the German Corporate Governance Code" issued by the German Federal Ministry of Justice. The declarations of compliance were made permanently available to the public on the same day on the website [www.4sc.com](http://www.4sc.com).

### 11.3 REPORTABLE EQUITY INVESTMENT PURSUANT TO SECTION 160(1) NO. 8 GERMAN STOCK CORPORATION ACT

The following table shows the principal shareholders of 4SC who – on the basis of the notifications received by the Company in accordance with section 21 ff. of the German Securities Trading Act (Wertpapierhandelsgesetz, WpHG) – hold more than 3% of the Company's shares. The figures given in each case refer to the last published notification. The actual status at 31 December 2015 may differ from these amounts, however.

Notifying entity	Date of notice	Voting share
Roland Oetker, Germany	16.02.2012	3.01% <sup>1</sup>
First Capital Partner GmbH, Gräfelfing, Germany		
WE Vermögensverwaltungs GmbH & Co. KG, Gräfelfing, Germany		
WE Verwaltung GmbH, Gräfelfing, Germany		
Wolfgang Egger, Germany	05.07.2012	9.91% <sup>1</sup>
Santo Holding (Deutschland) GmbH, Holzkirchen, Germany	09.07.2012	41.48% <sup>1</sup>
Wellington Partners Advisory AG, Zurich, Switzerland		
Wellington Partners Management Limited, St. Helier, Jersey, United Kingdom		
Wellington Partners Ventures IV Life Science Fund L.P., Edinburgh, United Kingdom	29.12.2015	6.59% <sup>1</sup>
<sup>1</sup> Based on an estimate of the management, the shares as at 31 December 2015 were as follows:		
– Roland Oetker, Germany	3.5%	
– First Capital Partner GmbH, Gräfelfing	7.2%	
– Santo Holding (Deutschland) GmbH, Holzkirchen	48.1%	
– Wellington Partners Ventures IV Life Science Fund L.P., Edinburgh, United Kingdom.	6.6%	

### 11.4 AUDITOR'S FEES PURSUANT TO SECTION 314(1) NO. 9 GERMAN COMMERCIAL CODE

On 27 July 2015, the Company's Annual General Meeting appointed Baker Tilly Roelfs AG Wirtschaftsprüfungsgesellschaft, Nymphenburgerstrasse 3b, 80335 Munich, Germany, to serve as the auditor of the 2015 financial statements.

in € 000's	31.12.2015	31.12.2014
Auditing services	68	64
Other verification services	10	10
Other services	93	33
<b>Total fee billed by the auditor</b>	<b>171</b>	<b>107</b>

### 11.5 AVERAGE NUMBER OF EMPLOYEES PURSUANT TO SECTION 314(1) NO. 4 GERMAN COMMERCIAL CODE

The average number of employees (excluding the Management Board of 4SC AG, the executive management of 4SC Discovery GmbH and trainees) during 2015 was 65 (2014: 62).

Of these 65 employees (excluding the Management Board and the executive management), 51 worked in research and development, 12 in sales and administration and two in information technology. Of the 62 employees in the previous year (excluding the Management Board and trainees), 47 worked in research and development, 13 in sales and administration and two in information technology.

## 12. EVENTS AFTER THE REPORTING PERIOD

4SC had announced the following events by the time these consolidated financial statements were prepared:

- 4SC received written scientific advice from the European Medicines Agency (EMA) in January 2016 based on discussions held previously. This advice will be incorporated into the planned Phase II trial of resminostat in CTCL later this year.
- In January 2016, the US Food and Drug Administration (FDA) approved 4SC's Investigational New Drug (IND) application for running a clinical trial with resminostat in combination with the standard therapy sorafenib for initial treatment of patients with HCC.
- Also in January 2016, 4SC Discovery GmbH reached an agreement with Omeicos Therapeutics GmbH (Omeicos) whereby 4SC will conduct pharmaceutical chemical analysis and synthesis activities for Omeicos for a maximum period of one year.

There were no other events occurring after the end of the financial year which had a significant impact on the results of operations, financial position and net assets of 4SC.

Planegg-Martinsried, 11 March 2016

The Management Board:



**Enno Spillner**  
Chairman of the Management Board



**Dr Daniel Vitt**  
Member of the Management Board

# AUDITOR'S REPORT

We have audited the consolidated IFRS financial statements, comprising the consolidated statement of comprehensive income, consolidated statement of financial position, consolidated statement of cash flows, consolidated statement of changes in equity, notes to the consolidated financial statements, segment reporting, and the combined management report of 4SC AG for the financial year from 1 January to 31 December 2015. The preparation of the consolidated financial statements and combined management report in accordance with IFRSs, as adopted by the EU, and the additional requirements of German commercial law pursuant to section 315a (1) HGB [Handelsgesetzbuch: German Commercial Code] are the responsibility of the Company's management. Our responsibility is to express an opinion on the consolidated financial statements and the combined management report based on our audit.

We conducted our audit of the consolidated financial statements in accordance with section 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in accordance with the principles of proper accounting in the consolidated financial statements and in the combined management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the consolidated financial statements and the combined management report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the financial statements of the companies included in consolidation, the definition of the scope of consolidation, the accounting and consolidation principles used and significant estimates made by the legal representatives, as well as evaluating the overall presentation of the consolidated financial statements and the combined management report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the consolidated financial statements comply with IFRSs, as adopted by the EU, and the additional provisions of German commercial law pursuant to section 315a (1) of the HGB and give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with the principles of proper accounting. The combined management report is consistent with the consolidated financial statements and as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development.

Munich, 14 March 2016

Baker Tilly Roelfs AG  
Wirtschaftsprüfungsgesellschaft

Stahl  
Wirtschaftsprüfer (German Public Auditor)

Hund  
Wirtschaftsprüfer (German Public Auditor)

# RESPONSIBILITY STATEMENT

“To the best of our knowledge, and in accordance with the applicable reporting regulations, the annual financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Company, and the combined management report includes a fair review of the development and performance of the business and the position of the Company, together with a description of the material opportunities and risks associated with the expected development of the Company.”

Planegg-Martinsried, 11 March 2016



**Enno Spillner**  
Chairman of the Management Board



**Dr Daniel Vitt**  
Member of the Management Board

# EXCERPT FROM THE ANNUAL FINANCIAL STATEMENTS OF 4SC AG (HGB)

// INCOME STATEMENT for the financial year from 1 January to 31 December 2015

in € 000's

	2015	2014
Revenue	2,296	3,778
Other operating income	1,369	1,119
<b>Total revenue and income</b>	<b>3,665</b>	<b>4,897</b>
Cost of materials		
Cost of raw materials, consumables and supplies	-1	-6
Cost of purchased services	-1,052	-1,897
Personnel expenses	-3,464	-3,332
Depreciation, amortization and write-downs	-800	-822
Other operating expenses	-6,029	-7,585
<b>Total expenses</b>	<b>-11,346</b>	<b>-13,642</b>
Other interest and similar income	31	6
Interest and similar expenses	-366	-143
<b>Net finance income/loss</b>	<b>-335</b>	<b>-137</b>
<b>Result from ordinary activities</b>	<b>-8,016</b>	<b>-8,882</b>
Cost of loss absorption	-7,768	-1,475
Taxes on income	-40	-70
<b>Net loss for the financial year</b>	<b>-15,824</b>	<b>-10,427</b>
Loss brought forward	-126,144	-115,717
Income from the capital reduction	40,679	0
Contribution to capital reserves pursuant to the provisions governing simplified capital reduction	-40,679	0
<b>Accumulated deficit</b>	<b>-141,968</b>	<b>-126,144</b>



// BALANCE SHEET for the financial year ended 31 December 2015

in € 000's

	31.12.2015	31.12.2014
<b>ASSETS</b>		
<b>Fixed assets</b>		
Intangible assets	7,106	7,842
Tangible assets	113	92
Long-term financial assets	9,984	9,984
<b>Total fixed assets</b>	<b>17,203</b>	<b>17,918</b>
<b>Current assets</b>		
Receivables and other assets	588	362
Securities	1,342	115
Cash-in-hand and bank balances	21,158	2,688
<b>Total current assets</b>	<b>23,088</b>	<b>3,165</b>
<b>Prepaid expenses</b>	<b>163</b>	<b>142</b>
<b>Total assets</b>	<b>40,454</b>	<b>21,225</b>
<b>EQUITY AND LIABILITIES</b>		
<b>Equity</b>		
Subscribed capital	18,967	50,849
Capital reserves	148,823	81,713
Accumulated deficit	-141,968	-126,144
<b>Total equity</b>	<b>25,822</b>	<b>6,418</b>
<b>Provisions</b>	<b>658</b>	<b>1,382</b>
<b>Liabilities</b>		
Trade payables	545	871
Other liabilities	13,429	12,554
<b>Total liabilities</b>	<b>13,974</b>	<b>13,425</b>
<b>Total equity and liabilities</b>	<b>40,454</b>	<b>21,225</b>

The balance sheet and the income statement are excerpts from the full annual financial statements of 4SC AG. These annual financial statements were audited by Baker Tilly Roelfs AG Wirtschaftsprüfungsgesellschaft, Munich, Germany, and issued with an unqualified auditor's report.

The full annual financial statements of 4SC AG are disclosed in the electronic Federal Gazette. The full annual financial statements can also be solicited from 4SC AG, Corporate Communications & Investor Relations, Am Klopferspitz 19a, 82152 Planegg-Martinsried, Germany.

# GLOSSARY

## **4SCAN®**

Computerized, virtual high-throughput screening technology developed by 4SC that enables simulated testing of large substance databases. Used for the cost-effective, rapid discovery and optimization of new compounds in pharmaceutical research.

## **AUTOIMMUNE DISEASES**

Illnesses caused by the body's immune system attacking its own tissue.

## **BIOMARKER**

Distinctive and measurable biological indicator of processes or pathogenic conditions in the body. Biomarkers are described as predictive when, for example, they can be used to identify patient groups responding particularly well to a compound. Currently, 4SC is researching whether ZFP64 (zinc finger protein 64) is suitable as a predictive biomarker for cancer treatment with HDAC inhibitors such as resminostat.

## **BIOTECHNOLOGY**

Use of living organisms to manufacture products such as drugs.

## **CANCER STEM CELLS**

Can form the basis of new tumors and thereby cause a resurgence of the disease or the formation of metastases.

## **CELL**

Smallest living unit of all organisms. The human body is made up of many different cell types, e.g. heart and skin cells.

## **CHECKPOINT INHIBITOR**

The immune system has a series of mechanisms to prevent excessive defense reactions. Cancer cells misuse these checkpoints to override the immune defense set up against them. This is where checkpoint inhibitors come in. They inhibit signaling pathways and enable the immune system to attack cancer cells.

## **CHEMOTHERAPY**

Cancer treatment using special chemical substances to kill cancer cells or prevent them from multiplying further.

## **CLINICAL DEVELOPMENT**

The performance of trials on humans in order to advance a drug candidate to the market approval stage.

## **COMBINATION THERAPY**

Use of two or more compounds to treat an illness.

## **CRC**

Colorectal cancer, colon cancer.

## **CROHN'S DISEASE**

Autoimmune disease of the colon.

## **CTCL**

See Cutaneous T-cell lymphoma.

## **CUTANEOUS T-CELL LYMPHOMA (CTCL)**

Specific type of blood cancer in which certain white blood cells (T cells) multiply uncontrollably, primarily affecting the skin.

## **EARLY-STAGE RESEARCH**

The first stage of the pharmaceutical research and development process. Generally comprises the identification of a therapeutic target structure plus compound identification and optimization. Concludes with the selection of a candidate compound suitable for preclinical development.

## **EG5**

Protein exercising a key function during cell division. In the development of cancer therapies, Eg5 provides an interesting point of attack for inhibiting tumor cell division and thus tumor growth.

## **EPIGENETICS**

Regulation of when and to what degree genes in the cells are switched on and off. The same genetic information is contained in both skin and heart cells, for example, but different genes are active, ensuring that the cells perform different functions.

## **FIRST-LINE THERAPY**

The first therapy used to treat the patient following diagnosis.

## **GENE**

Basic unit of inheritance in living organisms.

## **GENE REGULATION**

Controlling the activity of genes.

## **GENETIC MUTATION**

Change in the genetic information in a gene.

## **GENOME**

Totality of all genes in a living organism.

## **HCC**

Hepatocellular carcinoma, liver cell cancer, colloquially known as "liver cancer".

## **HDAC**

Histone deacetylases. Epigenetically active enzymes that – among other things – modify histones by removing acetyl groups from them. The HDACs thereby enable a greater or lesser degree of expression of certain genes. The development of HDAC inhibitors holds enormous potential in the fight against cancer.

**HEDGEHOG SIGNALING PATHWAY**

Signal transduction pathway based on which cells can react to external signals. Signal transduction can occur with or without involving the SMO protein. Blocking the hedgehog pathway is a novel therapeutic principle in the treatment of certain kinds of cancers – in relation to cancer stem cells, for example.

**HEMATOLOGY**

Study of blood and blood diseases.

**HISTONES**

Proteins around which DNA is wrapped in the cell nucleus.

**HL**

See Hodgkin's lymphoma.

**HODGKIN'S LYMPHOMA (HL)**

Virulent tumor of the lymphatic system.

**IMMUNE PRIMING**

Activation of immune cells to fulfill a particular function.

**IMMUNOGENICITY**

Ability of a substance to provoke an immune response.

**IMMUNOTHERAPY**

Form of treatment in which the immune system is targeted, e.g. for the therapy of cancer.

**IND APPLICATION**

US Food and Drug Administration's (FDA) investigational new drug application. IND applications are based on preclinical data that is typically acquired from animal testing and that indicates that a drug is sufficiently safe for testing in humans.

**INDICATION**

Medical field of application for a compound.

**INFLAMMATORY**

Causing inflammation.

**INHIBITOR**

A blocking substance.

**IN-LICENSING**

A license deal, generally in the form of the acquisition of development and marketing rights to a product, compound or R&D project.

**LEUKEMIA**

Specific type of blood cancer in which immature white blood cells that do not function properly multiply uncontrollably.

**LYMPHOMA**

Collective term for lymph node enlargements or lymph node swellings and lymphatic tissue tumors.

**LYSINE-SPECIFIC DEMETHYLASE 1 (LSD1)**

Epigenetically active enzyme that modifies histones by attaching methyl groups to them. LSD1 thereby enables a greater or lesser degree of expression of certain genes.

**MESYLATE SALT**

Specific drug delivery form for the compound resminostat.

**METABOLISM**

The entirety of life-sustaining transformations in an organism.

**MOLECULE**

A particle composed of at least two atoms.

**MONOTHERAPY**

Type of patient treatment using a drug containing only a single active substance.

**MULTIPLE MYELOMA**

Specific type of blood cancer in which certain white blood cells (plasma cells) multiply uncontrollably in the bone marrow.

**NSCLC**

Non-small cell lung cancer. Can often be surgically removed.

**ONCOLOGY**

The scientific study of cancer.

**OUT-LICENSING**

Sale of development and/or marketing rights to a product.

**PERIPHERAL T-CELL LYMPHOMA (PTCL)**

Specific type of blood cancer in which certain white blood cells (T cells) multiply uncontrollably.

**PHARMACEUTICAL FORMULATION**

The way in which a drug is formulated. A formulation can be provided as a gaseous state (e.g. for inhalation), a liquid state (e.g. for taking as drops), a semi-solid state (e.g. as an ointment) or a solid state (e.g. as a tablet).

**PHARMACOKINETICS**

Spatial and temporal distribution of compounds throughout the various tissues of an organism.

**PHARMACOLOGY**

Branch of science dealing with interactions between substances and organism.

**PHARMACOVIGILANCE**

Continual and systematic monitoring of the safety of drugs or of compounds examined in clinical trials.

**PHASE I TRIAL**

Clinical trial of a drug conducted in a small number of healthy volunteers or patients subject to strict controls; serves to test the tolerance, pharmacokinetics, method of administration and safe dosage of the compound.

**PHASE II TRIAL**

Clinical trial conducted in a relatively small number of patients subject to strict controls to identify a compound's sudden side effects and risks. Determination of the efficacy of the drug and any potential immune reactions to it.

**PHASE IIA TRIAL**

A Phase II trial with pilot study features and generally involving fewer patients. Usually focuses on providing confirmation of an initial proof-of-concept for the compound.

**PHASE IIB TRIAL**

A clinical Phase II trial conducted under controlled study conditions and generally involving more patients. Usually focuses on providing confirmation of the efficacy of a compound investigated in comparison to a control therapy under statistically controlled conditions.

**PHASE III TRIAL**

Clinical trial conducted in a large number of patients (between several hundred and several thousand) and to rigorous study standards, with the aim of determining the safety, efficacy and optimum dosage of a drug under real therapeutic conditions. Used to generate clinical data that can be used to support an application for the drug's market approval.

**PRECLINICAL TRIAL**

Laboratory tests on a new drug candidate using cell cultures or animals which are conducted to provide evidence justifying the performance of a clinical trial.

**PTCL**

See Peripheral T-cell lymphoma.

**RESISTANCE**

State in which an organism or certain cells remain unaffected by a drug.

**SCLC**

Small-cell lung cancer. Usually cannot be surgically removed.

**SCREENING**

Systematic testing to filter out substances that have certain qualities.

**SECOND-LINE THERAPY**

If the first therapy used to treat the patient following diagnosis (first-line therapy) proves to be ineffective or poorly tolerated by the patient, the second-line therapy is applied.

**SIGNALING PATHWAY**

Pathway via which cells can react to external stimuli or via which information can be transmitted within cells.

**SMALL-MOLECULE COMPOUNDS**

Compounds with a low molecular weight. In some cases, their small size enables these compounds to penetrate directly into cells and take effect there. The vast majority of currently approved drugs are small-molecule compounds.

**SOLID TUMORS**

Tumors having solid tissue. Solid tumours include all cancers of bodily tissue with the exception of those affecting the blood, bone marrow or lymphatic system.

**TARGET**

Molecule to which a compound binds, thereby triggering its therapeutic action. Usually these are biological molecules, e.g. enzymes or receptors that play a key role in the emergence or development of a disease.

**TOSYLATE SALT**

Specific drug delivery form for the compound resminostat.

**TOXICOLOGY**

Field of science examining the effects of toxic substances or the toxicity of substances.

**WNT SIGNALING PATHWAY**

Signal transduction pathway based on which cells can react to external signals. The pathway is named after the "WNT" signaling protein, which has an important function in the development of various cells. Due to mutations, this signaling pathway is a frequent cause of tumor development.

# FINANCIAL CALENDAR

// FINANCIAL CALENDAR 2016

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Consolidated Annual Financial Report 2015	30 March
3-Month Group Communication (Q1/2016)	12 May
Annual General Shareholders' Meeting	17 June
Consolidated Half-Year Financial Report (Q2/2016)	11 August
9-Month Group Communication (Q3/2016)	10 November

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