



## **Research Report (Initial Coverage)**

**SYGNIS Pharma AG**



**„Concentration on strong-growth markets  
after restructuring“**

**Target price: €4.55**

**Rating: BUY**

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**IMPORTANT NOTE:**

**Please take note of the disclaimer/risk warning, as well as the disclosure of potential conflicts of interest as required by section 34b of the Securities Trading Act (WpHG) on page 26 and ff**

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## SYGNIS Pharma AG <sup>\*5</sup>

**Rating: BUY**

**Price target: € 4.55**

current price: €2.60

03/7/2013 / ETR

currency: EUR

### Key date:

ISIN: DE000A1RFM03

WKN: A1RFM0

Ticker symbol: LIO1

Number of shares<sup>3</sup>: 9.364

Marketcap<sup>3</sup>: 24.35

EnterpriseValue<sup>3</sup>: 25.36

<sup>3</sup> in m / in EUR m

Freefloat: 10.4 %

Transparency Level:  
Prime Standard

Market Segment:  
Regulierter Markt

Accounting Standard:  
IFRS

Financial year-end: 12/31

Designated Sponsor:  
CBS

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\* catalogue of potential  
conflicts of interests on  
page 28

### Company profile

Sector: Life Science

Focus: development and commercialisation of  
DNA-technologies

Employees: 19 (June/2013)

Founded in: 1997

Headquarter: Heidelberg

Executive Board: Pilar de la Huerta



SYGNIS Pharma AG, headquartered in Heidelberg, is a life sciences company listed on the Prime Standard of the German Stock Exchange. According to the new business strategy outlined in 2012, the company focuses on the development and commercialisation of novel molecular biology technologies, for example in the area of DNA amplification and sequencing. In July 2012, the company closed an exclusive global licensing agreement with Qiagen for the commercialisation of the lead product "QualiPhi", an improved polymerase for DNA amplification. The product portfolio further includes new tools for next-generation sequencing (NGS) technologies, such as QualiPhi mutants and PrimPol, both close to market launch. Out-licensing is additionally planned for the fourth technology, DoubleSwitch, which allows for the measurement of protein-protein interactions.

P&L in EURm/Due date	31/12/2012	31/12/2013e	31/12/2014e	31/12/2015e
Sales	0,21	1,30	4,13	7,37
EBITDA	-1,35	-2,69	0,62	3,50
EBIT	-2,35	-2,92	0,44	3,32
Net profit	-2,40	-3,01	0,33	3,21

Figures in EUR	31/12/2012	31/12/2013e	31/12/2014e	31/12/2015e
Net profit per share	-0,26	-0,32	0,04	0,34
Dividend per share	0,00	0,00	0,00	0,00

Ratios	31/12/2012	31/12/2013e	31/12/2014e	31/12/2015e
EV/Umsatz	120,74	19,50	6,14	3,44
EV/EBITDA	neg.	neg.	40,90	7,24
EV/EBIT	neg.	neg.	57,63	7,64
KGV	neg.	neg.	73,78	7,58
KBV	3,96			

### Financial Dates:

#### Date: Event:

14/08/2013: Publication HY-Report

14/11/2013: Publication 9 month-Report

### \*\*last research published by GBC

#### Date: publication/price target in €/Rating

RS = Research Report; RG = Research Guide

\*\* the research reports can be found on our website  
[www.gbc-ag.de](http://www.gbc-ag.de) or can be requested at GBC AG,  
Halderstr. 27, D-86150 Augsburg

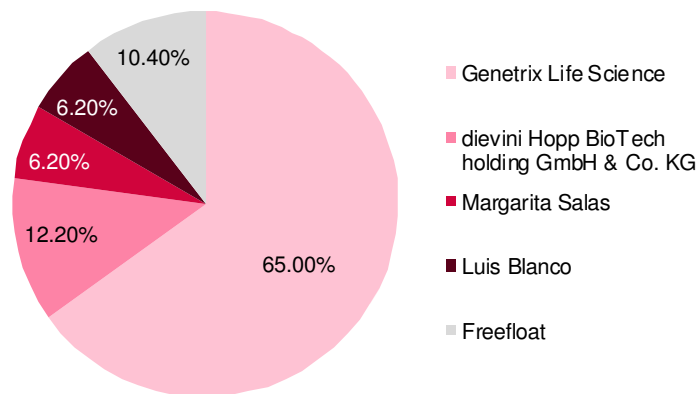
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## Company

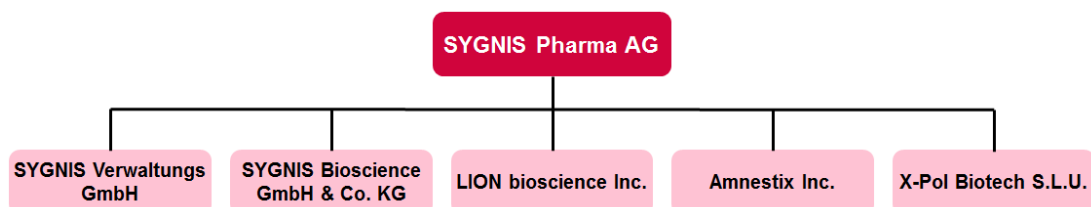
### Shareholder structure

Shareholder in %	31/12/2012
Genetrix Life Science A.B.	65.0 %
dievini Hopp Biotech holding GmbH & Co. KG	12.2 %
Prof. Margarita Salas	6.2 %
Prof. Luis Blanco	6.2 %
<b>Free float</b>	<b>10.4 %</b>



Source: SYGNIS Pharma AG; GBC AG

### Company structure



Source: SYGNIS Pharma AG; GBC AG

Following the business combination with X-Pol Biotech S.L.U. (X-Pol), SYGNIS Pharma AG (SYGNIS) has five fully owned subsidiaries. The main locations of the holding company are in Heidelberg (where the company has modern laboratory facilities with a total area of 800 sq. m.) and Tres Cantos, Spain (where the company owns laboratory facilities with a total area of 120 sq. m.). In both cases, the company rents premises in the local technology park and does not itself own any land. The corporate structure is built on holding criteria, with SYGNIS Pharma AG as the listed parent company. The development activities are carried out by SYGNIS Bioscience GmbH & Co. KG and X-Pol Biotech S.L.U.

## Strategy

### History of X-Pol Biotech and SYGNIS Pharma AG

May 2008	Founding of X-Pol Biotech through Genetrix and Professor Louis Blanco
June 2008	Renting of laboratory facilities in the science park Madrid (PCM) Tres Cantos
July 2008	X-Pol Biotech starts its activities
December 2008	Entry of Professor Margarita Salas as investor
May 2010	Entry of Professor Aidan Doherty as investor Development of two new products completed: human DNA polymerase mu and human DNA polymerase mu-H6
July 2012	Signing of an exclusive global licensing agreement with Qiagen, one of the worldwide market leaders in sample and assay technologies, for QualiPhi
December 2012	Acquisition of X-Pol Biotech through SYGNIS. In the context of this transaction, the X-Pol shareholder holds the majority of the shares of SYGNIS (reverse acquisition)
January 2013	SYGNIS obtains patent protection for versatilely useable substance screening platform in Europe and the US
March 2013	SYGNIS gets US patent for QualiPhi

Source: X-Pol Biotech, SYGNIS Pharma AG, GBC AG

### Merger with X-Pol Biotech S.L.U.

On 6<sup>th</sup> Dec 2012, SYGNIS announced the merger with Tres Cantos/Spain-based X-Pol Biotech S.L.U. In the context of a capital increase against contributions in kind, SYGNIS has acquired 100% of X-Pol. Similarly, the share capital of the acquirer increased from €2.10m to €9.35m, with the entire difference attributed to the shareholders of X-Pol. Hence, through a resulting participation rate in SYGNIS of 77.5%, the previous shareholders became the majority shareholders of SYGNIS (reverse acquisition).

In connection with this transaction, the company reorganised its operative activities. Until then, SYGNIS's focus had been on drug development, such as the KIBRA project, which was researched as therapy for the treatment of dementia. However, the project was discontinued at the end of 2012, due to the inability to raise additional funds for the continued development of KIBRA.

The transaction also led to the adaptation of the organisation to the company's new activities. In Heidelberg, the workforce was reduced by 10 employees, with the goal of reallocating the released financial resources to building the development and commercialisation of novel molecular biology technologies.

### Product portfolio of SYGNIS Pharma AG after restructuring

Following the restructuring, which led to the abandonment of SYGNIS's previous business model and thus the cessation of capital-intensive and time-consuming drug development activities, the risk profile of the company was significantly reduced. The products of the current portfolio benefit from both lower financing requirements and substantially shorter development timelines (typically less than two years).

SYGNIS's current product portfolio encompasses four products focused on DNA amplification and DNA sequencing, although these are in different commercialisation phases. In addition, the company has a proprietary technology for detecting protein-protein-interactions useful for the screening of drug candidates:

Project	Field of application	Research & development	Marketing	Lincense	Market
QualiPhi	DNA - Amplification	➔			
Novel QualiPhi mutants	DNA/Next Generation Sequencing	➔			
PrimPol	DNA/Next Generation Sequencing	➔			
Double Switch	Protein-Protein-Interaction screening technology	➔			

Source: SYGNIS Pharma AG; GBC AG

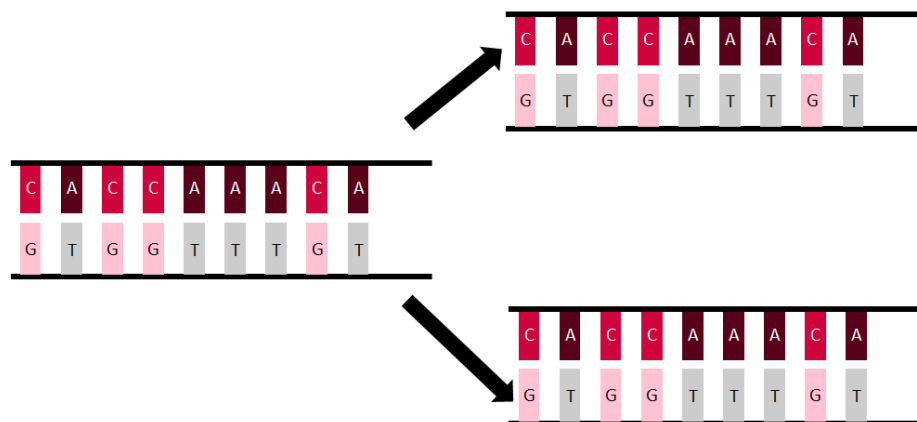
As is apparent from the presentation of SYGNIS's product portfolio, QualiPhi is close to market launch. To this end, the company entered a licensing with Qiagen – one of the global leaders in sample and assay technologies – in July 2012. Intensive work related to the market launch of QualiPhi, which is planned for the business year 2013, is currently underway. As part of the licensing agreement with Qiagen, SYGNIS is entitled to an upfront fee and royalties on revenue.

**QualiPhi**

SYGNIS's main product QualiPhi is an improved version of the Phi 29 DNA polymerase for isothermal DNA amplification. DNA amplification is a fundamental pillar in molecular biology, since DNA is often available only in small quantities that are insufficient for diagnostic, forensic or scientific analyses. DNA amplification occurs through the addition of DNA polymerases, i.e. proteins that are able to copy strands of DNA. Different technologies have been developed for this purpose.

DNA polymerase is an enzyme responsible for the amplification of DNA strands. During each cell division, which starts with the replication of the genetic information, this enzyme creates an exact copy of the DNA. In the context of the DNA double helix, the bases adenine (A) and thymine (T) as well as cytosine (C) and guanine (G) each form pairs; hence, one half of the double helix serves as template to copy the other DNA-strand.

**DNA-Amplification**



Source: GBC AG

The polymerase chain reaction (PCR) was developed in 1983 based on the amplification of genetic information shown overleaf. It consists of the replication of a DNA molecule based on a single strand of DNA in vitro (outside a living organism) through the addition of synthetic nucleotides (which contain the bases mentioned earlier) as well as the exposure to different temperatures (temperature range 45-95 degree Celsius). Repeated cycles of heating and cooling are an essential component of the reaction. However, PCR only allows for the amplification of short fragments of DNA (consisting of a few hundred nucleotides), and the DNA sequence to be copied therefore needs to be known a priori.

The Phi 29 polymerase, one of the key tools for next-generation sequencing (NGS), forms the basis of SYGNIS's most important proprietary technology: the QualiPhi, which represents a further development of the Phi 29 polymerase. Compared to the PCR described above, QualiPhi has the advantage of being able to additionally amplify large fragments of DNA (several thousand nucleotides). This method for amplifying DNA is carried out at a constant temperature (isothermal DNA amplification) of c.30 degree Celsius, therefore obviating the need for sophisticated lab equipment. Another important aspect is that the implementation of this technology does not require additional information about the DNA strand to be copied. These factors, as well as the lower error rate compared to traditional PCR, have made this technology to the worldwide standard for genomic analysis.

The QualiPhi polymerase - as a further development of the Phi 29 - has the potential to become the new global standard for isothermal DNA amplification, based on company expectations. In this context, it is important to highlight the improved qualities of the QualiPhi compared to the previous standard Phi 29. For example, the DNA amplification can be carried out with lower starting material, as is typically found in one cell, in less time and with greater efficiency. These advantages are underpinned through the out-licensing to Qiagen, one of the leading companies in this space.

### **Novel QualiPhi mutants**

In addition to DNA amplification, the Phi 29 polymerases are also used for the determination of the nucleotide sequence. However, the features required for a polymerase used for this purpose differ from the ones needed by a polymerase used for DNA amplification. To additionally address this application, SYGNIS is developing new, need-oriented mutants, which can be adapted to the requirements of next-generation sequencing (NGS).

### **PrimPol**

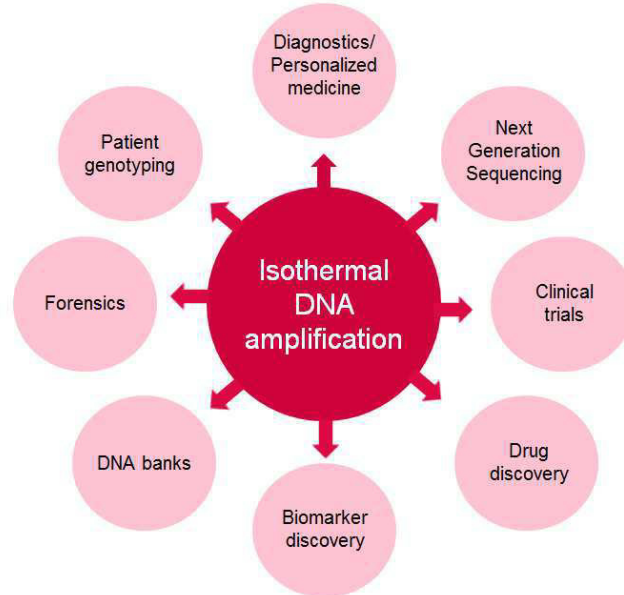
PrimPol is a brand new enzyme obtained from the thermophilic bacteria *Thermus thermophilus*, which is designed for the RNA and DNA replication market. This thermo-stable enzyme has two distinct activities - primase and polymerase. This means it can amplify RNA or DNA without the use of primers, which are currently required for the amplification process to be initiated. This adds expense and can cause errors. RNA reflects what is occurring in a cell, whereas DNA often only reflects a predisposition of a person to develop a disease. The development of PrimPol helps to simplify technical aspects and should expand the market. PrimPol also shows a great tolerance to damaged DNA. DNA and RNA are subjected to chemical modifications within the cells and during the processes necessary to purify the genetic material. Thus, an enzyme able to handle with modified templates is of particular interest, since current technologies are not optimized to use damaged samples.

### **DoubleSwitch**

The identification of protein-protein interactions is an important component for the understanding of molecular processes, e.g. regarding those that cause disease. A protein-protein interaction typically occurs between two or more proteins and plays a key role in all biological processes where proteins are involved. The modular DoubleSwitch technology developed by SYGNIS allows for the measurement of such interactions, ultimately allowing for the development of tailor-made active substances. The technology is protected by two fundamental patents granted both in Europe and the US and that last until 2023/2024.

## Field of application of the SYGNIS-technology

The applications for SYGNIS technologies can be expanded to all areas where the use of genetic engineering appears to be possible. The direct customer base of the company is likely to consist primarily of providers of assay and sample technologies (as reflected by the licensing agreement with Qiagen) as well as interested parties in the pharma industry. Nevertheless, the demand for the SYGNIS technologies should come from different industries.



Source: SYGNIS Pharma AG; GBC AG

The company sees particular growth potential in the area of red biotechnology, i.e. in the therapeutic application of genetic engineering. A special focus is personalised medicine in the areas of diagnostics and pharmacogenetics. Both areas serve the purpose of allowing for the accurate identification of the genetic bases, thus allowing for an efficient and tailored treatment. The key building block here is DNA analysis, which is employed both in diagnostics and drug research.

The application of the SYGNIS technology can further be expanded to additional areas. The decisive factor is the use of genetic engineering methods, for example in what is known as green or white biotechnology. Green biotechnology refers to biotechnology used in the context of agriculture; white biotechnology is the industrial use of microbiology, which allows for the efficient production of detergents or cosmetics, among others. Thus, it becomes evident that the potential for the SYGNIS technology is not limited to an individual industry, although the use in medical research and diagnostic is likely to predominate – at least initially.



## Management of the company

### Board of directors

#### **Pilar de la Huerta (CEO/CFO)**



Pilar de la Huerta has accumulated an extensive experience in the biotechnology sector over the last 15 years. From 2006, she was a strategic consultant within several companies, such as Viamed Salud Group, where she was responsible for R&D and New Business and was appointed CEO of the two most innovative companies within the Group: Araclon Biotech, SL. and Viamed Technology Investments. Before that, she was CEO at Neuropharma (currently Noscira) and assumed various responsibilities within the Zeltia Group, (the biggest quoted biotech holding in Spain). Pilar holds a Bachelor's Degree in Business and Administration by the UCM and has completed the IESE's Advanced

Management Program (AMP) and Program for Management Development (PMD) courses in the Navarra University.

### Supervisory board

#### **Dr. Cristina Garmendia Mendizábal (Chairwoman of the Supervisory Board)**



Cristina served as Minister for Science and Innovation of Spain from April 2008 to December 2011, leading some of the most groundbreaking reforms ever made in this area, including the Spanish Innovation Strategy and the Law for Science, Technology and Innovation. In 2001, she founded and developed the biotechnology holding Genetrix, with successful private fundraising of €90m. In 2008 she founded Ysios Capital, the largest Spanish Biotech capital fund. Cristina served as President of the Spanish Bioindustry Association (ASEBIO), as member of the board at the Spanish Confederation of Employers' Organizations (CEOE), and as member of various scientific or advisory boards. She is currently a member of the Advisory Board at the Productive Trans-

formation Program, led by the government of Colombia and chaired by Colombian president Juan Manuel Santos.

#### **Prof. Dr. Friedrich von Bohlen und Halbach (Deputy Chairman of the Supervisory Board)**



Prof. Dr. Friedrich von Bohlen und Halbach completed his academic career at the University of Zürich (Master's degree in Biochemistry) and at the Eidgenössische Technische Hochschule Zürich (Doctorate in Neurobiology) in 1992. As part of his professional career, he has ten years of experience in the life sciences industry. He held various senior positions, including at WASAG Chemie AG, FAG Kugelfischer KGaA and Agennix AG. Since 2005 he is the Managing Director of Dievini GmbH as well as of dievini Hopp Biotech holding GmbH & Co. KG. Alongside his mandate at SYGNIS Pharma AG, Dr. von Bohlen und Halbach holds various supervisory positions in the life sciences sector.

**Gonzalo Rodríguez-Fraile Díaz**



Mr. Rodríguez-Fraile Díaz complemented his academic career with an MBA at Harvard Business School. In addition, he successfully completed a law degree at the University of Navarra in Spain and further obtained a postgraduate degree in legal sciences. As part of this professional career, he co-founded the investment advisor company PRS, followed by building up of a clientele in Europe and the US. Today Mr. Rodríguez-Fraile Díaz is Chairman of the Board of PRS Investment Advisory, Chairman of the GRF Consulting Group US LLC and member of the Board of Directors of the biotechnology holding Genetrix A.B.

**Pedro-Agustín del Castillo Machado**



Mr. Pedro-Agustín del Castillo Machado graduated from the University Complutense of Madrid with a degree in Economics. His professional career encompasses diverse leading positions as well as board mandates at companies including Cañón Del Águila, S.L., Eléctrica Maspalomas, S.A and Elmasa Tecnología del Agua, S.L. In addition to his role on the Supervisory Board at SYGNIS Pharma AG, Mr. del Castillo Machado is a member of the Board at Binter Canarias, Casticapital, S.L., NATRA, S.A. as well as at Genetrix, S.L., SYGNIS's major shareholder.

**Dr. Joseph M. Fernández**



Dr. Fernandez was one of two co-founders of Invitrogen, Inc., (Currently Life Technologies). He developed and helped launch the company's first commercial products, as well as all aspects of the company. In 1999, he founded Active Motif, which specializes in novel tools and platform technologies for genomics-driven cell biology and epigenetic pathway elucidation. He is the current chairman of the company.

**Dr. Wolf-Dieter Starp**



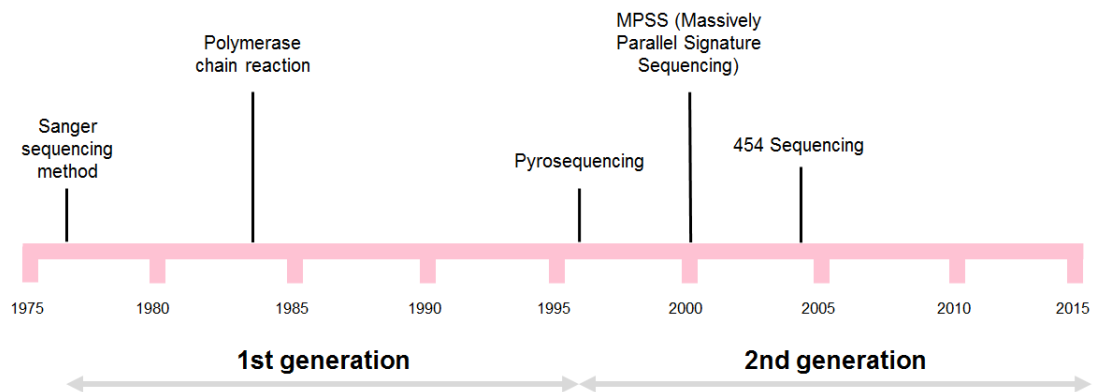
Dr. Wolf-Dieter Starp is the Head of the global M&A department at BASF SE. In addition, he is a member of the management board at BASF Finance Europe N.V. Alongside his mandate on the Supervisory Board of SYGNIS Pharma AG, Dr. Wolf-Dieter Starp is Chairman of the Supervisory Board of Axaron Bioscience AG in Ludwigshafen.

## Market and market environment

### History of sequencing - technological progress accelerates

Following the successful restructuring, SYGNIS Pharma AG is active in a still relatively young market environment. However, in light of the rapidly advancing technological development, many studies classify the market as having significant growth potential.

For a long period of time DNA sequencing experienced limited technological development, which only accelerated in the last two decades. During this time the procedure developed by Frederick Sanger in 1977 as well as further developments of this method was the gold standard for the read-out of DNA sequence information. However, the rising importance of this field of research led to the development of modern procedures, which allow for higher throughput at a lower cost. Based on an analysis conducted by MarketsandMarkets, genetic analysis underwent the following evolutionary steps:



Source: MnM Analysis; GBC AG

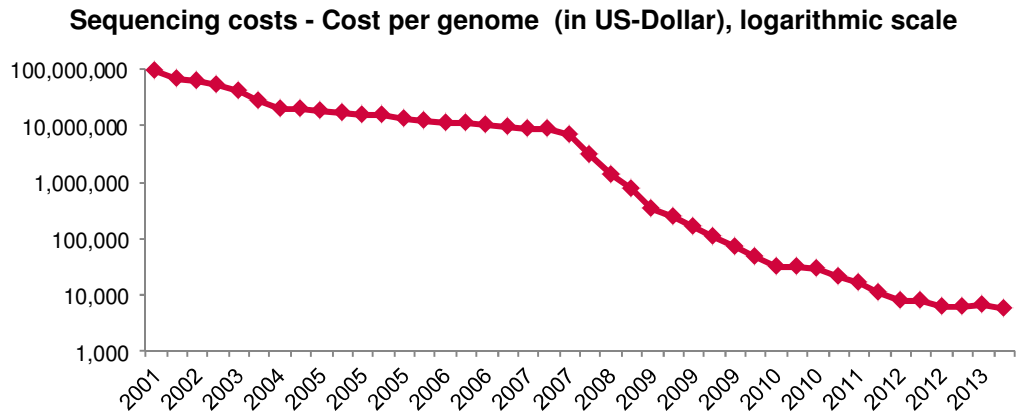
According to a working paper from the German Federal Ministry of Health, traditional molecular genetic sequencing techniques are designed to specifically analyse a clearly defined genomic fragment (typically a gene). In this respect, the amplification of the segment through PCR is the first step. Since the analysis is limited to a specific segment, the technology requires prior knowledge of what needs to be analysed.

In contrast, new high-throughput technologies (second generation) can sequence in a more random fashion. The DNA sequences subject to the sequencing reaction are read in their entirety; as such, the analysis in the context of this technology has fewer restrictions.

### Costs of sequencing - significant reduction broadens area of application

In line with the technological progress, sequencing costs have fallen significantly over the last few years. According to the National Human Genome Research Institute (NIH), costs for a single genome have fallen from US\$95.2m in 2001 to US\$5.671 in January 2013. The same study period further witnessed a paradigm shift away from traditional sequencing methods towards second generation methodologies. The substantial price decline can thus be interpreted as being a consequence of the rapid technological development.

Against this background, the market research institute MarketsandMarkets anticipates both a change and an expansion of the applications of DNA sequencing. While until now DNA analysis was mainly carried out by specialised research institutions, in the future the focus should be on medical research (e.g. neurosciences and cancer research).

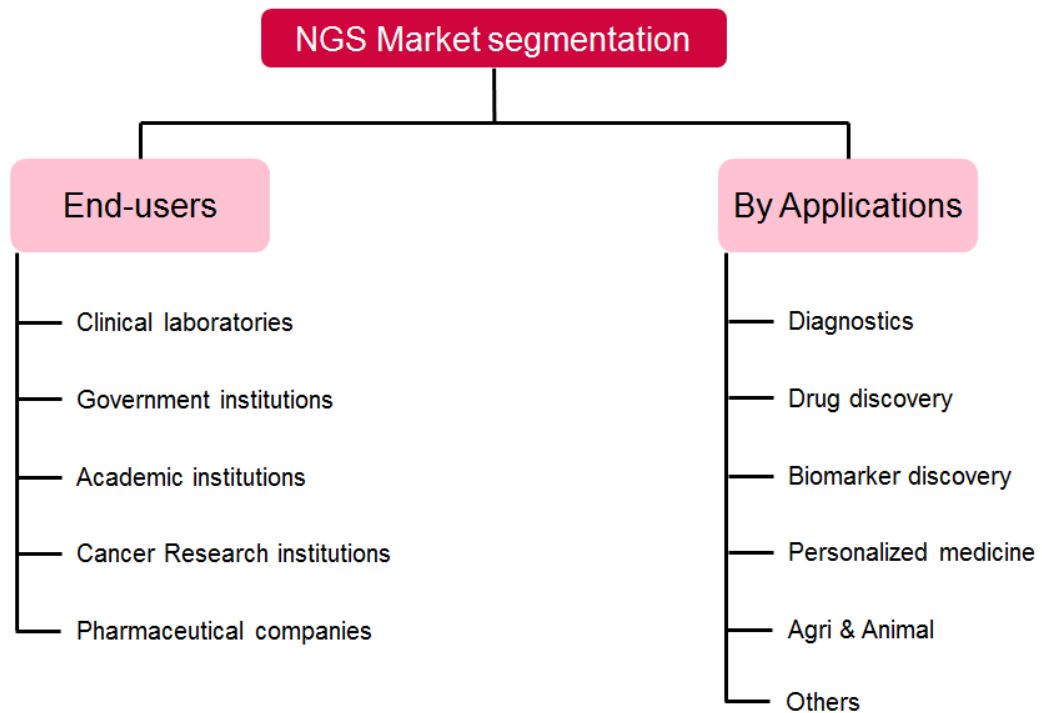


Source: NIH (National Human Genome Research Institute); GBC AG

Sequencing costs will likely continue to fall, albeit at a slower pace.

### Fields of application - Broad spectrum of applications

The range of applications for DNA analysis is broad, due mainly to the accelerating pace of technological progress and related cost effects. In addition to the typical users of DNA sequencing, companies e.g. in the agricultural industry are also now using the technology, which provides an indication of the diverse applications of DNA analysis. MarketsandMarkets segments the markets as shown below:



Source: MnM Analysis; GBC AG

With the increasing acceptance of NGS (next-generation sequencing), together with the multiplicity of applications, the technology has been transferred to new users. For example, during the last few years the agricultural industry invested heavily into genetic tests for plants and livestock. Overall, this leads to the conclusion that NGS has been adopted for an ever wider range of applications. Nevertheless, the MarketsandMarkets study sees the greatest future potential in the areas of personalised medicine and the development of biomarkers. This prognosis coincides with the expectations of SYGNIS Pharma AG, who also sees the greatest future potential in personalised medicine.

**Personalised medicine - centrepiece and important catalyst for DNA-sequencing**

A central part of personalised medicine is the targeted and tailored diagnosis in humans, which according to the Diagnostics Industry Association allows for a better understanding of physiological and pathological states. The therapeutic approach requires appropriate biomarkers in order to account for individual molecular variations. These are seen by experts as essential components for the broader use of personalised medicine.

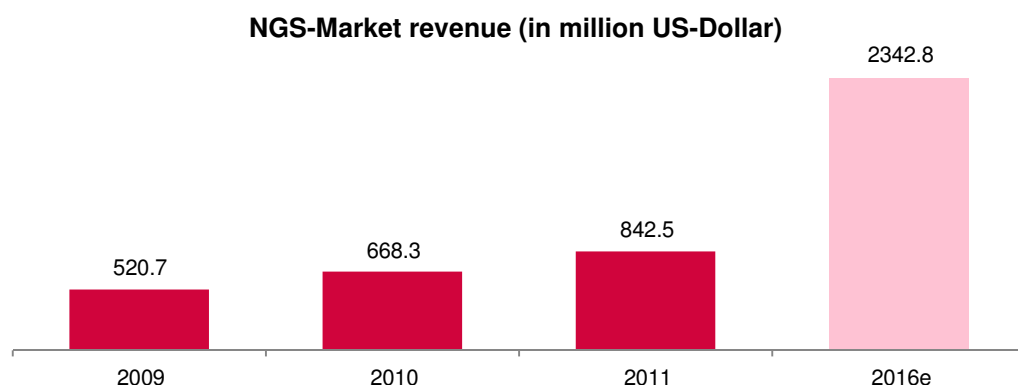
Biomarkers contribute to the understanding of a patient’s genetic makeup that forms the basis of disease development (Source: Pharmazeutische Zeitung; Author: Theodor Dinger-mann). A crucial element is the read-out of genetic data for patients, which are generated using DNA sequencing. These genetic data form the basis of a patient-related and individualised therapy. The increasing importance of personalised medicine is best reflected through the use of biomarkers in clinical studies, which also explore personalisation. Between 1990 and 2005, the proportion of studies that include biomarkers rose from 4.0% to 20.0% (Source: Medizinische Biotechnologie in Deutschland 2011 [Medicinal biotechnology in Germany], BCG report). A particular area of focus is oncology, accounting for over one-third of all studies employing biomarkers.

The greatest use of personalised medicine lies in the high variability regarding response to therapy, as personalisation usually leads to higher response rates. As a result of the early identification and elimination of tolerability issues, the therapy’s efficiency improves (avoidance of serious disease progression, fewer side effects, prevention of additional measures and personnel costs), leading to overall efficiency improvements and hence savings to the healthcare system. Based on these advantages, personalised medicine is projected to grow to US\$148.4bn worldwide by 2015. Between 2010 and 2015 this corresponds to a 5-year CAGR of +11.6%. MarketsandMarkets expects the growth of biomarkers to be slightly higher, projecting a 5-year CAGR of +14.8% between 2011 and 2016.

DNA sequencing should be one of the beneficiaries of this growth, even though it is only a partial application. The technological progress in particular should allow providers of DNA sequencing to tap into new market segments.

**Forecasts - CAGR of 22.7% until 2016 expected**

Accordingly, NGS technologies should experience strong growth in the coming years. MarketsandMarkets estimates that that global market should grow to US\$2.34bn by 2016. This translates to average annual growth of +22.7% compared to FY 2011 (US\$842.5m).



Source: MnM Analysis; GBC AG

Based on its product QualiPhi and two additional projects in the NGS space (novel QualiPhi mutants and PrimPol), SYGNIS Pharma AG is well positioned to participate in the future market growth described above. Preliminary evidence for this is the signed licensing agreement with Qiagen, one of the world’s largest providers of sample and assay technologies in the area of molecular diagnostics tests.

## Development of the Company & Forecast

### Overview of the figures

P&L (in million €)	FY 2011	FY 2012	FY 2013e	FY 2014e	FY 2015e
<b>Revenue</b>	<b>0.016</b>	<b>0.214</b>	<b>1.295</b>	<b>4.133</b>	<b>7.373</b>
Distribution expenses	-0.139	-0.203	-0.280	-0.290	-0.320
Administrative expenses	-0.208	-0.374	-1.700	-1.720	-1.850
Research & Development	-0.508	-0.997	-0.900	-1.000	-1.200
Amortisation	-0.042	-1.006	-0.230	-0.180	-0.180
Other operating result	0.001	0.012	-1.108	-0.500	-0.500
<b>EBIT</b>	<b>-0.880</b>	<b>-2.354</b>	<b>-2.924</b>	<b>0.443</b>	<b>3.323</b>
Financial expenses	-0.017	-0.052	-0.090	-0.110	-0.110
Financial income	0.001	0.009	0.000	0.000	0.000
<b>Profit before taxes</b>	<b>-0.896</b>	<b>-2.397</b>	<b>-3.014</b>	<b>0.333</b>	<b>3.213</b>
Income Taxes	0.003	0.000	0.000	0.000	0.000
<b>Net profit</b>	<b>-0.893</b>	<b>-2.397</b>	<b>-3.014</b>	<b>0.333</b>	<b>3.213</b>
EBITDA	-0.838	-1.348	-2.694	0.623	3.503
EBITDA-margin	neg.	neg.	neg.	15.1 %	47.5 %
EBIT	-0.880	-2.354	-2.924	0.443	3.323
EBIT-margin	neg.	neg.	neg.	10.7 %	45.1 %
Number of shares in million	7.246	7.407	9.364	9.364	9.364
Earnings per share in €	-0.12	-0.32	-0.32	0.04	0.34

## Business development FY 2012 - negative earnings due to low revenue base

in million €	FY 2011	FY 2012
Revenue	0.16	0.21
EBITDA	-0.84	-1.35
EBIT	-0.88	-2.35
Net profit	-0.89	-2.40

Source: SYGNIS Pharma AG; GBC AG

As a result of the reverse acquisition of X-Pol Biotech and the associated restructuring and changes in the business strategy, the annual results for 2012 bear limited relevance. In the context of the reverse acquisition, the shareholders of the acquired company (here X-Pol Biotech) achieved control over the acquirer (SYGNIS Pharma AG). In the financial year 2012, SYGNIS had completed a capital increase against contributions in kind worth €7.25m. The capital increase was made against the contribution of the entire share capital of X-Pol Biotech, whose shareholders achieved control over SYGNIS. Following the completion of the capital increase, X-Pol's majority shareholder, Genetrix Life Sciences, has a majority shareholding in SYGNIS with a 65% share. This reflects the reversal of the ownership, and from an accounting perspective, X-Pol can be regarded as the acquirer.

In light of the reverse acquisition, the accounts reflect the continued financial performance of the de facto acquirer. In the financial accounts for the year 2012, SYGNIS is considered the legal acquirer only starting on the day of the transaction (4<sup>th</sup> Dec 2012), thus diminishing the significance of the reported figures.

Following the reorganisation of the business, SYGNIS's product portfolio encompasses four projects, of which one is close to market launch. For the most advanced product, QualiPhi, the company closed a licensing agreement with Qiagen, with market launch earmarked for 2013. Thus, 2012 excludes any revenues related to the marketing of the product pipeline. Revenues of €0.20m achieved in the financial year 2012 (vs. €0.16m in FY 2011) represent the upfront fee related to the licensing agreement with Qiagen. This one-off payment, through which Qiagen acquired exclusive global rights to QualiPhi, is neither refundable nor creditable.

In light of the low turnover and hence the inability to recover costs, the operating result was negative, as reflected in EBITDA of -€1.35m (vs. -€0.84m in FY 2011). Apart from administrative and selling expenses totalling €0.58m (vs. €0.35m in FY 2011) the majority of operating expenses consisted of R&D costs, which jumped from €0.51m in FY 2011 to €0.98m in 2012. This reflects necessary research activities related to the product pipeline and the pending market launch of QualiPhi.

The research focus of the company is also visible in the headcount. As of 31<sup>st</sup> Dec 2012, the company had 29 employees (incl. former SYGNIS employees), of which approx. 80% were active in R&D. It is worth mentioning the development of EBIT, which experienced a sharper decline compared to EBITDA, falling to -€2.35m (vs. -€0.88m in FY 2011). This is due to a significant increase in amortisation of intangible assets to €1.00m (vs. €0.04m in FY 2011), reflecting a reduction in the value of two previously active research projects for which an economic recovery is improbable. These projects were predominantly former X-Pol projects that were terminated in conjunction with the reorganisation. According to company information, the aim is to provide a stronger focus on the current, promising project pipeline.



### EBIT-Development (in million €)



Source: SYGNIS Pharma AG; GBC AG

As shown in the chart above, research expenses and amortisation account for the majority of operating expenses. Of note, the extent of the amortisation is an exceptional effect not expected to recur in future financial years. In our view, the underlying cost structure is comparatively lean, which bodes well for an upsurge in revenues to yield an over-proportional increase in the operating performance. In addition, the reorganisation included a reduction in the headcount in Heidelberg, which should lead to a further reduction of the cost base. Since SYGNIS only has a small amount of debt on the balance sheet, interest expenses in the financial year 2012 were only €0.04m (vs. €0.02m in FY 2011). In the absence of income tax charges, net income totalled -€2.40m (vs. -€0.89m in FY 2011).

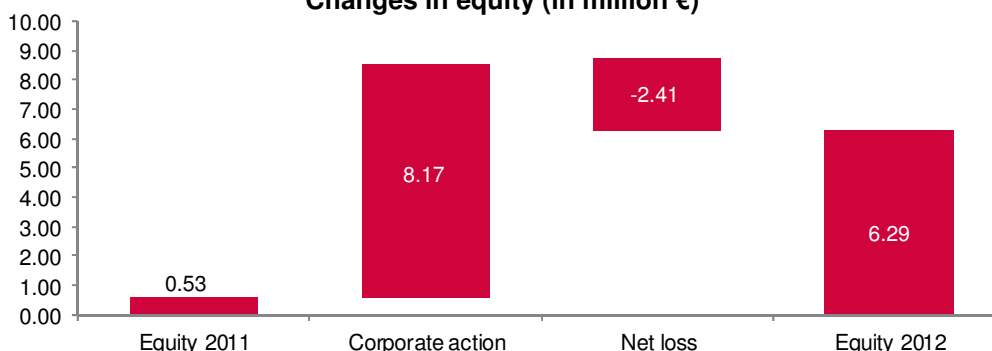
### Financial situation - significant changes due to restructuring

in million €	31/12/2011	31/12/2012
Shareholder's capital (equity ratio)	0.53 (24.4 %)	6.30 (65.6 %)
Operating assets	1.24	2.58
Working Capital	-0.35	-1.22
Interest bearing liabilities	1.24	1.60
Financial assets	0.88	0.59

Source: SYGNIS Pharma AG; GBC AG

Similar to the development of SYGNIS's earnings, the financial position needs to be analysed against the background of the restructuring. The first point to note is that the balance sheet figures reported by the company represent a continuation of X-Pol's performance (the economic acquirer). In the context of the transaction, SYGNIS's balance sheet was consolidated into that of the new economic owner X-Pol. According to the company, an illustration of the legal situation with SYGNIS as legal acquirer is only made at the level of the share capital. This shows a significant increase to €6.30m (vs. €0.53m in FY 2011) and now represents 65.6% of total assets. The expansion of shareholder's equity is due primarily to the increase of the share capital from €2.10m on 31<sup>st</sup> Dec 2011 to €9.35m on 31<sup>st</sup> Dec 2012. The capital increase was entered into the commercial register on 4<sup>th</sup> Dec 2012 with the introduction of all shares of X-Pol. The negative net result of -€2.40m reduces shareholder's equity.

### Changes in equity (in million €)

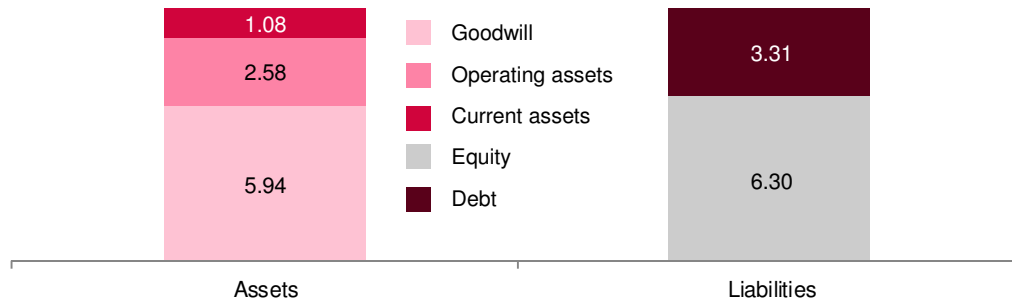


Source: SYGNIS Pharma AG; GBC AG



On the asset side, the sharp increase in shareholder's equity is due to the expansion of fixed assets (goodwill and intangible assets) from €1.24m in FY 2011 to €8.52m in FY 2012, particularly the increase in goodwill to €5.94m (vs. €0.00m in FY 2011). In the context of the reverse acquisition, a purchase price allocation for the acquired assets (old SYGNIS business) was performed. At a purchase price of €7.41m (acquisition of 16.83m SYGNIS shares at a price of €0.44 per share) and a fair value of net assets acquired of €1.46m, the difference was booked as goodwill. The goodwill does not represent the actual value of X-Pol but is rather to be understood as an accounting technical value as part of the acquisition. SYGNIS's balance sheet following the consolidation of X-Pol and SYGNIS is as follows:

**Balance sheet structure as of 31/12/12 (in million €)**



Source: SYGNIS Pharma AG; GBC AG

For a research-focused company, liquidity and cash burn are usually of utmost importance. In light of the fact that the company does not yet recognise revenues related to the commercialisation of the product pipeline, available financial resources are of critical importance. According to the company, these - together with the loans committed in early March 2013 (loans of the main shareholders totalling €0.70m) - will be sufficient to fund operations through to mid-2013.

As of 31<sup>st</sup> Dec 2012, SYGNIS had cash and cash equivalents (incl. securities) of €0.59m (vs. €0.88m in FY 2011). The decline in liquidity is due mainly to negative cash flow from operations of -€1.35m (vs. -€0.63m in FY 2011). This could not be fully offset by a positive cash flow from investing of €0.45m as well as increasing debt and cash receipts from capital increases totalling €0.49m.

To determine a meaningful cash burn rate, we take into account cash flow from operations, investments into tangible assets and R&D expenses. In FY 2012, these outflows equated to €1.79m. Including the committed loans from the main shareholders, we estimate a cash burn rate of 0.7 years. This coincides with company statements, according to which funds are sufficient to fund operations through to mid-2013. Nevertheless, SYGNIS has multiple options to secure additional financing, including approaching new investors, the granting of further loans, and use of an existing standby equity distribution agreement (SEDA) – all of which can bridge liquidity shortages. In addition, the company obtained approval for financing by the shareholder dievini Hopp Biotech Holding GmbH & Co. KG, that has agreed to provide some funding under certain undisclosed conditions, should Sygnis be unable to raise sufficient equity capital.

It is noteworthy that the development of the current product pipeline is nearly finalised; hence, the requirements for further R&D investments into it are limited. According to the company, market launch of the products is imminent, which should also result in an inflow of liquidity.

## Business development 1st quarter 2013 - low revenue versus high cost

in million €	Q1 2012	Q1 2013
Revenue	0.00	0.05
EBIT	-0.31	-1.24
Net profit	-0.31	-1.22

Source: SYGNIS Pharma AG; GBC AG

Similar to the annual results for 2012, a year-on-year comparison of the results for the first quarter of 2013 is of limited significance, due to the fact that the prior year quarter only reflects the earnings of X-Pol. As expected, SYGNIS only posted revenues of €0.05m, which were more than offset by operating costs of €1.29m. These relatively high costs are a reflection of the restructuring expenses that were incurred in connection with the headcount reduction. Hence, both EBIT of -€1.24m and net income of -€1.22m were in negative territory. The company expects the already announced measures for cost reductions to take effect in the current financial year, which should translate to below-average costs.

Accordingly, cash and cash equivalents (including securities) fell to €0.24m at 31<sup>st</sup> March 2013 (from €0.59m at 31<sup>st</sup> Dec 2012), despite the issuance of long-term financial loans totalling €0.62m. However, there are outstanding shareholder loans, which according to the company amount to €0.70m. As of 31<sup>st</sup> March 2013, only €0.13m had been called upon; hence, theoretically, SYGNIS has financial resources of up to €0.81m. Furthermore, recall that the company expects current financial resources to be sufficient to fund operations through to mid-2013.

## SWOT - Analysis

### Strengths

- Partnership with Qiagen, one of the global leaders in sample an assay technologies, represents a very strong sales channel for QualiPhi
- Strong, homogeneous product pipeline does not require further research efforts
- For its most important proprietary technologies, the company owns patents in the world's most important life sciences market
- The development of new products requires only limited development time and is therefore more cost-effective than drug development
- Experienced management team is supported by a highly experienced Supervisory Board
- SYGNIS can rely on a long-term commitment from the major shareholders

### Weaknesses

- SYGNIS has yet to achieve revenues from the commercialisation of its product pipeline and hence lacks a reliable track record
- According to management, current financial resources last until mid-2013. The company will therefore need to raise additional capital
- Current partnership model is centred on Qiagen, which could create a certain level of dependency
- Low level of sales with break-even yet to be achieved

### Opportunities

- First revenues from the commercialisation of products projected in the current financial year
- Break-even expected in FY 2014
- Short time to market allows SYGNIS to respond flexibly to changes
- SYGNIS is in discussions to out-license all pipeline products
- Since SYGNIS neither produces nor sells directly, the company benefits from a lean cost structure, which should facilitate the achievement of break-even
- Presence in two locations (Heidelberg and Tres Cantos) allows for sharing of respective expertise and hence the realisation of higher probability of success in new product development
- QualiPhi could become the gold standard for isothermal DNA amplification

### Risks

- SYGNIS is highly dependent on its licensees
- The company's success currently depends on a few products
- As a result of the change in the shareholder structure, the company's tax losses carried forward will be lost
- It may not be possible to successfully market newly developed products

## Forecasts - start of marketing phase expected for 2013 and earnings break-even in 2014

in million €	FY 2012	FY 2013e	FY 2014e	FY 2015e
Revenue	0.21	1.30	4.13	7.37
EBITDA (EBITDA-margin)	-1.35 (neg.)	-2.69 (neg.)	0.62 (15.1 %)	3.50 (47.5 %)
EBIT (EBIT-margin)	-2.35 (neg.)	-2.92 (neg.)	0.44 (10.7 %)	3.32 (45.1 %)
Net Income	-2.40	-3.01	0.33	3.21
EPS	-0.32	-0.32	0.04	0.34

Source: SYGNIS Pharma AG; GBC AG

### Business and marketing strategy - marketing phase about to start

As a company in the life science space, SYGNIS does not intend to market its own products. Rather, it seeks to out-license its technologies in the context of partnership models. As such, the company does not have to implement distribution channels or product lines, ensuring a lean organisational and hence cost structure. The out-licensing of QualiPhi (DNA amplification) to Qiagen can be used as a blueprint of a partnership model, although the terms of deals for other technologies can be performed under different conditions.

The upfront fee associated with the out-licensing deal of **QualiPhi** generates a cash inflow of €0.35m. SYGNIS is additionally entitled to sales-based royalty, which we expect to be around 9.0%. The agreement with Qiagen consists in an exclusive global out-licensing deal of the QualiPhi technology in the amplification space. The sequencing platform (read-out of DNA fragments) can be out-licensed to other companies.

In our opinion, the same principles apply for novel **QualiPhi mutants** developed based on QualiPhi, which are used for the actual read-out of nucleotide sequences. According to management, the company has already contacted companies in the next-generation sequencing (NGS) space, with the goal of closing an out-licensing deal in the current financial year 2013. We see a licensing deal with Qiagen as possible, since QualiPhi and novel QualiPhi mutants can be considered complementary technologies.

The brand new enzyme **PrimPol**, which is designed for the RNA and DNA replication market, should be out-licensed imminently. According to management, promising contacts with several companies have already been established. Hence, a marketing partner (including associated up-front fees) could still be appointed in the current financial year 2013.

Company sources indicate that the same timetable applies to the **Double-Switch** technology platform, which allows for the measurement of protein-protein interactions. Out-licensing activities in this area have already begun.

It is noteworthy that the aforementioned technologies, which form the basis for future revenues and earnings, are already fully developed, and their tailoring to the respective licensee should only require marginal development efforts. This also reflects the visibly reduced risk profile following the completed restructuring. The current focus on the development of technologies for molecular diagnostics implies both lower capital requirements and significantly shorter times to market compared to drug development. Since the underlying products are consumables for the laboratory and testing industries, the technologies developed by the company are not exposed to regulatory risks.

In addition to the existing product pipeline, the company is pursuing a two-pronged growth strategy. On the one hand, internal resources should be used for the development of new DNA tools based on proprietary know-how. The intention is to serve as yet unsatisfied market needs, taking into particular consideration the epigenetics market. On the other hand, the company is actively seeking new projects. Possible options in this respect include collaborations with academia or with companies that are active in the areas of molecular diagnostics and DNA tools. The identification and development of new projects are also part of our revenue and earnings forecasts.

Product	Licensing	Commercialization
QualiPhi	done	2. HY 2013
Novel QualiPhi mutants	2. HY 2013	1. HY 2014
PrimPol	2. HY 2013	1. HY 2014
Double-Switch	2. HY 2013	1. HY 2014
New projects	2. HY 2014	1. HY 2015

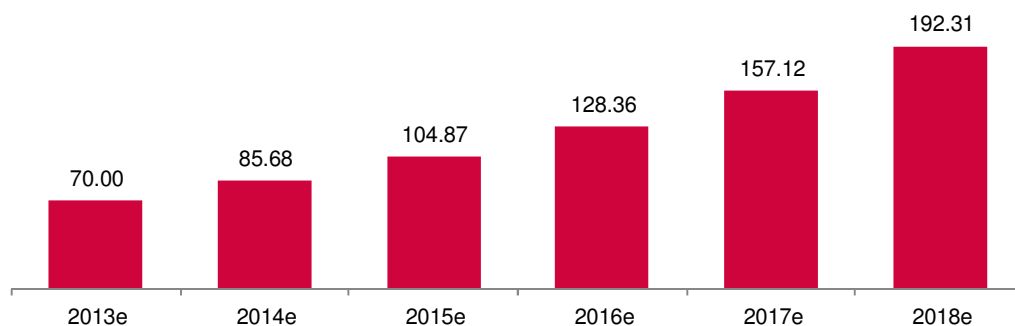
Source: GBC AG

Our revenue and earnings forecasts are based primarily on SYGNIS's existing product pipeline. We assume that new projects are commercialised from 2015 onwards, contributing additional revenues. The related upfront fees should already have a positive effect on the revenue development of the company in the next financial year 2014.

### Revenue forecasts - high revenue potential from marketing the product

With its already fully developed technologies, SYGNIS is operating in a very fast-growth market environment. The decisive factor is that SYGNIS tools need to be considered improved further developments of already established technologies. For example, the use of QualiPhi (already out-licensed to Qiagen) can achieve relatively high amplification efficiency, which – according to company information – can be up to 1,000 times higher (under certain conditions) compared to the Phi 29 DNA polymerase. Against this backdrop, SYGNIS expects QualiPhi to become the new world standard for isothermal DNA amplification. The technology underlying the novel QualiPhi mutants can also be considered an additional further development of the currently used wild-type Phi 29 DNA polymerase, which we believe could also be out-licensed to Qiagen.

### Market volume for Phi29 DNA-Polymerase (in million €)



Source: SYGNIS Pharma AG; GBC AG

Both technologies are somewhat dependent on the NGS market. However, the broad range of applications and greater cost effectiveness bode well for additional demand, which is not currently taken into consideration in the estimation of the current market potential. We have taken a conservative approach to estimating the market potential for both QualiPhi and novel QualiPhi mutants. SYGNIS estimates that the current market for the Phi 29 DNA polymerase is worth c.€70.0m, based on Qiagen's published revenues. Similar to the overall market for next-generation sequencing (NGS), we expect this market segment to post annual growth of c.23%. By the end of our explicit forecast period (FY 2015), the market should have expanded to over €100m.

As a strong marketing partner, Qiagen should be able to achieve a high market penetration. Based on our forecasts, the latter should successively increase from 1.5% in FY 2013 to 12.5% in FY 2014 and 22.0% in FY 2015 for QualiPhi, resulting in the following assumptions:

QualiPhi			
	2013e	2014e	2015e
Market volume (in m €)	70.0	85.90	105.40
Market share	1.5 %	12.5 %	22.0 %
Revenue (in m €)	1.05	10.74	23.19
Royalties	9.0 %	9.0 %	9.0 %
Front-Up-Fee (in m €)	0.15	-	-
Revenue on SYGNIS-Level (in m €)	0.24	0.97	2.09

Source: GBC AG

The postulated revenue assumptions reflect the proceeds of the licensee, with SYGNIS entitled to a sales-based royalty, which we expect to be around 9.0%. This assumption corresponds to the existing partnership with Qiagen, which we have used as blueprint for the other technologies.

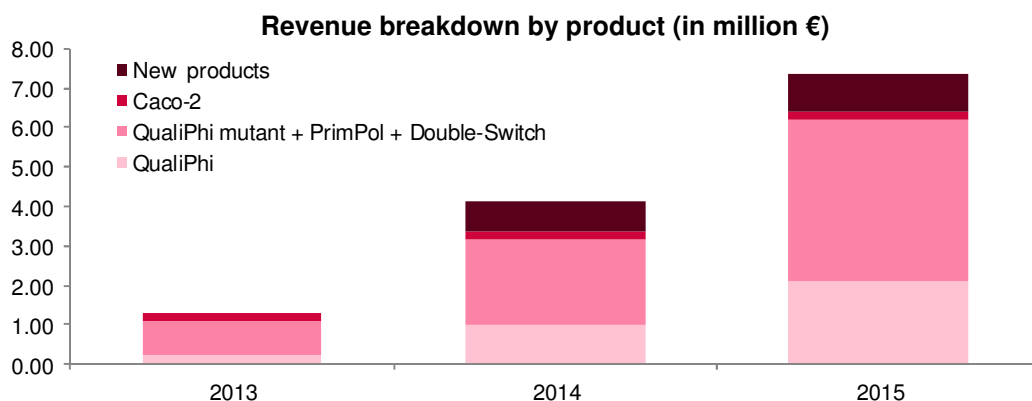
The lack of comparable products for the additional pipeline products Novel QualiPhi mutants, PrimPol and Double-Switch, makes it difficult to arrive at reliable market estimates. However, the company could sense a keen interest in these technologies in early discussions with potential licensees; hence, our estimates compensate for the lack of market data. We conservatively assume a lower market volume for both technologies, which corresponds to a lower revenue level.

Novel QualiPhi + PrimPol + Double-Switch				New Products			
	2013e	2014e	2015e		2013e	2014e	2015e
Revenue (in m €)	-	24.63	45.41	Revenue (in m €)	-	-	11.11
Royalties	-	9.0 %	9.0 %	Royalties	-	-	9.0 %
Front-Up-Fee (in m €)	0.85	-	-	Front-Up-Fee (in m €)	-	0.75	1.00
Revenue on SYGNIS-Level (in m €)	0.85	2.22	4.09	Revenue on SYGNIS-Level (in m €)	-	0.75	1.00

Source: GBC AG

Furthermore, our estimates also take into account new products developed in collaboration with research institutions and companies. Based on company statements, we assume that three new products are out-licensed in the coming financial year 2014, with first revenues contributing from 2015.

Finally, SYGNIS should generate small revenues (€0.20m p.a.) from the commercialisation of Caco-2 license rights in the US. According to the company, this license agreement, which belonged to the former SYGNIS Pharma, should be extended during the current financial year. This results in the following revenue breakdown for the financial years 2013-2015:



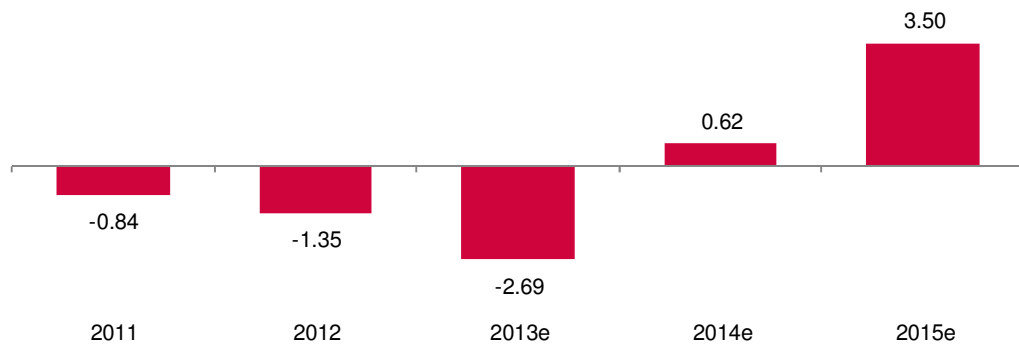
Source: GBC AG

Overall, we forecast a significant increase in revenues to €1.29m in FY 2013E, €4.13m in FY 2014E and €7.37m in FY 2015E. This is in line with company expectations, which according to the 2012 annual report assume revenues of €1-2m in FY 2013E and €4-5m in FY 2014E.

#### Earnings forecasts - earnings break-even expected for FY2014

Based on its business model, SYGNIS is expected to have a lean cost structure. Against the background of the expected revenue growth, we anticipate an increase in operating costs (administrative, revenue, R&D), but these should grow at a slower rate than revenues. At the same time, this indicates economies of scale. It is noteworthy that other operating expenses should increase disproportionately in the current financial year. This is due largely to the completed restructuring (e.g. headcount reduction); they can therefore be classified as exceptional items. The absence of these costs in later years should lead to above-average earnings growth in the financial year 2014:

**EBITDA-Development (in million €)**



Source: GBC AG

Under the assumption of rising revenue, SYGNIS should achieve operational break-even in FY 2014. Given expectations for a normalisation of the amortisation (lack of amortisation for discontinued projects) the company should be able to additionally achieve break-even at the EBIT level.

For future years, we assume a continued low leverage ratio, which should result in an only modest increase in interest expenses. Furthermore, taking into account the losses the company is generating (no tax charges expected until FY 2016) the operating performance shown here should extend to the post-tax result.

## Valuation

### DCF valuation

#### Model assumptions

We valued SYGNIS Pharma AG using a three-phase DCF model. Starting from the real-life estimates for the years 2013 to 2015 in phase 1, the second phase from 2016 to 2020 forecasts the effect of value drivers. We hereby expect revenue to increase by 10.0%. We took as our target an EBITDA margin of 57.0%. The tax ratio applied in phase 2 was 15.0%. For the third phase beyond the forecast horizon, a residual value was calculated using a perpetual annuity formula. For the final value we assume a growth rate of 3.0%.

#### Calculation of cost of capital

The weighted average cost of capital (WACC) for SYGNIS Pharma AG is calculated on the basis of internal capital costs and external capital costs. In order to determine the internal cost of capital, the fair market premium, the company beta and the risk-free interest rate need to be established.

The interest rate for 10-year German federal bonds is taken as the risk-free interest rate. This is currently 2.00%.

We used the historic market premium of 5.50% as a suitable expectation of market premium. This is supported by historical analyses of stock market yields. The market premium reflects the percentage of the expected excess return of the stock market over the low-risk government bonds.

Using the GBC estimation method there is currently a beta of 1.76.

Applying the chosen premises, the internal capital costs are calculated at 11.70% (beta multiplied with risk premium plus 10-year interest rate). As we assume a long-term weighting of internal capital costs of 85%, the weighted average cost of capital (WACC) is 10.74%.

#### Valuation result

Discounting future cash flows was carried out using the entity approach. We calculated the relevant capital cost (WACC) at 10.74%. The resulting fair value per share at the end of financial year 2014 corresponds to a target price of € 4.55.



## SYGNIS Pharma AG - Discounted Cashflow (DCF) model scenario

### Value driver of the DCF - model after the estimate phase:

consistency - phase		final - phase	
Revenue growth	10.0%	Eternal growth rate	3.0%
EBITDA-Margin	57.0%	Eternal EBITA - margin	55.0%
Depreciation to fixed assets	4.9%	Effective tax rate in final phase	30.0%
Working Capital to revenue	4.2%		

### three phases DCF - model:

Phase In € m	estimate			consistency					final value
	FY 2013e	FY 2014e	FY 2015e	FY 2016e	FY 2017e	FY 2018e	FY 2019e	FY 2020e	
Revenue	1.29	4.13	7.37	8.11	8.92	9.81	10.80	11.87	
Revenue change	504.9%	219.2%	78.4%	10.0%	10.0%	10.0%	10.0%	10.0%	3.0%
Revenue to fixed assets	0.40	1.20	2.02	2.02	2.02	2.02	2.02	2.02	
EBITDA	-2.69	0.62	3.50	4.62	5.09	5.59	6.15	6.77	
EBITDA-Margin	-208.1%	15.1%	47.5%	57.0%	57.0%	57.0%	57.0%	57.0%	
EBITA	-2.92	0.44	3.32	4.45	4.89	5.38	5.92	6.51	
EBITA-Margin	-225.8%	10.7%	45.1%	54.8%	54.8%	54.8%	54.8%	54.8%	55.0%
Taxes on EBITA	0.00	0.00	0.00	0.00	-0.73	-0.81	-0.89	-0.98	
Taxes to EBITA	0.0%	0.0%	0.0%	0.0%	15.0%	15.0%	15.0%	15.0%	30.0%
EBI (NOPLAT)	-2.92	0.44	3.32	4.45	4.16	4.57	5.03	5.53	
Return on capital	-215.1%	14.5%	91.1%	112.5%	95.7%	95.4%	95.4%	95.4%	73.8%
Working Capital (WC)	-0.20	0.20	0.30	0.33	0.38	0.41	0.46	0.50	
WC to revenue	-15.4%	4.8%	4.1%	4.2%	4.2%	4.2%	4.2%	4.2%	
Investment in WC	-1.02	-0.40	-0.10	-0.03	-0.05	-0.04	-0.04	-0.05	
Operating fixed assets (OAV)	3.25	3.45	3.65	4.02	4.42	4.86	5.34	5.88	
Depreciation on OAV	-0.23	-0.18	-0.18	-0.18	-0.20	-0.21	-0.24	-0.26	
Depreciation to OAV	7.1%	5.2%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
Investment in OAV	-0.90	-0.38	-0.38	-0.54	-0.60	-0.66	-0.72	-0.79	
Capital employed	3.05	3.65	3.95	4.35	4.79	5.27	5.80	6.38	
EBITDA	-2.69	0.62	3.50	4.62	5.09	5.59	6.15	6.77	
Taxes on EBITA	0.00	0.00	0.00	0.00	-0.73	-0.81	-0.89	-0.98	
Total investment	-1.92	-0.78	-0.48	-0.57	-0.64	-0.69	-0.76	-0.84	
Investment in OAV	-0.90	-0.38	-0.38	-0.54	-0.60	-0.66	-0.72	-0.79	
Investment in WC	-1.02	-0.40	-0.10	-0.03	-0.05	-0.04	-0.04	-0.05	
Investment in Goodwill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Free Cashflows	-4.61	-0.16	3.02	4.05	3.71	4.09	4.50	4.95	58.40

Value operating business (due date)	43.70	48.55
Net present value explicit free Cashflows	15.10	16.88
Net present value of terminal value	28.60	31.67
Net debt	5.71	5.97
Value of equity	37.99	42.57
Minority interests	0.00	0.00
Value of share capital	37.99	42.57
Outstanding shares in m	9.364	9.364
Fair value per share in €	4.06	4.55

Cost of capital	
Risk free rate	2.0%
Market risk premium	5.5%
Beta	1.76
Cost of equity	11.7%
Target weight	85.0%
Cost of debt	7.0%
Target weight	15.0%
Taxshield	25.0%
<b>WACC</b>	<b>10.7%</b>

### Sensitivity analysis - fair value per share in €

Return on Capital	WACC				
	8.7%	9.7%	10.7%	11.7%	12.7%
69.8%	5.97	5.03	4.36	3.84	3.44
71.8%	6.11	5.15	4.45	3.92	3.51
73.8%	6.25	5.27	4.55	4.00	3.58
75.8%	6.40	5.38	4.64	4.08	3.65
77.8%	6.54	5.50	4.74	4.16	3.71

## Conclusion

### Concentration on strong-growth markets after restructuring; BUY

Following the completed restructuring in the context of the reverse acquisition, SYGNIS Pharma AG's focus lies in the area of DNA amplification and DNA sequencing. The current product portfolio encompasses four fully developed technologies – QualiPhi, novel QualiPhi mutants, PrimPol and DoubleSwitch – all of which are close to market launch. At the same time, the previous projects in the field of drug development were discontinued, which significantly lowered the company's risk profile. Overall, the focus is on projects which compared to drug development benefit from substantially shorter development timelines and further have lower financing requirements.

The range of applications of DNA analysis is relatively broad and enjoys growing acceptance, not least due to the rising technological progress and related cost effects. Different studies project high growth rates for NGS technologies in the coming years, which are expected to average 22.7% per year to 2016. Its broad product range puts SYGNIS Pharma AG in a good position to participate in this strong market growth, especially as the technologies developed by the company have the potential to become new world standards in the area of DNA amplification and sequencing.

A good example is QualiPhi, which is a further development of the Phi 29 polymerase and has significantly improved properties. It allows for DNA amplification using lower starting material, and further in a less time-consuming and hence substantially more efficient process. These advantages are clearly reflected by the out-licensing agreement signed with Qiagen in July 2012. (Qiagen is one of the largest providers of sample and assay technologies worldwide in the area of molecular diagnostics.) SYGNIS expects first revenues from this distribution partnership in the current financial year (2013).

The out-licensing agreement with Qiagen for QualiPhi in the DNA amplification space serves as blueprint for other SYGNIS products. Since their development has already been completed, the entire product portfolio could be out-licensed in the current financial year. Based on this assumption, we expect first market sales for QualiPhi to still be generated in the current financial year. For 2014 we assume a significant revenue increase, which should allow the company to achieve operational break-even. In subsequent years SYGNIS Pharma AG should present additional product developments in the life sciences sector, which could lead to an acceleration of top-line growth.

This should also lead to a gradual improvement of the company's financial position. A particular point of focus is the company's liquidity, with management expecting available financial resources to be sufficient to fund operations through to mid-2013. Other than approaching new investors and receiving additional loans (including from existing shareholders), SYGNIS Pharma AG can take advantage of an existing standby equity distribution agreement (SEDA).

**Based on a discounted cash flow (DCF) model, we estimate a fair value for the company (end of financial year 2014) of €4.55 per share. The current share price of €2.60 per share therefore represents an 75.0% discount vs. our fair value. We therefore initiate on SYGNIS Pharma AG with a BUY rating.**

## Annex

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BUY	The expected return, based on the derived target price, incl. dividend payments within the relevant time horizon is $\geq + 10 \%$ .
HOLD	The expected return, based on the derived target price, incl. dividend payments within the relevant time horizon is $> - 10 \%$ and $< + 10 \%$ .
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