GBC AG
Investment Research

Research Report (Anno)

MagForce AG

magforce®
THE NANOMEDICINE COMPANY

Commercialisation and approval fully financed, important financing milestone achieved, increase in treatment figures expected, approval in the USA planned

Target price: 15,00 €

Rating: BUY

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) from page 17

Completion: 24/08/2017 **First Publication: 24/08/2017**

MagForce AG[*5a,5b,6a,11]

Rating: BUY
Target Price: 15.00 €
(previous TP: 13.90 €)

Current price: 8.00
23/08/2016 / XETRA-closing price
Currency: EUR

Key information:

ISIN: DE000A0HGQF5
WKN: A0HGQF
Ticker symbol: MF6
Number of shares[3]: 26.34
Marketcap[3]: 210.82
EnterpriseValue[3]: 196.49
[3] in € million

Transparency level: Scale
Market segment: Open Market
Accounting standard: HGB

Financial year-end: 31/12

Designated Sponsor: Hauck & Aufhäuser

Analyst:

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Marcel Goldmann
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* catalogue of potential conflicts of interests on page **Fehler! Textmarke nicht definiert.**

Company Profile

Sector: Medical Technology

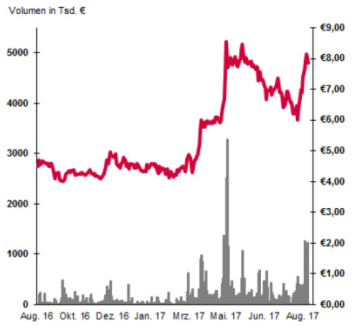
Specialty: Cancer Treatment

Employees: 28 Status: 31/12/2016

Founded: 1997

Registered Office: Berlin

Executive Board: Dr. Ben J. Lipps, Prof. Dr. Hoda Tawfik, Christian von Volkmann



By its own account, MagForce AG, located in Berlin, is a leading company in the field of nanomedicine with a focus on cancer treatment. The NanoTherm® therapy developed by the company is said to be suitable for the local treatment of almost all solid tumours. The treatment is based on heat that is created by the activation of injected super-paramagnetic nanoparticles. The components of this therapy, the medical devices NanoTherm®, NanoPlan®, the thermometric catheter TK01, NanoActivator® with the thermometric unit are certified across the EU for the treatment of brain tumours. The objective of the new cancer treatment is to establish itself as a further pillar of cancer therapy alongside conventional treatment methods such as surgery, radiation and chemotherapy. According to available data, the NanoTherm therapy displays a promising degree of efficacy as well as being well-tolerated.

P&L in EURm	2016	2017e	2018e	2019e	2020e
Sales	0.47	3.67	28.73	83.12	102.53
EBITDA	-6.56	-5.97	8.09	36.88	45.84
EBIT	-7.46	-6.13	7.92	36.71	45.67
Net profit*	-7.23	-5.57	8.79	38.71	35.80
Per Share Figures in EUR					
Earnings per share*	-0.28	-0.21	0.33	1.47	1.36
**before minorities*					
Key Figures					
EV/Sales	414.53	53.60	6.84	2.36	1.92
EV/EBITDA	neg.	neg.	24.28	5.33	4.29
EV/EBIT	neg.	neg.	24.80	5.35	4.30
P/B before minorities	neg.	neg.	23.99	5.45	5.89

Financial dates
29/09/2017: Half-Year Report 2017
27/-29/11/17: EK-Forum Frankfurt

**last research published by GBC:
Date: Publication / Target Price in EUR / Rating
23/03/2017: RS / 13.90 / BUY
21/10/2016: RS / 14.30 / BUY
12/08/2016: RS / 14.30 / BUY
11/05/2016: RS / 14.30 / BUY

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EXECUTIVE SUMMARY

- In the past financial year 2016, MagForce AG has advanced its approval and commercialisation strategy. As part of this strategy, the basis for the treatment of glioblastoma patients in Europe was expanded through the inclusion of the Vivantes hospital in Berlin Friedrichshain. A total of six NanoActivator devices are now installed in hospitals in Germany with four being used for commercial treatment.

- In a parallel process, the company advanced the approval of its own technology for the treatment of prostate cancer in the USA in 2016. At the recommendation of the American approval authority, the FDA, all the biocompatibility studies already conducted in Germany were conducted again. The trials demonstrated once again that the nanoparticles are non-toxic and that they remain in the region of application.

- In addition, MagForce AG laid the foundation for developing its financial base in 2016. This is of great importance in particular given the still low commercialisation income and the resulting liquidity outflow. After the start of discussions, a number of capital measures were successfully concluded after the balance sheet date of 31/12/2016. This includes the issue of a €5.00 million convertible bond, the assumption of various loans as well as the successful placement of a capital increase of €5.00 million. However, the focus was particularly on the recently reported financing agreement with the European Investment Bank (EIB) in the context of which MagForce AG can borrow up to €35.0 million. According to information provided by the company, this credit volume, which can be drawn in several tranches, is enough to finance the approval and commercialisation strategy in full. At the same time, this significantly reduces the financing risk and markedly increases operational flexibility.

- After securing the future financing, the company's focus is on the planned European roll-out of the technology. This is to primarily involve new treatment centres in Germany's neighbouring countries. In this regard, it is planned to install a NanoActivator® in treatment centres in five further European countries. In addition, after the successful repetition of the toxicology trials, the approval for the treatment of prostate cancer in the USA will be advanced. We expect marketing approval to be received in the second half of 2018. A further upside potential that we have, however, currently not yet included in our forecasts, arises from the planned expansion of the treatment for prostate cancer to Europe. Obtaining cost reimbursements from the health insurance providers will also be a focus in the upcoming reporting periods. In this regard, the plan is to conduct reimbursement studies.

- Based on our specific forecasts prepared up to financial year 2024, we have determined a fair value of €15.00 (previously: €13.90) per share. The increase in the target price is, in the first instance, due to a reduction in the weighted costs of capital as a consequence of the recently concluded financing agreement with the European Investment Bank (EIB). The €35 million to be drawn in the next few years leads to an increase in the typically lower interest debt component of WACC, as a result of which the weighted costs of capital are reduced to 11.0% (to date: 11.5%). Based on the current share price of €8.00, there is a considerable potential for a higher valuation and we therefore assign the BUY rating.

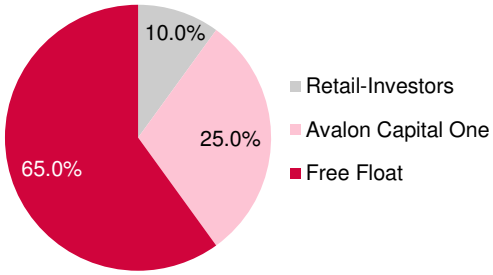
INHALTSVERZEICHNIS

COMPANY

Shareholder Structure

Shareholder	in %
Retail Investors	10.0%
Avalon Capital One	25.0%
Free Float	65.0%

Source: MagForce AG; GBC AG



Important financing milestone reached

MagForce AG signed a financing agreement with the European Investment Bank (EIB) on 08/08/2017, under which up to €35.0 million can be borrowed in the next three years. According to information provided by the company, this credit volume, which can be drawn in several tranches, is enough to finance the approval and commercialisation strategy in full. At the same time, this significantly reduces the financing risk and markedly increases operational flexibility. The fact that the financing of the following measures is secured is considered to be one of the key milestones of the past few financial years:

- As part of the approval and commercialisation strategy, the MagForce technology is to be rolled out in Europe following commercial treatments for brain tumours having already been offered in Germany. For this purpose, further devices will be installed in additional treatment centres in European countries. A NanoActivator® is currently installed in six hospitals across Germany, including four hospitals that cover the commercial treatment of brain tumour patients. Although foreign patients are able to receive treatment in Germany, the planned roll-out should enable patients to be treated in their homeland, which is expected to result in a correspondingly greater number of treatments. On-site treatment also brings advantages in terms of costs, which is not only expected to benefit patients, but would in this case also lead to an easier cost assumption process.

- We expect a NanoActivator® to be installed in treatment centres in a total of five further countries. According to the company, five new devices (cost per device: around EUR 0.50 million) are to be built and the two non-commercial NanoActivator® devices in Germany are to be used for this operation. With the recent financing commitment received, this strategic step will be easily achieved.

- MagForce AG's second important strategic building block is the planned approval of the MagForce technology for the treatment of prostate cancer in the USA. On the recommendation of the FDA, the foundations for market approval in the USA were laid in financial year 2016 with the company successfully repeating the pre-clinical trial it had already conducted in Germany. This demonstrated once again that the nanoparticles are non-toxic and that they remain in the region of application. Following the submission of the results at the end of 2016, we still expect the clinical approval trial to begin within the second half of 2017 and the corresponding market approval by the end of 2018.

- Similarly to the approval in the USA, the indication "prostate cancer" is also to be addressed in Europe. Based on the findings from the approval process in the USA, the modified MagForce technology should also obtain CE certification in Europe and be available for commercial treatments from as early as 2020. We have not yet explicitly taken this treatment route into account in our forecasts and therefore see pos-

sible, additional upside potential, which can be taken into account in our valuation model when more specifics are known.

- Another important step in the company's future development involves obtaining reimbursement of costs from insurance companies. Treatment costs are currently still borne privately. According to statements by the management, those issues still outstanding with regard to the reimbursement of costs are to be resolved in the course of the current financial year 2017. Furthermore, reimbursement studies are to be carried out in those countries where market entry is now on the agenda. With the recently announced financing commitment received, the required reimbursement studies are also fully financed.

NanoTherm®-Technology

NanoTherm® therapy, developed and patented by MagForce to combat solid tumours, is comprised of the medical products NanoTherm®, NanoPlan® thermometry catheter and the NanoActivator® with a thermometry unit:

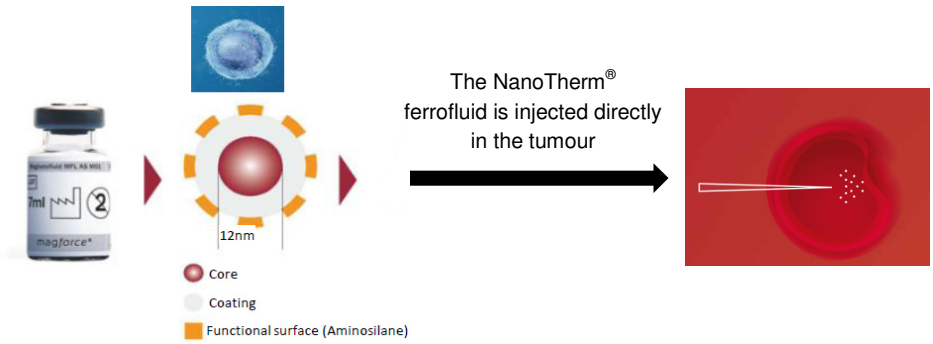
NanoTherm®-therapy		
NanoTherm®	**NanoActivator®**	**NanoPlan®**
		

Source: MagForce AG; GBC AG

NanoTherm® therapy is an intratumoural thermotherapy that has been approved in Europe since May 2010 as the currently only nanomedicine-based therapy for the treatment of brain tumours. MagForce AG pursues the objective of establishing this novel therapy as a further treatment standard besides conventional treatment methods such as surgery, radiation and chemotherapy.

NanoTherm®

NanoTherm® is a liquid containing super-paramagnetic, nano-sized iron oxide particles. These particles consist of an iron oxide core of approximately 14 nanometres and an aminosilane coating. NanoTherm® is inserted (instilled) into the solid tumour during a minimally invasive procedure. Due to the properties of the aminosilane coating, the iron oxide particles permanently remain in the instillation site, which enables multiple treatment cycles. The NanoTherm® particles are not or very slowly broken down by the body, as they agglomerate and therefore remain in the body, similar to an implant.

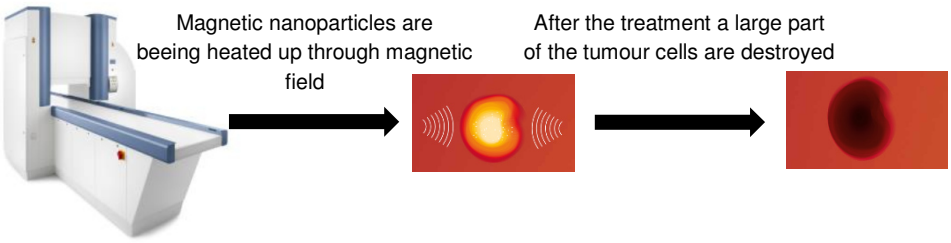


Source: MagForce AG; GBC AG

The iron oxide core is super-paramagnetic and, because of this property, responds well to a magnetic impulse.

NanoActivator®

The magnetic field is created by the NanoActivator®, developed and manufactured by the MagForce subsidiary MT MedTech Engineering GmbH. This device, specially adapted to the application of NanoTherm therapy, creates an alternating magnetic field which activates the nanoparticles, whereby the orientation of the magnetic field alternates around 100,000 times per second, resulting in the activation of the nanoparticles and therefore heating the tissue of the injected tumour. The rapid change in the nanoparticles' orientation is responsible for the generation of heat.



Source: MagForce AG; GBC AG

In contrast to existing "hyperthermia procedures", which allow temperatures of up to 43°C to be reached, the application of MagForce technology can achieve significantly higher temperatures of up to 80°C within the tumour's tissue. This results in the destruction of cancer cells directly at the NanoTherm depots, in addition to the hyperthermic effect in the vicinity of the tumour.

NanoPlan®

NanoPlan®, a software developed by MagForce AG, is then used by the treating doctor to plan the treatment temperature and the magnetic field intensity. Once NanoTherm® has been injected, a post-installation CT scan is performed to display the precise location and dissipation of the nanoparticle depots. In combination with imaging performed before nanoparticle installation, this serves as a data basis for the calculation and simulation of temperature dissipation in the tumour and in the surrounding healthy tissue in relation to the applied alternating magnetic field. This allows NanoPlan® to determine the optimal magnetic field intensity of the NanoActivator® needed to reach the therapeutic temperature, while taking all safety measures for the healthy tissue into consideration.

During the first treatment, the temperature reached in the tissue of the tumour is accurately measured with a temperature probe, which is inserted into a catheter that was previously inserted during the instillation of NanoTherm®. The temperatures measured are compared with the simulated and calculated temperatures and the magnetic field intensity is adjusted, if required.

MARKET AND MARKET ENVIRONMENT

Although the technology of MagForce AG initially addresses the indications of “glioblastoma” and “prostate cancer”, cross-indication treatment of solid tumours is also possible. When presenting the market potential, however, the areas of glioblastoma and prostate cancer should be detailed in accordance with the indications addressed by the company.

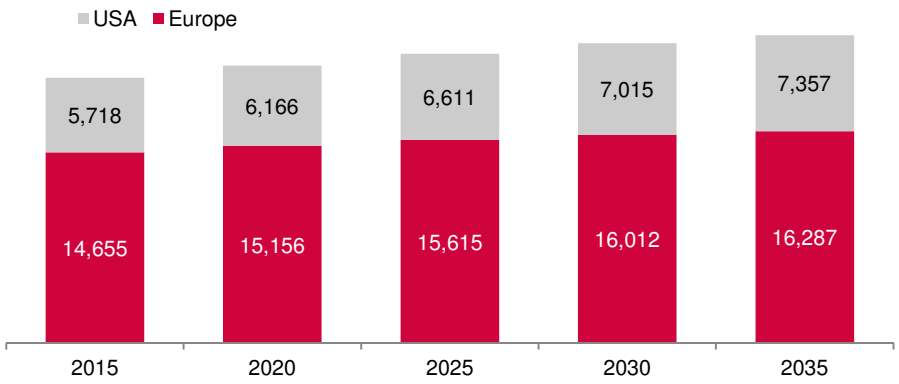
Market potential of glioblastoma

As the risk factors and causes of glioblastoma are still largely unknown, a forecast of the number of cases can only be made by considering the historical statistical figures.

On a worldwide basis, brain tumours are considered a rare tumour disease. According to data provided by GLOBOCAN, the global number of cancer cases affecting the brain and nervous system was 256.2 thousand, which constitutes approximately 1.8% of all cases of cancer. If we only consider rare, malignant glioblastoma, this proportion would be significantly below 1.0%. This rate also applies for Germany, where the average frequency of contracting a malignant primary brain tumour stands at 10.0 (men) or 7.7 (women) per 100,000 people (source: Robert Koch Institute). A total of approximately 7,080 people are diagnosed with brain tumours in Germany every year. The average age of disease onset is 62 years (men) and 66 years (women).

If one includes the forecasts regarding tumour diseases of the brain and nervous system published by GLOBOCAN as well as the associated glioblastoma case numbers, the following total is calculated for Europe and the USA:

GBC-forecast regarding glioblastoma



Source: GLOBOCAN; Robert-Koch-Institute; own calculations

Our forecast makes it clear that this disease is associated with a comparatively low and constant incidence. An important factor here is, however, the comparatively high level of willingness by patients to undergo therapy given their awareness of the poor prognosis for this disease. Glioblastoma patients generally turn to a combination of various forms of therapy. Consequently, relatively high market penetration can be assumed for MagForce’s new treatment approach.

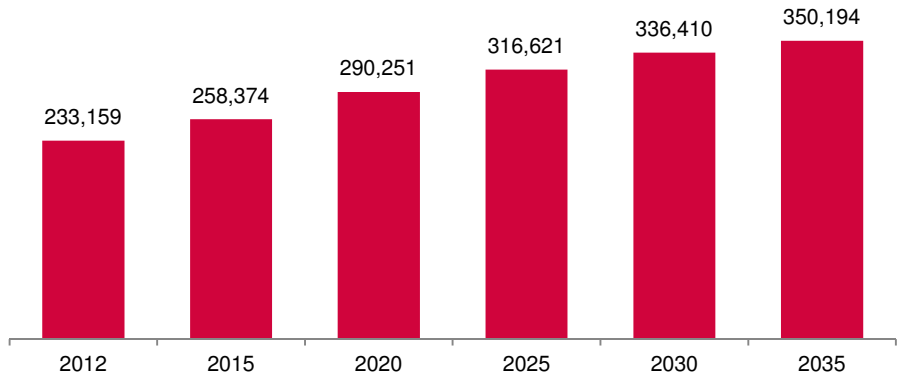
Market potential prostate cancer

In comparison to glioblastoma, the second indication addressed by MagForce, i.e. “prostate cancer”, has significantly higher market potential due to a considerably higher number of cases. Prostate cancer is a disease which occurs particularly frequently in indus-

trial countries, with an emphasis on Australia, North America and Western Europe. In these regions, the probability of developing prostate cancer is between 85.0 and 111.6/100,000 inhabitants, and therefore significantly higher than in the remaining parts of the world (30.6/100,000 inhabitants).

In the USA, a market initially targeted by MagForce AG, around 260,000 men develop prostate cancer every year; we can assume a significant increase in the annual number of cases over the next few years. Until 2035, around 350,000 new cases are expected annually. With an expected disproportional increase in the older population group, the age distribution plays an important role in the number of cases of prostate cancer. The median age at the time of diagnosis is 66 years, with the predominant proportion of prostate cancer cases diagnosed between 65 and 74 years.

Prostate cancer forecasts USA



Source: GLOBOCAN; GBC AG

The overall very high number of cases, in connection with a comparatively slow disease progression, is decisive when it comes to expenditure in the treatment of prostate cancer. The relative five-year survival rate for prostate cancer of 93.0% is relatively high when compared to other forms of cancer, which means a long treatment period with correspondingly high expenditure. According to IMS Health statistics, the market for prostate cancer treatments had a total global volume of US$3.9 billion in 2012. This market volume is expected to multiply to a total of $12.1 billion by 2022. Apart from an increase in cases, new treatment technologies are also said to be responsible for the CAGR (2012-2022) amounting to 12.0%.

The two indications currently targeted by MagForce AG illustrate the high market potential within the important regions of Europe and the USA in exemplary fashion. In principle, MagForce technology could also be applied in the treatment of other solid tumours, making broader coverage of market potential conceivable. In this case, MagForce AG would include the treatment of glioblastoma and prostate cancer in an initial step as “proof of concepts”.

The positioning of MagForce AG as a provider of new tumour treatment technology in the most important markets of Europe and the USA is therefore plausible and promising.

COMPANY DEVEOLPMENT

Business development 2016

in €m	FY 2013	FY 2014	FY 2015	FY 2016
Sales	0.00	0.00	2.58	0.47
Total output	5.44	7.66	7.70	1.58
EBIT	-1.58	-1.28	-1.88	-7.46
Net profit or loss	-1.63	-1.01	-1.55	-7.23

Source: MagForce AG; GBC AG

In the past financial year 2016, MagForce AG's focus was on the development of commercial treatments for glioblastoma patients in Europe. At the same time, important milestones in the approval process were reached in the second treatment route, the planned treatment of prostate patients in the USA.

At the end of 2016, a total of six NanoActivator devices were installed at the university hospitals in Berlin, Kiel, Münster, Cologne, Frankfurt and Göttingen with four of these hospitals covering the commercial treatment of brain tumour patients. Recently, in April 2016, the Vivantes hospital in Berlin Friedrichshain started commercial treatment. This location has a strategic advantage, in particular in light of its regional proximity to the eastern European markets. The commercial treatments carried out in 2016 were still, however, at a low level and for this reason MagForce AG reported comparatively low treatment revenues at €0.18 million (previous year: €0.16 million).

In our view, the yet still low revenues can be reduced to two important points:

- The level of awareness of the new MagForce form of therapy is still low
- The cost reimbursement for treatment with NanoTherm is still unresolved

Both points were addressed by MagForce AG in the past financial year and continue to be an important component of the company strategy in the future. In this regard, activities at specialist conferences and events were accelerated in the past financial year and important neurosurgeons were thus included in the company network. In addition, negotiations were conducted with health insurance providers in order to obtain and expand cost reimbursement in Germany. A reimbursement process in Europe will be established in the course of the planned expansion to Germany's neighbouring countries.

Within the second planned route for the treatment of prostate cancer in the USA, all the biocompatibility studies already conducted in Germany were successfully repeated in the past financial year 2016 at the recommendation of the American approval authority, the FDA. The studies demonstrated once again that the nanoparticles are non-toxic and that they remain in the region of application. After submitting the results at the end of 2016, the approval for the MagForce technology for prostate treatment in the USA was thus advanced.

Accordingly, MagForce AG's operational focus in 2016 was on the acceleration of commercialisation in the treatment of brain tumours in Germany and on making progress with the approval for the treatment of prostate cancer in the USA. Due to the still low commercialisation income and the concomitantly still low revenue base, the company continues to have negative earnings. Although earnings after taxes, at €-7.23 million, were significantly lower than in previous years, this is due to a lack of positive special effects. The earnings of the past few financial years were shaped by the transfer of development and sales rights to the 76.9%-owned subsidiary, MagForce USA, Inc., as well as the sale of NanoActivator® devices. Adjusted for this extraordinary income, MagForce AG would

have had earnings after taxes of €-5.05 million in 2015, which would thus have been around the level of the past financial year.

Comparison business performance to GBC forecasts

in €m	FY 2016 (as reported)	GBC Forecasts 2016
Sales	0.47	1.15
EBIT	-7.46	-8.09
Net profit or loss	-7.23	-8.09

Quelle: MagForce AG; GBC AG

MagForce AG's business performance was in line with our expectations. In our last research report (see research report dated 23/03/17), although we had forecast a slightly higher level of revenues, we had anticipated an even higher loss at earnings level due to expected higher operating costs.

Financial situation as at 31/12/2016

in €m	31/12/2013	31/12/2014	31/12/2015	31/12/2016
Equity	15.24	24.43	22.88	15.65
of which proportion of net loss	*-39.17*	*-40.18*	*-41.73*	*-48.96*
Debt capital	2.49	4.28	1.98	4.63
Cash and cash equivalents	9.27	9.15	1.39	0.61
Cash flow (operative)	-6.79	-8.71	-5.19	-6.58
Cash flow (investment)	-0.89	-1.61	-2.58	3.07
Cash flow (financing)	16.26	10.20	0.00	2.72

Source: MagForce AG; GBC AG

Special attention is placed on the financial situation of MagForce AG, in particular in light of the fact, that break-even has not yet been reached and the resulting lack of cash inflows from operations.

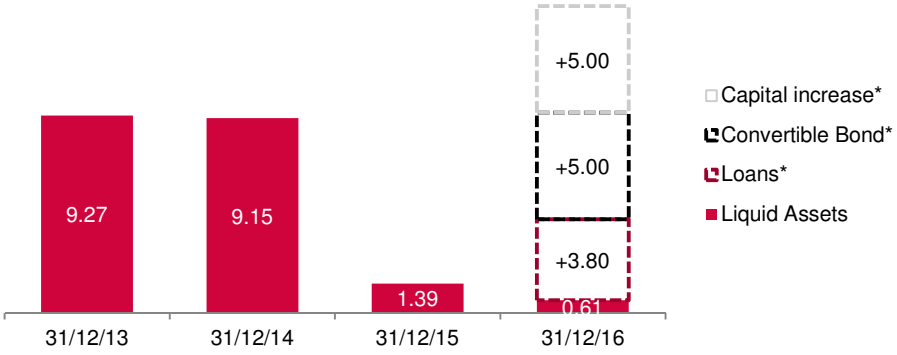
In the last twelve months, MagForce AG saw a significant decrease in liquid assets to €0.61 million (31/12/2015: €1.39 million). Fundamentally, in particular against the background of negative operating cash flow in the amount of €-6.58 million (FY 2015: €-5.19 million), this level is to be classified as low.

Nevertheless, the company was able to achieve a significant improvement in liquidity after the balance sheet date. In March of the current financial year 2017, a three-year convertible bond in the amount of €5.00 million was issued at an interest rate of 5.0%, which resulted in a significant liquidity increase. Furthermore, in February 2017 a loan of €0.40 million (interest rate: 5.0%) and, in June 2017, a further loan of US$3.00 million (interest rate: 4.0%) were taken out. In addition, at the end of June 2017, MagForce AG announced the successful placement of a capital increase of €5.00 million (issue of €0.72 million in new shares at a price of €6.94 per share).

Finally, MagForce AG signed a financing agreement with the European Investment Bank (EIB) in August 2017, under which up to €35.0 million can be borrowed in the next three years. According to information provided by the company, this credit volume, which can be drawn in several tranches, is enough to finance the approval and commercialisation strategy in full. At the same time, this significantly reduces the financing risk and markedly increases operational flexibility.

From the financing measures carried out after the balance sheet date of 31/12/2016, new liquid funds totalling more than €13.00 million have already flowed into the company, which has resulted in a significant improvement in the liquidity situation. If the up to €35.0 million still to be drawn from the EIB is included, full financing until the final implementation of the approval and commercialisation strategy becomes evident.

Development of cash (in €m)



*Source: MagForce AG; GBC AG; * liquidity increase after 31/12/16*

With the capital increase carried out in June 2017, the company is also likely to have seen a significant improvement in equity of approx. €5.00 million. In addition, for the convertible bond, at a current conversion price of €5.00 (current share price: €6.99), a high conversion rate can be expected, which is linked to a further improvement in equity. Recently, the results-driven increase in accumulated loss led to a decrease in equity to €15.65 million (31/12/15: €22.88 million).

FORECASTS AND MODEL ASSUMPTIONS

in €m	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e
Sales	3.67	28.73	83.12	102.53	111.74	131.66	159.83	172.15
EBITDA	-5.97	8.09	36.88	45.84	49.92	58.98	71.50	76.93
EBIT	-6.13	7.92	36.71	45.67	49.75	58.81	71.33	76.76
Net profit*	-5.57	8.79	38.71	35.80	34.83	41.17	49.93	53.73

*Source: GBC AG; ,*before minorities*

Forecast basis

Based on the recently concluded financing agreement with the EIB (European Investment Bank), MagForce AG is able to borrow up to €35.0 million in several tranches. Therefore, our strategic steps detailed below as a forecast basis are fully financed, which significantly reduces the execution risk.

According to strategic corporate planning, the development of the commercial treatments of glioblastoma patients will be implemented through a planned roll-out of the MagForce technology in Europe. European demand is currently addressed by the treatment centres in Germany. It is planned to establish additional treatment centres in Germany's neighbouring countries in the future, which is likely to be associated with a correspondingly higher number of treatments due to the cost and time benefits for patients. In this regard, it is planned to install a NanoActivator® in five further European countries. According to the company, five new devices (cost per device: around EUR 0.50 million) are to be built and the two non-commercial NanoActivator® devices in Germany are to be used for this operation.

Another important step in the company's future development involves obtaining reimbursement of costs from insurance companies. Treatment costs are currently still borne privately. According to statements by the management, those issues still outstanding with regard to the reimbursement of costs are to be resolved in the course of the current financial year 2017. Furthermore, reimbursement studies are to be carried out in those countries where market entry is now on the agenda.

Another important milestone planned for the forthcoming financial year 2018 will be reached when approval is granted for MagForce technology to treat prostate cancer. On the recommendation of the FDA, the foundations for market approval in the USA were laid in financial year 2016 with the company successfully repeating the pre-clinical trial it had already conducted in Germany. This demonstrated once again that the nanoparticles are non-toxic and that they remain in the region of application.

Following the submission of the results at the end of 2016, we expect the clinical approval trial to begin within the second half of 2017. Up to now, we had expected the trial to still begin within the first six months of 2017, as a result of which there will be a slight delay in market approval. However, the company remains positive that it will receive the market approval for the treatment of prostate cancer in 2018, which we have used as a basis for our forecasts. In the meantime, MagForce AG has also successfully identified other treatment centres, thereby establishing an extensive network of prospective investors prior to market approval.

Similarly to the approval in the USA, the indication "prostate cancer" is also to be addressed in Europe. Based on the findings from the approval process in the USA, the modified MagForce technology should also pass the CE certification in Europe and be available for commercial treatments from as early as 2020. We have not yet explicitly

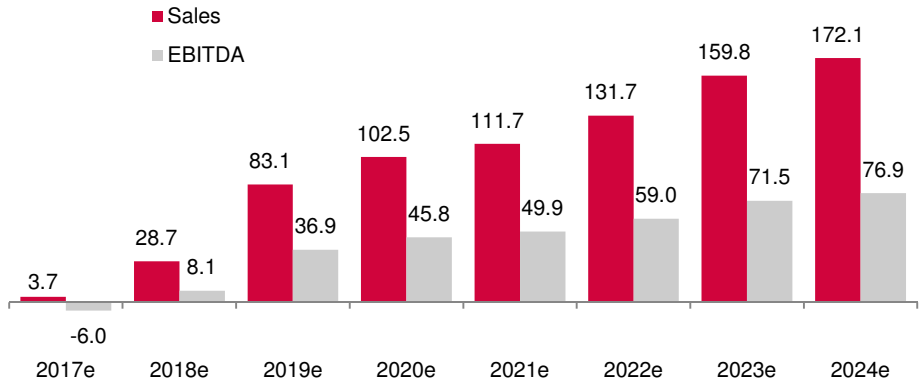
taken this treatment route into account in our forecasts and therefore see possible, additional upside potential, which can be raised when more specifics are known.

Sales- and earnings forecasts

In our projections, we have primarily factored in an increasing number of treatments of brain tumour patients in Germany for the current financial year 2017. According to the company, there has been a recent surge to around 600 requests per year due to greater awareness of NanoTherm® therapy. On this basis, we are assuming that the number of treatments will increase over the current financial year.

In the forthcoming financial year, sales revenue is expected to include commercialisation income as part of prostate cancer treatment in the USA for the first time. We are expecting small market shares in this field, but this indication is demonstrating a significantly higher number of cases than for glioblastoma. We are also expecting a positive reception for this new form of treatment from the funding bodies, as the MagForce technology allows for minimally invasive and therefore cost-saving treatment of the groups of patients addressed (Gleason score: 7) with a very high success rate. This process avoids the side effects typically associated with an operation or radiation treatment. We therefore expect sales to increase quickly following the successful market launch.

Sales and EBITDA (in €m)



Source: GBC AG

Based on the significant expected increase in sales revenue, we expect EBITDA – the output value for our valuation model – a margin of around 45%, which should mean that any increase in sales is reflected in a corresponding increase in EBITDA.

Sales revenue in the USA (glioblastoma and prostate cancer) is achieved at the level of the 76.9%- subsidiary MagForce USA, Inc. We have therefore taken minority interests into account in our DCF valuation model, resulting in a reduction in the fair company value.

Valuation

Model assumptions

We rated MagForce AG using a DCF model. Based on the company's commercialisation plan for the years 2017 to 2024, we have created concrete sales and profit estimates. Due to the accumulated losses carried forward, we have only taken into account a tax rate of 30% from the 2020e financial year. Additionally, a residual value is determined in the third phase by using the perpetual annuity by the end of the forecast horizon. As the final value, we assume a sales growth rate of 4.0%.

Determining of capital costs

The weighted average cost of capital (WACC) of MagForce AG is calculated from the capital cost and the cost of debt. The market premium, the company-specific beta, as well as the risk-free rate have to be determined in order to determine the equity cost.

The risk-free interest rate is derived in accordance with the recommendations of the expert committee for company valuations and business administration (FAUB) of the IDW (Institut der Wirtschaftsprüfer in Deutschland e.V.) from the current interest rate yield curves for risk-free bonds. The zero bond interest rates according to the Svensson method published by the German Federal Bank form the underlying basis. To smooth out short-term market fluctuations, we use the average yields over the previous three months and round up the result to 0.25 basis points. The value of the currently used risk-free interest rate is 1.25% (until now: 1.25 %).

We set the historical market premium of 5.50% as a reasonable expectation of the market premium. This is supported by historical analyses of stock market returns. The market premium reflects by which percentage the stock market is expected to be more profitable than the low-risk government bonds.

According to GBC estimates, a beta of 2.04 is currently determined.

Using the assumptions implied, cost of equity is calculated to amount to 12.45% (Beta multiplied by the risk premium plus the risk-free interest rate). Since we assume a sustainable weighting of the equity costs of 85% (until now: 90%), the resulting weighted average costs of capital (WACC) amount to 11.01% (until now: 11.52%).

Evaluation results

The discounting of future cash flows is based on the entity approach. The resulting fair value per share at the end of the 2018 financial year corresponds to a price target of €15.00 (previously: €13.90). The increase in the target price is, in the first instance, due to a reduction in the weighted costs of capital as a consequence of the recently concluded financing agreement with the European Investment Bank (EIB). The €35 million to be drawn in the next few years leads to an increase in the typically lower interest debt component of WACC, as a result of which the weighted costs of capital are reduced to 11.0% (to date: 11.5%).

DCF-Valuation

MagForce AG - Discounted Cashflow (DCF) Valuation

Value driver of DCF-model after the estimate phase:

consistency - Phase	
EBITDA-margin	48.7%
Working Capital to sales	30.0%

final - Phase	
Perpetual growth rate	4.0%
Perpetual EBITA margin	42.0%
Taxe rate terminal value	30.0%

Three phases DCF - Model:

Phase	estimate								
in €m	FY 17e	FY 18e	FY 19e	FY 20e	FY 21e	FY 22e	FY 23e	FY 24e	Terminal value
Sales	3.67	28.73	83.12	102.53	111.74	131.66	159.83	172.15	
Sales change	neg.	683.9%	189.3%	23.4%	9.0%	17.8%	21.4%	7.7%	4.0%
EBITDA	-5.97	8.09	36.88	45.84	49.92	58.98	71.50	76.93	
EBITDA-margin	neg.	neg.	44.4%	44.7%	44.7%	44.8%	44.7%	44.7%	
EBITA	-6.13	7.92	36.71	45.67	49.75	58.81	71.33	76.76	
EBITA-margin	neg.	neg.	44.2%	44.5%	44.5%	44.7%	44.6%	44.6%	42.0%
Taxes on EBITA	0.00	0.00	0.00	-13.70	-14.93	-17.64	-21.40	-23.03	
Taxes to EBITA	0.0%	0.0%	0.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
EBI (NOPLAT)	-6.13	7.92	36.71	31.97	34.83	41.17	49.93	53.73	
Return on capital	neg.	44.7%	114.7%	66.6%	55.5%	58.4%	59.8%	52.2%	44.4%
Working Capital (WC)	8.40	15.00	22.03	30.76	33.52	39.50	47.95	51.64	
WC to sales	neg.	52.2%	26.5%	30.0%	30.0%	30.0%	30.0%	30.0%	
Investment in WC	-10.87	-6.60	-7.03	-8.73	-2.76	-5.98	-8.45	-3.70	
Operating fixed assets (OFA)	9.34	17.00	26.00	32.00	37.00	44.00	55.00	67.00	
Depreciation on OFA	-0.16	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	
Depreciation to OFA	1.7%	1.0%	0.7%	0.5%	0.5%	0.4%	0.3%	0.3%	
Investment in OFA	-5.79	-7.83	-9.17	-6.17	-5.17	-7.17	-11.17	-12.17	
Capital employed	17.74	32.00	48.03	62.76	70.52	83.50	102.95	118.64	
EBITDA	-5.97	8.09	36.88	45.84	49.92	58.98	71.50	76.93	
Taxes on EBITA	0.00	0.00	0.00	-13.70	-14.93	-17.64	-21.40	-23.03	
Total investment	-16.66	-14.43	-16.20	-14.90	-7.93	-13.15	-19.62	-15.87	
Investment in OFA	-5.79	-7.83	-9.17	-6.17	-5.17	-7.17	-11.17	-12.17	
Investment in WC	-10.87	-6.60	-7.03	-8.73	-2.76	-5.98	-8.45	-3.70	
Investment in Goodwill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Free Cashflow	-22.63	-6.34	20.68	17.24	27.06	28.19	30.48	38.04	683.96

Value operating business (due date)	422.10	474.91
Net present value explicit free CF	92.83	109.38
Net present value of terminal value	329.28	365.52
Net debt	3.76	11.38
Value of equity	418.34	463.53
Minority interests	-61.68	-68.35
Value of share capital	356.66	395.18
Outstanding shares in m	26.34	26.34
Fair value per share in €	13.54	**15.00**

Cost of capital:

Risk free rate	1.3%
Market risk premium	5.5%
Beta	2.04
Cost of equity	12.4%
Target weight	85.0%
Cost of debt	4.0%
Target weight	15.0%
Taxshield	28.7%
WACC	**11.0%**

Return on capital	WACC				
	9.0%	**10.0%**	**11.0%**	**12.0%**	**13.0%**
42.4%	20.72	17.02	14.42	12.50	11.03
43.4%	21.18	17.38	14.71	12.74	11.23
44.4%	21.63	17.74	**15.00**	12.98	11.44
45.4%	22.09	18.10	15.29	13.22	11.64
46.4%	22.55	18.46	15.59	13.47	11.85

ANNEX

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