GBC AG
Investment Research

Research Report (Anno)

MagForce AG

magforce®
THE NANOMEDICINE COMPANY

USA approval underway,
Roll-out plan in Europe is currently being implemented,
Sound financial base following capital increase

Target Price: 13.50 €

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 § 85 WpHG und Art. 20 MAR on page 15

Note on research as a "minor non-monetary benefit" according to the MiFID II regulation: This research meets the requirements for being classified as a "minor non-monetary benefit". For more information, see the disclosure under "I. Research under MiFID II"

Date and time of completion: 10/09/2019 (10:55 am)
Date and time of first distribution: 10/09/2019 (2:00 pm)
Target price valid until: max. 31/12/2020

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

BUY
Target Price: €13.50
(previous TP: €15.30)

Current price: 4.46
10/09/19 / XETRA / 10:47 am
Currency: EUR

Key information:

ISIN: DE000A0HGQF5
WKN: A0HGQF
Ticker symbol: MF6
Number of shares[3]: 27.64
Marketcap[3]: 123.14
EnterpriseValue[3]: 109.20
[3] in € million

Transparency level:
Entry Standard
Market segment:
Freiverkehr
Accounting standard:
HGB

Financial year-end: 31/12

Designated Sponsor:
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* catalogue of potential conflicts of interest on page 16

Unternehmensprofil

Sector: Medical Technology

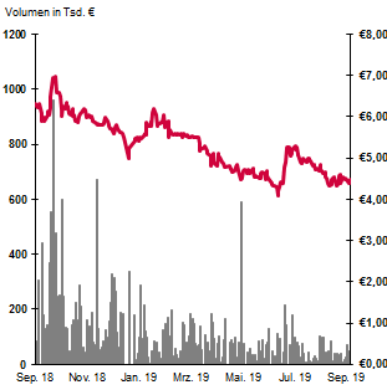
Specialty: Cancer Treatment

Employees: 28 Status: 31/12/2018

Founded: 1997

Registered Office: Berlin

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



By its own account, MagForce AG, with its registered office in Berlin, is a leading company in the field of nanomedicine with a focus on cancer treatment. The NanoTherm® treatment developed by the Company could 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 superparamagnetic nanoparticles. The components of this treatment, the medical devices NanoTherm® and NanoPlan®, the thermometric catheter TK01 and NanoActivator® with the thermometric unit are certified in 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 treatment alongside conventional treatment methods such as surgery, radiotherapy and chemotherapy. In addition, the MagForce technology is currently being approved for the treatment of prostate cancer in the United States. According to available data, the NanoTherm therapy displays a promising degree of effectiveness as well as being tolerated well.

P&I in EURM	2018	2019e	2020e	2021e	2022e	2023e
Sales	0.07	0.92	5.29	23.02	41.67	65.82
EBITDA	7.43	-7.12	-4.79	3.35	12.23	25.51
EBIT	6.83	-7.63	-5.26	2.60	11.34	24.21
Net profit before minorities	4.36	-9.46	-7.40	0.27	9.24	23.17

Key figures						
EV/Sales	1629.84	118.69	20.64	4.74	2.62	1.66
EV/EBITDA	neg.	neg.	neg.	32.60	8.93	4.28
EV/EBIT	neg.	neg.	neg.	42.00	9.63	4.51
P/B before minorities	neg.	neg.	neg.	456.06	13.33	5.31

Financial dates
31/10/19: Half-Year Report 2019
24-26/11/19: Equity Forum Frankfurt .

**last research published by GBC:
Date: Publication / Target Price in EUR / Rating
07/11/2018: RS / 15.30 / BUY
10/08/2018: RS / 15.80 / BUY
04/07/2018: RS / 15.80 / BUY
06/03/2018: RS / 15.80 / BUY
24/08/2017: RS / 15.00 / BUY
** the research reports can be found on our website www.gbc-ag.de or can be requested at GBC AG, Halderstr. 27, D-86150 Augsburg

EXECUTIVE SUMMARY

- MagForce AG has made a significant in obtaining approval for prostate treatment in the USA. Following FDA approval for a registration trial at the beginning of 2018, MagForce AG enrolled its first patients in mid-2018. With the announcement dated 27.08.2019, the company announced the successful completion of the first phase of study. During this study phase, the treatment processes were successfully established with only minor side effects in the treated patients. In the next stage of the study the technology aims to be tested on up to 110 patients in three urological centres by the next financial year. The aim of the registration trial is to demonstrate that prostate cancer patients are able to remain in the Active Surveillance programmes for longer periods of time. A longer stay in such a programme would imply that the progression of the disease is stable, which means that there is no need for treatments with a large number of side effects. According to our expectations, market approval should be complete by Q3/Q4 2020 and, accordingly, should ensure an increase in treatment revenues in this area from the end of 2020.

- MagForce AG reached further milestones in the 2018 financial year in its efforts to promote its self-developed technology and to obtain approval for medical device commercialisation in the USA. Expansion plans continued in Europe with NanoTherm® technology, which has been approved for the treatment of malignant brain tumours. Following the development of the mobile NanoTherm® system in the past financial year, two cooperation agreements have now been concluded with treatment centres. The mobile treatment system was installed for the first time in April 2019 at the Independent Public Clinical Hospital No. 4 in Lublin, Poland. Another cooperation was concluded with the Paracelsus Clinic in Zwickau, Germany, with a further mobile treatment centre to be installed in the second half of 2019.

- At the same time, the Company should be in a position to increase its commercial treatment revenues in Europe too, which now are at a very low level. The basis for this should partly be the recently opened treatment centres and partly the continued expansion plans. The mobile system allows new cooperations to be implemented quickly as there is no need for a fixed installation within the hospital infrastructure. In addition to expansion in Germany, the company intends to gain the initial market entry in Spain and Italy in the near future.

- Our forecasts indicate a significant increase in commercial treatment revenues for Europe, particularly from the 2020 financial year on. We have assumed in our forecasts that the development of the much larger segment in the USA will take effect from the end of the 2020 financial year. This should enable MagForce AG to achieve a larger number of treatments quite quickly. Accordingly, the volume of sales should rise significantly from 2021 onwards, reaching a sustainable EBITDA break-even point.

- We have calculated a new stock price target of €13.50 (previously: €15.30) using the updated DCF valuation model. The reduced stock price target is due in part to the delay in market approval for the treatment of prostate cancer in the USA. Partly though, we have set a slightly more conservative revenue and earnings target for Europe. We have also taken into account a dilution effect as a consequence of the recent capital increase (1.18 million new shares at €4.25 per share). We continue to assign a BUY rating.

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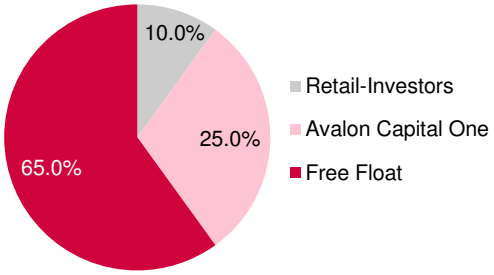
COMPANY

Shareholder Structure

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

Source: MagForce AG; GBC AG



MagForce Technology

NanoTherm® technology, developed and patented by MagForce itself to treat solid tumours, is comprised of the medical products NanoTherm®, NanoPlan® thermometry catheter and the NanoActivator® with thermometry unit.

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

Source: MagForce AG; GBC AG

NanoTherm® treatment, which has been approved for the treatment of brain tumours in Europe since 2010, is an innovative approach in the treatment of solid tumours. In this process, magnetic nanoparticles are introduced either directly into the tumour or into the resection cavity wall. These particles are then “heated” by an alternating magnetic field which destroys the cancer cells. MagForce AG aims to use this new treatment as an additional treatment standard in addition to conventional therapies such as surgery, radiotherapy and chemotherapy.

NanoTherm®

NanoTherm®, a ferrofluid developed and patented by MagForce, is a fluid that contains nanoparticles containing iron oxide and therefore responds to magnetic fields generated by the NanoActivator. The particles have special, superparamagnetic properties making it possible for the polarity to change hundreds of thousands of times per second, which generates the desired heat.

The patented aminosilane coating enables the NanoTherm® particles to be very finely distributed in water and introduced very precisely into the tumour tissue. In addition, this coating ensures that the nanoparticles remain inert, i.e. chemically and pharmacologically inert in the human body, and that the NanoTherm® ferrofluid agglomerates in the tissue. Thus, it remains at the intended point of application for an extended period of time and does not penetrate into the surrounding healthy tissue. All of these properties make the NanoTherm® magnetic fluid unique and are a prerequisite for the feasibility of NanoTherm® treatment.

NanoActivator®

NanoTherm® treatment is conducted in an alternating magnetic field applicator, a device that has been specially developed for this form of treatment, the patented NanoActivator®. The patient lies on the bed and is exposed to a rapidly changing magnetic field at the desired location on the body. This rapid alternation of polarity causes the iron oxide particles in the NanoTherm® magnetic fluid to generate heat. This is how the therapeutic treatment temperatures are generated during the process.

NanoPlan®

NanoPlan®, software developed by MagForce AG, is then used by the doctor treating the patient to plan the treatment temperature and the magnetic field intensity. Once NanoTherm® has been injected, a post-instillation 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 tumour tissue is accurately measured using a temperature probe inserted into a catheter that was introduced at the time of the injection of NanoTherm®. The temperatures measured are compared with the simulated and calculated temperatures and the magnetic field intensity is adjusted, if required.

Current marketing status

As part of its marketing strategy, MagForce intends to use NanoTherm® treatment to treat (1) **malignant brain tumours** (glioblastoma) in Europe and (2) **intermediary prostate cancer** in the USA. While the first pillar of this treatment – glioblastoma treatment – has obtained all the necessary approvals and has entered the commercial treatment phase, a clinical trial is currently underway to obtain approval for the prostate cancer treatment.

Glioblastoma treatment in Europe

MagForce AG is currently in the roll-out phase of its own NanoTherm® technology for treating malignant brain tumours in Europe granted approval by the European authorities in 2010. Currently, there are four centres in Germany and Poland offering NanoTherm® treatment, where the focus is on working with opinion makers to raise awareness for the technology. Additional treatment centres in selected European countries, such as Italy and Spain, are being developed out of Germany. Due to its very high rate of patient enquiries and willingness for private pay, Poland in particular has emerged as a key target location for MagForce AG.

In order to provide patients with rapid access to this treatment, it is vital to establish treatment centres in close proximity to the patients. In this regard, MagForce AG has developed a mobile system (NanoActivator® container), enabling a more cost-effective and faster roll-out. This container is very easy to install at these treatment centres, as it does not require any major investment or extensive adaptation of the hospital infrastructure. 2018 marked the first cooperation agreement with a treatment centre abroad, the

Independent Public Clinical Centre No. 4 in Lublin, Poland being equipped with an mobile NanoActivator® is now ready for use.

Prostate cancer treatment in the USA

In 2018, the U.S. Food and Drug Administration (FDA) granted approval to conduct a clinical trial enrolling up to 120 patients. In this context, the classification of the MagForce technology as an Investigative Device Exemption (IDE) was important, i.e. as a medical device, which requires considerably less time and financial expense for approval. The first patient in the pivotal, multi-stage, single-arm trial conducted at the urology centres of the University of Texas, the Texas Urology Group and the University of Washington in Seattle occurred was enrolled in mid-2018. The aim of the registration trial is to demonstrate that prostate cancer patients are able to remain in the Active Surveillance programmes for longer periods of time. A longer stay in such a programme would imply that the progression of the disease is stable, which means that there is no need for treatments with a large number of side effects.

From 2019, outpatient NanoActivator® chairs will be introduced in centres offering Active Surveillance programmes and training for doctors in NanoTherm therapy is due to commence.

MARKET AND MARKET ENVIRONMENT

Although the technology of MagForce AG may initially address indications such as "glioblastoma" and "prostate cancer", in principle the cross-indication treatment of solid tumours is also possible. In demonstrating the market potential, however, the areas of glioblastoma and prostate cancer will be considered in accordance with the indications addressed by MagForce AG.

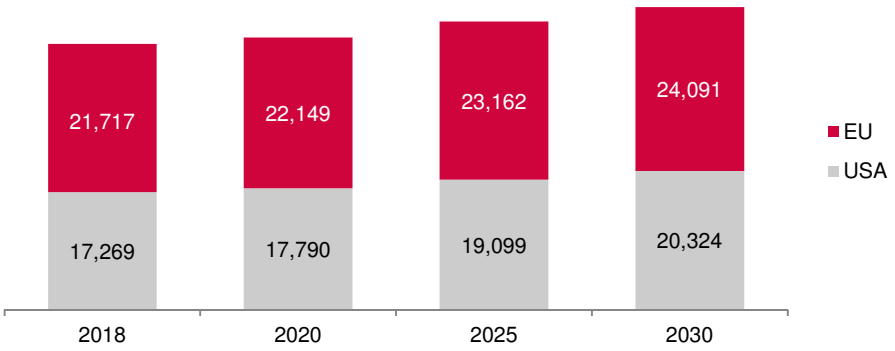
The market potential of glioblastoma

Since the risk factors and causes of glioblastoma are still largely unknown, we can only estimate the number of cases by taking historical statistical values into account.

According to data provided by GLOBOCAN, the global number of cancers affecting the brain and nervous system was 296,800 in 2018. According to data from the Robert Koch Institute, around 95% of these affect the brain, with the malignant form of glioblastoma being most common. In adults, this represents nearly three-quarters of all newly diagnosed brain tumours. Based on this, the incidence of glioblastoma is just over 3.0 per 100,000. Despite intensive treatment, patients with malignant brain tumours have a very low mean survival period which is between 7.5 months and 17.1 months, depending on the stage and the age of the patient. The five-year survival rate is currently less than 5.0%.

Based on the incidence rate, we have identified more than 21,500 cases of glioblastoma patients in Europe based on GLOBOCAN figures (basis: one-year incidence) for cancers of the central nervous system. In the USA, it is estimated that there are about 17,300 patients. Similar to other cancers, the incidence is greater after the advanced age of 64. Demographic factors may therefore play a role in the development of further case numbers here as well. We expect glioblastoma cases to increase to 23,160 in Europe and 19,100 in the USA by 2025:

GBC-forecast regarding glioblastoma



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

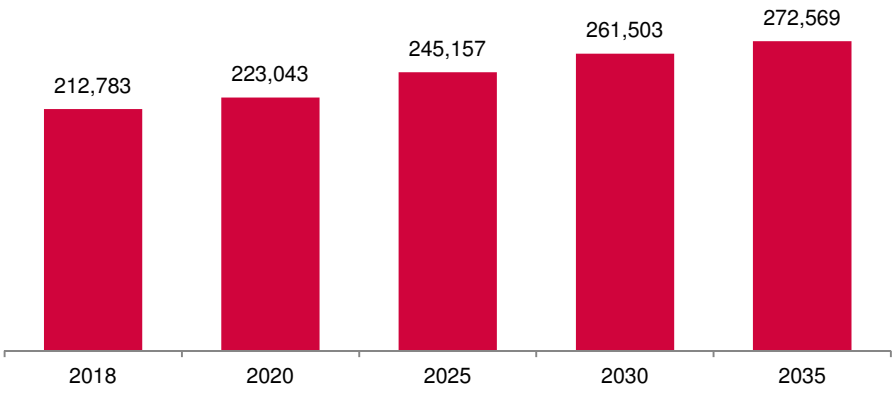
Our forecast shows that this disease is associated with a comparatively low and constant incidence. A significant factor here, however, is the comparatively high willingness of those affected to undergo treatment, in view of their awareness regarding the poor prognosis for this disease. People who are affected by glioblastoma usually use various forms of treatment in combination. As a result, the new MagForce treatment approach is expected to achieve a relatively high level of market penetration.

Market potential prostate cancer

In comparison to glioblastoma, the second indication addressed by MagForce, i.e. "prostate cancer" denotes a significantly higher market potential due to a considerably higher number of cases. Prostate cancer is a disease which occurs particularly frequently in industrialised countries, with an emphasis on Australia, North America and Western Europe. In these regions, the probability of contracting prostate cancer is between 85.0 and 111.6/100,000 head of population, and therefore significantly higher than in the rest of the world (30.6/100,000 head of population).

In the USA, the market initially being addressed by MagForce AG, around 210,000 men are diagnosed with prostate cancer every year, with a significant increase in the annual number of cases expected over the next few years. Some 272,000 new cases a year are to be added by 2035. In the case of prostate cancer, age distribution plays an important role, with an expected disproportionate increase in the older population group. The average age at the time of diagnosis is 66 years, with the majority of prostate cancer cases diagnosed between 65 and 74 years of age.

GBC-forecast regarding prostate cancer in USA



Source: GLOBOCAN; GBC AG

The very high number of cases overall in conjunction with the comparatively slow disease progression, is crucial when it comes to expenditure for the treatment of prostate cancer. At 93.0%, the 5-year survival rate for prostate cancer is relatively high compared to other types of cancer, meaning a long treatment period and correspondingly high treatment costs. According to statistics from a recent study (Total Medicare Costs Associated With Diagnosis and Treatment of Prostate Cancer in Elderly Men), costs averaging USD 14,500 per patient are incurred in the USA in the three years following diagnosis. In total, the costs amount to USD 1.2 billion, which represents a significant amount for those bearing the costs.

The indications currently targeted by MagForce AG illustrate in an exemplary fashion the great market potential within the important regions of Europe and the USA. In principle, MagForce technology could also be applied in the treatment of other solid tumours, making broad 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".

COMPANY DEVELOPMENT

Business development 2018

in €m	FY 2015	FY 2016	FY 2017	FY 2018
Sales	2.58	0.47	0.72	0.07
Total output	7.70	1.58	4.64	14.98
EBIT	-1.88	-7.46	-7.41	6.83
Net profit or loss	-1.55	-7.23	-7.47	4.36

Source: MagForce AG; GBC AG

The previous financial year of 2018 was marked by MagForce AG's roll-out phase in Europe (treatment of glioblastoma) and the progress made in gaining approval for the treatment of prostate cancer in the USA. Of particular importance here was the cooperation agreement announced in June 2018 with the Independent Public Clinical Hospital No. 4 of the Medical University in Lublin, Poland, one of the most renowned treatment centres for brain tumours in Poland. The first mobile NanoActivator® has since been successfully installed here. In addition, in 2018, MagForce AG received approval from the FDA to conduct a clinical trial enrolling up to 120 patients, in which the MagForce technology was classified as a medical device, as was already the case in Europe. This was a very significant milestone for MagForce AG.

Due to the continuing low number of commercial treatments, MagForce AG's P&L statement continued to be characterised by low revenues. The installation of the mobile NanoTherm® system in Poland and Zwickau, Germany, has already resulted in a significant increase in treatment numbers for the current financial year which should be reflected in a rise in revenues. However, the fact that the Company had nevertheless achieved a strong increase in total output to €14.98 million in 2018 was due to the disclosure of hidden reserves at the US subsidiary MagForce USA, Inc. In the course of transferring shares in this subsidiary to the intermediate holding company MagForce USA Holding GmbH, hidden reserves of €13.90 million were realised which had an effect on earnings although not on liquidity. The increase in the valuation of the subsidiary was a result of the progress made in obtaining approval in the USA.

As a result, MagForce AG posted an unusually high EBIT of €6.83 million (previous year: -€7.41 million). Although this was offset by an increase in interest expenses to €1.82 million (previous year: €0.27 million) as a result of taking up the first tranche of the EIB loan of around €10.00 million, MagForce AG was also able to achieve a new high in terms of earnings after tax. For the first time, MagForce AG posted positive earnings of €4.36 million (previous year: -€7.47 million).

However, it should also be noted here that this is a non-recurring item and did not result in access to liquidity. Accordingly, MagForce AG's financing continues to play an important role in view of the continuing weak revenues.

Financial situation as at 31/12/2018

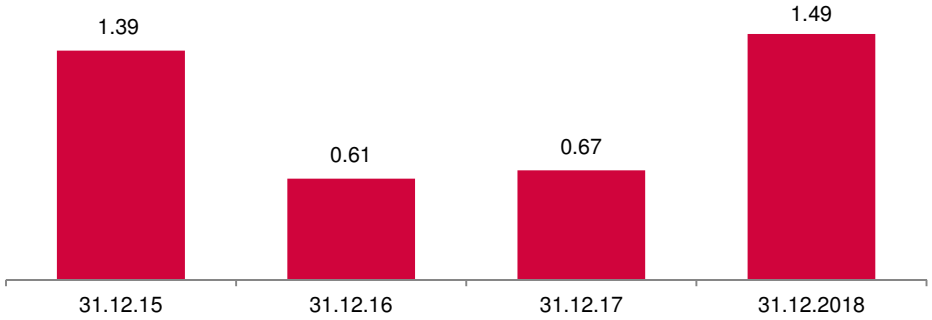
in €m	31/12/2015	31/12/2016	31/12/2017	31/12/2018
Equity	22.88	15.65	13.19	18.16
of which proportion of net loss	*-41.73*	*-48.96*	*-56.42*	*-52.06*
Debt capital	0.00	0.00	5.00	15.88
Cash and cash equivalents	1.39	0.61	0.67	1.49
Value subsidiaries	15.03	15.03	20.67	34.47
Cash flow (operative)	-5.19	-6.58	-5.34	-7.11
Cash flow (investment)	-2.58	3.07	-0.58	-1.37
Cash flow (financing)	0.00	2.72	5.97	9.30

Source: MagForce AG; GBC AG

The fact that the focus is particularly on financing the operating business, which is currently still dominated by the roll-out activities in Europe and approval in the USA, is evident from the operating liquidity outflow of -€ 7.11 million (previous year: -€5.34 million). Together with the capital expenditure for the construction of the mobile NanoActivators®, free cash flow amounted to -€8.48 million (previous year: -€5.92 million) and was significantly lower than the previous year's figure. Over the last six financial years, MagForce AG reported an average free cash flow of -€7.28 million.

MagForce AG has used a number of financial instruments in the past financial years. In addition to issuing a bond, capital increases were made and debt capital raised. In the 2018 financial year just ended, the first tranche of a financing agreement entered into with the EIB (European Investment Bank), amounting to around €10.0 million was borrowed. Under the EIB agreement, a total of up to €35 million can be borrowed, representing a substantial financial cushion. While capital increases were still carried out in previous years, this was not the case at the MagForce AG level in 2018. However, its subsidiary MagForce USA, Inc., which is not fully consolidated, did carry out a gross capital increase of USD 9.0 million in August 2018, securing financing until its expected market launch (end of 2020).

Development of cash (in €m)



Source: MagForce AG; GBC AG

Despite an operating outflow of liquidity, MagForce AG has demonstrated solid growth in cash and cash equivalents in recent financial years. It should be noted here that MagForce is in a position to cover at short notice any liquidity requirements arising through the EIB agreement. In June 2019, MagForce AG also successfully placed an additional capital increase (gross issue proceeds: €5.0 million). The funds raised will be used to finance the European roll-out.

FORECASTS AND MODEL ASSUMPTIONS

in €m	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e
Sales	0.92	5.29	23.02	41.67	65.82	89.83	115.55	152.64
EBITDA	-7.12	-4.79	3.35	12.23	25.51	38.68	53.15	70.21
EBIT	-7.63	-5.26	2.60	11.34	24.21	36.95	50.63	66.39
Net profit before minorities	-9.46	-7.40	0.27	9.24	23.17	37.84	65.82	86.30

Source: GBC AG

Forecast basis - Glioblastom

We have formulated our following sales and earnings forecasts based on the two commercialisation paths in Europe (glioblastoma) and the USA (prostate cancer). If MagForce AG was able to expand its range of indications in the two target regions, we would assume this to have an upside potential, but we do not specifically include it in our forecasts.

An important aspect for short-term sale generation is the increase in commercial revenue from the treatment of glioblastoma. The newly opened treatment centre in Lublin, Poland, where the mobile NanoTherm® technology was commissioned in April 2019, plays an important role here. Given the fact that more than 40% of the enquiries received in 2018 from over 700 patients came from this region, it is understandable that the Polish market should be addressed accordingly. Proximity to the treatment centre is essential to such patients because glioblastoma is a rapidly progressing disease associated with severe mobility restrictions. Although cover for treatment costs continues to accelerate in Poland, the current focus is on the self-financing of treatment costs (including crowdfunding).

In Germany, too, cover for costs is expected to be increased, thus increasing the number of treatments performed. MagForce AG can already report its first success in this respect. Previously, individual patient costs have been covered, but in future, due to the increasing number of cases, treatment centres may be able to negotiate their budgets with the health insurance funds. However, the issue of cost coverage will continue to be explored in the coming financial years. We also anticipate an increase in the number of treatments in Germany following the announcement of the latest cooperation agreement with the Paracelsus Clinic in Zwickau, Germany. The mobile NanoTherm® system developed in 2018 should prove helpful in this context in opening up new cooperation centres. It does not require any fixed installation within the hospital infrastructure, which saves both time and money for the treatment centre.

This will make it much easier to expand into new regions. According to MagForce AG, specific talks are currently underway with a view to the Company entering Spain and Italy. We expect to publish similar reports of success in the current financial year and at the beginning of the coming financial year.

Forecast basis – Prostata

Approval for the treatment of prostate cancer in the USA continued to progress during the past financial year with the FDA's trial consent. It is important to note here that MagForce technology is classified as a "medical device". With the announcement dated 27/08/2019, the company announced the successful completion of the first phase of study. During this study phase, the treatment processes were successfully established with only minor side effects in the treated patients. The clinical registration trial is carried

on including a total of up to 120 patients Previously, we had assumed approval for the second half of the current 2019 financial year, which was however overly optimistic.

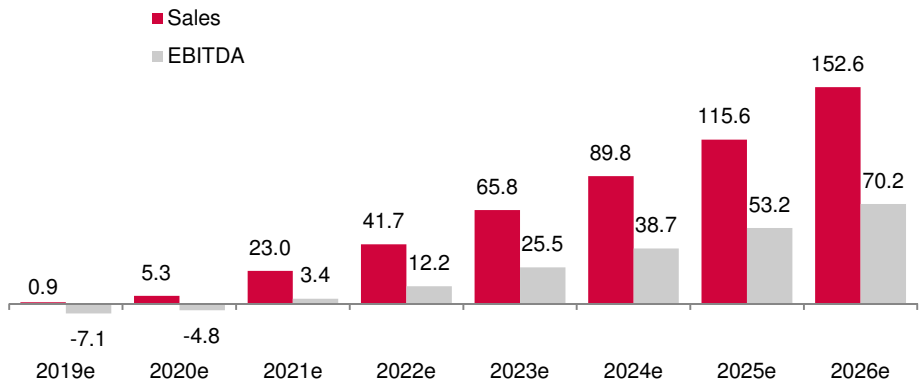
According to Company data, the procedures for patients were developed meticulously in the first part of the study, resulting in more time being required. More specifically, the application of nanoparticles was further refined in order to achieve a high degree of standardisation in the second part of the study. With this in mind, we do not expect approval to be granted until the second half of the coming financial year 2020, about 12 months later than previously expected. This has been taken into account accordingly in our following forecasts.

Sales- and earnings forecasts

Our forecasts indicate a significant increase in commercial treatment revenues for Europe, particularly as of the 2020 financial year. In addition to the devices already installed, the company is focusing on the continued expansion plans both in Germany and elsewhere in Europe.

We have assumed in our forecasts that the development of the much larger segment in the USA will take effect from the end of the 2020 financial year. MagForce AG should be able to achieve a significant number of treatments quite quickly here. Treatment costs are expected to be significantly lower compared to those for brain tumours.

Forecasts Sales and EBITDA (in €m)



Source: GBC AG

As a result, the break-even point (on an EBITDA basis) should be achieved on a sustainable basis from the 2021 financial year onwards. With an EBITDA margin of 46% (2026 financial year), we expect a fundamentally higher level of profitability.

Note: The 67.9% owned subsidiary, MagForce USA, Inc., is responsible for the revenue generated from prostate treatment in the USA. Our forecasts include a near full consolidation and we have deducted the average share of minority interests from the valuation.

Valuation

Model assumptions

We rated MagForce AG using a DCF model. Based on the company's commercialisation plan for the years 2019 to 2026, we have created concrete revenue and earnings estimates. Due to the accumulated losses carried forward, we have only taken into account a tax rate of 30% from the 2025e financial year. Additionally, a residual value is calculated in the third phase by using the perpetual annuity by the end of the forecast horizon. As the final value, we assume a revenue growth rate of 3.0%.

Calculating capital costs

The weighted average cost of capital (WACC) of MagForce AG is calculated using the equity costs and the cost of debt. The fair market premium, the company-specific beta and the risk-free interest rate must be determined in order to calculate equity costs.

The risk-free interest rate is derived from the current structured interest rate curves for risk-free bonds in accordance with the recommendations of the German Special Committee for Business Valuation and Business Management (Fachausschuss für Unternehmensbewertungen und Betriebswirtschaft, FAUB) of the Institute of Public Auditors in Germany (Institut der Wirtschaftsprüfer in Deutschland e.V.). This is based on the zero bond interest rate calculated using the Svensson Method published by the German Bundesbank. In order to compensate for short-term market fluctuations, average returns for the previous three months are used and earnings are rounded up to the nearest 0.25 basis points. The value currently used for the risk-free interest rate is 1.00% (previously: 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 in a percentage the improved return expected from stock markets relative to low-risk government bonds.

According to the GBC estimation method, the current beta is 1.77 (previously 1.77).

Using the given assumptions, equity costs are calculated at 10.72% (previously: 10.97%) (beta multiplied by the risk premium plus the risk-free interest rate). Since we assume a sustainable weighting of the cost of equity at 85% (previously: 85%), the weighted average cost of capital (WACC) is 9.55% (previously: 9.76%).

Valuation result

The resulting fair value per share as at the end of the 2020 financial year corresponds to the stock price target of €13.50 (previously: €15.30). The reduced stock price target is due in part to the delay in market approval for the treatment of prostate cancer in the USA. Partly though, we have set a slightly more conservative revenue and earnings target for Europe. We have also taken into account a dilution effect as a consequence of the recent capital increase (1.18 million new shares at €4.25 per share).

DCF-Modell

MagForce AG - Discounted Cashflow (DCF) Valuation

Value driver of DCF-model after the estimate phase:

consistency - Phase	
EBITDA-margin	46.0%
Working Capital to sales	35.0%

final - Phase	
Perpetual growth rate	3.0%
Perpetual EBITA margin	43.3%
Taxe rate terminal value	30.0%

Three phases DCF - Model:

Phase	estimate								
in €m	FY 19e	FY 20e	FY 21e	FY 22e	FY 23e	FY 24e	FY 25e	FY 26e	Terminal value
Sales	0.92	5.29	23.02	41.67	65.82	89.83	115.55	152.64	
Sales change	1263,8%	477.4%	335.0%	81.0%	58.0%	36.5%	28.6%	32.1%	3.0%
EBITDA	-7.12	-4.79	3.35	12.23	25.51	38.68	53.15	70.21	
EBITDA-margin	neg.	neg.	14.6%	29.4%	38.8%	43.1%	46.0%	46.0%	
EBITA	-7.63	-5.26	2.60	11.34	24.21	36.95	50.63	66.39	
EBITA-margin	neg.	neg.	11.3%	27.2%	36.8%	41.1%	43.8%	43.5%	43.3%
Taxes on EBITA	0,00	0.00	0.00	0.00	0.00	0.00	-15.19	-19.92	
Taxes to EBITA	0,0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	30.0%	30.0%
EBI (NOPLAT)	-7,63	-5.26	2.60	11.34	24.21	36.95	35.44	46.47	
Return on capital	-195,2%	-165%	47.8%	87.8%	110.0%	112.5%	77.5%	74.8%	55.5%
Working Capital (WC)	0.25	1.20	7.87	14.58	23.04	31.44	40.44	53.42	
WC to sales	neg.	4.8%	15.0%	35.0%	35.0%	35.0%	35.0%	35.0%	
Investment in WC	0,17	-0.95	-6.67	-6.71	-8.45	-8.40	-9.00	-12.98	
Operating fixed assets (OFA)	2,92	4.25	5.05	7.41	9.81	14.29	21.69	32.48	
Depreciation on OFA	-0,51	-0.48	-0.75	-0.89	-1.31	-1.73	-2.52	-3.83	
Depreciation to OFA	17,4%	11.2%	14.9%	12.0%	13.3%	12.1%	11.6%	11.8%	
Investment in OFA	0,06	-1.80	-1.55	-3.26	-3.71	-6.21	-9.92	-14.62	
Capital employed	3,17	5.45	12.92	22.00	32.85	45.73	62.13	85.90	
EBITDA	-7.12	-4.79	3.35	12.23	25.51	38.68	53.15	70.21	
Taxes on EBITA	0.00	0.00	0.00	0.00	0.00	0.00	-15.19	-19.92	
Total investment	0.22	-2.75	-8.22	-9.97	-12.16	-14.62	-18.92	-27.60	
Investment in OFA	0.06	-1.80	-1.55	-3.26	-3.71	-6.21	-9.92	-14.62	
Investment in WC	0.17	-0.95	-6.67	-6.71	-8.45	-8.40	-9.00	-12.98	
Investment in Goodwill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Free Cashflow	-6.89	-7.54	-4.86	2.26	13.35	24.07	19.04	22.70	687.97

Value operating business (due date)	401.58	447.48
Net present value explicit free CF	38.31	49.51
Net present value of terminal value	363.27	397.97
Net debt	-10.20	-0,52
Value of equity	411.79	448.00
Minority interests	-68.84	-74.90
Value of share capital	342.94	373.11
Outstanding shares in m	27.64	27.64
Fair value per share in €	12.41	**13.50**

Cost of capital:

Risk free rate	1.0%
Market risk premium	5.5%
Beta	1.77
Cost of equity	10.7%
Target weight	85.0%
Cost of debt	4.0%
Target weight	15.0%
Taxshield	27.1%
WACC	**9.6%**

Return on capital	WACC				
	7.6%	8.6%	9.6%	10.6%	11.6%
53.5%	20.05	15.89	13.04	10.98	9.44
54.5%	20.42	16.17	13.27	11.17	9.59
55.5%	20.78	16.46	**13.50**	11.36	9.75
56.5%	21.15	16.74	13.73	11.55	9.91
57.5%	21.52	17.03	13.96	11.73	10.06

ANNEX

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