

**Research Report (Anno)** 

**MagForce AG** 



THE NANOMEDICINE COMPANY

Important milestones achieved in 2018, Financing basis considerably expanded, FDA trial approval received

Target Price: €15.80

**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 of completion: 24/05/2018



# MagForce AG<sup>\*5a,6a,11</sup>

# BUY

Target Price: €15.80 (previous TP: €15.80 )

Current price: 5.72 24/05/2018 / XETRA/ 12:00am Currency: EUR

#### Key information:

ISIN: DE000A0HGQF5 WKN: A0HGQF Ticker symbol: MF6 Number of shares<sup>3</sup>: 25.62 Marketcap<sup>3</sup>: 150.68 Enterprise Value<sup>3</sup>: 135.56 <sup>3</sup> in € million

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

Financial year-end: 31/12

Designated Sponsor:: Hauck & Aufhäuser

#### Analysts:

Cosmin Filker filker@gbc-ag.de

Marcel Goldmann goldmann@gbc-ag.de

# Company Profile

Sector: Medical Technology Specialty: Cancer Treatment

Employees: 22 Status: 31/12/2017

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<sup>®</sup> 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<sup>®</sup>, NanoPlan<sup>®</sup>, the thermometric catheter TK01, NanoActivator<sup>®</sup> 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	2017	2018e	2019e	2020e	2021e	2022e
Sales	0.98	2.71	8.58	52.44	104.20	121.20
EBITDA	-5.38	-7.64	-7.67	-3.64	46.63	54.29
EBIT	-5.54	-7.81	-7.84	-3.81	46.46	54.12
Net profit before minorities	-6.01	-8.46	-8.71	-5.06	45.56	38.17
Per Share Figures in EUR						
EPS before minorities	-0.23	-0.32	-0.33	-0.19	1.73	1.45
Key Figures						
EV/Sales	189.33	50.02	15.80	2.59	1.30	1.12
EV/EBITDA	neg.	neg.	neg.	neg.	2.91	2.50
EV/EBIT	neg.	neg.	neg.	neg.	2.92	2.50
P/B before minorities	neg.	neg.	neg.	neg.	3.31	3.95

August 2018: AGM 24/10/18: Half-Year Report 2018 26-28/10/18: Equity Forum Frankfurt

# \*\*last research published by GBC: Date: Publication / Target Price in EUR / Rating 06/03/2018: RS / 15.80 / BUY 24/08/2017: RS / 15.00 / BUY 23/03/2017: RS / 13.90 / BUY 21/10/2016: RS / 14.30 / BUY \*\* the research reports can be found on our website

\*\* the research reports can be found on our website <u>www.gbc-ag.de</u> or can be requested at GBC AG, Halderstr. 27, D-86150 Augsburg

\* catalogue of potential conflicts of interest on page 16



# **EXECUTIVE SUMMARY**

- In the past financial year 2017 and in the first months of the current financial year 2018, MagForce AG set the next steps on the course for the future development of the company. The most notable among them is the FDA approval to conduct a registration study for the approval for the treatment of prostate cancer in the USA granted in February 2018. The registration study is expected to begin in the second quarter of 2018 and will include up to 120 patients. The clinical approval trial could be concluded in the second half of 2019 and the market approval is expected to be issued by late 2019. This would open up a very high-volume market for MagForce AG, which promises high sales volumes even with a low penetration rate.
- Another aspect of the recent company development is the preparation of the roll-outs of MagForce technology in Europe. After the commercial treatment of glioblastoma patients was started in Germany, the markets in Poland, Italy and Spain are to be tapped in the first step. The close regional proximity to the patients should result in a significant increase in commercial treatments. In this respect, a mobile deployment solution for the NanoActivator<sup>®</sup> device is currently being developed, which allows for high flexibility and rapid development of possible treatment centres. Country-specific reimbursement studies will be carried out in parallel to this to ensure the financing of the treatments.
- In 2017, MagForce AG took major steps in the expansion of the financial basis. In the first half of the year, within the framework of a convertible bond issue as well as in the context of a capital increase, around EUR 10 million was raised. In addition, the company signed a financing agreement with the European Investment Bank (EIB), which states that borrowed capital of up to EUR 35 million may be taken in the next three years. Thus, the company has significantly reduced risk and achieved a major milestone with regard to the financing of the future strategic steps.
- The key operating figures for the past financial year 2017 are still characterised by low revenues and as a result a continuing negative earnings level. The liquidity outflow from the operating business in the amount of EUR 5.34 million was covered by the liquidity inflow from the capital measures. With the inclusion of the EIB credit agreement, the company should be able to cover the operating liquidity outflows in the coming financial years.
- For the two financial years 2018 and 2019, we expect a continuation of the still low revenue base. Although we expect a slight increase of patient inquiries in Germany in 2018 and the servicing of enquiries in Poland for the first time, initial noteworthy sales are unlikely to be posted until financial year 2020. According to our expectations, break-even on EBITDA level will only be achieved in financial year 2021. In principle, we assume a comparatively high level of profitability (EBITDA margin: approx. 45%), as high economies of scale are likely to be achieved given stable conditions. This forms the basis for our DCF valuation model.
- As part of our DCF valuation model, based on unchanged forecasts, we have an unchanged target price of EUR 15.80 per share. Based on the current price level, our previously issued BUY rating remains unchanged.

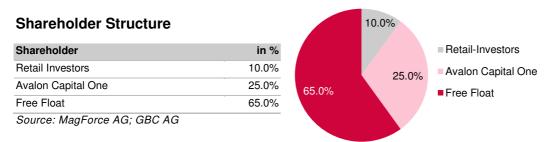


# TABLE OF CONTENTS

Executive Summary	2
Company	4
Shareholder Structure	4
NanoTherm <sup>®</sup> -Technology	4
NanoTherm <sup>®</sup>	4
NanoActivator <sup>®</sup>	5
NanoPlan <sup>®</sup>	5
Market and Market Environment	7
Market potential of glioblastoma	7
Market potential prostate cancer	7
Company Development	9
Business development FY 2017	9
Important Milestones FY 2017	9
Sales and earnings development FY 2017	9
Financial situation as at 31/12/2017	10
Forecasts and Model Assumptions	11
Forecast basis	11
Sales- and earnings forecasts	11
Valuation	13
Model assumptions	13
Determining of capital costs	13
Evaluation results	13
DCF-model	14
Annex	15



# COMPANY



# NanoTherm<sup>®</sup>-Technology

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

	NanoTherm <sup>®</sup> -therapy						
NanoTherm <sup>®</sup>	NanoActivator <sup>®</sup>	NanoPlan <sup>®</sup>					
	MFH-3						

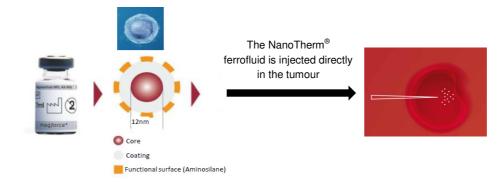
Quelle: MagForce AG; GBC AG

NanoTherm<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> particles are not or very slowly broken down by the body, as they agglomerate and therefore remain in the body, similar to an implant.



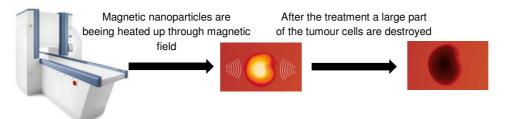


Quelle: MagForce AG; GBC AG

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<sup>®</sup>, 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<sup>®</sup> 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<sup>®</sup> to determine the optimal magnetic field intensity of the NanoActivator<sup>®</sup> 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<sup>®</sup>. The temperatures measured are compared with the simulated and calculated temperatures and the magnetic field intensity is adjusted, if required.



# MARKET AND MARKET ENVIRONMENT

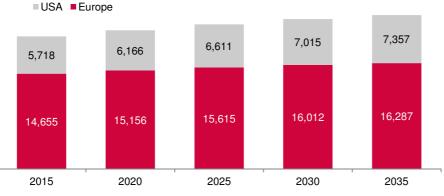
Although the technology of MagForce AG initially addresses the indications of "glioblastoma" and "prostate cancer", cross-indication treatment of solid tumours is also possible. When presenting the market potential, however, the areas of glioblastoma and prostate cancer should be detailed in accordance 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 Mag-Force's new treatment approach.

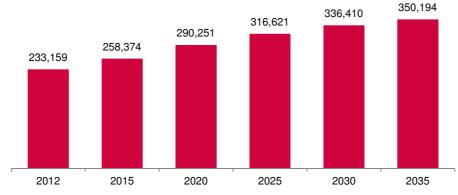
## Market potential prostate cancer

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 DEVELOPMENT**

# **Business development FY 2017**

in €m	FY 2014	FY 2015	FY 2016	FY 2017
Sales	0,00	2,58	0,47	0,72
Total output	7,66	7,70	1,58	4,64
EBIT	-1,28	-1,88	-7,46	-7,41
Net profit or loss	-1,01	-1,55	-7,23	-7,47

Source: MagForce AG; GBC AG

### Important Milestones FY 2017

In the past financial year, MagForce AG has taken further important steps towards expansion of the commercial revenues:

- The first steps were taken for the preparation of the European roll-outs of MagForce technology (also connected to the installation of NanoActivator<sup>®</sup> devices). To this effect, the company plans to open up additional treatment centres in Europe, primarily in Poland, Italy and Spain and thus to get "closer" to glioblastoma patients.
- Reimbursement processes in Germany and the targeted European countries were initiated. In this regard, an experienced manager from the field of medical technology was acquired in the form of Dr Lutz Helmke. In his role as "Executive Vice President and Managing Director Europe", he will work on promoting cost reimbursement in Europe in particular. Based on his several previous years in management positions, he has extensive expertise in reimbursement issues.
- The financial basis for the implementation of the European roll-outs and increasing commercial treatments was significantly expanded in 2017. In the first half of the year, within the framework of a convertible bond issue as well as in the context of a capital increase, around EUR 10 million was raised. In addition, MagForce AG signed a financing agreement with the European Investment Bank (EIB), which states that borrowed capital of up to EUR 35 million may be taken up in the next three years. Thus, the company has significantly reduced risk and achieved a major milestone with regard to the financing of the future strategic steps.
- For the approval for the treatment of prostate cancer in the USA in 2017, all of the aspects required by the FDA were processed and fulfilled. At the start of 2018, MagForce AG received approval to conduct a clinical trial and therefore reached a further milestone for approval in the USA.

### Sales and earnings development FY 2017

The milestones achieved by the company in 2017 and 2018 are not yet reflected in the key operating figures. The significant increase achieved in the total output to EUR 4.64 million (previous year: EUR 1.58 million) is primarily attributable to the other operating income in the amount of EUR 3.63 million (previous year: EUR 1.11 million). These are extraordinary in nature and are primarily connected with the transfer of shares in MagForce USA, Inc. to the newly established MagForce USA Holding GmbH, which was founded in December 2017, and the resulting increase of hidden reserves.

The revenues from the commercial treatment amounted to EUR 0.15 million in 2017 (previous year: EUR 0.17 million) and therefore remained at a low level.



Despite the significant increase of total output, there was constant development both on the EBIT level and in terms of the company's result after tax. After the company reported an almost unchanged development in the operational costs, other operating expenses rose significantly to EUR 7.11 million (previous year: EUR 4.31 million). This includes some of the costs for the expansion of the financing basis. As a result, the company posted a negative result after tax as expected in the amount of EUR -7.47 million (previous year: EUR -7.23 million). Only with a significant increase of the commercial revenues will MagForce AG reach the break-even point.

# Financial situation as at 31/12/2017

31/12/2014	31/12/2015	31/12/2016	31/12/2017
24.43	22.88	15.65	13.19
-40.18	-41.73	-48.96	-56.42
4.28	1.98	4.63	8.84
9.15	1.39	0.61	0.67
-8.71	-5.19	-6.58	-5.34
-1.61	-2.58	3.07	-0.58
10.20	0.00	2.72	5.97
	24.43 -40.18 4.28 9.15 -8.71 -1.61	24.43  22.88    -40.18  -41.73    4.28  1.98    9.15  1.39	24.43  22.88  15.65    -40.18  -41.73  -48.96    4.28  1.98  4.63    9.15  1.39  0.61

Source: MagForce AG; GBC AG

It is of significant importance for MagForce AG that the financing basis was considerably expanded in the past financial year through the capital increase, the issue of the convertible bonds and above all by the agreement with the EIB. On the balance sheet at 31/12/2017 only the capital increase carried out in the first half of 2017 (gross issue proceeds amounting to EUR 5.0 million) and the issued convertible bonds in the amount of EUR 5.0 million have been recognised. There has been no utilisation of the EIB agreement as of the balance sheet date. The liquidity inflow from the two aforementioned issues had led to a financing cash flow in the amount of EUR 5.97 million (this also includes loan repayments to the American subsidiary), which was balanced out by the liquidity outflow from the operating business (EUR -5.34 million) and from investing activities (EUR -0.58 million). As a result, this led to a constant development of liquid funds to EUR 0.67 million (31/12/16: EUR 0.61 million). Funds from the EIB agreement not yet utilised at the balance sheet date should not be disregarded, as their use would lead to a significant expansion of liquidity:

### Development of cash (in €m)



The equity capital of the MagForce AG was reduced as a result of the significantly negative result after tax, despite the capital increase, to EUR 13.19 million (31/12/16: EUR 15.65 million). The accumulated net loss now amounts to EUR 56.42 million and in our view, particularly in light of the expected business expansion, constitutes an important asset. The expected future tax burdens are likely to be initially very low.

in €m	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
Sales	2.71	8.58	52.44	104.20	121.20	135.40	155.60	180.41
EBITDA	-7.64	-7.67	-3.64	46.63	54.29	60.72	69.78	80.74
EBIT	-7.81	-7.84	-3.81	46.46	54.12	60.55	69.61	80.57
Net profit before minorities	-8.46	-8.71	-5.06	45.56	38.17	42.38	48.73	56.40

# FORECASTS AND MODEL ASSUMPTIONS

Source: GBC AG

# **Forecast basis**

The measures to increase the commercial treatments of glioblastoma patients started in the past financial year were continued in the current financial year 2018. A central aspect in this regard is the continuation of the roll-out phase in Europe, particularly in Poland, Italy and Spain, as well as ramping up the activities in Germany. The technical basis for the **roll-out** in these regions is currently being created with the plans for a mobile deployment solution for the NanoActivator<sup>®</sup>. Through the mobile use of the MagForce device, significantly more comprehensive cover can be implemented in a target country because the device can be set up in accordance with the application requirements. In addition, a fixed installation within a hospital infrastructure is not necessary, making the inclusion of new treatment centres easier. One mobile device per country is expected to be sufficient for the planned roll-out.

Another important aspect of the European roll-out is the planned **reimbursement of costs** by the insurance companies, as the treatment is currently still financed privately or on single request to health insurances. Reimbursement studies are to be carried out in this regard in the countries targeted, with low costs expected in each case. With the new Managing Director for Europe, Dr Lutz Helmke, MagForce AG was also able to acquire an experienced manager, who has particularly extensive experience in the area of cost reimbursements based on his previous work.

In addition to the European roll-out, the approval for the **treatment of prostate cancer** in the USA is being pushed forward. Having obtained the important FDA approval for conducting the clinical trial for the treatment of intermediary prostate cancer in February 2018, the registration study is expected to start in the current second quarter of 2018. The study will include up to 120 male patients and we are still expecting the conclusion of the registration study in the second half of 2019. After an evaluation phase, we expect the start of the commercial treatment towards the end of the coming financial year 2019. In parallel to this, MagForce AG is expected to include further hospitals in addition to the two treatment centres that are currently part of the project, making timely, comprehensive treatment possible. In this regard, both the **production** of **NanoTherm**<sup>®</sup> and the significantly smaller **NanoActivator**<sup>®</sup> devices required for prostate treatment are to be promoted.

According to our calculations, the financing measures in 2017 are sufficient to put these planned measures into practice. According to the company, a further increase of the operating loss is expected, due in particular to the promoted approval activities and preparatory steps for commercialisation.

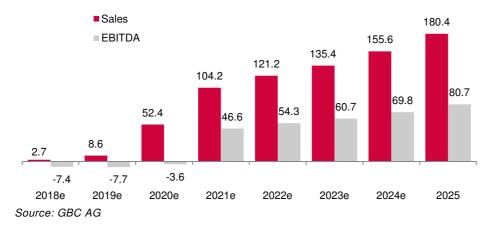
# Sales- and earnings forecasts

Accordingly, we have left our previous forecasts (see research study dated 06/03/2018) unchanged. As before, we expect a continuation of the low revenue base for the coming financial years. Although we expect a slight increase of patient inquiries in Germany in



2018 and the servicing of enquiries in Poland for the first time, initial noteworthy sales are unlikely to be posted until financial year 2020. This includes the first revenues from the treatment of prostate cancer patients in the USA, which is likely to increase Mag-Force AG's sales volume due to the significantly higher number of cases.

We are also assuming a significant increase in patient requests for the treatment of glioblastoma in Europe, in particular as a result of the roll-outs in the countries mentioned. If potential refunds are made available by the statutory or private carriers, the number of commercial treatments is expected to rise significantly.



### Sales and EBITDA (in €m)

According to our expectations, break-even on EBITDA level will only be achieved in financial year 2021. In principle, we expect a relatively high level of profitability (EBITDA margin: approx. 45%), as high economies of scale are likely to be achieved given stable conditions. This forms the basis for our DCF valuation model.

Sales revenue in the USA (glioblastoma and prostate cancer) is achieved at the level of 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 2018 to 2025, 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 2022e 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 3.5%.

## 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 1.77 (until now: 1.77) is currently determined.

Using the assumptions implied, cost of equity is calculated to amount to 10.97% (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: 85%), the resulting weighted average costs of capital (WACC) amount to 9.76% (until now: 9.76%).

## **Evaluation results**

The resulting fair value per share at the end of the 2018 financial year corresponds to the stock price target of EUR 15.80 (previously: EUR 15.80). In view of our unchanged forecasts, we reaffirm our previous target price.



## **DCF-model**

# MagForce AG - Discounted Cashflow (DCF) Valuation

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

consistency - Phase		final - Phase	
		Perpetual growth rate	3.5%
EBITDA-margin	44.8%	Perpetual EBITA margin	40.0%
Working Capital to sales	35.0%	Taxe rate terminal value	30.0%

#### Three phases DCF - Model:

Dhasa	41								
Phase	estima	te			ΓV	ΓV	FY	~	Termina
in €m	FY 18e	FY 19e	FY 20e	FY 21e	FY 22e	FY 23e	⊢r 24e	GJ 25e	value
Sales	2.71	8.58	52.44	104.20	121.20	135.40	155.60	180.41	
Sales change	168.8%	217.1%	510.9%	98.7%	16.3%	11.7%	14.9%	15.9%	3.5%
EBITDA	-7.39	-7.67	-3.64	46.63	54.29	60.72	69.78	80.74	0.070
EBITDA-margin	neg.	neg.	-6.9%	44.8%	44.8%	44.8%	44.8%	44.8%	
EBITA	-7.56	-7.84	-3.81	46.46	54.12	60.55	69.61	80.57	
EBITA-margin	neg.	neg.	-7.3%	44.6%	44.7%	44.7%	44.7%	44.7%	40.0%
Taxes on EBITA	0.00	0.00	0.00	0.00	-16.24	-18.16	-20.88	-24.17	
Taxes to EBITA	0.0%	0.0%	0.0%	0.0%	30.0%	30.0%	30.0%	30.0%	30.0%
EBI (NOPLAT)	-7.56	-7.84	-3.81	46.46	37.89	42.38	48.73	56.40	
Return on capital	348.8%	-174%	-47.6%	335.0%	73.6%	70.8%	72.9%	73.4%	55.0%
Working Capital (WC)	0.00	2.50	7.87	36.47	42.42	47.39	54.46	63.14	
WC to sales	neg.	4.8%	15.0%	35.0%	35.0%	35.0%	35.0%	35.0%	
Investment in WC	-5.76	-2.50	-5.37	-28.60	-5.95	-4.97	-7.07	-8.69	
Operating fixed assets (OFA)	4.50	5.50	6.00	15.00	17.45	19.49	22.40	32.00	
Depreciation on OFA	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	
Depreciation to OFA	3.8%	3.1%	2.8%	1.1%	1.0%	0.9%	0.8%	0.5%	
Investment in OFA	-1.08	-1.17	-0.67	-9.17	-2.62	-2.21	-3.08	-9.77	
Capital employed	4.50	8.00	13.87	51.47	59.87	66.88	76.86	95.14	
EBITDA	-7.39	-7.67	-3.64	46.63	54.29	60.72	69.78	80.74	
Taxes on EBITA	0.00	0.00	0.00	0.00	-16.24	-18.16	-20.88	-24.17	
Total investment	-6.84	-3.67	-6.04	-37.77	-8.57	-7.18	-10.15	-18.46	
Investment in OFA	-1.08	-1.17	-0.67	-9.17	-2.62	-2.21	-3.08	-9.77	1
Investment in WC	-5.76	-2.50	-5.37	-28.60	-5.95	-4.97	-7.07	-8.69	
Investment in Goodwill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Free Cashflow	-14.23	-11.34	-9.68	8.86	29.49	35.37	38.75	38.11	782.59

Value operating business (due date)	480.80	539.05
Net present value explicit free CF	72.90	91.36
Net present value of terminal value	407.90	447.69
Net debt	-0.24	11.83
Value of equity	481.04	527.22
Minority interests	-64.73	-70.94
Value of share capital	416.32	456.28
Outstanding shares in m	26.34	26.34
Fair value per share in €	15.80	17.32

Return on capital

53.0%

54.0%

55.0%

56.0%

57.0%

7.8%

23.94

24.37

24.81

25.24

25.68

19.74

20.07

16.06

16.32

13.46

13.67

ſ	n			26.34	26.34	Cost of
	€			15.80	17.32	Target
						Taxshie
						WACC
		WACC				
	8.8%	9.8%	10.8%	11.8%		
	18.75	15.28	12.82	11.00		
	19.08	15.54	13.04	11.18		
	19.41	15.80	13.25	11.35		

11.53

11.70

# Cost of capital:

Risk free rate	1.3%
Market risk premium	5.5%
Beta	1.77
Cost of equity	11.0%
Target weight	85.0%
Cost of debt	4.0%
Target weight	15.0%
Taxshield	28.7%

ACC 9.8%



# **ANNEX**

# <u>I.</u>

### Research under MiFID II

1. There is a contract between the research company GBC AG and the issuer regarding the independent preparation and publication of this research report on the issuer. GBC AG is remunerated for this by the issuer.

2. The research report is simultaneously made available to all interested investment services companies.

#### Ш.

#### Section 1 Disclaimer and exclusion of liability

This document is intended solely for information purposes. All data and information in this study come from sources that GBC regards as reliable. In addition, the authors have taken every care to ensure that the facts and opinions presented here are appropriate and accurate. Nevertheless, no guarantee or liability can be accepted for their correctness – whether explicitly or implicitly. In addition, all information may be incomplete or summarised. Neither GBC nor the individual authors accept liability for any damage which may arise as the result of using this document or its contents, or in any other way in this connection.

We would also point out that this document does not constitute an invitation to subscribe to nor to purchase any securities and must not be interpreted in this way. Nor may it nor any part of it be used as the basis for a binding contract of any kind whatsoever. or be cited as a reliable source in this context. Any decision relating to the probable offer for sale of securities for the company or companies discussed in this publication should be taken solely on the basis of information in the prospectuses or offer documents which are issued in relation to any such offer.

GBC does not provide any guarantee that the indicated returns or stated target prices will be achieved. Changes to the relevant assumptions on which this document is based can have a material impact on the targeted returns. Income from investments is subject to fluctuations. Investment decisions should always be made with the assistance of an investment advisor. This document cannot replace the role of an advisor.

#### Sale outside the Federal Republic of Germany:

This publication, if sold in the UK. may only be made available to those persons who, in the meaning of the Financial Services Act 1986 are authorised and exempt, or persons as defined in section 9 (3) of the Financial Services Act 1986 (Investment Advertisement) (Exemptions) Decree 1988 (amended version) and must not be transmitted directly or indirectly to other persons or groups of persons.

Neither this document nor any copy of it may be taken into, transferred to or distributed within the United States of America or its territories and possessions. The distribution of this document in Canada, Japan or other jurisdictions may be restricted by law. and persons who come into possession of this publication should find out about any such restrictions and respect them. Any failure to respect these restrictions may represent a breach of the US, Canadian or Japanese securities laws or laws governing another jurisdiction.

By accepting this document you accept all disclaimers of liability and the restrictions cited above.

You can find the details of this disclaimer/exclusion of liability at: http://www.gbc-ag,de/de/Disclaimer,htm

# Legal information and disclosures as required by section 85 of Securities Trading Act (WpHG) and Financial Analysis Directive (FinAnV)

This information can also be found on the internet at the following address: http://www,gbc-ag,de/de/Offenlegung,htm

#### Section 2 (I) Updates

A detailed update of the present analysis/analyses at any fixed date has not been planned at the current time. GBC AG reserves the right to update the analysis without prior notice.

#### Section 2 (II) Recommendation/ Classifications/ Rating

Since 1/7/2006 GBC AG has used a 3-level absolute share rating system. Since 1/7/2007 these ratings relate to a time horizon of a minimum of 6 to a maximum of 18 months. Previously the ratings related to a time horizon of up to 12 months. When the analysis is published, the investment recommendations are defined based on the categories described below, including reference to the expected returns. Temporary price fluctuations outside of these ranges do not automatically lead to a change in classification, but can result in a revision of the original recommendation.



#### The recommendations/ classifications/ ratings are linked to the following expectations:

BUY	The expected return, based on the derived target price, incl. dividend payments within the rel 10%.
HOLD	The expected return, based on the derived target price, incl. dividend payments within the rel 10% and < + 10%.
SELL	The expected return, based on the calculated target price, incl. dividend payments within the <= - 10%.

GBC AG's target prices are determined using the fair value per share, derived using generally recognised and widely used methods of fundamental analysis, such as the DCF process, peer-group benchmarking and/or the sum-of-the-parts process. This is done by including fundamental factors such as e.g. share splits, capital reductions, capital increases, M&A activities, share buybacks, etc.

#### Section 2 (III) Past recommendations

Past recommendations by GBC on the current analysis/analyses can be found on the internet at the following address: <u>http://www.gbc-ag.de/de/Offenlegung.htm</u>

#### Section 2 (IV) Information basis

For the creation of the present analysis/analyses publicly available information was used about the issuer(s) (where available, the last three published annual and quarterly reports, ad hoc announcements, press releases, share prospectuses, company presentations, etc.) which GBC believes to be reliable. In addition, discussions were held with the management of the company/companies involved, for the creation of this analysis/these analyses, in order to review in more detail the information relating to business trends.

#### Section 2 (V) 1, Conflicts of interest as defined in section 85 of the Securities Trading Act (WpHG)

GBC AG and the analysts concerned hereby declare that the following potential conflicts of interest exist for the company/companies described. at the time of this publication, and in so doing meet the requirements of section 85 of the Securities Trading Act (WpHG). A detailed explanation of potential conflicts of interest is also listed in the catalogue of potential conflicts of interest under section 2 (V) 2.

# In relation to the security or financial instrument discussed in this analysis the following possible conflict of interest exists: (5a,6a,11)

#### section 2 (V) 2. Catalogue of potential conflicts of interest

(1) GBC AG or a legal person connected to them holds shares or other financial instruments of this company at the time of publication.

(2) This company holds over 3% of the shares in GBC AG or a legal person connected to them.

(3) GBC AG or a legal person connected to them is a market maker or designated sponsor for the financial instruments of this company.

(4) GBC AG or a legal person connected to them has, over the previous 12 months, organised or played a leading role in the public issue of financial instruments for this company.

(5) a) GBC AG or a legal person connected to them has over the last 12 months agreed to create research reports for this company in return for payment. As part of this agreement the issuer was shown the draft of this analysis (excluding the evaluation section) prior to publication.

(5) b) After receiving valid amendments by the analysed company, the draft of this analysis was changed.

(6) a) GBC AG or a legal person connected to them has over the last 12 months agreed with a third party to create research reports about this company in return for payment. As part of this agreement the issuer was shown the draft of this analysis (excluding the evaluation section) prior to publication.

(6) b) After receiving valid amendments by the third party, the draft of this analysis was changed.

(7) The analyst responsible for this report holds shares or other financial instruments of this company at the time of publication.

(8) The analyst responsible for this company is a member of the company's Executive Board or Supervisory Board.

(9) The analyst responsible for this report received or purchased shares in the company analysed by said analyst, prior to the time of publication.

(10) GBC or a related legal party has closed an agreement with the underlying company regarding consulting services during the previous 12 months.

(11) GBC or a related legal party has a significant financial interest in the analysed company, for example to get mandated by the analysed company or to provide any kind of services (such as the organization of fairs, roundtables, road shows, etc.).



#### Section 2 (V) 3, Compliance

GBC has defined internal regulatory measures in order to prevent potential conflicts of interest arising or, where they do exist, to declare them publicly. Responsibility for the enforcement of these regulations rests with the current Compliance Officer, Kristina Bauer, Email: <u>bauer@gbc-ag.de</u>

#### Section 2 (VI) Responsibility for report

The company responsible for the creation of this/these analysis/analyses is GBC AG, with registered office in Augsburg, which is registered as a research institute with the responsible supervisory authority (Federal Financial Supervisory Authority or BaFin Marie-Curie-Str. 24-28, 60439 Frankfurt, Germany).

GBC AG is currently represented by its board members Manuel Hölzle (Chairman) and Jörg Grunwald.

The analysts responsible for this analysis are: Cosmin Filker, Dipl. Betriebswirt (FH), Vice Chief Financial Analyst Marcel Goldmann, M.Sc., Financial Analyst

Other person involved:

#### Manuel Hölzle, Dipl. Kaufmann, Chief Financial Analyst

#### Section 3 Copyright

This document is protected by copyright. It is made available to you solely for your information and may not be reproduced or distributed to any other person. Any use of this document outside the limits of copyright law shall, in principle, require the consent of GBC or of the relevant company, should the rights of usage and publication have been transferred.

GBC AG Halderstraße 27 D 86150 Augsburg Tel,: 0821/24 11 33-0 Fax,: 0821/24 11 33-30 Internet: http://www.gbc-ag,de

E-Mail: compliance@gbc-ag,de



# GBC AG<sup>®</sup> - R E S E A R C H & I N V E S T M E N T A N A L Y S E N -

GBC AG Halderstraße 27 86150 Augsburg Internet: http://www.gbc-ag.de Fax: ++49 (0)821/241133-30 Tel.: ++49 (0)821/241133-0 Email: office@gbc-ag.de