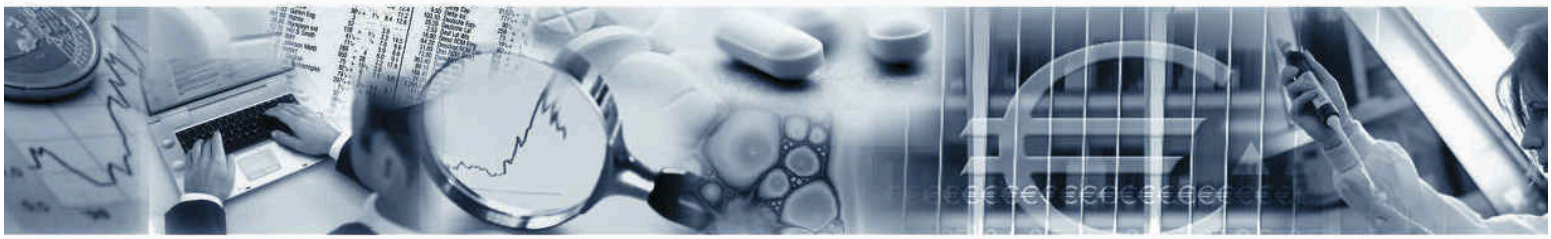

Research Note

Biofrontera AG

Into Higher Gear: Growth, Growth, Growth

Biofrontera
Experts in dermatology

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Date: 9 May 2017

Name:	**Biofrontera**
Country:	**Germany**
Price:	**EUR 3.95**
ISIN Code:	**DE0006046113**
Reuters Code:	**B8F.DE**
Market Cap (EUR m):	**151.7**
EV (EUR m):	**131.6**
Cash & cash eq. (EUR m):	**20.1*)**
Shares outstanding (m):	**38.4**
Volume:	**75,962**
Free float:	**60%**
52-week Range:	**2.31-4.86**

***) Including a raise of EUR 5 million in January 2017**

	2015A	2016A	2017E
Total Revenues	4.138	6.130	18.500
Net (Loss)/Profit	(11.204)	(10.579)	(13.400)
Net loss per share (cents)	(0.44)	(0.36)	(0.35)
R&D costs	6.204	4.640	5.000
Cash increase/(decrease)	(4.550)	11.167	(10.000)
Cash and marketable sec.	3.959	15.126	5.126

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Executive Summary

- Biofrontera AG (B8F.DE) is a biopharmaceutical company specializing in the development of medical cosmetics and dermatological drugs for the care and treatment of skin and inflammatory diseases. Biofrontera's lead product is Ameluz®, a prescription drug approved for use in Europe and the US for the treatment of mild to moderate actinic keratosis (AK) on the face and scalp in conjunction with photodynamic therapy (PDT). Ameluz® was recently also approved for basal cell carcinoma (BCC), the most widespread form of skin cancer. Biofrontera is the first small German pharmaceutical company to receive a centralized approval for a drug developed in-house.

- Actinic keratoses are superficial forms of skin cancer, and there is a risk that they can spread to deeper layers of the skin and develop into a squamous cell carcinoma, which represents the second most dangerous form of skin cancer. The growth of actinic keratosis as a market has been steadily increasing in Europe, as patient awareness levels rise. In the US, the AK prevalence is estimated to be 6.5% of the population or 58 million people.

- Last month, Biofrontera published its 2016FY figures. Sales increased 48% to EUR 6.1 million compared to EUR 4.1 million in 2015. Especially in 2016Q4 sales increased by more than 116% to EUR 3.2 million due to a very successful start of Ameluz® sales in the US and a strong increase in revenues from Europe. For the coming year, the company expects revenues to increase to EUR 14-18 million driven by an ongoing strong increase from the US and the approval of Ameluz® for Basal Cell Carcinoma (BCC) and daylight application in the EU (following positive Phase III data).

- Last year, Biofrontera successfully placed an additional capital increase granting statutory subscription rights. The subscription price was EUR 3.00 per new share, net

proceeds from the capital raise were EUR 14.8 million. In parallel, Biofrontera issued up to 49,990 convertible bonds of EUR 100.00 each. Additionally, Biofrontera fully placed 49,990 subordinate convertible bonds of EUR 100.00 each in a total nominal amount of EUR 5.0 million in January 2017. This measure, in addition to the capital increases completed in 2016 in February (EUR 4.4 million net proceeds), April (EUR 4.9 million net proceeds) and November (EUR 19.7 million net proceeds) significantly improved the Company's liquidity. In December, the company prematurely paid down EUR 8.7 million in financial liabilities.

- In the past 12-15 months, Biofrontera managed to achieve important mile stones with the approval of Ameluz® in the US, start of US sales and the positive Phase III with Ameluz® in BCC in Europe. For the coming months, there are a number of key milestones to focus on. Each of these milestones can potentially trigger the share price of Biofrontera further..

- Based on our NPV valuation, we believe that Biofrontera is still substantially undervalued at the current share price of EUR 3.95. Using our risk adjusted NPV model, we already have increased our valuation of the Company's total value from EUR 250-300 million to EUR 300-350 million, or EUR 7-9 per share with the expectation that the sales of Ameluz® will increase rapidly in the US for AK as well as revenues from newly approved indication in BCC and daylight PDT. This represents a substantial upside from the current share price.

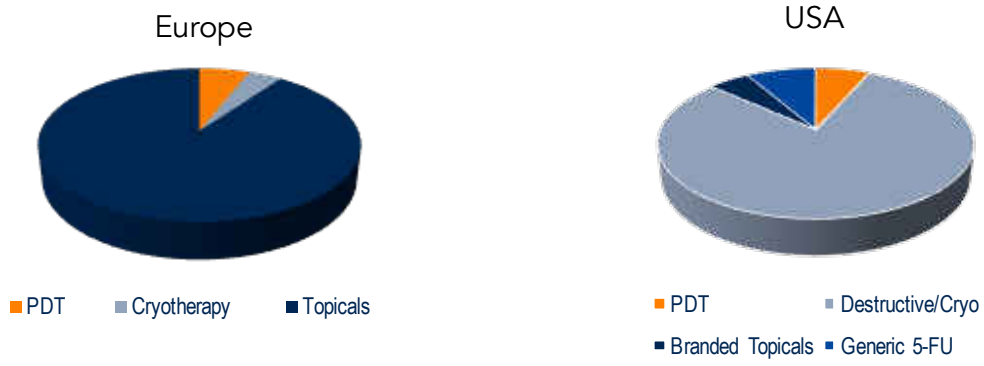
Strong increase sales Ameluz bodes well for 2017 and further

Last month, Biofrontera published its 2016FY figures. Sales increased 48% to EUR 6.1 million compared to EUR 4.1million in 2015. Especially in 2016Q4 sales increased by more than 116% to EUR 3.2 million due to a very successful start of Ameluz® sales in the US and a strong increase in revenues from Europe. For 2017, the company expects a revenue of EUR 14-18 million. For the next few years we expect a rapid acceleration of sales with the introduction of Ameluz® on the US market, stronger sales in Europe from Ameluz® with the recent approval for BCC and the expected approval of Ameluz® for daylight PDT. In the USA, the company expects a marked increase in sales revenues in 2017, especially as initial system-related problems with reimbursing the medication have meanwhile largely been resolved. The receipt of an individual reimbursement code for the medication Ameluz®, to be activated in January 2018, will significantly simplify and accelerate the acquisition of market shares and related sales revenue growth. Also selling Ameluz® with its own sales force in countries like the UK and Spain will have a positive effect on total sales. In Spain sales of Ameluz® will double this year under own sales management. We expect the same sales increase in the UK.

Successful launch of Ameluz in the US offers basis for fast growth

In October 2016, Biofrontera initiated its US commercial launch of Ameluz® and BF-RhodoLED® for actinic keratosis at the Fall Clinical Dermatology Conference in Las Vegas following U.S. FDA approval in May 2016. After a positive initial launch in targeted regions across the US that generated EUR 1.1 million in revenues in the three months ended December 31, 2016, Biofrontera has expanded its sales efforts to include the entire U.S. as well as bolstered its sales force to 26 representatives which it expects to further expand throughout 2017. For 2017, the company expect that more than half of total revenues will be derived from the US. In order to manage and develop the strongly growing US presence, the company recently appointed Randall Wilhoite as Chief Operating Officer of its US subsidiary. Randall will oversee the acceleration of the Company's administrative and logistics efforts for Ameluz® in the U.S.

AK Market in Europe and the US



The US represents the largest photodynamic therapy market in the world, with approximately 58 million patients suffering from AK, providing a significant revenue opportunity for Biofrontera. With the help of a consulting firm specializing in market access and a team of medical advisors, Biofrontera had intensively analyzed of the AK drug market and the reimbursement mechanisms in the US healthcare system last year. Biofrontera was also able to draw on the experience of DUSA Pharmaceuticals Inc. with a competitor product already sold and distributed in the USA, Levulan Kerastick®. Sales in the USA are handled via a wholly-owned subsidiary, Biofrontera Inc., which was established for this purpose back in March 2015. The company will more than double its sales force for Ameluz® in the US from 16 end of 2016 to 35-45 reps. Considering the large market size for AK therapies in the US, we therefore also believe that the US will rapidly become by far the largest market for Ameluz®.

Potential market increases considerably with BCC approval for Ameluz

In January 2017, the European Commission extended the indication for Ameluz® to include basal cell carcinoma (BCC), following a positive opinion from the Committee for Medicinal Products for Human Use (CHMP) of the European Medicines Agency (EMA). This extension includes the treatment of superficial and/or nodular basal cell carcinoma which cannot be treated

with surgery due to possible treatment-related morbidity or poor cosmetic outcome in adults. The additional approved indication significantly increases the market opportunity for Ameluz®. Approval for basal cell carcinoma (BCC) is a prerequisite for the widespread use of Ameluz® in hospitals, as basal cell carcinoma is mainly treated there, whereas this is only very rarely the case for actinic keratosis. This indication plays an essential role for the breakthrough of Ameluz®, particularly elsewhere in Europe, where dermatologists are predominantly based in hospitals. BCCs are the most common invasive tumors that affect humans and account for 50-80% of all invasive white skin cancers. Around 30% of all Caucasians develop at least one BCC in their lifetime, and this is a rapidly growing trend around the world due to increased exposure to UV light. BCCs are normally removed surgically, often resulting in substantial scarring. Treatment with photodynamic therapy (PDT) is a highly effective alternative which also leads to excellent cosmetic results.

According to a market study published in 2014 by Technavio, the international market for actinic keratosis medications is expected to grow by approx. 8% annually, from approximately USD 546 million to USD 942 million in 2020. During the same period, however, the market for basal cell carcinoma medications is expected to grow at a phenomenal rate, from approximately USD 236 million today to nearly USD 5 billion, because the availability of new drugs (Ameluz® is mentioned in this context) will mean that fewer and fewer patients undergo operations. Biofrontera is currently in the process to get reimbursement per country in Europe. It expects to get full reimbursement in the UK before the end of 2017, followed by Spain. For the US, Biofrontera will have a pre-IND meeting with the FDA in the next few months. There is a possibility that the FDA will accept the European BCC data followed by two small safety studies, as was done with the filing of Ameluz for AK.

Background Photodynamic therapy: Fast growing skin cancer treatment

The treatment of actinic keratosis with Ameluz® is based on photodynamic therapy (PDT). In a PDT, the respective lesion is treated by applying a gel to the relevant parts of the skin, which then delivers the active substance into the cells, where it is metabolized into a molecule ring that can absorb energy from light at certain wavelengths. By shining light onto the skin the reaction is triggered and will selectively kill tumorous cells. The international treatment directives list PDT as gold standard for the removal of actinic keratosis, particularly for patients with large areas of keratoses. Biofrontera offers a drug with such an active substance, Ameluz®, as well as an optimal light source called BF-RhodoLED.

Source: Biofrontera

BF-RhodoLED is the corresponding lamp designed for PDT, which uses LEDs emitting red light at the required wavelength of approx. 635 nm. Light at this wavelength is ideally suited for PDT illumination with drugs containing ALA or methyl ALA. It is red but is still outside the warming infrared range. The BF-RhodoLED lamp combines a controlled and consistent emission of light at the required wavelength. It makes it possible to counteract the pain experienced by patients

during the exposure by adjusting the light intensity and increasing the period of exposure, or by increasing ventilation of the relevant area of skin. The availability of topical PDT therapies for the treatment of AK and BCC has now become well established with the availability of DUSA's (now SUN Pharma's) Levulan (only in the US) and Galderma's Metvix (only in Europe). Levulan is FDA approved for the treatment of minimally to moderately thick AK of the face or scalp. Ameluz is the only approved PDT that is available in both Europe and the US and that shows superiority to both Levulan and Metvix

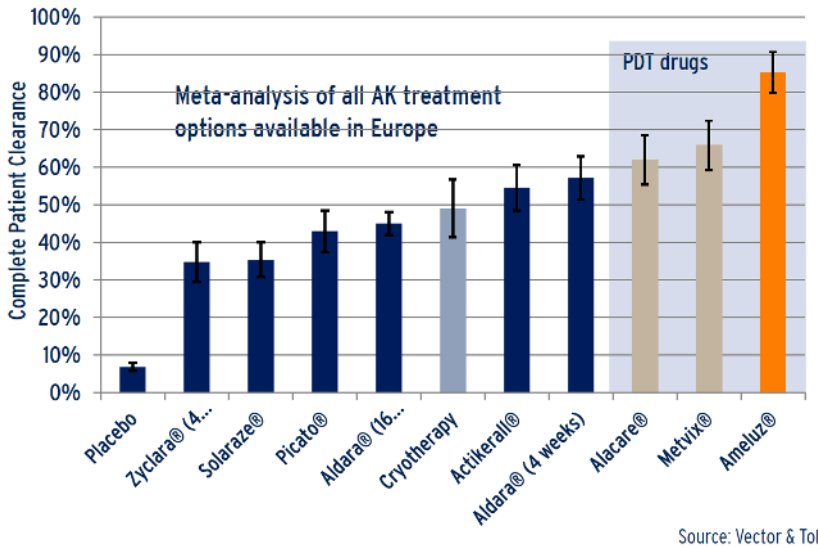
	Ameluz® / BF-RhodoLED with 3 hr exposure	Levulan® / Blu-U® with 14-18 hr exposure
Patient clearance: 3 months after last of 1 or 2 PDTs	91%	66%
Patient clearance scalp	82%	50%
Patient clearance: 12 (Ameluz) or 10-12 (Levulan) months after last of 1 or 2 PDTs	57%	31%
Lesion clearance: 3 months after last of 1 or 2 PDTs	94.3%	72.1%/83.6%
Lesion clearance: 12 (Ameluz) or 10-12 (Levulan) months after last of 1 or 2 PDTs	86.7%	63.6%
Formulation (Better penetration and easier application)	gel	liquid
Illumination time	10 min	16 min
Skin rejuvenation	phase III data	no phase III data
Approved treatment area	field	lesion
Treatment of superficial and nodular BCC	high efficacy in phase III	no data
US Revenues in 2016 (Ameluz® launch in October 2016)	$ 1.1 Million	$ > 100 Million

- 570 patient, Three-arm study with Ameluz®, Metvix®, Placebo, 3:3:1
- Multinational (CH, AT, DE), placebo controlled, observer-blinded study
- Ameluz® was significantly superior ($p<0.05$) to Metvix® on the primary endpoint
- 54% of the Ameluz®* patients required only one PDT with LED lamps

Clinical end point (ITT)	Ameluz®	Metvix®	Placebo
Complete patient clearance** (all lamps)	78%	64%	17%
Complete lesion clearance (all lamps)	90%	83%	37%
Complete patient clearance with narrow/broad spectrum lamps	narrow 85% broad 71%	narrow 68% broad 61%	narrow 13% broad 22%
Complete patient clearance after 1st PDT (all lamps)	48%	37%	4%

* Development name: BF-200 ALA
** Clinical endpoint: average of all lamps

Ameluz: Most Effective Therapeutic Option for AK Treatment



- Meta-analysis included 25 randomized, controlled studies (5,562 patients)
- Clinical endpoint: total patient clearance rates in mild to moderate AK on face or scalp
- All included PDTs were performed with LED lamps
- Significant superiority of Ameluz® over Metvix® was proven in phase III trial and is documented in the Ameluz® SmPC

Source: Vector & Tolley, PlosOne 2014, June, Vol. 9, Issue 6

Milestones: Ticking all the boxes

In the past 12 months, Biofrontera managed to achieve important mile stones with the approval of Ameluz® in the US, start of US sales and the positive Phase III with Ameluz® in BCC in Europe. For the coming months, there are a number of key milestones to focus on. Each of these milestones can potentially trigger the share price of Biofrontera further.

- 10 May 2016: Final review and approval of Ameluz® in the US √
- 2016H1: Approval of Ameluz® in Israel and Switzerland √
- October 2016: Commercial launch Ameluz® for AK in the US √
- 2017Q1: BCC phase III study results √
- 2017Q1: Results of Phase III study daylight PDT √
- 2017Q1: Approval for BCC in Europe √
- 2017Q2: Submission Daylight application in the EU
- 2017Q3: FDA Type B meeting for BCC label extension
- 2017Q3: Start UK sales team
- 2018-Jan: Permanent J-Code for Ameluz (US)
- 2018H1: Approval for daylight PDT in Europe

Analyst: Marcel Wijma MSc
Marcel Wijma, Chief Research Officer and managing partner, has a longstanding history in financial biotech research. After selling Van Leeuwenhoeck Research (VLR) to SNS Securities in 2006, he established an award winning analyst team in biotech/life sciences at SNS Securities. In 2009, Marcel was awarded by Financial Times/Starmine as being one of the Top-3 biotech analysts in Europe. Later that year, Marcel purchased VLR from SNS Securities after which the company was reconstituted. At VLR, he leads the professional VLR research organisation, which is augmented by selected external financial researchers with a specialisation in Life Sciences. Mr. Wijma has a Masters degree in Financial Economics from Erasmus University in Rotterdam.