

# **OpenLimit Holding AG**

Switzerland / Software Primary exchange: Frankfurt Bloomberg: O5H GR ISIN: CH0022237009

H1 figures

RATING PRICE TARGET

BUY € 0.48

Return Potential 62.2% Risk Rating High

# **SECOND SMGW CERTIFIED – ROLLOUT TO START IN 2019**

OpenLimit reported H1 figures which roughly matched our expectations. Although sales were 8% lower at €4.0m, EBIT increased from 55k to €147k due to strict cost discipline. The repeated postponement of the smart meter gateway (SMGW) rollout has caused the company to reduce guidance. OpenLimit now expects ca. €8m sales in 2019 and has indicated that positive EBIT may be achievable. However, the certification of a second supplier's SMGW at the end of September has increased the likelihood that the rollout will start still by the end of this year. This at least is the expectation of the Federal Office for Information Security (BSI), which is responsible for certification. We now do not expect a relevant revenue contribution from the SMGW rollout in 2019 and lower our forecasts for 2019E and the following years. But we expect the approaching SMGW rollout to drive brisk revenue growth in 2020E and the following years. An updated DCF model yields a new price target of €0.48 (previously: €0.54) We reiterate our Buy rating.

Lower sales, but higher EBIT H1 revenue declined 8% y/y to €4.0m (FBe: €4.4m). The main revenue contribution came from the contract with T-Systems for the Medical Access Port development (€2.4m versus €3.3m in H1/18) Despite lower revenues, EBIT increased from €55k to €147k. The main reasor for this was strict cost discipline. Other operating expenses fell from €1.4m to €0.8m as legal costs and advertising expenses were significantly reduced. Lower financial (€235k vs. €267k in H1/18) and similar tax expensesled to an improved net result of €-136k versus €-270k in H1/18. Based on a higher average share count of 35.9m (H1/18: 28.7m), EPS amounted to €-0.004 versus €-0.009 in H1/18.

**Guidance lowered** Due to the repeated postponement of the SMGW rollout, OpenLimit has lowered guidance and now expects ca. €8m sales in 2019 and has indicated that positive EBIT may be achievable. The previous guidance was >€10m in revenues, but no EBIT guidance. (p.t.o.)

## **FINANCIAL HISTORY & PROJECTIONS**

	2016	2017	2018	2019E	2020E	2021E
Revenue (€m)	-0.40	4.94	7.97	8.13	10.16	13.21
Y-o-y growth	n.a.	n.a.	61.5%	2.0%	25.0%	30.0%
EBIT (€m)	-7.85	-3.00	-0.66	-0.07	0.44	1.41
EBIT margin	1971.1%	-60.8%	-8.3%	-0.9%	4.4%	10.7%
Net income (€m)	-8.57	-3.03	-1.30	-0.67	0.09	1.02
EPS (diluted) (€)	-0.39	-0.12	-0.04	-0.02	0.00	0.03
DPS (€)	0.00	0.00	0.00	0.00	0.00	0.00
FCF (€m)	-2.86	-0.54	-0.19	-0.46	0.66	0.78
Net gearing	278.3%	474.0%	704.7%	172.1%	86.4%	44.7%
Liquid assets (€m)	0.02	0.07	0.06	0.05	0.15	0.23

### RISKS

Risks include, but are not limited to: financing, project delays, regulatory delays, erosion of the company's competitive lead, and the failure of the company's products to achieve broad market acceptance.

#### **COMPANY PROFILE**

OpenLimit stands for the secure electronic handshake. Its technologies enable people and machines worldwide to communicate in secure, verifiable and identifiable ways. The company develops base technologies and products in the areas secure data transfer between machines, secure authentication, electronic signatures, and evidentiary value-preserving long-term storage of data and documents.

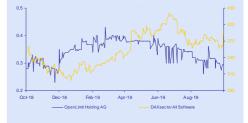
MARKET DATA	As of 11 Oct 2019
Closing Price	€ 0.30
Shares outstanding	38.17m
Market Capitalisation	€ 11.30m
52-week Range	€ 0.23 / 0.43
Avg. Volume (12 Months)	10.902

Multiples	2018	2019E	2020E
P/E	n.a.	n.a.	119.2
EV/Sales	2.0	2.0	1.6
EV/EBIT	n.a.	n.a.	36.3
Div. Yield	0.0%	0.0%	0.0%

### STOCK OVERVIEW

Other investors

Free Float



COMPANY DATA	As of 30 Jun 2019
Liquid Assets	€ 0.03m
Current Assets	€ 2.85m
Intangible Assets	€ 4.53m
Total Assets	€ 10.39m
Current Liabilities	€ 5.22m
Shareholders' Equity	€ 2.78m
SHAREHOLDERS	
René C. Jäggi	15.4%
Robert E. Züllig	14.3%
WiseKev	5.8%

14.9%

49.6%

Figure 1: Reported figures versus forecasts

All figures in €m	H1-19A	H1-19E	Delta	H1-18A	Delta
Sales	4.00	4.40	-9.1%	4.35	-8.0%
EBIT	0.15	0.02	635.0%	0.06	167.3%
margin	3.7%	0.5%		1.3%	
Net income	-0.14	-0.30	-	-0.27	-
margin	-3.4%	-6.8%		-6.2%	
EPS in € (diluted)	0.00	-0.01	-	-0.01	-

Source: First Berlin Equity Research, OpenLimit Holding AG

Much improved balance sheet Equity amounted to €2.8m at the end of H1 versus €0.8m at the end of 2018 due the capital increase in January. OpenLimit raised gross proceeds of €2.1m through the issue of 7.1m shares (see figure 2). The equity ratio was at a much healthier 27% after 10% at end 2018. But liquidity constraints remain an issue. The cash position was again very low (€26k), payables and other short-term liabilities rose from €1.5m to €2.8m, and short-term financial liabilities were at €1.9m. But compared to the short-term financial liabilities at the end of 2018 of €4.6m, this is a significant improvement.

Long-term financial debt increased from €0.8m to €1.3m resulting in total financial debt of €4.0m. Leasing liabilities, which have to be recognised since the beginning of the year according to IFRS 16, amounted to €1.4m, and pension liabilities were stable at €246k. The net debt position thus declined to €4.8m versus €55m at the end of 2018. We note that the 2018 balance sheet did not show leasing liabilities.

Figure 2: Balance sheet, selected items

All figures in EUR '000	H1/19	2018	delta
Goodwill & other intangibles	4,525	4,889	-7%
Rights of use	1,349	0	n.m.
Receivables & other	2,026	1,278	59%
Cash and cash equivalents	26	56	-54%
Total assets	10,385	8,014	30%
Shareholders' equity	2,782	785	254%
Equity ratio	27%	10%	-
Financial debt, long-term	1,282	773	66%
Leasing liabilities, long-term	831	0	n.m.
Pension liabilities	246	246	0%
Financial debt, short-term	1,911	4,568	-58%
Leasing liabilities, short-term	541	0	n.m.
Accounts payable & other	2,751	1,499	84%
Net debt	4,785	5,531	-13%
Net gearing	172%	705%	-

Source: First Berlin Equity Research, OpenLimit Holding AG

Slightly negative free cash flow Operating cash flow amounted to €685k and was 41% below the prior year's figure due mainly to higher receivables and other assets (€-1.4m). Free cash flow was €-162k due to CAPEX of €847k. Finarcing cash flow amounted to €132k as funds from the convertible loan (€450k) were higher than loan repayments (€318k). Net cash flow was €30k.

**Second SMGW supplier certified** In a press release of 30 September, the Federal Office for Information Security (BSI) announced that a second SMGW supplier has been certified. This supplier is Sagemcom Dr. Neuhaus GmbH. The BSI is confident that the SMGW rollout, which critically depends on three SMGW suppliers being certified, will start by the end of

2019 (previously: Q3/19). The SMGW of OpenLimit and its partner PPC had been certified in December 2018. According to the BSI, seven other applicants are in the certification process (see BSI <a href="https://bit.ly/2JZiEoq">https://bit.ly/2JZiEoq</a>).

Due to the rollout postponement, OpenLimit's SMGW sales were low (low six digit euro sum). Advance orders amount to slightly above 100,000 devices, but shipment will not begin until the rollout starts. The SMGW rollout looks set to be the major revenue driver for OpenLimit in the coming years, as we assume the installation of more than one million SMGW devices per annum from 2020E on. If the official rollout starts in 2019 we believe that OpenLimit / PPC could sell up to 150,000 units next year. In this scenario, the company would generate 2020E SMGW sales of €3m, which assumes an average revenue share of €20 per SMGW unit for OpenLimit. We note that it is difficult to estimate SMGW sales volume and pricing in advance of the start of the rollout.

Given the legal requirement to replace SMGWs after eight years, we expect recurring long term revenues. The company should also generate recurring revenues with software service & maintenance. We welcome the high scalability of the SMGW business as OpenLimit will generate revenues (licence fee) per unit sold, whereas most of the development costs have already been booked.

The SMGW guarantees secure communication between end consumers' meters and utilities and is a decisive element in the digitalisation of the German energy sector. The certification by the German Federal Office for Information Security confirms security aspects such as stringent requirements for cryptography, security modules, smart metering public key infrastructure, and SMGW administration. The "Law to digitalise the energy transition" passed in 2016 stipulates a step-by-step rollout process over eight years. The SMGW market potential is 12-17 million devices. We anticipate extra potential when further metering systems in the areas gas, water, and heat will be introduced. The SMGW enables the implementation of new applications, innovations, and business models and is thus opening up a new era in the energy industry.

T-Systems contract extended in March The contract to develop a Medical Access Port for the German health market was extended in March and was the main revenue driver in H1 (revenue contribution: €2.4m). In H2, the contract will also generate significant revenues (FBe: roughly at the same level as in H1/19). Following the approval of the Medical Access Port by gematik in June 2018, the rollout to doctors, dentists, hospitals and pharmacies has started. T-Systems and OpenLimit are now in the service and further development phase. Negotiations between T-Systems and OpenLimit for an extension of the contract beyond January 2020 have started and OpenLimit expects a low to medium single digit million euro sum in 2020 as a result of the negotiations.

**Rising sales in signature technology / Fujitsu SecDocs powererd by OpenLimit products** As in 2018, revenue from this area looks set to rise significantly again. The signature technology / SecDocs product portfolio supports companies and administrations in areas such as e-mail storage, e-documents, digitalisation processes, and electronic accounting.

Authentication and eID look set to benefit from the digitalisation strategy of the federal government and administration In H1/19, OpenLimit received further orders in this area. One project has an order volume in the lower single digit million euro range. The project implements eIDAS (electronic IDentification, Authentication and trust Services) compliance for a key account. The EU's eIDAS directive lays down common and mandatory rules in the areas "electronic identification" and "electronic trust services". We believe that the planned execution of the federal German digitalisation strategy will boost demand for OpenLimit's eID solutions.

**Order backlog of ca. €5m** The order backlog for Q4/19 and the coming years amounted to €5m. This is a solid basis to reach the lowered 2019 guidance.

**Convertible loans issued** In April, OpenLimit issued convertible loans totalling €550k with a conversion price of €0.38 per share. Conversion (including accrued interest) would result in 1,671,269 new shares. The loans are due on 31 October 2020.

Forecasts lowered for 2019E and the following years due to postponed start of SMGW rollout Our estimates are basically pushed back by a full year. We now assume 2020E revenue of €10.2m and EBIT of €440k (see figure 3). The approaching SMGW rollout underpins our growth scenario for 2020E and the following years.

Figure 3: Revisions to forecasts

		2019E			2020E			2021E	
All figures in €m	Old	New	Delta	Old	New	Delta	Old	New	Delta
Sales	10.76	8.13	-24.5%	13.99	10.16	-27.4%	16.78	13.21	-21.3%
EBIT	0.87	-0.07	-	2.02	0.44	-78.0%	3.04	1.41	-53.4%
margin	8.1%	-0.9%		14.4%	4.4%		18.1%	10.7%	
Net income	0.25	-0.67	-	1.43	0.09	-93.4%	2.39	1.02	-57.3%
margin	5.0%	-8.2%		10.2%	0.9%		14.2%	7.7%	
EPS in € (diluted)	0.01	-0.02	-	0.04	0.00	-93.4%	0.06	0.03	-57.3%

Source: First Berlin Equity Research

**Buy reiterated at lower price target** An updated DCF model yields a new price target of €0.48 (previously: €0.54). We reiterate our Buy rating.



# **VALUATION MODEL**

DCF valuation model								
All figures in EUR '000	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Net sales	8,128	10,161	13,209	16,511	20,294	24,519	29,110	33,953
NOPLAT	-133	425	1,219	2,256	2,804	3,438	4,137	4,887
+ depreciation & amortisation	2,821	2,236	1,889	1,931	2,337	2,789	3,275	3,781
Net operating cash flow	2,688	2,662	3,109	4,187	5,141	6,227	7,412	8,668
- total investments (CAPEX and WC)	-2,616	-1,672	-2,127	-2,971	-3,790	-4,479	-5,190	-5,892
Capital expenditures	-1,666	-1,880	-2,312	-2,856	-3,404	-3,983	-4,576	-5,158
Working capital	-950	208	185	-115	-386	-496	-614	-734
Free cash flows (FCF)	72	990	982	1,216	1,352	1,748	2,222	2,776
PV of FCF's	69	837	726	787	765	864	961	1,050

All figures in thousands	
PV of FCFs in explicit period (2019E-2033E)	14,442
PV of FCFs in terminal period	9,508
Enterprise value (EV)	23,949
+ Net cash / - net debt (pro forma)	-4,790
+ Investments / minority interests	0
Shareholder value	19,159
Diluted number of shares	40,222
Fair value per share in EUR	0.48

WACC	14.3%	
Cost of equity	15.2%	
Pre-tax cost of debt	8.0%	
Tax rate	16.0%	O
After-tax cost of debt	6.7%	WAC
Share of equity capital	90.0%	>
Share of debt capital	10.0%	
Price target per share in EUR	0.48	

	Terminal growth rate									
	0.5%	1.0%	1.5%	2.0%	2.5%	3.0%	3.5%			
10.3%	0.91	0.92	0.94	0.95	0.97	0.98	1.00			
11.3%	0.77	0.77	0.78	0.79	0.80	0.81	0.82			
12.3%	0.65	0.65	0.66	0.66	0.67	0.67	0.68			
13.3%	0.55	0.55	0.56	0.56	0.56	0.56	0.57			
14.3%	0.47	0.47	0.48	0.48	0.48	0.48	0.48			
15.3%	0.41	0.41	0.41	0.41	0.41	0.41	0.41			
16.3%	0.35	0.35	0.35	0.35	0.35	0.35	0.35			
17.3%	0.30	0.30	0.30	0.30	0.30	0.30	0.30			

 $<sup>^{\</sup>star}$  For layout reasons, the figure only displays figures until 2026, but the model runs until 2033.



# **INCOME STATEMENT**

All figures in EUR '000	2016A	2017A	2018A	2019E	2020E	2021E
Revenues	-398	4,935	7,969	8,128	10,161	13,209
Own work	2,426	2,451	1,620	1,552	1,778	2,246
Cost of goods sold	462	293	84	163	1,016	1,717
Gross profit	-860	4,643	7,885	7,965	9,145	11,492
Personnel costs	6,147	4,970	4,819	4,900	5,500	7,000
Other operating income	1,465	0	0	0	0	0
Other operating expenses	2,131	2,487	2,743	1,869	2,743	3,434
EBITDA	-5,247	-363	1,942	2,748	2,680	3,303
Depreciation and amortisation	2,607	2,637	2,603	2,821	2,236	1,889
Operating income (EBIT)	-7,854	-3,000	-660	-73	443	1,414
Net financial result	-508	-410	-614	-534	-331	-198
Non-operating expenses	0	0	0	0	0	0
Pre-tax income (EBT)	-8,362	-3,410	-1,275	-607	113	1,216
Income taxes	-207	382	-21	-61	-18	-195
Minority interests	0	0	0	0	0	0
Net income / loss	-8,569	-3,028	-1,296	-667	95	1,021
Diluted EPS (in €)	-0.39	-0.12	-0.04	-0.02	0.00	0.03
Ratios						
Gross margin	n.m.	94.1%	98.9%	98.0%	90.0%	87.0%
EBIT margin on revenues	n.m.	-60.8%	-8.3%	-0.9%	4.4%	10.7%
EBITDA margin on revenues	n.m.	-7.4%	24.4%	33.8%	26.4%	25.0%
Net margin on revenues	n.m.	-61.4%	-16.3%	-8.2%	0.9%	7.7%
Tax rate	n.m.	11.2%	-1.7%	-10.0%	16.0%	16.0%
Expenses as % of revenues						
Personnel costs	n.m.	100.7%	60.5%	60.3%	54.1%	53.0%
Depreciation and amortisation	n.m.	53.4%	32.7%	34.7%	22.0%	14.3%
Other operating expenses	n.m.	50.4%	34.4%	23.0%	27.0%	26.0%
Y-Y Growth						
Revenues	n.m.	n.m.	61.5%	2.0%	25.0%	30.0%
Operating income	n.m.	n.m.	n.m.	n.m.	n.m.	218.8%
Net income/ loss	n.m.	n.m.	n.m.	n.m.	n.m.	977.4%



# **BALANCE SHEET**

All figures in EUR '000 2016A 2017A 2018A 2019E 2020E	2021E
<u>Assets</u>	
Current assets, total 4,595 2,895 1,620 1,959 2,347	3,206
Cash and cash equivalents 17 65 56 53 147	231
Short-term investments 0 0 0 0 0	0
Receivables & other 4,577 2,825 1,560 1,893 2,088	2,787
Inventories 0 5 4 13 111	188
Other current assets 0 0 0 0 0	0
Non-current assets, total 6,113 7,271 6,393 5,239 4,882	5,304
Property, plant & equipment 82 80 70 77 91	114
Goodwill & other intangibles 5,207 5,826 4,889 3,728 3,357	3,756
Other assets 823 1,364 1,434 1,434 1,434	1,434
Total assets 10,708 10,166 8,014 7,198 7,229	8,510
Shareholders' equity & debt	
Current liabilities, total 8,257 6,566 6,189 3,913 3,214	3,474
Short-term debt 4,035 1,412 4,568 2,900 1,700	1,000
Accounts payable & other 3,320 4,554 1,499 891 1,392	2,352
Current provisions 900 584 0 0 0	0
Other current liabilities 2 16 122 122 122	122
Long-term liabilities, total 757 2,740 1,039 1,039 1,039	1,039
Long-term debt 382 2,464 773 773 773	773
Deferred revenue 0 0 0 0 0	0
Other liabilities 375 275 267 267	267
Minority interests 0 0 0 0 0	0
Shareholders' equity 1,693 860 785 2,246 2,976	3,997
Share capital 5,354 6,888 7,826 9,954 10,456	10,456
Capital reserve 10,498 11,013 11,157 11,291	11,291
Other reserves 2,288 2,402 2,500 2,500 2,500	2,500
Treasury stock 0 0 0 0	0
Loss carryforward / retained earnings -16,448 -19,443 -20,698 -21,365 -21,270	-20,249
Total consolidated equity and debt 10,708 10,166 8,014 7,198 7,229	8,510
Ratios	
Current ratio (x) 0.56 0.44 0.26 0.50 0.73	0.92
Quick ratio (x) 0.56 0.44 0.26 0.50 0.70	0.87
Book value per share (€) 0.08 0.03 0.03 0.06 0.07	0.10
Net cash -4,712 -4,076 -5,531 -3,865 -2,571	-1,787
Net gearing 278.3% 474.0% 704.7% 172.1% 86.4%	44.7%
Equity ratio 15.8% 8.5% 9.8% 31.2% 41.2%	47.0%
Return on equity (ROE) -506.2% -352.1% -165.1% -29.7% 3.2%	25.6%



# **CASH FLOW STATEMENT**

All figures in EUR '000	2016A	2017A	2018A	2019E	2020E	2021E
EBIT	-7,854	-3,000	-660	-73	443	1,414
Depreciation and amortisation	2,607	2,637	2,603	2,821	2,236	1,889
EBITDA	-5,247	-363	1,942	2,748	2,680	3,303
Changes in working capital	-2,840	2,995	-293	-950	208	185
Other adjustments	7,679	81	-182	-595	-349	-392
Operating cash flow	-407	2,713	1,467	1,204	2,539	3,096
Investments in PP&E	-26	-41	-36	-41	-51	-66
Investments in intangibles	-2,426	-3,212	-1,620	-1,626	-1,829	-2,246
Free cash flow	-2,859	-541	-189	-463	659	784
Acqusitions & disposals, net	1,465	0	0	0	0	0
Other investments	0	0	0	0	0	0
Cash flow from investing	-987	-3,254	-1,656	-1,666	-1,880	-2,312
Debt financing, net	550	-17	-101	-1,668	-1,200	-700
Equity financing, net	584	605	281	2,128	635	0
Dividends paid	0	0	0	0	0	0
Other financing	0	0	0	0	0	0
Cash flow from financing	1,134	588	179	460	-565	-700
FOREX & other effects	-26	1	0	0	0	0
Net cash flows	-286	48	-9	-3	94	84
Cash, start of the year	303	17	65	56	53	147
Cash, end of the year	17	65	56	53	147	231
EBITDA/share (in €)	-0.24	-0.01	0.06	0.07	0.07	0.08
Y-Y Growth						
Operating cash flow	n.m.	n.m.	-45.9%	-17.9%	111.0%	21.9%
Free cash flow	n.m.	n.m.	n.m.	n.m.	n.m.	18.9%
EBITDA/share	n.m.	n.m.	n.m.	6.6%	-2.5%	23.3%



#### FIRST BERLIN RECOMMENDATION & PRICE TARGET HISTORY

Report No.:	Date of publication	Previous day closing price	Recommendation	Price target
Initial Report	10 October 2005	€4.20	Buy	€5.20
256	$\downarrow$	1	$\downarrow$	1
57	17 December 2018	€0.31	Buy	€0.65
58	7 January 2019	€0.35	Buy	€0.54
59	7 May 2019	€0.38	Buy	€0.54
60	Today	€0.30	Buy	€0.48

Authored by: Dr. Karsten von Blumenthal, Analyst

Company responsible for preparation:

First Berlin Equity Research GmbH Mohrenstraße 34 10117 Berlin

Tel. +49 (0)30 - 80 93 96 85 Fax +49 (0)30 - 80 93 96 87

info@firstberlin.com www.firstberlin.com

Person responsible for forwarding or distributing this financial analysis: Martin Bailey

Copyright© 2019 First Berlin Equity Research GmbH No part of this financial analysis may be copied, photocopied, duplicated or distributed in any form or media whatsoever without prior written permission from First Berlin Equity Research GmbH. First Berlin Equity Research GmbH shall be identified as the source in the case of quotations. Further information is available on request.

INFORMATION PURSUANT TO SECTION 34B OF THE GERMAN SECURITIES TRADING ACT [WPHG], TO REGULATION (EU) NO 596/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF APRIL 16, 2014, ON MARKET ABUSE (MARKET ABUSE REGULATION) AND TO THE GERMAN ORDINANCE ON THE ANALYSIS OF FINANCIAL INSTRUMENTS [FINANV]

First Berlin Equity Research GmbH (hereinafter referred to as: "First Berlin") prepares financial analyses while taking the relevant regulatory provisions, in particular the German Securities Trading Act [VVpHG], Regulation (EU) No 596/2014 of the European Parliament and of the Council of April 16, 2014, on market abuse (market abuse regulation) and the German Ordinance on the Analysis of Financial Instruments [FinAnV] into consideration. In the following First Berlin provides investors with information about the statutory provisions that are to be observed in the preparation of financial analyses.

#### CONFLICTS OF INTEREST

In accordance with Section 34b Paragraph 1 of the German Securities Trading Act [WpHG] and Regulation (EU) No 596/2014 of the European Parliament and of the Council of April 16, 2014, on market abuse (market abuse regulation) financial analyses may only be passed on or publicly distributed if circumstances or relations which may cause conflicts of interest among the authors, the legal entities responsible for such preparation or companies associated with them are disclosed along with the financial analysis.

First Berlin offers a range of services that go beyond the preparation of financial analyses. Although First Berlin strives to avoid conflicts of interest wherever possible, First Berlin may maintain the following relations with the analysed company, which in particular may constitute a potential conflict of interest (further information and data may be provided on request):

- The author, First Berlin, or a company associated with First Berlin holds an interest of more than five percent in the share capital of the analysed company;
- The author, First Berlin, or a company associated with First Berlin provided investment banking or consulting services for the analysed company within the past twelve months for which remuneration was or was to be paid;
- The author, First Berlin, or a company associated with First Berlin reached an agreement with the analysed company for preparation of a financial analysis for which remuneration is owed;
- The author, First Berlin, or a company associated with First Berlin has other significant financial interests in the analysed company;

In order to avoid and, if necessary, manage possible conflicts of interest both the author of the financial analysis and First Berlin shall be obliged to neither hold nor in any way trade the securities of the company analyzed. The remuneration of the author of the financial analysis stands in no direct or indirect connection with the recommendations or opinions represented in the financial analysis. Furthermore, the remuneration of the author of the financial analysis is neither coupled directly to financial transactions nor to stock exchange trading volume or asset management fees.

If despite these measures one or more of the aforementioned conflicts of interest cannot be avoided on the part of the author or First Berlin, then reference shall be made to such conflict of interest.

INFORMATION PURSUANT TO SECTION 64 OF THE GERMAN SECURITIES TRADING ACT [WPHG] (2ND FIMANOG) OF 23 JUNE 2017, DIRECTIVE 2014/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 15 MAY 2014 ON MARKETS IN FINANCIAL INSTRUMENTS AND AMENDING DIRECTIVE 2002/92/EC AND DIRECTIVE 2011/61/EU, ACCOMPANIED BY THE MARKETS IN FINANCIAL INSTRUMENTS REGULATION (MIFIR, REG. EU NO. 600/2014)

First Berlin notes that is has concluded a contract with the issuer to prepare financial analyses and is paid for that by the issuer. First Berlin makes the financial analysis simultaneously available for all interested security financial services companies. First Berlin thus believes that it fulfils the requirements of section 64 WpHG for minor non-monetary benefits.



#### PRICE TARGET DATES

Unless otherwise indicated, current prices refer to the closing prices of the previous trading day.

#### AGREEMENT WITH THE ANALYSED COMPANY AND MAINTENANCE OF OBJECTIVITY

The present financial analysis is based on the author's own knowledge and research. The author prepared this study without any direct or indirect influence exerted on the part of the analysed company. Parts of the financial analysis were possibly provided to the analysed company prior to publication in order to avoid inaccuracies in the representation of facts. However, no substantial changes were made at the request of the analysed company following any such provision.

#### **ASSET VALUATION SYSTEM**

First Berlin's system for asset valuation is divided into an asset recommendation and a risk assessment.

#### ASSET RECOMMENDATION

The recommendations determined in accordance with the share price trend anticipated by First Berlin in the respectively indicated investment period are as follows:

Category Current market capitalisation (in €)			2
		0 - 2 billion	> 2 billion
Strong Buy <sup>1</sup>	An expected favourable price trend of:	> 50%	> 30%
Buy	An expected favourable price trend of:	> 25%	> 15%
Add	An expected favourable price trend of:	0% to 25%	0% to 15%
Reduce	An expected negative price trend of:	0% to -15%	0% to -10%
Sell	An expected negative price trend of:	< -15%	< -10%

<sup>&</sup>lt;sup>1</sup> The expected price trend is in combination with sizable confidence in the quality and forecast security of management.

Our recommendation system places each company into one of two market capitalisation categories. Category 1 companies have a market capitalisation of  $\le 0 - \le 2$  billion, and Category 2 companies have a market capitalisation of  $> \le 2$  billion. The expected return thresholds underlying our recommendation system are lower for Category 2 companies than for Category 1 companies. This reflects the generally lower level of risk associated with higher market capitalisation companies.

#### RISK ASSESSMENT

The First Berlin categories for risk assessment are low, average, high and speculative. They are determined by ten factors: Corporate governance, quality of earnings, management strength, balance sheet and financial risk, competitive position, standard of financial disclosure, regulatory and political uncertainty, strength of brandname, market capitalisation and free float. These risk factors are incorporated into the First Berlin valuation models and are thus included in the target prices. First Berlin customers may request the models.

#### **INVESTMENT HORIZON**

Unless otherwise stated in the financial analysis, the ratings refer to an investment period of twelve months.

#### UPDATES

At the time of publication of this financial analysis it is not certain whether, when and on what occasion an update will be provided. In general First Berlin strives to review the financial analysis for its topicality and, if required, to update it in a very timely manner in connection with the reporting obligations of the analysed company or on the occasion of ad hoc notifications.

### SUBJECT TO CHANGE

The opinions contained in the financial analysis reflect the assessment of the author on the day of publication of the financial analysis. The author of the financial analysis reserves the right to change such opinion without prior notification.

#### Legally required information regarding

- key sources of information in the preparation of this research report
- valuation methods and principles
- sensitivity of valuation parameters

can be accessed through the following internet link: http://firstberlin.com/disclaimer-english-link/

SUPERVISORY AUTHORITY: Bundesanstalt für Finanzdienstleistungsaufsicht (German Federal Financial Supervisory Authority) [BaFin], Graurheindorferstraße 108, 53117 Bonn and Lurgiallee 12, 60439 Frankfurt

### **EXCLUSION OF LIABILITY (DISCLAIMER)**

#### RELIABILITY OF INFORMATION AND SOURCES OF INFORMATION

The information contained in this study is based on sources considered by the author to be reliable. Comprehensive verification of the accuracy and completeness of information and the reliability of sources of information has neither been carried out by the author nor by First Berlin. As a result no warranty of any kind whatsoever shall be assumed for the accuracy and completeness of information and the reliability of sources of information, and neither the author nor First Berlin, nor the person responsible for passing on or distributing the financial analysis shall be liable for any direct or indirect damage incurred through reliance on the accuracy and completeness of information and the reliability of sources of information.

#### **RELIABILITY OF ESTIMATES AND FORECASTS**

The author of the financial analysis made estimates and forecasts to the best of the author's knowledge. These estimates and forecasts reflect the author's personal opinion and judgement. The premises for estimates and forecasts as well as the author's perspective on such premises are subject to constant change. Expectations with regard to the future performance of a financial instrument are the result of a measurement at a single point in time and may change at any time. The result of a financial analysis always describes only one possible future development — the one that is most probable from the perspective of the author — of a number of possible future developments.

Any and all market values or target prices indicated for the company analysed in this financial analysis may not be achieved due to various risk factors, including but not limited to market volatility, sector volatility, the actions of the analysed company, economic climate, failure to achieve earnings and/or sales forecasts, unavailability of complete and precise information and/or a subsequently occurring event which affects the underlying assumptions of the author and/or other sources on which the author relies in this document. Past performance is not an indicator of future results; past values cannot be carried over into the future.

Consequently, no warranty of any kind whatsoever shall be assumed for the accuracy of estimates and forecasts, and neither the author nor First Berlin, nor the person responsible for passing on or distributing the financial analysis shall be liable for any direct or indirect damage incurred through reliance on the correctness of estimates and forecasts.



# INFORMATION PURPOSES, NO RECOMMENDATION, SOLICITATION, NO OFFER FOR THE PURCHASE OF SECURITIES

The present financial analysis serves information purposes. It is intended to support institutional investors in making their own investment decisions; however in no way provide the investor with investment advice. Neither the author, nor First Berlin, nor the person responsible for passing on or distributing the financial analysis shall be considered to be acting as an investment advisor or portfolio manager vis-à-vis an investor. Each investor must form his own independent opinion with regard to the suitability of an investment in view of his own investment objectives, experience, tax situation, financial position and other circumstances.

The financial analysis does not represent a recommendation or solicitation and is not an offer for the purchase of the security specified in this financial analysis. Consequently, neither the author nor First Berlin, nor the person responsible for passing on or distributing the financial analysis shall as a result be liable for losses incurred through direct or indirect employment or use of any kind whatsoever of information or statements arising out of this financial analysis.

A decision concerning an investment in securities should take place on the basis of independent investment analyses and procedures as well as other studies including, but not limited to, information memoranda, sales or issuing prospectuses and not on the basis of this document.

#### NO ESTABLISHMENT OF CONTRACTUAL OBLIGATIONS

By taking note of this financial analysis the recipient neither becomes a customer of First Berlin, nor does First Berlin incur any contractual, quasi-contractual or pre-contractual obligations and/or responsibilities toward the recipient. In particular no information contract shall be established between First Berlin and the recipient of this information.

#### NO OBLIGATION TO UPDATE

First Berlin, the author and/or the person responsible for passing on or distributing the financial analysis shall not be obliged to update the financial analysis. Investors must keep themselves informed about the current course of business and any changes in the current course of business of the analysed company.

#### DUPLICATION

Dispatch or duplication of this document is not permitted without the prior written consent of First Berlin.

#### **SEVERABILITY**

Should any provision of this disclaimer prove to be illegal, invalid or unenforceable under the respectively applicable law, then such provision shall be treated as if it were not an integral component of this disclaimer; in no way shall it affect the legality, validity or enforceability of the remaining provisions.

#### APPLICABLE LAW, PLACE OF JURISDICTION

The preparation of this financial analysis shall be subject to the law obtaining in the Federal Republic of Germany. The place of jurisdiction for any disputes shall be Berlin (Germany).

#### NOTICE OF DISCLAIMER

By taking note of this financial analysis the recipient confirms the binding nature of the above explanations.

By using this document or relying on it in any manner whatsoever the recipient accepts the above restrictions as binding for the recipient.

### **QUALIFIED INSTITUTIONAL INVESTORS**

First Berlin financial analyses are intended exclusively for qualified institutional investors.

This report is not intended for distribution in the USA and/or Canada.