

# PSI AG

Germany / Software  
 Primary exchange: Frankfurt  
 Bloomberg: PSAN GR  
 ISIN: DE000A0Z1JH9

2018 annual report

**RATING**  
**PRICE TARGET** **ADD**  
**€ 19.00**  
 Return Potential 11.8%  
 Risk Rating Medium

## EBIT MARGIN SET TO APPROACH 10% OVER NEXT THREE YEARS

2018 results showed a 7.0% increase in sales to €199.2m (FBe: €198.9m 2017: €186.1m) and a 15.6% increase in EBIT to €15.5m (FBe: €15.2m; 2017 €13.4m). The numbers were close to our forecasts and management guidance for sales and EBIT of €200m and €15m respectively. The group EBIT margin climbed from 7.2% to 7.8% driven by a 200 basis increase in the EBIT margin at the Energy Management division. We continue to expect the group EBIT margin to rise over the next three years as R&D costs and cost of goods sold fall as a percentage of sales with the completion of software platform harmonisation. Order intake growth of 14.2% was helped by late-cycle investment and also by customer acceptance of new products in growth areas such as Industrie 4.0, intelligent integration of electromobility into local transmission networks, grid configuration for the future structure of electricity generation, and mathematical processes which simulate energy networks under sector coupling scenarios. PSI gave no update to "Vision 2022" during the analysts' conference for the 2018 results. For 2022 we previously assumed sales of €235m and an EBIT margin of 10.0%. Following the PRINS acquisition from BTC AG we adjust these figures to €251m and 9.6% respectively. The downward adjustment in the EBIT margin reflects the shift in the sales mix towards the lower margin Energy Management division. We maintain our Add rating and price target of €19.00.

**Group order intake up 14.2%** The €2.1m rise in EBIT was achieved despite an 18.9% rise in R&D spending to €22.0m (11.0% of sales). In 2017 R&D spending was €18.5m (9.3% of sales). The order intake grew 14.2% to €217m (2017: €190m) after a rise of 4.4% in 2017. The order intake rose in most major areas of the group with the exception of PSI Metals, which was adversely affected by uncertainty as to the impact of new steel tariffs. The order backlog rose 8.6% to €139m (2017: €128m). The Management and Supervisory Boards will propose a dividend of €0.25 (2017: €0.23) to the AGM on 16 May. (p.t.o.)

### FINANCIAL HISTORY & PROJECTIONS

	2015	2016	2017	2018	2019E	2020E
Revenue (€m)	183.68	176.85	186.10	199.16	220.11	227.76
Y-o-y growth	4.7%	-3.7%	5.2%	7.0%	10.5%	3.5%
EBIT (€m)	11.11	11.84	13.37	15.45	17.15	19.45
EBIT margin	6.0%	6.7%	7.2%	7.8%	7.8%	8.5%
Net income (€m)	7.46	8.55	9.50	10.59	11.72	13.47
EPS (diluted) (€)	0.48	0.55	0.61	0.68	0.75	0.86
DPS (€)	0.21	0.22	0.23	0.25	0.27	0.29
FCF (€m)	11.78	10.42	-2.92	11.57	1.57	12.46
Net gearing	15.9%	12.0%	18.7%	9.8%	11.1%	2.3%
Liquid assets (€m)	38.83	43.01	38.13	44.58	41.21	49.43

### RISKS

Risks include a renewed downturn in the prices of oil, gas and steel.

### COMPANY PROFILE

PSI makes software control systems, primarily for energy, utility companies and metals producers. Customers also include manufacturers and the operators of transportation networks. The company's control system products are widespread in its core German market.

### MARKET DATA

As of 01 Apr 2019

Closing Price € 17.00  
 Shares outstanding 15.70m  
 Market Capitalisation € 266.86m  
 52-week Range € 14.50 / 17.85  
 Avg. Volume (12 Months) 7,777

Multiples	2018	2019E	2020E
P/E	25.1	22.7	19.7
EV/Sales	1.4	1.3	1.2
EV/EBIT	17.8	16.1	14.2
Div. Yield	1.5%	1.6%	1.7%

### STOCK OVERVIEW



### COMPANY DATA

As of 31 Dec 2018

Liquid Assets € 44.58m  
 Current Assets € 127.79m  
 Intangible Assets € 58.89m  
 Total Assets € 208.67m  
 Current Liabilities € 65.96m  
 Shareholders' Equity € 86.63m

### SHAREHOLDERS

InvAG für langfristige Investoren TGV 20.7%  
 Innogy SE 17.8%  
 Management and employees 15.0%  
 Harvinder Singh 8.1%  
 Free float and other 38.4%



**All major Energy Management businesses saw higher orders** Sales at Energy Management (encompasses the electrical energy, oil and gas, energy trading, public transport, south east Asia businesses) climbed 8.8% to €99.7m (2017: €91.6m) while divisional EBIT came in at €6.8m (2017: €4.4m) equivalent to a margin of 6.6% (2017: 4.6%). Orders from German network operators were the main factor behind a very positive development of the division's electrical energy business.

Growth in orders and sales resumed at the oil and gas business after two down years but results declined slightly. Orders, sales and profitability all rose at the energy trading business while the trend towards electrification and subsidies sparked a boom in demand at the public transport business. The south east Asian subsidiary broke even in 2018 after reporting a loss for 2017.

**Figure 1: 2018 results versus our forecasts**

€ 000s	FY 18A	FY 18E	Δ FY 18A vs. vs. FY 18E	FY 17A	Δ FY 18A vs. vs. FY 17A
<b>External sales</b>	<b>199,156</b>	<b>198,860</b>	<b>0.1%</b>	<b>186,096</b>	<b>7.0%</b>
<i>by division:</i>					
Energy Management	99,706	96,220	3.6%	91,576	8.9%
Production Management	99,450	102,630	-3.1%	94,520	5.2%
<b>EBIT</b>	<b>15,450</b>	<b>15,200</b>	<b>1.6%</b>	<b>13,365</b>	<b>15.6%</b>
<b>margin</b>	<b>7.8%</b>	<b>7.6%</b>		<b>7.2%</b>	
<i>by division:</i>					
Energy Management	6,766	6,500	4.1%	4,360	55.2%
<i>margin</i>	6.6%	6.5%		4.6%	
Production Management	10,004	9,840	1.7%	9,911	0.9%
<i>margin</i>	9.3%	8.8%		9.8%	
Reconciliation	-1,320	-1,140		-841	
<b>EPS (€)</b>	<b>0.68</b>	<b>0.66</b>	<b>3.0%</b>	<b>0.61</b>	<b>11.5%</b>

Source: PSI AG; First Berlin Equity Research estimates

**PSI Metals gaining traction in North America** Sales at Production Management (encompasses the metals, automotive and industry, logistics, fuzzy logic and neurosystems businesses) rose 5.2% to €99.5m (2017: €94.5m). Divisional EBIT was €10.0m (2017: €9.9m) equivalent to a margin of 9.3% (2017: 9.8%). PSI Metals' order intake fell in Europe due to uncertainties over tariffs, but in North America the business' order intake and sales doubled. The Production Order Management software suite, which had previously been converted to the PSI Java Framework, helped the automotive & industry business to higher orders, sales and profits. Order intake at the logistics business also rose and the unit invested in expanding its workforce to over 200 employees. PSI's fuzzy logic and neurosystems offerings enhance the functionality of all the group's other products. This business showed robust growth in 2018 and was the most profitable operation within the Production Management division.

**Balance sheet remains strong** Cashflow from operations before investment in working capital rose 20.7% to €19.0m in 2018 (2017: €15.8m). In 2018 working capital released €0.1m whereas in 2017 €14.6m was consumed. The high working capital cash outflow in 2017 related partly to the transition to upgrade contracts and partly to lower advanced payments from Energy Management division customers. Accelerating order intake growth in 2018 led to a recovery in advanced payments and positively affected cash flow from working capital. Net operating cash flow jumped to €19.0m (2017: €1.2m). Cash flow from investing activities amounted to €-7.4m (2017: €-4.1m) with the acquisition of the Potsdam-based company Moveo Software GmbH (planning, disposition and invoicing of transportation operations) for €1.5m accounted for half of the increase. Free cashflow was €11.3m (2017: €-2.9m). Dividend payments and share buybacks climbed to €4.0m (2017: €3.7m). Net debt including pension liabilities fell €6.5m to €8.5m (2017: €15.0m) and net gearing including pension liabilities was 9.8% (2017: 18.7%).



**Takeover of BTC AG's PRINS business** In late 2018 PSI announced the takeover of the network software control business and its core product PRINS from BTC Business Technology Consulting AG (BTC). The PRINS business generated sales of close to €10m in 2018. We gather that PSI intends to continue around €6m of this business of which maintenance contracts account for €3m. Over time we expect PSI to migrate PRINS users to its own products. The 150 network control specialists who will be joining PSI from BTC will be trained on PSI's own network control product, PSIcontrol. This will help PSI to meet the expected increase in demand for this product over the coming years. The PRINS business has been consolidated in PSI's accounts since early January. The acquisition price has not yet been finalised, but we expect a mid single digit euro figure.

**2019 guidance looks achievable given 8.6% rise in order backlog** Management is guiding towards 10% growth in sales and EBIT for 2019. This implies a rise in sales of around €20m this year. We expect about €9m of this increase to stem from the BTC acquisition - €6m from the existing business and another €3m from accelerated implementation of PSIcontrol projects facilitated by the new employees. This implies organic growth of around 6% which looks achievable given the 8.6% rise in the year-end order backlog.

**Figure 2: EBIT margin development 2012-2018**

€m	2012A	2013A	2014A	2015A	2016A	2017A	2018A
Sales	180.9	176.3	190	183.7	176.9	186.1	199.2
EBIT	12.9	4.2	7.7	11.1	11.8	13.4	15.5
margin (%)	7.1%	2.4%	4.0%	6.0%	6.7%	7.2%	7.8%
R&D as % sales	10.0%	11.6%	9.2%	10.6%	9.5%	9.9%	11.0%

Source: PSI AG

**EBIT margin ex-southeast Asia up 280 basis points since 2012** In recent years PSI has moved around two thirds of its products to a common software platform. The resulting cost savings have been one of the main contributors to improved profitability. Figure 2 above shows the development of the group's EBIT margin since 2012. We go back seven years to 2012 rather than to 2013 or 2014 because 2013 was hit by a downturn in investment by the German utilities and both 2013 and 2014 saw losses in the logistics business. We estimate that the southeast Asian business contributed €2.0m to EBIT in 2012. It broke even in 2018. If we assume no contribution from southeast Asia in 2012 and R&D at a constant percentage of sales, then PSI's EBIT margin ex-southeast Asia (which accounts for well under 10% of sales) improved by 280 basis points between 2012 and 2018. Normally we would expect a further 50 basis point improvement in the operating margin this year stemming from costs savings entailed by the ongoing move to the common software platform. However, management has indicated that the integration of the PRINS business may weigh on profitability during the first quarters of 2019. We believe this is the reason why 2019 guidance does not imply any margin improvement.

**Investment in growth areas paying off** PSI has made substantial investments in a number of promising growth areas in recent years. Work on the Industrie 4.0 theme includes the development of platforms for the replacement of production lines by swarm manufacturing concepts on the basis of intelligent and self-guiding workpieces. The company has also been working on the intelligent integration of electromobility into local transmission networks, grid configuration for the future structure of electricity generation, and mathematical processes which simulate energy networks under sector coupling scenarios. In our view the 14.2% increase in the 2018 order intake is function of the upturn in investment which usually occurs late in economic cycles but also of acceptance of these new products.



**We expect EBIT margin to reach 9.6% by 2022** Management outlined five year targets for PSI at the time of the 2017 results conference. PSI Vision 2022 targeted sales of €235m, and an EBIT margin of 10-13%. The EBIT margin target assumed R&D costs equivalent to 8% of sales. In 2018 this figure was 11.0% and has averaged 10.1% over the past five years. PSI gave no update to “Vision 2022” during the analysts’ conference for the 2018 results. We continue to expect margins to rise over the next three years as R&D costs and cost of goods sold fall as a percentage of sales with the completion of software platform harmonisation. Figure 3 below shows detailed changes to our forecasts to 2020 based on the 2018 results and the acquisition of the PRINS business from BTC.

**Figure 3: Changes to our forecasts**

€m	2019			2020		
	New	Old	Δ %	New	Old	Δ %
<b>External sales</b>	<b>220.11</b>	<b>205.82</b>	<b>6.9%</b>	<b>227.76</b>	<b>213.06</b>	<b>6.9%</b>
by division:						
Energy Management	115.69	99.08	16.8%	119.16	102.05	16.8%
Production Management	104.42	106.74	-2.2%	108.60	111.01	-2.2%
<b>Total EBIT</b>	<b>17.15</b>	<b>16.93</b>	<b>1.3%</b>	<b>19.45</b>	<b>18.76</b>	<b>3.7%</b>
<i>margin (%)</i>	<i>7.8%</i>	<i>8.2%</i>	<i>-</i>	<i>8.5%</i>	<i>8.8%</i>	<i>-</i>
by division:						
Energy Management	7.73	6.99	10.6%	9.19	7.80	17.8%
<i>margin (%)</i>	<i>6.5%</i>	<i>6.8%</i>	<i>-</i>	<i>7.5%</i>	<i>7.4%</i>	<i>-</i>
Production Management	10.89	11.12	n.a.	11.92	12.18	n.a.
<i>margin (%)</i>	<i>9.6%</i>	<i>9.6%</i>	<i>-</i>	<i>10.1%</i>	<i>10.1%</i>	<i>-</i>
Reconciliation	-1.47	-1.18	-	-1.66	-1.22	-
<b>EPS (€)</b>	<b>0.75</b>	<b>0.75</b>	<b>0.0%</b>	<b>0.86</b>	<b>0.86</b>	<b>0.3%</b>

Source: First Berlin Equity Research estimates

**We maintain our Add rating and price target of €19.00** For 2022 we previously assumed sales of €235m and an EBIT margin of 10.0%. Following the PRINS acquisition we adjust these figures to €251m and 9.6% respectively. The downward adjustment in the EBIT margin reflects the shift in the sales mix towards the lower margin Energy Management division. We maintain our Add rating and price target of €19.00.



Figure 4: Valuation model

€000s	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Net sales	220,108	227,755	239,143	251,225	263,787	276,976	290,825	303,844
NOPLAT	12,005	13,614	15,195	16,904	18,146	19,575	20,883	22,311
+ Depreciation and amortisation	4,931	5,103	5,836	6,131	6,437	6,759	7,097	7,415
= net operating cash flow	16,936	18,716	21,031	23,034	24,584	26,335	27,980	29,726
- total investments (Capex and WC)	-13,398	-6,225	-8,252	-8,694	-9,102	-9,557	-10,035	-10,177
Capital expenditure	-10,010	-5,446	-7,092	-7,463	-7,822	-8,213	-8,624	-8,850
working capital	-3,388	-779	-1,161	-1,231	-1,280	-1,344	-1,411	-1,327
= Free cash flow (FCF)	3,538	12,491	12,779	14,340	15,481	16,777	17,945	19,549
PV of FCF's	3,349	10,984	10,439	10,882	10,914	10,987	10,917	11,048

€000s	
PVs of FCFs explicit period (2019-30)*	122,600
PVs of FCFs in terminal period	184,096
Enterprise Value (EV)	306,696
(Net cash)/net debt	8,500
Shareholder value	298,196

Value per share (€)	15.75
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WACC	7.65%
Cost of equity	9.5%
Pre-tax cost of debt	3.0%
Normal tax rate	30.0%
After-tax cost of debt	2.1%
Share of equity	75.0%
Share of debt	25.0%
Terminal growth	2.0%

Sensitivity analysis

		Terminal growth rate (%)						Fair value per share
		0.5%	1.0%	1.5%	2.0%	2.5%	3.0%	3.5%
WACC	4.65%	31.83	34.72	38.53	43.78	51.48	63.86	87.04
	5.65%	24.83	26.43	28.42	30.95	34.28	38.88	45.62
	6.65%	20.15	21.11	22.27	23.67	25.41	27.63	30.55
	7.65%	16.81	17.43	18.15	19.00	20.01	21.24	22.76
	8.65%	14.32	14.74	15.21	15.75	16.38	17.12	18.01
	9.65%	12.40	12.68	13.00	13.37	13.78	14.26	14.81
	10.65%	10.87	11.07	11.30	11.55	11.83	12.15	12.51
11.65%	9.63	9.78	9.94	10.12	10.32	10.54	10.78	

\*for layout purposes the model shows numbers only to 2026 but runs until 2030

Source: First Berlin Equity Research estimates



## INCOME STATEMENT

All figures in €'000	2015	2016	2017	2018	2019E	2020E
<b>Revenues</b>	<b>183,682</b>	<b>176,854</b>	<b>186,096</b>	<b>199,156</b>	<b>220,108</b>	<b>227,755</b>
Cost of materials	-31,596	-26,210	-27,228	-28,919	-31,916	-33,025
<b>Gross profit</b>	<b>152,086</b>	<b>150,644</b>	<b>158,868</b>	<b>170,237</b>	<b>188,192</b>	<b>194,731</b>
Total personnel costs	-106,820	-109,269	-112,343	-121,279	-129,864	-134,376
Net other operating costs	-29,871	-25,246	-28,809	-28,897	-36,248	-35,804
Depreciation & amortisation	-4,286	-4,294	-4,351	-4,611	-4,931	-5,103
<b>EBIT</b>	<b>11,109</b>	<b>11,835</b>	<b>13,365</b>	<b>15,450</b>	<b>17,149</b>	<b>19,448</b>
Net interest	-1,811	-749	-983	-1,061	-612	-413
Associates	140	147	142	134	141	148
<b>Pretax profit</b>	<b>9,438</b>	<b>11,233</b>	<b>12,524</b>	<b>14,523</b>	<b>16,678</b>	<b>19,183</b>
Income taxes	-1,979	-2,682	-3,027	-3,938	-4,961	-5,711
<b>Net income / loss</b>	<b>7,459</b>	<b>8,551</b>	<b>9,497</b>	<b>10,585</b>	<b>11,717</b>	<b>13,472</b>
<b>EPS (€)</b>	<b>0.48</b>	<b>0.55</b>	<b>0.61</b>	<b>0.68</b>	<b>0.75</b>	<b>0.86</b>
<b>EBITDA</b>	<b>15,395</b>	<b>16,129</b>	<b>17,716</b>	<b>20,061</b>	<b>22,081</b>	<b>24,551</b>
<b>Ratios</b>						
Gross margin	82.8%	85.2%	85.4%	85.5%	85.5%	85.5%
EBIT margin	6.0%	6.7%	7.2%	7.8%	7.8%	8.5%
EBITDA margin	8.4%	9.1%	9.5%	10.1%	10.0%	10.8%
Net income margin	4.1%	4.8%	5.1%	5.3%	5.3%	5.9%
Tax rate	21.0%	23.9%	24.2%	27.1%	29.7%	29.8%
<b>Expenses as % of output</b>						
Personnel	-58.2%	-61.8%	-60.4%	-60.9%	-59.0%	-59.0%
Net other operating income/expenses	-16.3%	-14.3%	-15.5%	-14.5%	-16.5%	-15.7%
Depreciation & amortisation	-2.3%	-2.4%	-2.3%	-2.3%	-2.2%	-2.2%
<b>Y-o-y growth</b>						
Total revenues	4.7%	-3.7%	5.2%	7.0%	10.5%	3.5%
EBIT	45.1%	6.5%	12.9%	15.6%	11.0%	13.4%
Net income / loss	82.0%	14.6%	11.1%	11.5%	10.7%	15.0%



## BALANCE SHEET

All figures in €'000	2015	2016	2017	2018	2019E	2020E
<b>Assets</b>						
<b>Current assets, total</b>	<b>120,742</b>	<b>120,710</b>	<b>116,463</b>	<b>127,787</b>	<b>134,650</b>	<b>146,119</b>
Cash and cash equivalents	38,831	43,008	38,132	44,579	41,206	49,428
Trade accounts and notes receivables	36,169	27,466	31,611	34,407	39,509	40,882
Inventories	4,184	6,421	7,823	8,712	9,629	9,963
Receivables relating to long term contracts	36,366	38,184	33,118	34,367	37,983	39,302
Other current assets	5,192	5,631	5,779	5,722	6,324	6,544
<b>Non-current assets, total</b>	<b>78,780</b>	<b>78,717</b>	<b>77,547</b>	<b>80,884</b>	<b>85,620</b>	<b>86,371</b>
Property, plant and equipment	12,214	12,153	12,531	13,592	15,522	15,544
Goodwill	49,559	48,914	48,289	48,289	52,789	52,789
Other intangible assets	9,859	8,837	8,200	10,596	9,245	9,566
Associates	149	150	150	440	581	728
Deferred tax assets	6,999	8,663	8,377	7,967	7,484	7,744
Other non-current assets	0	0	0	0	0	0
<b>Total assets</b>	<b>199,522</b>	<b>199,427</b>	<b>194,010</b>	<b>208,671</b>	<b>220,270</b>	<b>232,489</b>
<b>Shareholders' equity &amp; debt</b>						
<b>Current liabilities, total</b>	<b>77,343</b>	<b>69,200</b>	<b>59,679</b>	<b>65,960</b>	<b>71,014</b>	<b>73,481</b>
Interest bearing debt	3,374	0	2,622	1,795	0	0
Trade accounts payable	14,929	12,553	14,564	16,440	18,269	18,904
Liabilities relating to long term contracts	28,819	25,728	13,287	16,531	18,269	18,904
Provisions	0	0	0	0	0	0
Other current liabilities	30,221	30,919	29,206	31,194	34,476	35,674
<b>Non-current liabilities, total</b>	<b>49,027</b>	<b>54,953</b>	<b>54,034</b>	<b>56,081</b>	<b>55,833</b>	<b>56,239</b>
Interest bearing debt	83	0	0	0	0	0
Pension provisions	46,981	52,037	50,540	51,284	51,540	51,798
Deferred tax liabilities	1,963	2,916	3,494	4,797	4,292	4,441
<b>Consolidated equity</b>	<b>73,152</b>	<b>75,274</b>	<b>80,297</b>	<b>86,630</b>	<b>93,424</b>	<b>102,769</b>
Shareholders' equity	73,152	75,274	80,297	86,630	93,424	102,769
Minorities	0	0	0	0	0	0
<b>Total consolidated equity and debt</b>	<b>199,522</b>	<b>199,427</b>	<b>194,010</b>	<b>208,671</b>	<b>220,270</b>	<b>232,489</b>
<b>Ratios</b>						
Current ratio (x)	1.56	1.74	1.95	1.94	1.90	1.99
Quick ratio (x)	1.51	1.65	1.82	1.81	1.76	1.85
Equity ratio	36.7%	37.7%	41.4%	41.5%	42.4%	44.2%
Net gearing	15.9%	12.0%	18.7%	9.8%	11.1%	2.3%
Equity per share	4.66	4.80	5.12	5.52	5.95	6.55
Interest coverage ratio (x)	6.13	15.80	13.60	14.56	28.02	47.10
Capital employed (CE)	88,045	84,531	89,815	95,229	99,444	104,449
Return on capital employed (ROCE)	9.7%	9.8%	10.4%	11.4%	12.1%	13.0%



## CASH FLOW STATEMENT

All figures in €'000	2015	2016	2017	2018	2019E	2020E
<b>Pretax result</b>	<b>9,438</b>	<b>11,233</b>	<b>12,524</b>	<b>14,523</b>	<b>16,678</b>	<b>19,183</b>
Depreciation and amortisation	4,286	4,294	4,351	4,611	4,931	5,103
Other	-1,685	-479	-1,098	-94	-6,640	-5,601
<b>Operating cash flow</b>	<b>12,039</b>	<b>15,048</b>	<b>15,777</b>	<b>19,040</b>	<b>14,969</b>	<b>18,685</b>
Investment in working capital	1,971	-1,713	-14,609	-51	-3,388	-779
<b>Net operating cash flow</b>	<b>14,010</b>	<b>13,335</b>	<b>1,168</b>	<b>18,989</b>	<b>11,581</b>	<b>17,906</b>
Cashflow from investing	-2,234	-2,912	-4,089	-7,424	-10,010	-5,446
<b>Free cash flow</b>	<b>11,776</b>	<b>10,423</b>	<b>-2,921</b>	<b>11,565</b>	<b>1,571</b>	<b>12,460</b>
Dividend paid	0	-3,277	-3,439	-3,596	-3,924	-4,238
Share buy back	-303	0	-297	-422	-1,020	0
New share capital	0	0	0	0	0	0
Debt financing	-1,813	-3,457	2,622	-827	0	0
Other	0	0	0	0	0	0
<b>Cash flow from financing</b>	<b>-2,116</b>	<b>-6,734</b>	<b>-1,114</b>	<b>-4,845</b>	<b>-4,944</b>	<b>-4,238</b>
<b>Other</b>	<b>-143</b>	<b>488</b>	<b>-841</b>	<b>-273</b>	<b>0</b>	<b>0</b>
<b>Change in cash</b>	<b>9,517</b>	<b>4,177</b>	<b>-4,876</b>	<b>6,447</b>	<b>-3,373</b>	<b>8,222</b>
Cash, start of the year	29,314	38,831	43,008	38,132	44,579	41,206
Cash, end of the year	38,831	43,008	38,132	44,579	41,206	49,428
<b>Free cash flow per share in €</b>	<b>0.75</b>	<b>0.67</b>	<b>-0.19</b>	<b>0.74</b>	<b>0.10</b>	<b>0.80</b>
<b>Y-o-y growth</b>						
Operating cash flow	28%	25%	5%	21%	-21%	25%
Net operating cash flow	-42%	-5%	-91%	1526%	-39%	55%
Free cash flow	21%	-11%	n.m.	n.m.	-86%	693%



**FIRST BERLIN RECOMMENDATION & PRICE TARGET HISTORY**

Report No.:	Date of publication	Previous day closing price	Recommendation	Price target
Initial Report	15 July 2003	€4.96	Market Perform	€5.00
2...63	↓	↓	↓	↓
64	3 May 2018	€16.60	Add	€18.00
65	31 July 2018	€17.50	Add	€18.00
66	5 November 2018	€16.20	Add	€19.00
67	Today	€17.00	Add	€19.00

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Category		1	2
Current market capitalisation (in €)		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>1</sup> The expected price trend is in combination with sizable confidence in the quality and forecast security of management.

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