

August 22nd, 2017

Europe | Germany | IT &amp; Software

## Update

## BUY

Target price: EUR 17.55

**Industry:** IT Services & Software  
**Country:** Germany  
**ISIN:** DE000A0Z1JH9  
**Reuters:** PSAGn.DE  
**Bloomberg:** PSAN GR  
**Website:** www.psi.de

**Last price:** 15,59  
**High** **Low**  
**Price 52 W** 16,28 10,70  
**Market cap. (EURm)** 244,72  
**Number of shares (m)** 15,70

## Shareholders

**innogy SE** 17,8%  
**Harvinder Singh** 8,1%  
**Invest. f. Ig. Inv. TGV** 20,7%  
**Employee consortium** 9,4%  
**Baden-Württ. Ärzte** 5,2%  
**Free float** 38,9%

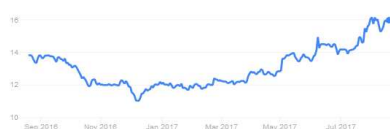
## Performance

**4 weeks** -1,60%  
**26 weeks** 31,00%  
**52 weeks** 13,30%  
**YTD** 25,30%

## Dividend

	in EUR	in %
<b>2012</b>	0,30	1,95%
<b>2013</b>	0,00	0,00%
<b>2014</b>	0,00	0,00%
<b>2015</b>	0,21	1,63%
<b>2016</b>	0,22	1,85%

## Chart : 1 year



DR. KALLIWODA RESEARCH on Bloomberg  
 Page: KALL

## Analyst

Dr. Norbert Kalliwoda  
 Email: nk@kalliwoda.com

## PSI AG

## Continued growth in Europe, opportunity in SE Asia and US

- **PSI Group has published 6M strong figures** results which were in line with our optimistic expectations in terms of earnings margins. Due to growth in industrial business, the whole group sales increased by 3% to €87.5m (6M/16: €85.1m), EBIT enhanced by 25% to €5.7m (6M/16: €4.5m), whilst the group net income increased by 26% to €3.04 (6M/16: €2.41m). The cash flow from operating activities was affected by changes in working capital and lowered by €-5.7m (30 June 2016: €0.2m). The liquidity position of the company stays at the same level, with €34.6m (30 June 2016: €34.8m).
- We expect the Company's profit yoy momentum to remain positive for the coming quarters. Over the approaching years, we anticipate continuously raising profit margins, if additional products are successfully migrated to the new software platform.
- Even though PSI AG's equities have performed strongly for last 6 months (yielding absolute rate of return of 31%, we do not see the fundamental upside for the stock market price to has been exhausted; with upgraded financial projections and 12M EFV assessment, we hold our positive stance toward the Company's shares, continuing to view this exposure **as a top pick among the European-listed energy control systems providers for the current year**. The reasons for this continue to be four-folds : (i) we still see great additional potential for its electrical grid software, particularly as an aid to network stabilization, in both Northern Europe and the USA, (ii) the finalization of the migration of the division's products to the graphic standard JavaFX should be beneficial since the PSI's software can now be more conveniently integrated into corporate process chains., (iii) Southeast Asian utility entities privatizations could create good prospects for Infrastructure Management business, (iv) booming in smart grids market is anticipated due to increasing demand for electricity from new markets (electric cars, cryptocurrency).
- We **increase our financial estimates**, setting a 12-month target price at EUR 17.55, with upside of ca. 13 % at the current price.

## Key Figures

in EURm	2014	2015	2016	2017E	2018E	2019E	2020E
<b>Net sales</b>	175.39	183.68	176.85	189.23	202.48	214.63	220.85
<b>EBITDA</b>	11.05	15.40	16.13	19.18	21.53	24.32	25.03
<b>EBIT</b>	7.17	11.11	11.84	14.76	16.81	19.32	19.88
<b>Net income</b>	4.10	7.46	8.55	11.03	12.57	14.47	14.87
<b>EPS</b>	0.26	0.48	0.54	0.70	0.80	0.92	0.95
<b>BVPS</b>	4.35	4.66	4.80	5.01	5.57	6.21	6.88
<b>RoE</b>	5.98%	10.55%	11.52%	14.34%	15.14%	15.65%	14.48%
<b>EBIT margin</b>	4.09 %	6.05 %	6.69 %	7.80 %	8.30 %	9.00 %	9.00 %
<b>P/E</b>	45.57	27.15	22.40	22.19	19.48	16.91	16.45
<b>P/BVPS</b>	2.74x	2.77x	2.54x	3.11x	2.80x	2.51x	2.27x
<b>EV/EBITDA</b>	28.17x	14.50x	13.30x	16.23x	14.46x	12.80x	12.44x

## Content

<b>1</b>	<b>Company profile .....</b>	<b>3</b>
<b>2</b>	<b>SWOT Analysis .....</b>	<b>4</b>
<b>3</b>	<b>Valuation.....</b>	<b>5</b>
<b>4</b>	<b>Half year results and annual estimates 2017e .....</b>	<b>6</b>
<b>5</b>	<b>Outlook.....</b>	<b>8</b>
<b>6</b>	<b>Shareholder Structure with details .....</b>	<b>9</b>
<b>7</b>	<b>Profit and Loss Statements.....</b>	<b>10</b>
<b>8</b>	<b>Balance Sheets .....</b>	<b>11</b>
<b>9</b>	<b>Cash Flow Statements.....</b>	<b>12</b>
<b>10</b>	<b>Financial Ratios .....</b>	<b>12</b>
	<b>Contact .....</b>	<b>14</b>
	<b>Disclaimer .....</b>	<b>15</b>
	<b>Essential information, disclosures and disclaimer .....</b>	<b>15</b>

## 1 Company profile

PSI AG is a group of companies with around 1,626 employees, which develops and distributes software product solutions for process control. These solutions automate complex core processes of PSI's customers in the segments energy, production and infrastructure management. PSI, which was founded in 1969, operates at numerous German and international sites in Europe, Asia, North and Latin America. It develops software products and complete systems for the operation of large energy networks and complex production and logistics processes with the objective to design customers' value creation processes more efficiently. In the segment energy management systems, PSI provides solutions for operations' management, network utilization, pipeline management, leakage detection and localization, portfolio management, energy trading and distribution. The segment production management creates optimization and control-technical solutions for production, logistics, metals and mining. In the infrastructure segment, the company supplies solutions for traffic systems.

### PSI History

2014	Takeover of the strongest competitor in the metals industry, Broner Metals.
2013	PSI subsidiary founded in Brazil.
2012	Strengthening of the energy business with the acquisition of the Time-steps AG.
2011	PSI subsidiary founded in North America.
2010	PSI develops first integrated mining control system.
2009	PSI celebrates its 40th anniversary. Since 1969, PSI develops and integrates software solutions and complete systems for utilities, manufacturers, logistics and infrastructure providers.
2008	Formation of a subsidiary and a joint venture in Russia. International expansion in the metals, production and energy industry.
2007	Process control system for efficient raw materials production; market entry into the Russian steel and electricity industry.
2006	Opening of representative office in Russia; new sales partnerships in Eastern Europe and Asia.
2005	First major orders from Chinese steel industry and expansion of the logistics division to Russia.
2004	PSI subsidiaries founded in Poland and China.
2003	PSI develops the first integrated control system for controlling complex manufacturing processes.
2002	Generation shift in top management; Restructure of PSI into an integrated control system enterprise.
2000	PSI acquires the gas management system division from debis Systems and starts internationalization of its energy business.
1998	Initial public offering (IPO) on August 31.
1996	Development of the first object-oriented ERP system PSIpena.
1994	The company is converted into a joint-stock corporation.
1986	Market launch of PIUSS-O, the company's first standard software product for production planning (PPS).
1976	The company wins its first large order from the energy supply sector.
1974	PSI is the first German company to introduce an employee stock option plan.
1969	PSI Gesellschaft für Prozesssteuerungs- und Informationssysteme GmbH is founded in Berlin. First order from the steel industry.

Source: The Company

## 2 SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• <b>PSI's focus on core competencies in process control</b> technology with decades of experience, along with its innovation strength and a highly specialized workforce are important competitive advantages and create entry barriers. PSI's products are of high functionality, complexity and carry many unique features. PSI enjoys a first mover advantage and is the quality and volume leader in many of its key growth areas, namely energy smart grid infrastructure, gas &amp; oil, metals, mining and infrastructure.</li> <li>• <b>Pilot project approach:</b> When entering new product and geographic markets the company works together with sector leaders on pilot projects. Performing the research and development decentralized at the location of demand translates into a close customer relationship, a gain of sector knowledge, lower market entry risk, as well as the mitigation of financial risk.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Buyers force:</b> PSI main customers operate in capital intensive sectors which naturally consist of a few large players. PSI itself is a medium sized player resulting in an unfavorable negotiating position. However, a resulting pricing power of its customer is lessened by the facts that software expenditures should resemble a smaller portion of PSI customers overall budget, that PSI produces high-quality products that make a customer's operation more efficient translating in fast amortization, and PSI's complex products are mainly located in important parts of the value chain where quality is more important than price.</li> <li>• <b>Business cycle risk:</b> PSI's customers are mainly from very cyclical sectors. The exposure to business cycle risk is somewhat diminished by the fact that the company delivers products mainly related to efficiency and cost cutting gains.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• <b>Energy segment:</b> The „Energiewende“ gives PSI the potential to achieve scale effects by shifting its existing product portfolio from high voltage systems to lower network levels. Additionally, the demand for new software solutions such as volatility and resource software components, gas network control systems and software solutions for energy storage systems will increase.</li> <li>• <b>Production segment:</b> New sensor and network technology increases data availability in production processes. This opens up new markets for PSI software solutions, which make production processes more efficient. Recent market entries by PSI are PSI mining and solutions for the turbine manufacturing and aircraft maintenance sectors. In the automobile sector, new product developments should lead to more orders.</li> <li>• <b>Export growth:</b> PSI focuses on Eastern markets as it sees the greatest growth potential there while currently facing low competition locally. A positive effect besides larger revenues and scale effects is the diversification away from a sole dependency on the German market. Expansion takes place by winning key reference customers.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Increasing rivalry</b> among competitors in the Energy Infrastructure market: Large hardware suppliers recently acquired PSI's software competitors. On the one hand, this permits them to differentiate themselves from fellow hardware suppliers. If on the other hand the intention was to gain control of the energy software market then rivalry will intensify e.g. by price competition or hardware suppliers locking their systems to alien software providers. Management note that PSI enjoys greater economic independence in acquiring software related contracts relative to its software competitors, which are now entangled in powerful hardware divisions.</li> <li>• <b>A lack of qualified staff</b> evoked from a current structural shortage of supply in the software labor sector would impede the seizure of the company's opportunities. PSI mitigates the risk by investing heavily in the training of its employees and collaborating with universities. Part of the routine software development has been moved to Eastern Europe and the technology platform enables an efficient knowledge transfer and standardization. These moves set free valuable engineering capacity.</li> </ul>

Source: Company, Dr. Kalliwoda Research GmbH © Copyright 2017

### 3 Valuation

In order to value PSI, we have used a traditional DCF model, which derives a 12-months target price for the stock of **€17.55**. Compared to current market level, this corresponds to an upside of around 13%.

#### DCF model

WACC assumptions	
<b>Growth assumptions</b>	
Long-term growth rate	1.0%
Assimilation phase (from 2017)	5 years
Sales growth at the beginning	7.0%
<b>Equity</b>	
Risk-free rate	1.7%
Market risk premium	5.8%
Beta	1.20
<b>Equity costs</b>	<b>8.7%</b>
<b>Debt costs</b>	
Debt costs (before tax)	7.0%
Tax rate on interest	30.0%
<b>Debt costs (after tax)</b>	<b>4.9%</b>
<b>Capital structure</b>	
Equity	60
Debt	40
Gearing	66.7%
<b>WACC</b>	<b>7.16%</b>

#### Discounted Cash Flow Model (Basis 06/2017)

in EURm	2017E	2018E	2019E	2020E	2021E	2022E
<b>Net sales</b>	<b>189.23</b>	<b>202.48</b>	<b>214.63</b>	<b>220.85</b>	<b>226.37</b>	<b>231.90</b>
(y-o-y change)	7.0%	7.0%	6.0%	2.9%	2.5%	2.4%
<b>EBIT</b>	<b>14.76</b>	<b>16.81</b>	<b>19.32</b>	<b>19.88</b>	<b>20.83</b>	<b>21.57</b>
(EBIT margin)	7.8%	8.3%	9.0%	9.0%	9.2%	9.3%
<b>NOPLAT</b>	<b>11.66</b>	<b>13.28</b>	<b>15.26</b>	<b>15.70</b>	<b>16.45</b>	<b>17.04</b>
+ Depreciation	4.42	4.72	5.01	5.15	5.28	5.41
= Net operating cash flow	16.08	18.00	20.27	20.86	21.74	22.45
- Total investments (Capex and WC)	-10.64	-9.00	-3.78	-5.61	-4.99	-5.84
Capital expenditure	-4.37	-4.81	-5.05	-4.88	-5.58	-5.81
Working capital	-6.27	-4.19	1.28	-0.73	0.59	-0.03
= Free cash flow (FCF)	5.44	9.00	16.49	15.25	16.74	16.61
<b>PV of FCFs</b>	<b>5.30</b>	<b>8.19</b>	<b>14.00</b>	<b>12.08</b>	<b>12.38</b>	<b>11.46</b>

PV of FCFs in explicit period	63.40
PV of FCFs in terminal period	168.88
<b>Implied Enterprise value (EV)</b>	<b>232.29</b>
+ Net cash / - net debt	24.73
+ Investments / - Minorities	0.00
<b>Shareholder value</b>	<b>257.02</b>
Number of shares outstanding (m)	15.70

WACC	7.2%
Equity costs	8.7%
Debt costs before tax	7.0%
Tax rate	30.0%
Debt costs after tax	4.9%
Equity ratio	60.0%
Debt ratio	40.0%
<b>Fair value per share in € (today)</b>	<b>16.37</b>
<b>Fair value per share in € (in 12 months)</b>	<b>17.55</b>

Sensitivity analysis		Terminal EBIT margin						
		6.3%	7.3%	8.3%	9.3%	10.3%	11.3%	12.3%
WACC	4.2%	24.07	26.92	29.77	32.62	35.47	38.32	41.17
	5.2%	19.01	21.07	23.13	25.18	27.24	29.29	31.35
	6.2%	15.90	17.47	19.05	20.62	22.20	23.77	25.35
	7.2%	13.78	15.04	16.29	17.55	18.80	20.05	21.31
	8.2%	12.25	13.27	14.30	15.33	16.35	17.38	18.41
	9.2%	11.08	11.93	12.79	13.65	14.51	15.36	16.22

Source: Dr. Kalliwoda Research GmbH © Copyright 2017

## 4 Half year results and annual estimates 2017e

PSI Group has published 6M results which were better than we expected in terms of earnings and revenues. PSI Group enhanced its new order volume by 11% in the first six months of 2017 to a new record value of €111m (6M/16 : €100m). The order backlog on 30.06.2017 amounted to €148m, 3% higher than the figure for the prior year (6M/16: €144m). The company is gaining both from a cyclical recovery at its Production Management business and a structural boost in demand at Energy Management. Due to growth in industrial business, the whole group sales increased by 3% to €87.5m (6M/16: €85.1m), EBIT enhanced by 25% to €5.7m (6M/16: €4.5m), whilst the group net income increased by 26% to €3.04 (6M/16: €2.41m). The cashflow from operating activities was affected by changes in working capital and lowered by €-5.7m (30 June 2016: €0.2m). The liquidity position of the company stays at the same level, with €34.6m (30 June 2016: €34.8m).

Energy Management segment posted slightly higher revenue of €32.2m in the first half (6M/16: €32m). The EBIT for the segment increased to €3.1m in comparison to the prior year (6M/16: €2.6m). The sales were mainly backed by orders from its existing German customers and important contract with Gasprom.

Sales in Production Management (raw materials, industry, logistics) was the main driver of the total performance of the Group in the first 6 months, with €44.8m, amounted to 8% above the level for the prior year (6M/16: €41.5m). The EBIT boosted by 27% to 3.5m (6M/16: €2.8m). The segment gained from the end of the investment backlog in the steel market and the commence of a new development phase in mechanical engineering and logistics.

In Infrastructure Management (transportation and security), sales reduced by 8% to €10.6m (6M/16: €11.5m), while the EBIT increased to €-0.2m (6M/16: €-0.3m). The segment still struggles due to the vulnerable economic circumstance of the general contractors in oil and gas-dependent countries of Southeast Asia and the Arab Gulf. However, the company has been cutting working capital employed in this segment.

**6M/17 vs. previous year**

6M/17 vs. previous period level

in EURm	6M/17	6M/16	change y-o-y
Net sales	87.50	85.10	2.8%
EBITDA	7.77	6.63	17.2%
EBITDA margin	8.9%	7.8%	
EBIT	5.68	4.53	25.4%
EBIT margin	6.5%	5.3%	
Net income	3.04	2.41	26.1%
Net margin	3.5%	2.8%	

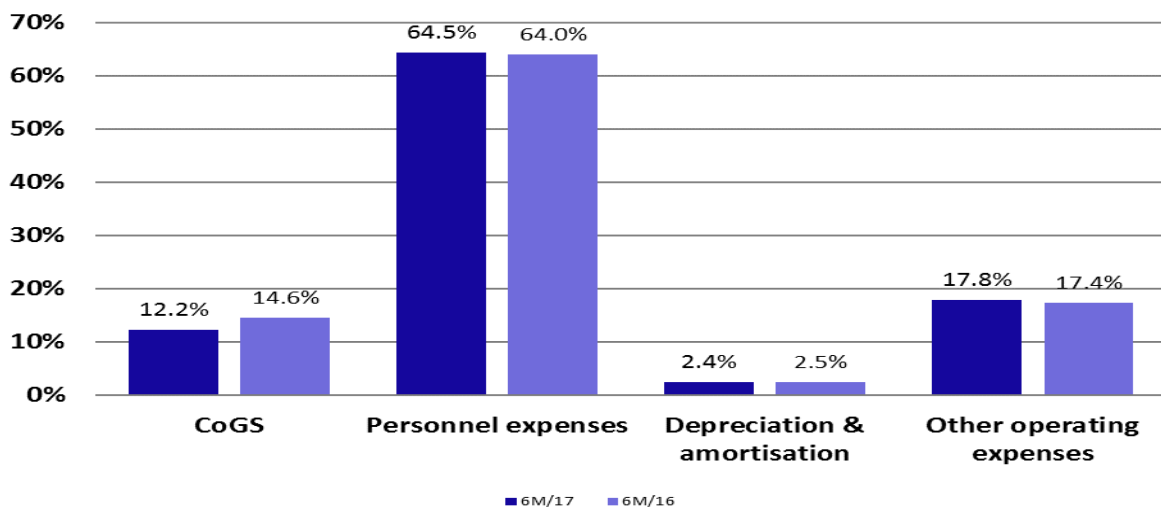
Source: Dr. Kalliwoda Research GmbH © Copyright 2017

**Segment total sales and EBIT margins according to segments 6M/17 vs 6M/16**

Segment Sales and EBIT margins according to segments 6M/17 vs. 6M/16

	6M/17	6M/16		6M/17	6M/16
Energy management			Infrastructure management		
Sales €m	32.2	32.0	Sales €m	10.6	11.5
Share in total sales	36.8%	37.6%	Share in total sales	12.1%	13.5%
EBIT margin	9.6%	8.1%	EBIT margin	-1.7%	-2.5%
Production management			Group		
Sales €m	44.7	41.5	Total Sales	87.5	85.1
Share in total sales	51.1%	48.8%	change y-o-y	2.8%	
EBIT margin	7.8%	6.7%			

Source: Dr. Kalliwoda Research GmbH © Copyright 2017

**Profitability****Share in total sales 1Q/17 vs 1Q/16**

Source: Dr. Kalliwoda Research GmbH © Copyright 2017

For 2017e we **estimate** the following Sales and EBIT margins per division of PSI AG:

#### Sales and EBIT margins according to segments 2017e vs.2016

	2017e	2016		2017e	2016
<b>Energy management</b>			<b>Infrastructure management</b>		
Sales €m	67.79	69.22	Sales €m	32.75	23.47
Share in total sales	35.8%	39.1%	Share in total sales	17.3%	13.3%
EBIT margin	7.9%	7.6%	EBIT margin	1.3%	3.6%
<b>Production management</b>			<b>Group</b>		
Sales €m	88.69	84.17	Total Sales	189.23	176.85
Share in total sales	46.9%	47.6%	change y-o-y	7.0%	
EBIT margin	6.8%	7.3%			

#### Changes to our forecasts 2017e – 2019e

##### Our forecasts 2017E - 2019E

in EURm	2017E		2018E		2019E	
	new	old	new	old	new	old
Net sales	189.23	185.70	202.48	200.55	214.63	206.57
EBITDA	19.18	19.00	21.53	20.72	24.32	23.41
EBITDA margin	10.1%	10.2%	10.6%	10.3%	11.3%	11.3%
EBIT	14.76	14.67	16.81	16.04	19.32	18.59
EBIT margin	7.8%	7.9%	8.3%	8.0%	9.0%	9.0%
Net income	11.03	10.96	12.57	11.96	14.47	13.90
Net margin	5.8%	5.9%	6.2%	6.0%	6.7%	6.7%

Source: Dr. Kalliwoda Research GmbH © Copyright 2017

## 5 Outlook

During the Q2/17 PSI several positive announcements has been released by the Company. The subsidiary of PSI AG, PSI Automotive & Industry GmbH has been appointed by the Hamburg AERIUS Marine GmbH to perform work with regards to implementation of the new version 9 of the PSIpenta ERP system. Additionally, the subsidiary also strengthen its position in electrical car industry by signing an agreement with e.GO Mobile AG - the ERP partner in the production network for the manufacture of their recently created electrical city car e.GO Life. As we predicted in our previous report, PSI AG took solid steps in developing distribution grid projects by signing two agreements with in the US market.

Overall, 6M figures came in strong, with bottom line being in line with our optimistic expectations. We expect the Company's profit yoy momentum to remain positive for the coming quarters. Over the approaching years, we anticipate continuously raising profit margins, if additional products are successfully migrated to the new software platform.

Over the coming quarters, we predict additional rollout orders from framework agreements with key electricity and gas network operators (including clients from US market), steel companies and vehicle



producers (electrical cars), which should accelerate the development and expansion of teams in order to implement new technology for customers and partners.

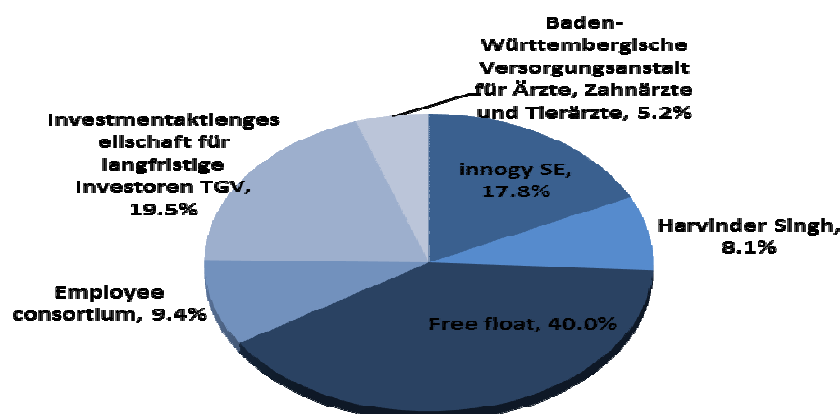
We do not see the fundamental upside for the stock market price to have been exhausted; with upgraded financial projections and 12M EFV assessment, we hold our positive stance toward the Company's shares, continuing to view this exposure as a top pick among the European-listed energy control systems providers for the current year. The reasons for this continue to be four-fold : (i) we see great additional potential for its electrical grid software, particularly as an aid to network stabilization, in both Northern Europe and the USA, (ii) the finalization of the migration of the division's products to the graphic standard JavaFX should be beneficial since PSI's software can now be more conveniently integrated into corporate process chains., (iii) Southeast Asian utility entities privatizations could create prospects for growing Infrastructure Management business, (iv) booming in smart grids market is anticipated due to increasing demand for electricity from new markets (electric cars, cryptocurrency).

Given a significant upside to the Company's current share market price, we stick to our Buy LT fundamental recommendation and an Overweight market-relative bias vs. the Company's shares. Strong 6M/2017 financials, positive momentum in German economic indicators and opportunity in SE Asia and US – should constitute a positive trigger and help the Company to close the significant valuation gap.

In our opinion, the company's sales growth (higher backlog in 2017 by 11%), deliberate and well-knit long-term strategy related to entering foreign markets, high liquidity ratios, strong and stable operating cash-flow are sufficient support for good direction of stable development of the company.

Based on our valuation framework, we increase our target price, setting a **12-month target price at EUR 17.55**, with upside of 13% at the current price.

## 6 Shareholder Structure with details



Source: Company data, Dr. Kalliwoda Research GmbH © Copyright 2017

## 7 Profit and Loss Statements

Profit and loss statement - PSI AG									
in EURm	Fiscal year								
	2014	2015	2016	2017E	2018E	2019E	2020E	2021E	2022E
<b>Sales split</b>									
Energy management	64.15	67.23	69.22	67.79	73.17	77.33	79.25	81.42	83.49
Production management	79.61	86.39	84.17	88.69	94.49	100.85	103.75	106.11	108.71
Infrastructure management	31.64	30.06	23.47	32.75	34.82	36.45	37.85	38.84	39.70
<b>Net sales</b>	<b>175.39</b>	<b>183.68</b>	<b>176.85</b>	<b>189.23</b>	<b>202.48</b>	<b>214.63</b>	<b>220.85</b>	<b>226.37</b>	<b>231.90</b>
Change in inventories	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Output</b>	<b>175.39</b>	<b>183.68</b>	<b>176.85</b>	<b>189.23</b>	<b>202.48</b>	<b>214.63</b>	<b>220.85</b>	<b>226.37</b>	<b>231.90</b>
Cost of goods sold	-33.10	-31.60	-26.21	-33.23	-34.66	-36.69	-38.11	-38.84	-39.81
<b>Gross profit</b>	<b>142.29</b>	<b>152.09</b>	<b>150.64</b>	<b>156.01</b>	<b>167.82</b>	<b>177.94</b>	<b>182.74</b>	<b>187.54</b>	<b>192.08</b>
Other operating income	8.42	5.49	5.02	3.78	4.05	4.29	4.42	4.53	4.64
Personnel costs	-103.60	-106.82	-109.27	-103.79	-108.89	-119.02	-122.03	-124.63	-127.21
Depreciation & Amortization	-3.88	-4.29	-4.29	-4.42	-4.72	-5.01	-5.15	-5.28	-5.41
Other operating expenses	-36.05	-35.36	-30.26	-36.83	-41.44	-38.89	-40.09	-41.32	-42.54
<b>EBIT</b>	<b>7.17</b>	<b>11.11</b>	<b>11.84</b>	<b>14.76</b>	<b>16.81</b>	<b>19.32</b>	<b>19.88</b>	<b>20.83</b>	<b>21.57</b>
Net financial results	-1.50	-1.67	-0.60	-0.80	-0.90	-1.00	-1.05	-1.10	-1.00
<b>EBT</b>	<b>5.66</b>	<b>9.44</b>	<b>11.23</b>	<b>13.96</b>	<b>15.91</b>	<b>18.32</b>	<b>18.83</b>	<b>19.73</b>	<b>20.57</b>
Income taxes	-1.57	-1.98	-2.68	-2.93	-3.34	-3.85	-3.95	-4.14	-4.32
Minority interests	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Net income / loss</b>	<b>4.10</b>	<b>7.46</b>	<b>8.55</b>	<b>11.03</b>	<b>12.57</b>	<b>14.47</b>	<b>14.87</b>	<b>15.58</b>	<b>16.25</b>
EPS	0.26	0.48	0.54	0.70	0.80	0.92	0.95	0.99	1.04
DPS	0.30	0.30	0.27	0.35	0.40	0.46	0.47	0.50	0.52
<b>Change y-o-y</b>									
Net sales	-0.54%	4.73%	-3.72%	7.00%	7.00%	6.00%	2.90%	2.50%	2.44%
Total Output	-0.54%	4.73%	-3.72%	7.00%	7.00%	6.00%	2.90%	2.50%	2.44%
Cost of goods sold	-4.84%	-4.55%	-17.05%	26.77%	4.33%	5.83%	3.89%	1.90%	2.51%
Gross profit	0.52%	6.89%	-0.95%	3.56%	7.57%	6.03%	2.70%	2.62%	2.42%
Other operating income	44.01%	-34.77%	-8.62%	-24.56%	7.00%	6.00%	2.90%	2.50%	2.44%
Personnel costs	-0.61%	3.10%	2.29%	-5.02%	4.92%	9.30%	2.53%	2.13%	2.07%
Depreciation & Amortization	1.62%	10.41%	0.19%	2.83%	7.00%	6.00%	2.90%	2.50%	2.44%
Other operating expenses	2.53%	-1.90%	-14.42%	21.69%	12.53%	-6.17%	3.10%	3.07%	2.93%
EBIT	71.94%	54.98%	6.54%	24.72%	13.86%	14.94%	2.90%	4.78%	3.55%
Net financial results	36.85%	11.10%	-63.97%	32.89%	12.50%	11.11%	5.00%	4.76%	-9.09%
EBT	84.50%	66.63%	19.02%	24.28%	13.94%	15.16%	2.79%	4.78%	4.26%
Income taxes	-42.02%	26.45%	35.52%	9.31%	13.94%	15.16%	2.79%	4.78%	4.26%
Minority interests	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Net income / loss	1004.85%	81.97%	14.64%	28.97%	13.94%	15.16%	2.79%	4.78%	4.26%
EPS	1004.85%	81.97%	14.64%	28.97%	13.94%	15.16%	2.79%	4.78%	4.26%
DPS	n.a	0.00%	-9.21%	28.97%	13.94%	15.16%	2.79%	4.78%	4.26%
<b>Share in total sales</b>									
Total Output	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Cost of goods sold	-18.87 %	-17.20 %	-14.82 %	-17.56 %	-17.12 %	-17.09 %	-17.26 %	-17.16 %	-17.17 %
Gross profit	81.13 %	82.80 %	85.18 %	82.44 %	82.88 %	82.91 %	82.74 %	82.84 %	82.83 %
Other operating income	4.80 %	2.99 %	2.84 %	2.00 %	2.00 %	2.00 %	2.00 %	2.00 %	2.00 %
Personnel costs	-59.07 %	-58.15 %	-61.78 %	-54.85 %	-53.78 %	-55.46 %	-55.26 %	-55.06 %	-54.86 %
Depreciation & Amortization	-2.21 %	-2.33 %	-2.43 %	-2.33 %	-2.33 %	-2.33 %	-2.33 %	-2.33 %	-2.33 %
Other operating expenses	-20.55 %	-19.25 %	-17.11 %	-19.46 %	-20.47 %	-18.12 %	-18.15 %	-18.25 %	-18.34 %
EBIT	4.09 %	6.05 %	6.69 %	7.80 %	8.30 %	9.00 %	9.00 %	9.20 %	9.30 %
Net financial results	-0.86 %	-0.91 %	-0.34 %	-0.42 %	-0.44 %	-0.47 %	-0.48 %	-0.49 %	-0.43 %
EBT	3.23 %	5.14 %	6.35 %	7.38 %	7.86 %	8.53 %	8.52 %	8.71 %	8.87 %
Income taxes	-0.89 %	-1.08 %	-1.52 %	-1.55 %	-1.65 %	-1.79 %	-1.79 %	-1.83 %	-1.86 %
Net income / loss	2.34 %	4.06 %	4.84 %	5.83 %	6.21 %	6.74 %	6.73 %	6.88 %	7.01 %

Dr. Kalliwoda | Research © 2017

## 8 Balance Sheets

Balance sheet - PSI AG						
in EURm	Fiscal year					
	2014	2015	2016	2017E	2018E	2019E
<b>Assets</b>						
Cash and cash equivalents	29.31	38.83	43.01	38.10	42.37	53.37
Inventories	3.47	4.18	6.42	4.40	4.59	4.86
Trade accounts and notes receivables	33.71	36.17	27.47	36.23	38.21	39.91
Receivables from long-term manufacturing	39.87	36.37	38.18	41.25	43.94	46.36
Other current assets	5.66	5.19	5.63	5.68	6.07	6.44
<b>Current assets</b>	<b>112.02</b>	<b>120.74</b>	<b>120.71</b>	<b>125.65</b>	<b>135.18</b>	<b>150.94</b>
Property, plant and equipment	12.95	12.21	12.15	12.65	13.15	13.65
Goodwill and intangibles assets	61.50	59.42	57.75	60.64	63.67	66.85
Shares in associated companies	0.15	0.15	0.15	0.15	0.16	0.17
Deferred tax assets	5.66	7.00	8.66	6.47	7.06	7.25
<b>Non-current assets</b>	<b>80.26</b>	<b>78.78</b>	<b>78.72</b>	<b>79.92</b>	<b>84.04</b>	<b>87.93</b>
<b>Total assets</b>	<b>192.27</b>	<b>199.52</b>	<b>199.43</b>	<b>205.57</b>	<b>219.22</b>	<b>238.87</b>
<b>Liabilities</b>						
Trade payables	15.11	14.93	12.55	14.62	15.07	15.74
Other liabilities	29.49	30.22	30.92	28.47	27.01	30.46
Liabilities from long-term manufacturing	26.01	28.82	25.73	29.69	31.77	33.67
Financial liabilities	5.08	3.37	0.00	0.00	0.00	0.00
Provisions	0.00	0.00	0.00	0.00	0.00	0.00
<b>Current liabilities</b>	<b>75.70</b>	<b>77.34</b>	<b>69.20</b>	<b>72.78</b>	<b>73.84</b>	<b>79.88</b>
Long-term bank debt	0.19	0.08	0.00	0.00	0.00	0.00
Pension provisions	47.08	46.98	52.04	52.19	55.84	59.19
Deferred tax liabilities	1.02	1.96	2.92	2.02	2.16	2.29
<b>Long-term liabilities</b>	<b>48.28</b>	<b>49.03</b>	<b>54.95</b>	<b>54.21</b>	<b>58.00</b>	<b>61.48</b>
<b>Total liabilities</b>	<b>123.98</b>	<b>126.37</b>	<b>124.15</b>	<b>126.99</b>	<b>131.85</b>	<b>141.36</b>
<b>Shareholders equity</b>	<b>68.29</b>	<b>73.15</b>	<b>75.27</b>	<b>78.58</b>	<b>87.38</b>	<b>97.51</b>
Minority interests	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total equity and liabilities</b>	<b>192.27</b>	<b>199.52</b>	<b>199.43</b>	<b>205.57</b>	<b>219.22</b>	<b>238.87</b>

Dr. Kalliwoda Research GmbH © 2017

## 9 Cash Flow Statements

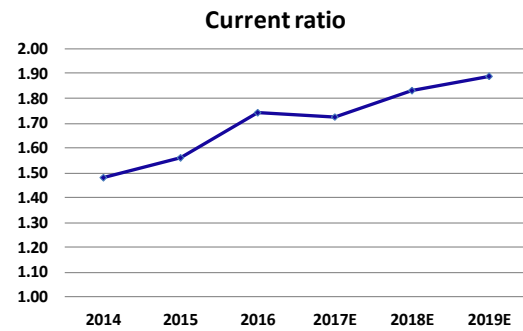
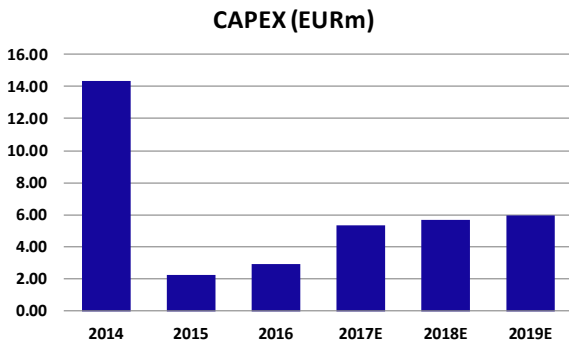
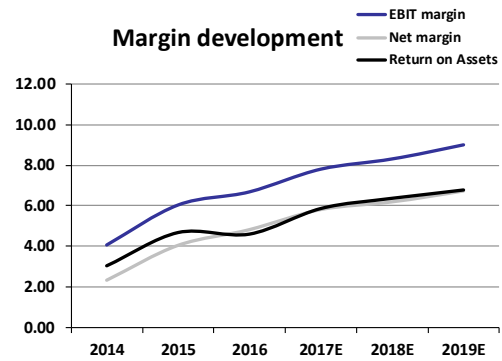
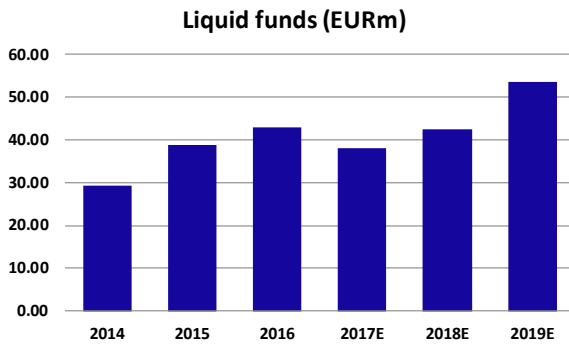
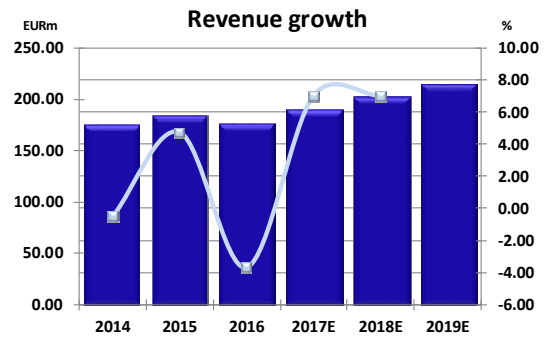
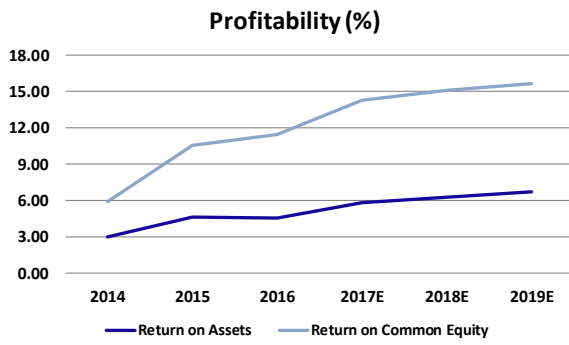
Cash flow statement - PSI AG						
in EURm	Fiscal year					
	2014	2015	2016	2017E	2018E	2019E
Net income / loss	4.10	7.46	8.55	11.03	12.57	14.47
Depreciation & Amortization	3.88	4.29	4.29	4.42	4.72	5.01
Change of working capital	13.67	4.15	-0.56	-6.27	-4.19	1.28
Others	2.422	-1.882	1.050	1.30	-0.44	-0.06
<b>Net operating cash flow</b>	<b>24.07</b>	<b>14.01</b>	<b>13.34</b>	<b>10.47</b>	<b>12.66</b>	<b>20.69</b>
<b>Cash flow from investment</b>	<b>-14.34</b>	<b>-2.23</b>	<b>-2.91</b>	<b>-5.37</b>	<b>-5.71</b>	<b>-5.95</b>
Free cash flow	9.73	11.78	10.42	5.10	6.95	14.74
<b>Cash flow from financing</b>	<b>-1.71</b>	<b>-2.11</b>	<b>-6.73</b>	<b>-10.01</b>	<b>-2.68</b>	<b>-3.74</b>
Change of cash	7.51	9.52	4.18	-4.91	4.27	11.00
Cash at the beginning of the period	21.80	29.31	38.83	43.01	38.10	42.37
Cash at the end of the period	29.31	38.83	43.01	38.10	42.37	53.37

Dr. Kalliwoda Research GmbH © 2017

## 10 Financial Ratios


Fiscal year	2014	2015	2016	2017E	2018E	2019E
Gross margin	81.1%	82.8%	85.2%	82.4%	82.9%	82.9%
EBITDA margin	6.3%	8.4%	9.1%	10.1%	10.6%	11.3%
EBIT margin	4.1%	6.0%	6.0%	7.8%	8.3%	9.0%
Net margin	2.3%	4.1%	4.8%	5.8%	6.2%	6.7%
Return on equity (ROE)	6.0%	10.5%	11.5%	14.3%	15.1%	15.7%
Return on assets (ROA)	3.0%	4.7%	4.6%	5.8%	6.3%	6.8%
Return on capital employed (ROCE)	4.4%	7.2%	7.2%	8.8%	9.1%	9.6%
Net debt (in EURm)	23.04	11.61	9.03	14.09	13.47	5.82
Net gearing	33.7%	15.9%	12.0%	17.9%	15.4%	6.0%
Equity ratio	35.5%	36.7%	37.7%	38.2%	39.9%	40.8%
Current ratio	1.48	1.56	1.74	1.73	1.83	1.89
Quick ratio	0.91	1.04	1.10	1.10	1.17	1.25
Net interest cover	4.77	6.65	19.66	18.45	18.67	19.32
Net debt/EBITDA	2.08	0.75	0.56	0.73	0.63	0.24
Tangible BVPS	1.10	1.50	1.64	1.85	2.41	3.05
Capex/Sales	-8.0%	-0.8%	-0.4%	-2.8%	-2.8%	-2.8%
Working capital/Sales	6.9%	4.3%	4.8%	7.8%	9.4%	8.2%
EV/Sales	1.77	1.69	1.76	1.64	1.54	1.45
EV/EBITDA	28.17	14.50	13.30	16.23	14.46	12.80
EV/EBIT	43.43	28.02	26.30	21.09	18.52	16.11
P/Tangible BVPS	14.15	10.37	9.52	8.43	6.47	5.10
P/E	45.57	27.15	22.40	22.19	19.48	16.91

Source: Dr. Kalliwoda Research GmbH © Copyright 2017



Source: Dr. Kalliwoda Research GmbH © Copyright 2017

## Contact

Primary Research   Fair Value Analysis   International Roadshows		Dr. Kalliwoda Research GmbH, Steinstraße 24, D-64839 Münster, office Frankfurt Arndtstr. 47, 60325 Frankfurt Tel.: 069-97 20 58 53 Fax: 069-13 81 92 15
Head: <b>Dr. Norbert Kalliwoda</b> E-Mail: nk@kalliwoda.com	CEFA-Analyst; University of Frankfurt/Main; PhD in Economics; Dipl.-Kfm., Dipl.-Hdl.	<u>Sectors:</u> IT, Software, Electricals & Electronics, Mechanical Engineering, Logistics, Laser, Technology, Raw Materials
<b>Dr. Peter Arendarski</b> E-Mail: pa@kalliwoda.com	Senior-Analyst, Msc & Ph.D in Finance (Poznan Univers. of Economics), CFA Level 3 Candidate	<u>Sectors:</u> Technology, Raw Materials, Banks & Insurances, Financial-Modelling (Quant., Buyside)
<b>Patrick Bellmann</b> E-Mail: pb@kalliwoda.com	Junior-Analyst; WHU - Otto Beish. School of Management Vallendar	<u>Sectors:</u> Support Research and Quantitative Approach
<b>Ilias Chahboune</b> E-Mail: ic@kalliwoda.com	Master Economics: Uni Amsterdam	<u>Sectors:</u> Consumer, Retail, Real Estate
<b>Kilian Dreher</b> E-Mail: kd@kalliwoda.com	Junior-Analyst; University of Frankfurt/Main	<u>Sectors:</u> Consumer, Retail, Food & Beverages, Fashion
<b>Michael John</b> E-Mail: mj@kalliwoda.com	Dipl.-Ing. (Aachen)	<u>Sectors:</u> Chemicals, Chemical Engineering, Basic Metals, Renewable Energies, Laser/Physics
<b>Marta Kifleab</b> E-Mail: mki@kalliwoda.com	University of Mainz: Sprachwissenschaften	Roadshow/Conference Organisations
<b>Rainer Koch</b> E-Mail: rk@kalliwoda.com	Computer-Science/Dipl.-Betriebw, (Frankfurt); seasoned international Executive IT-Industry	<u>Sectors:</u> IT, IT-Services, Internet, Media, Internet, Emerging Markets
<b>Witold Konrad Kosinski</b> E-Mail: wk@kalliwoda.com	Finance & Banking Warsaw School of Econ., Master of Science; postgrad. Managem. Studies, Prepar. CFA Lev. 2	<u>Sectors:</u> Consumer Goods, Trading Companies, Food & Beverages, Technology
<b>Olaf Köster</b> E-Mail: ok@kalliwoda.com	Dipl.-Betriebswirt, EBS	<u>Sectors:</u> Renewable Energy/Technology
<b>Sebastian Krawczyk</b> E-Mail: sk@kalliwoda.com	Bachelor in Management, Quant. Meth. in Economics & Inf. Systems at Warsaw School/Mannheim, CFA Can.	<u>Sectors:</u> Quantitative Methods, Automotive, Technology
<b>Christoph Löffel</b> E-Mail: cl@kalliwoda.com	Bachelor Betriebswirtschaftslehre Universität Mannheim	<u>Sectors:</u> Financials, Real Estate
<b>Vittoria Lou D. Mawis</b> E-Mail: cl@kalliwoda.com	Architect; University Barcelona	<u>Sectors:</u> Assistant Office & Real Estate Research
<b>Dr. Christoph Piechaczek</b> E-Mail: cp@kalliwoda.com	Dipl.-Biologist; Technical University Darmstadt; Univ. Witten-Herdecke.	<u>Sectors:</u> Biotech & Healthcare; Medical Technology Pharmaceutical
<b>Nele Rave</b> E-Mail: nr@kalliwoda.com	Lawyer; Native Speaker, German School London,	<u>Legal adviser</u>
<b>Hellmut Schaarschmidt;</b> E-Mail: hs@kalliwoda.com	Dipl.-Geophysicists; University of Frankfurt/Main.	<u>Sectors:</u> Oil, Regenerative Energies, Specialities Chemicals, Utilities
<b>Dr. Erik Schneider</b> E-Mail: es@kalliwoda.com	Dipl.-Biologist; Technical University Darmstadt; Univ. Hamburg.	<u>Sectors:</u> Biotech & Healthcare; Medical Technology Pharmaceutical
<b>Hans-Georg Sutter</b> E-Mail: hsu@kalliwoda.com	Dipl.-Wirtschaftsingenieur University Kaiserslautern	<u>Sectors:</u> IT/e-commerce
<b>Rainer Wochele</b> E-Mail: rw@kalliwoda.com	Bachelor of Science in Economics and Business Administration (Goethe University Frankfurt M.)	<u>Junior-Analyst</u>
<b>Also view Sales and Earnings Estimates:</b>  <b>DR. KALLIWODA   RESEARCH on Terminals of Bloomberg, Thomson Reuters, vwd group and Factset</b>	Analyst of this research: Dr. Norbert Kalliwoda, CEFA	

## Disclaimer

### Essential information, disclosures and disclaimer

#### A. Essential information

The investments in financial instruments and securities (e.g. equities, bonds) generally involved on high risks. It is possible that the investors lose some or all of the invested money. Potential investors should be aware of the fact that the prices of securities could fall and rise. The income from such an investment might be considerable fluctuations. Investment strategies are not appropriate at all times and past results are not a guarantee for the future performance. Investors should make their own and independent decisions as to whether a risky investment.

#### B. Disclosures according to Section 34b of the German Securities Trading Act (WpHG) and to the German Regulation governing the Analysis of Financial Instruments (FinAnV).

##### I. Information about author, company held accountable, regulatory authority:

Company responsible for the content of this document: DR. KALLIWODA RESEARCH GmbH, Frankfurt am Main, Germany.

Regulatory authority for DR. KALLIWODA RESEARCH GmbH is the Federal Financial Supervisory Authority (BaFin), Graurheindorfer Straße 108, 53117 Bonn, Germany and Lurgiallee 12, 60439 Frankfurt am Main, Germany.

Author of this research: Dr. Norbert Kalliwoda, Analyst, CEO and founder of DR. KALLIWODA RESEARCH GmbH.

##### II. Additional Information:

###### 1. Sources of information:

Essential sources of information for the compilation of this document are publications from domestic and international information services and media (e.g. Bloomberg, dpa-AFX, Reuters, VWD, among others), financial press (e.g. *Allgemeine Zeitung Frankfurter*, *Börsenzeitung*, *Financial Times Handelsblatt* and others), specialized trade press, published statistics, rating agencies as well as publications by peer group companies and the company itself. Additionally, conservation has been held with the management of the company. This document was made available to the company before publishing to ensure the correctness of the information provided.

###### 2. Summary of the basis of valuation principles and methods used to prepare this document:

Within the scope of the evaluation of companies the following valuation methods are applied: Multiple-based models (Price/Earnings, Price/Cash-flow, Price/Book value, EV/Sales, EV/EBIT, EV/EBITDA), peer group comparisons, historic valuation methods, discounting models, sum-of-the-parts-approaches, substance-valuation methods and swot-analyses. The valuation principles and models are dependent on macroeconomic factors, such as interest rates, exchange rates, raw materials and on basic assumptions about the economy. Besides, the market moods and market sentiment affects the valuation of enterprises. The approaches are based on expectations that could change rapidly and without advance warning according on developments specific to individual branch. The valuation results and fair values derived from the models might therefore change accordingly.

The ratings are the evaluation results and refer to a fair value pricing reflecting a time-horizon of up general relate to a twelve-months. Nevertheless, evaluation results are subject to changing market conditions and constitute merely a snapshot. The evaluation results and fair values may be reached faster or slower than expected by the analysts. The results and fair values may be scale upwards or downwards.

DR. KALLIWODA RESEARCH GmbH uses the following rating model:

<b>BUY:</b>	Based on our analysis, we expect the stock to appreciate and produce a total return of at least 10% over the next twelve months
<b>ACCUMULATE:</b>	Based on our analysis, we expect the stock to appreciate and produce a total return between 5%- 10% over the next twelve months
<b>HOLD:</b>	Based on our analysis, we expect the stock to produce a total return between -5% and +5% over the next twelve months
<b>REDUCE:</b>	Based on our analysis, we expect the stock to cause a negative return between - 5% and -10% over the next twelve months
<b>SELL:</b>	Based on our analysis, we expect the stock to cause a negative return exceeding - 10% over the next twelve months

### 3. Date of first publication of this document: 04th of October 2017

#### 4. Updates:

A specific update of this document has currently not been set. The research reflects the author's judgement on the date of this publication and is subject to change without any notice. The document might be incomplete or reduced and it may not contain all information concerning the company covered. It is in the sole decision of DR. KALLIWODA RESEARCH GmbH whether and when a potential update of this research is made.

#### III. Disclosures about potential conflicts of interest:

The business model of DR. KALLIWODA RESEARCH GmbH is based on economic relationships with issuer company and equity transactions to be performed relating to the issuer's stock. Dr. Kalliwoda Research has entered into an agreement about the creation of this document with the company which is, or whose financial instruments are the issue of this research.

Conflicts of interest may be in existence with employees of DR. KALLIWODA RESEARCH GmbH who are the authors of this document as well as other persons that were involved in the preparation of this research or related parties.



---



---

**Following conflicts of interest might exist:**


---



---

1. DR. KALLIWODA RESEARCH GmbH employees or other persons that were involved in the preparation of this document or related parties might have a major shareholding (holding more than 5%) of the share capital of the emitter that is, or whose financial instruments are, the subject of the research.
  2. DR. KALLIWODA RESEARCH GmbH employees or other persons that were involved in the preparation of this document or related parties are possibly holders of instruments that are mentioned in this research (or that are linked to these instruments) or might become holders and could regularly trade the emitter's securities or securities based on these issues as principal or agent.
  3. DR. KALLIWODA RESEARCH GmbH employees or other persons that were involved in the preparation of this document or related parties could have participated in leading a consortium for the emitter via a public offering of the financial instruments that are the subject of this research.
  4. DR. KALLIWODA RESEARCH GmbH employees or other persons that were involved in the preparation of this document or related parties might have been party to an agreement on the provision of investment banking services with the emitter which is the subject of this research, or have received services or a pledge to perform under the terms of such an arrangement during the same period.
  5. DR. KALLIWODA RESEARCH GmbH employees or other persons that were involved in the preparation of this document or related parties may have other substantial economic interests concerning to the emitter which is the subject of this research.
  6. DR. KALLIWODA RESEARCH GmbH employees or other persons that were involved in the preparation of this document or related parties might have been party to an agreement with the company, which is the subject of this research, resulting in receiving the compensation for preparation of this research.
  7. DR. KALLIWODA RESEARCH GmbH employees or other persons that were involved in the preparation of this document or related parties received the feedback concerning the company profile and SWOT from the company, which is the subject of this research, before publishing this report to the public.
- 
- 

<p><b>Important: Please get familiar with possible risks and possible conflicts of interest in the disclosure and disclaimer at the end of this report, especially for this report: 6. and 7.</b></p>
---

The analysts have limited access to gain information that possibly could constitute a conflict of interest for the institution DR. KALLIWODA RESEARCH GmbH keeps insider registers appropriate to sec. 15 WpHG for assignees that normally have approach to inside information. Insiders' dealings appropriate to sec. 14 WpHG categorically are prohibited.

The analysts that composed this research did not receive or acquire shares in the emitter that is the subject of this document at any time. The analysts mentioned above hereby certify that all of the views expressed accurately reflect the individual views about the emitter. No part of the indemnity was, is or will be, directly or indirectly, linked to the evaluation result or views expressed by the analyst in this research.

### **C. Disclaimer:**

This document is published and being distributed by DR. KALLIWODA RESEARCH GmbH solely for informational purposes and for the personal use by persons in Germany. This research is not intended to be in any form an offer or advice to buy or sell the securities referred to herein. This research is intended to provide information to assist investors in making their own investment decisions. Any decision to purchase any securities of the emitter must be made solely on the basis of the information contained in the offering documents from the emitter relating to such securities and not on the contents hereof. Furthermore, our recommendation may not be fully suitable to every investor, depending on their investment objective, individual financial situation or targeted holding period.

Potential investors should seek professional and individual information and advice before making their investment decisions. This document neither constitutes a contract or any kind of obligation.

Neither this document nor any copy, in whole or in part, thereof may be distributed in any other jurisdiction where its distribution might be restricted by law, and person into whose published this document comes should inform and observe themselves about any such restrictions.

The information within this document has been obtained from sources believed by DR. KALLIWODA RESEARCH GmbH to be reliable. DR. KALLIWODA RESEARCH GmbH does not examine the information to be verify and complete, nor warrants its correctness and completeness. Although due attention has been taken in compilation this document, it cannot be excluded that the information given is not complete or the document contains mistakes.

The liability of DR. KALLIWODA RESEARCH GmbH shall be restricted to gross negligence and wilful misconduct. All aspects penned in this document are those of DR. KALLIWODA RESEARCH GmbH respectively the authors and subject to modify without notice. Possible faults or incompleteness of this document may be reformed by DR. KALLIWODA RESEARCH GmbH and do not constitute reasons for liability, neither with regard to indirect nor to direct or consequential losses.

Moreover, DR. KALLIWODA RESEARCH GmbH does not accept any responsibility and liability for any damage arising from using of this research or its contents or otherwise arising in relation herewith. In each case, the liability and responsibility of DR. KALLIWODA RESEARCH GmbH is limited to typical, predictable damages and the liability for any direct or indirect losses is excluded.

This document is subject to the laws of the Federal Republic of Germany. Place of jurisdiction is Frankfurt am Main, Germany.

This document or any copy, in whole or in part thereof, may be distributed in any other jurisdiction where its distribution might be restricted by law and persons who have access to this document have to inform and observe themselves about any such restrictions.

In the United Kingdom this document is to be distributed only to persons who are described in Section 11 (3) of the Financial Services Act 1986 (Investment Advertisements) (Exemptions) Order 1996 (as amended). This research may not be distributed and forwarded directly or indirectly to any other group of individuals. The distribution of this document in other international jurisdictions may be restricted by law and individuals who possess this study should inform themselves of any existing restrictions and comply with them.

**Neither this document nor any copy of it may be taken or transmitted into the United States of America, Canada, Japan or Australia or distributed, directly or indirectly, in the United States of America, Canada, Japan or Australia or to any resident thereof. Any Failure to comply with these restrictions may constitute a violation of United States, Canadian, Japanese or Australian securities laws or the law of any other jurisdiction.**

By confirming this document the reader or user agrees and accepts to be bound by all of the foregoing provisions and this disclaimer. Besides, the user accepts not to distribute this document to unauthorized persons. The user of this document compensated DR. KALLIWODA RESEARCH GmbH for any disadvantages, damages, claims and losses resulting from or in relation with the unauthorized use of this document.

© 2017 DR. KALLIWODA RESEARCH GmbH, Arndtstraße 47, D-60325 Frankfurt am Main. All rights reserved.