

**Buy** (old: Buy)

**Price target: EUR 33.00** (old: EUR 33.00)

<b>Price:</b>	EUR 17.62	<b>Next result:</b>	Q3'20: 05.11.20
<b>Bloomberg:</b>	SANT GR	<b>Market cap:</b>	EUR 1,659.0 m
<b>Reuters:</b>	SANT1.DE	<b>Enterprise Value:</b>	EUR 1,757.4 m

05-October-20

**Tim Wunderlich, CFA**  
Analyst

tim.wunderlich@ha-ib.de  
Tel.: +49 40 4143885 81

## A rebuttal

**Reason to write:** The share price took a nosedive following a critical analyst report released last week ("Broker X"). While valuation and other contents are subjective and hence not for us to comment on, **the analysts make a number of statements which are factually incorrect**, in our view. This relates especially to operating margins and free cash flow.

- Broker X claims that **S&T's EBIT margins are rather 1-2%** versus the 5% reported. To arrive at this conclusion, however, the analysts adjust reported EBIT to account for the reversal of provisions (€ 17m) and cash paid to minority interest (€ 13m). We make the argument that the net P&L effect from the reversal of provisions is rather € 3-4m and that cash paid to minorities is a pure cash flow item. At the same time, it seems fair to adjust EBIT also for negative one-offs (€ 2m in FY'19) and PPA (€ 8-9m p.a.) to arrive an **unbiased figure, which reveals S&T's true earnings power**, in our view.
- Broker X claims that S&T is in fact cash flow negative, and adjusts the headline FCF number for working capital changes relating to M&A and cash paid to minorities. **Again, we disagree.** Working capital changes relating to M&A in FY'19 were **mostly not cash-effective**, in our view, while cash paid to minorities is an M&A item. Hence, it should not be accounted for when calculating free cash flow.

**There is more in this note:** we also take a look at some of the critical remarks on M&A targets, part-ownership transaction structures, profitability of the Malaysian subsidiary etc., and find that most of these claims do not hold up to scrutiny.

**All of this is not to say that we dismiss the critical analyst report out of hand.** However, we are confident that management will work to improve transparency as well as checks & balances and potentially even look to re-focus the company on the higher-growth / higher-margin technology part of the business.

Current trading should be strong, and we see **S&T fully on track to outperform consensus' expectations for EBITDA in FY'20E** (eH&A: € 125m EBITDA / eCons: € 119m). **Reiterate BUY** with a € 33.00 PT based on DCF. *Please find the detailed analysis on the following pages.*

Y/E 31.12 (EUR m)	2016	2017	2018	2019	2020E	2021E	2022E
Sales	503.7	882.0	990.9	1,122.9	1,205.0	1,466.0	1,641.9
Sales growth	8 %	75 %	12 %	13 %	7 %	22 %	12 %
EBITDA	34.4	68.1	90.5	111.7	124.7	153.9	183.4
EBIT	24.1	41.7	61.5	61.8	68.0	93.6	120.9
Net income	14.6	22.5	45.0	49.1	53.8	77.1	101.0
Net debt	-32.0	-101.8	-52.7	91.5	68.1	21.3	-53.9
Net gearing	-20.7 %	-33.4 %	-14.8 %	24.5 %	16.4 %	4.5 %	-9.7 %
Net Debt/EBITDA	0.0	0.0	0.0	0.8	0.5	0.1	0.0
EPS pro forma	0.30	0.51	0.68	0.74	0.81	1.17	1.53
CPS	1.12	0.52	0.35	1.03	1.41	1.32	1.88
DPS	0.10	0.13	0.16	0.19	0.21	0.30	0.39
Dividend yield	0.6 %	0.7 %	0.9 %	1.1 %	1.2 %	1.7 %	2.2 %
Gross profit margin	33.9 %	36.7 %	36.0 %	37.2 %	39.9 %	40.8 %	41.1 %
EBITDA margin	6.8 %	7.7 %	9.1 %	9.9 %	10.4 %	10.5 %	11.2 %
EBIT margin	4.8 %	4.7 %	6.2 %	5.5 %	5.6 %	6.4 %	7.4 %
ROCE	8.8 %	9.4 %	11.9 %	8.8 %	9.4 %	10.1 %	12.2 %
EV/sales	1.6	1.2	1.1	1.1	1.0	0.8	0.7
EV/EBITDA	24.1	15.2	12.4	11.5	10.1	7.9	6.2
EV/EBIT	34.4	24.8	18.3	20.8	18.6	13.0	9.4
PER	58.3	34.5	25.9	23.7	21.7	15.1	11.5
Adjusted FCF yield	2.6 %	4.3 %	6.0 %	7.3 %	8.0 %	10.4 %	13.6 %

Source: Company data, Hauck & Aufhäuser Close price as of: 02.10.2020



Source: Company data, Hauck & Aufhäuser

**High/low 52 weeks:** 25.90 / 14.02

**Price/Book Ratio:** 3.0

**Relative performance (TecDAX):**

3 months -23.7 %

6 months -10.1 %

12 months -2.8 %

### Changes in estimates

		Sales	EBIT	EPS
2020	<b>old:</b>	1,205.0	68.0	0.81
	Δ	-	-	-
2021	<b>old:</b>	1,466.0	93.6	1.17
	Δ	-	-	-
2022	<b>old:</b>	1,641.9	120.9	1.53
	Δ	-	-	-

### Key share data:

Number of shares: (in m pcs) 66.1  
 Authorised capital: (in € m) 12.1  
 Book value per share: (in €) 6.3  
 Ø trading volume: (12 months) 60,000

### Major shareholders:

Free Float 66.4 %  
 Ennoconn 26.6 %  
 Investec 5.0 %  
 Management 2.0 %

### Company description:

Leading IoT solutions provider targeting industrial, medical, avionics, smart energy, and other applications

**Broker X: “Operating margins are potentially 1-2%, compared to the 5% reported”**

We are taking FY'19 here as an example. The analysts start out with reported EBIT of € 62m and deduct non-cash other income (minus € 8m), the release of provisions (minus € 17m), cash paid to non-controlling interest (minus € 13m) and movement in contract accounting (plus € 1m). **This gives them an EBIT of € 25m**, which is equal to a 2.2% EBIT margin.

There are several issues with this approach, in our view.

- **The other income is not entirely non-cash.** For instance, it includes income from asset disposal (€ 0.6m), rental income (€ 0.4m), compensation for damages (€ 1.4m), and other non-disclosed parts (€ 1.6m). The biggest non-cash part in there is the reversal of an earn-out provision (€ 2.9m). *See page 110 of the Annual Report.*
- **The net P&L impact for the release of provisions did not amount to € 17m.** It was € 4.8m (net) according to the balance sheet. *See pages 143 and 144 of the Annual Report.* There are typically some costs which cannot be netted with the provisions even though they relate to them; hence the **true net P&L impact should have been € 3-4m in FY'19** – substantially less than the proclaimed € 17m.
- **Cash paid to non-controlling interest is M&A.** It is not a dividend and not the share of earnings accruing to minorities, and hence has nothing to do with the P&L statement. Rather, S&T spent € 13m in FY'19 to buy up minorities in majority-owned companies. The amount of net income accruing to minority shareholders was € 0.4m in FY'19 or 1% of net income. Dividends to minorities were € 0.5m. *See pages 81, 132 and 133 of the Annual Report.*
- **Negative one-offs are not accounted for.** S&T incurred € 2m negative one-offs in FY'19E due to M&A and the restructuring of Kontron USA / Canada.
- **PPA amortization is not mentioned.** S&T incurred some € 8-9m of PPA amortization in FY'19 relating to M&A of past years. It is common practice to adjust for PPA to demonstrate the true earnings power. Look at Infineon or Dialog Semiconductor for reference.

**Broker X: “S&T is free cash flow negative”**

**The broker claims that the “real” free cash flow was a negative € 67m in FY'19.** This is derived as follows. “Headline” free cash flow was a positive € 51m. From this, they deduct € 82m of working capital, including an adjustment for M&A. They then deduct € 13m for cash paid to non-controlling interest, strip out factoring flows (€ 7m) and account for payments on lease obligations (€ 16m).

**We do not agree with three parts of this equation.**

- **Headline free cash flow was € 56m in FY'19**, not € 51m. *See page 61 of the Annual Report.* Operating Cash Flow amounted to € 83.4m, Capex to € 27.1m. It seems the broker included Investments into Financial Instruments (€ 4m) in his calculation of free cash flow, which is non-standard.

- **Cash paid to non-controlling interest is M&A.** Free Cash Flow is by definition prior to any M&A investments. Dividends to minorities were only € 0.5m in FY'19.
- **The € 82m working capital adjustment is incorrect**, in our view. The rationale from Broker X is as follows: S&T acquired Kapsch in 2019. With it, S&T acquired trade receivables of € 69m and Contract Assets of € 13m, totaling € 82m.

The broker seems to assume that the € 82m became cash effective in FY'19. That is to say: with the Kapsch take-over, S&T acquired trade receivables and contract assets, which it turned into cash in FY'19.

Stated in another way: the take-over of Kapsch boosted S&T's operating cash flow thanks to immediate trade receivables collection, and thus overstated free cash flow.

**This is not true**, in our view.

Yes, S&T acquired a total of € 82m of trade receivables and contract assets in FY'19. However, the € 82m reflect the total amount from all of the acquisitions executed in FY'19, including Kapsch, Bass Systems and AIS Automation Dresden GmbH. *See pages 71-78 in the Annual Report.*

**What is key:** it seems irrational to assume that S&T turned the entire € 82m of trade receivables and contract assets into cash in FY'19. In fact, **there is no basis for this assumption**. Consider this:

- **The acquired businesses are going concerns.** They generate revenue, and hence incur further trade receivables on an ongoing basis.
- In conjunction with the trade receivables, **S&T also acquired trade payables and contract liabilities**. Just looking at Kapsch, S&T acquired € 36m of trade receivables but also € 43m of trade payables. *See page 75 of the Annual Report.* This is neglected by Broker X.

Having spoken to management, **the positive M&A impact on operating cash flow in FY'19 was approx. € 5m** – substantially less than the claimed € 82m.

Looking at the Cash Flow Statement for the group, it is true that operating cash flow benefitted from the release of working capital in FY'19. **The net positive cash impact from w/c changes was € 11m**. This includes cash inflow of € 50m from trade receivables and contract assets, as well as € 30m cash outflow from trade payables and contract liabilities, amongst other. *See page 61 of the Annual Report.*

No matter how you look at it, **the overall w/c impact on cash flow is hence much lower than claimed by Broker X**. At the same time, w/c improvements should be sustainable as they reflect the PEC efficiency program which management implemented.

### **Broker X: "S&T has net debt but claims to have net cash"**

There is no definite definition for net debt. S&T calculates net debt by deducting financial liabilities (€ 282m) from gross cash (€ 312m), and thus arrives at a net **cash** position of approx. € 30m for FY'19. We also include other interest-bearing liabilities (€ 121m) and thus arrive at € 91m net **debt**.

Broker X arrives at € 202m of net debt, which looks extremely conservative. Indeed, they deduct not only financial liabilities and other interest-bearing

liabilities but also factoring (€ 63m), net contract liabilities (€ 43m) and restricted cash (€ 5m).

**Our view:** If they include net contract liabilities in their net debt calculation, they should also account for advances and prepayments made to subcontractors (total of € 54m). While it is a question of definition in the end, **the calculation looks biased.**

Importantly, both the increase in net contract liabilities and prepayments happened mostly because of the acquisition of Kapsch. See pages 124 and 127 of the Annual Report. That is why we cannot agree with the broker's claim that "S&T is increasingly using contract accounting on long-term contracts – often a red flag for investors". In any case, IFRS 15 made contract accounting mandatory starting January 2018.

**A quick word on factoring:** It is non-recourse and S&T pays an interest rate of 0.95%, and thus sees it as a cheap form of financing.

### Other Statements

- "Exposure to countries Moldova and Russia presents risk." **Our take:** These two countries accounted for no more than 4.8% of revenues in FY'19. Belarus explained 0.2% of revenues in FY'19.
- "Part-ownership transaction structures present risk." **Our take:** In 2019, part ownership structures were not a material factor. Indeed, only € 0.4m of net income was attributable to minorities, or 1% of group net income. Part ownership structure in Russian entity RTSoft is to ensure that this company is perceived as a Russian company by the local authorities.
- "Investors should be cautious with the E&Y audit." **Our take:** The AGM in June 2020 voted 96%+ in favour of E&Y. Proxy advisor ISS supported this. Note that the AGM took place after the Wirecard fall-out.
- "Kontron Asia Pacific Design CDN BHD in Malaysia is the group's highest margin business." **Our take: Not true.** In 2019, the subsidiary had other operating income of € 8m as an **inter-company** loan was forgiven. **This had no impact whatsoever on group profitability**, and had nothing to do with the true underlying profitability of the subsidiary.
- "The independence of the audit committee is unclear as it consists of the same five members as the supervisory board". **Our take: Not true.** The audit committee consists of three members, which are also part of the supervisory board. Two of these three members are independent.
- "Kontron had its own issues with fraud." **Our take:** This was in 2010 when Kontron was an independent company **led by an entirely different management team**. The fraud was perpetrated by local management in Malaysia. Kontron set up a € 34m risk provisions, and both the CFO and Chief Production Officer had to step down later that year.
- "There is an entrenched management in Hannes Niederhauser (CEO) and Michael Jeske (COO / Services DACH)." **Our take:** The broker forgets about other members of the management board. This includes for example CFO Richard Neuwirth, who joined the management team in 2013, and who has no history with Kontron or Quanmax. Peter Sturz, the COO Services Eastern Europe, joined the "old" S&T AG in 2007, and thus has no relationship with Kontron or Quanmax.

Also, the broker report takes a closer look at some M&A targets of past years, and implicitly claims that these are either dubious or a strategic non-fit.

- **M&A target Bass Systems (Moldavia):** It is true that the Kishinev Anti-corruption Prosecution Office conducted an investigation into Bass Systems in connection with Mr Vlad Plahotniuc. This has been concluded in the meantime. S&T never negotiated with Vlad Plahotniuc but rather with director Onisim Popescu, who held 100% of the shares prior to selling the company to S&T in 2019. S&T also hired an international law firm to look in detail into the company. The purchase price consisted of a € 5.7m fixed price plus a € 6.7m variable earn-out component. Since closing, S&T has already received a cash dividend from Bass to the tune of € 2.4m after the withholding tax. Overall, **we consider the risk from this M&A transaction to be limited.**
- **M&A target Dorobet (Malta):** This subsidiary is already in the process of being closed down. The key asset of Dorobet was a gaming license. Remember that security appliances and software for betting terminals were a major revenue contributor for S&T in 2011 / 2012 when the company was still called Quanmax. Today, this end-market explains some € 10m of annual revenues. In any case, several of S&T's customers back then expressed the wish to buy security solutions and hardware out of one hand while also using a third-party gaming license. That is why S&T acquired Dorobet many years ago.
- **M&A target Active Internet Performance (Austria):** True, the office does not look impressive. However, this is a 5-man IT Service company for which S&T paid € 0.5m. There is no need for a fancy office.

## Financials

Profit and loss (EUR m)	2016	2017	2018	2019	2020E	2021E	2022E
<b>Net sales</b>	<b>503.7</b>	<b>882.0</b>	<b>990.9</b>	<b>1,122.9</b>	<b>1,205.0</b>	<b>1,466.0</b>	<b>1,641.9</b>
<i>Sales growth</i>	7.6 %	75.1 %	12.3 %	13.3 %	7.3 %	21.7 %	12.0 %
Increase/decrease in finished goods and work-in-process	2.8	13.4	15.1	15.5	12.1	14.7	16.4
<b>Total sales</b>	<b>506.5</b>	<b>895.3</b>	<b>1,006.0</b>	<b>1,138.4</b>	<b>1,217.1</b>	<b>1,480.7</b>	<b>1,658.3</b>
Other operating income	6.1	8.5	7.5	8.0	3.0	4.4	4.4
Material expenses	334.8	567.0	644.3	715.4	731.4	876.7	976.9
Personnel expenses	93.5	179.4	194.6	245.2	271.1	337.2	374.4
Other operating expenses	50.0	89.4	84.0	74.2	92.8	117.3	128.1
Total operating expenses	472.1	827.3	915.4	1,026.7	1,092.3	1,326.7	1,474.9
<b>EBITDA</b>	<b>34.4</b>	<b>68.1</b>	<b>90.5</b>	<b>111.7</b>	<b>124.7</b>	<b>153.9</b>	<b>183.4</b>
Depreciation	10.3	7.4	29.0	49.9	11.7	12.3	12.5
<b>EBITA</b>	<b>24.1</b>	<b>60.7</b>	<b>61.5</b>	<b>61.8</b>	<b>113.0</b>	<b>141.6</b>	<b>170.9</b>
Amortisation of goodwill	0.0	0.0	n/a	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	18.9	n/a	0.0	45.0	48.0	50.0
Impairment charges	0.0	0.0	n/a	0.0	0.0	0.0	0.0
<b>EBIT (inc revaluation net)</b>	<b>24.1</b>	<b>41.7</b>	<b>61.5</b>	<b>61.8</b>	<b>68.0</b>	<b>93.6</b>	<b>120.9</b>
Interest income	0.3	0.6	1.0	1.3	2.1	1.8	2.1
Interest expenses	4.4	6.9	6.2	9.0	7.6	5.6	5.6
Other financial result	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial result	-4.0	-6.4	-5.2	-7.7	-5.5	-3.8	-3.5
<b>Recurring pretax income from continuing operations</b>	<b>20.1</b>	<b>35.4</b>	<b>56.3</b>	<b>54.1</b>	<b>62.5</b>	<b>89.8</b>	<b>117.4</b>
Extraordinary income/loss	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Earnings before taxes</b>	<b>20.1</b>	<b>35.4</b>	<b>56.3</b>	<b>54.1</b>	<b>62.5</b>	<b>89.8</b>	<b>117.4</b>
Taxes	-0.3	6.0	7.9	4.6	8.1	11.7	15.3
<b>Net income from continuing operations</b>	<b>20.4</b>	<b>29.4</b>	<b>48.5</b>	<b>49.5</b>	<b>54.4</b>	<b>78.1</b>	<b>102.1</b>
Result from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net income</b>	<b>20.4</b>	<b>29.4</b>	<b>48.5</b>	<b>49.5</b>	<b>54.4</b>	<b>78.1</b>	<b>102.1</b>
Minority interest	5.8	6.9	3.5	0.4	0.6	1.0	1.1
<b>Net profit (reported)</b>	<b>14.6</b>	<b>22.5</b>	<b>45.0</b>	<b>49.1</b>	<b>53.8</b>	<b>77.1</b>	<b>101.0</b>
Average number of shares	44.2	52.5	66.1	66.1	66.1	66.1	66.1
<b>EPS reported</b>	<b>0.33</b>	<b>0.43</b>	<b>0.68</b>	<b>0.74</b>	<b>0.81</b>	<b>1.17</b>	<b>1.53</b>

Profit and loss (common size)	2016	2017	2018	2019	2020E	2021E	2022E
<b>Net sales</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>
Increase/decrease in finished goods and work-in-process	0.6 %	1.5 %	1.5 %	1.4 %	1.0 %	1.0 %	1.0 %
<b>Total sales</b>	<b>100.6 %</b>	<b>101.5 %</b>	<b>101.5 %</b>	<b>101.4 %</b>	<b>101.0 %</b>	<b>101.0 %</b>	<b>101.0 %</b>
Other operating income	1.2 %	1.0 %	0.8 %	0.7 %	0.3 %	0.3 %	0.3 %
Material expenses	66.5 %	64.3 %	65.0 %	63.7 %	60.7 %	59.8 %	59.5 %
Personnel expenses	18.6 %	20.3 %	19.6 %	21.8 %	22.5 %	23.0 %	22.8 %
Other operating expenses	9.9 %	10.1 %	8.5 %	6.6 %	7.7 %	8.0 %	7.8 %
Total operating expenses	93.7 %	93.8 %	92.4 %	91.4 %	90.7 %	90.5 %	89.8 %
<b>EBITDA</b>	<b>6.8 %</b>	<b>7.7 %</b>	<b>9.1 %</b>	<b>9.9 %</b>	<b>10.4 %</b>	<b>10.5 %</b>	<b>11.2 %</b>
Depreciation	2.0 %	0.8 %	2.9 %	4.4 %	1.0 %	0.8 %	0.8 %
<b>EBITA</b>	<b>4.8 %</b>	<b>6.9 %</b>	<b>6.2 %</b>	<b>5.5 %</b>	<b>9.4 %</b>	<b>9.7 %</b>	<b>10.4 %</b>
Amortisation of goodwill	0.0 %	0.0 %	n/a	0.0 %	0.0 %	0.0 %	0.0 %
Amortisation of intangible assets	0.0 %	2.1 %	n/a	0.0 %	3.7 %	3.3 %	3.0 %
Impairment charges	0.0 %	0.0 %	n/a	0.0 %	0.0 %	0.0 %	0.0 %
<b>EBIT (inc revaluation net)</b>	<b>4.8 %</b>	<b>4.7 %</b>	<b>6.2 %</b>	<b>5.5 %</b>	<b>5.6 %</b>	<b>6.4 %</b>	<b>7.4 %</b>
Interest income	0.1 %	0.1 %	0.1 %	0.1 %	0.2 %	0.1 %	0.1 %
Interest expenses	0.9 %	0.8 %	0.6 %	0.8 %	0.6 %	0.4 %	0.3 %
Other financial result	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Financial result	neg.	neg.	neg.	neg.	neg.	neg.	neg.
<b>Recurring pretax income from continuing operations</b>	<b>4.0 %</b>	<b>4.0 %</b>	<b>5.7 %</b>	<b>4.8 %</b>	<b>5.2 %</b>	<b>6.1 %</b>	<b>7.2 %</b>
Extraordinary income/loss	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
<b>Earnings before taxes</b>	<b>4.0 %</b>	<b>4.0 %</b>	<b>5.7 %</b>	<b>4.8 %</b>	<b>5.2 %</b>	<b>6.1 %</b>	<b>7.2 %</b>
Tax rate	-1.6 %	17.0 %	14.0 %	8.4 %	13.0 %	13.0 %	13.0 %
<b>Net income from continuing operations</b>	<b>4.1 %</b>	<b>3.3 %</b>	<b>4.9 %</b>	<b>4.4 %</b>	<b>4.5 %</b>	<b>5.3 %</b>	<b>6.2 %</b>
Income from discontinued operations (net of tax)	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
<b>Net income</b>	<b>4.1 %</b>	<b>3.3 %</b>	<b>4.9 %</b>	<b>4.4 %</b>	<b>4.5 %</b>	<b>5.3 %</b>	<b>6.2 %</b>
Minority interest	1.2 %	0.8 %	0.4 %	0.0 %	0.1 %	0.1 %	0.1 %
<b>Net profit (reported)</b>	<b>2.9 %</b>	<b>2.6 %</b>	<b>4.5 %</b>	<b>4.4 %</b>	<b>4.5 %</b>	<b>5.3 %</b>	<b>6.2 %</b>

Source: Company data, Hauck &amp; Aufhäuser



Balance sheet (EUR m)	2016	2017	2018	2019	2020E	2021E	2022E
<b>Intangible assets</b>	<b>183.2</b>	<b>189.9</b>	<b>207.6</b>	<b>294.9</b>	<b>307.2</b>	<b>282.9</b>	<b>257.6</b>
Property, plant and equipment	27.5	31.9	37.1	99.8	106.2	115.1	125.6
Financial assets	12.1	17.6	0.3	22.8	22.8	22.8	22.8
<b>FIXED ASSETS</b>	<b>222.8</b>	<b>239.4</b>	<b>244.9</b>	<b>417.5</b>	<b>436.2</b>	<b>420.8</b>	<b>406.0</b>
Inventories	84.9	104.0	130.8	146.8	157.5	191.6	214.6
Accounts receivable	168.6	172.4	202.7	212.2	227.7	277.0	310.2
Other current assets	41.5	43.5	68.0	102.6	105.2	107.8	110.5
Liquid assets	125.6	216.9	171.8	312.3	335.7	382.5	457.7
Deferred taxes	25.4	28.6	29.8	34.4	34.4	34.4	34.4
Deferred charges and prepaid expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>CURRENT ASSETS</b>	<b>445.9</b>	<b>565.5</b>	<b>603.0</b>	<b>808.2</b>	<b>860.5</b>	<b>993.3</b>	<b>1,127.4</b>
<b>TOTAL ASSETS</b>	<b>668.7</b>	<b>804.9</b>	<b>847.9</b>	<b>1,225.7</b>	<b>1,296.7</b>	<b>1,414.1</b>	<b>1,533.5</b>
<b>SHAREHOLDERS EQUITY</b>	<b>154.0</b>	<b>305.1</b>	<b>356.0</b>	<b>372.7</b>	<b>413.9</b>	<b>477.4</b>	<b>558.8</b>
MINORITY INTEREST	87.0	26.7	11.3	12.4	12.4	12.4	12.4
Long-term debt	74.2	68.7	79.4	341.0	341.0	341.0	341.0
Provisions for pensions and similar obligations	11.6	21.2	14.6	30.0	30.3	30.6	30.9
Other provisions	39.1	36.7	28.0	54.4	56.0	57.7	59.4
<b>Non-current liabilities</b>	<b>124.8</b>	<b>126.6</b>	<b>122.0</b>	<b>425.4</b>	<b>427.3</b>	<b>429.3</b>	<b>431.3</b>
short-term liabilities to banks	19.5	46.4	39.6	62.8	62.8	62.8	62.8
Accounts payable	134.3	154.9	177.0	205.0	231.1	281.2	314.9
Advance payments received on orders	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other liabilities (incl. from lease and rental contracts)	143.7	135.6	129.4	134.2	134.2	134.2	138.2
Deferred taxes	5.4	9.5	12.6	13.4	15.1	17.0	15.2
Deferred income	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Current liabilities</b>	<b>302.8</b>	<b>346.4</b>	<b>358.6</b>	<b>415.3</b>	<b>443.1</b>	<b>495.1</b>	<b>531.0</b>
<b>TOTAL LIABILITIES AND SHAREHOLDERS EQUITY</b>	<b>668.7</b>	<b>804.9</b>	<b>847.9</b>	<b>1,225.7</b>	<b>1,296.7</b>	<b>1,414.1</b>	<b>1,533.5</b>

Balance sheet (common size)	2016	2017	2018	2019	2020E	2021E	2022E
<b>Intangible assets</b>	<b>27.4 %</b>	<b>23.6 %</b>	<b>24.5 %</b>	<b>24.1 %</b>	<b>23.7 %</b>	<b>20.0 %</b>	<b>16.8 %</b>
Property, plant and equipment	4.1 %	4.0 %	4.4 %	8.1 %	8.2 %	8.1 %	8.2 %
Financial assets	1.8 %	2.2 %	0.0 %	1.9 %	1.8 %	1.6 %	1.5 %
<b>FIXED ASSETS</b>	<b>33.3 %</b>	<b>29.7 %</b>	<b>28.9 %</b>	<b>34.1 %</b>	<b>33.6 %</b>	<b>29.8 %</b>	<b>26.5 %</b>
Inventories	12.7 %	12.9 %	15.4 %	12.0 %	12.1 %	13.5 %	14.0 %
Accounts receivable	25.2 %	21.4 %	23.9 %	17.3 %	17.6 %	19.6 %	20.2 %
Other current assets	6.2 %	5.4 %	8.0 %	8.4 %	8.1 %	7.6 %	7.2 %
Liquid assets	18.8 %	27.0 %	20.3 %	25.5 %	25.9 %	27.0 %	29.8 %
Deferred taxes	3.8 %	3.6 %	3.5 %	2.8 %	2.7 %	2.4 %	2.2 %
Deferred charges and prepaid expenses	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
<b>CURRENT ASSETS</b>	<b>66.7 %</b>	<b>70.3 %</b>	<b>71.1 %</b>	<b>65.9 %</b>	<b>66.4 %</b>	<b>70.2 %</b>	<b>73.5 %</b>
<b>TOTAL ASSETS</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>
<b>SHAREHOLDERS EQUITY</b>	<b>23.0 %</b>	<b>37.9 %</b>	<b>42.0 %</b>	<b>30.4 %</b>	<b>31.9 %</b>	<b>33.8 %</b>	<b>36.4 %</b>
MINORITY INTEREST	13.0 %	3.3 %	1.3 %	1.0 %	1.0 %	0.9 %	0.8 %
Long-term debt	11.1 %	8.5 %	9.4 %	27.8 %	26.3 %	24.1 %	22.2 %
Provisions for pensions and similar obligations	1.7 %	2.6 %	1.7 %	2.4 %	2.3 %	2.2 %	2.0 %
Other provisions	5.8 %	4.6 %	3.3 %	4.4 %	4.3 %	4.1 %	3.9 %
<b>Non-current liabilities</b>	<b>18.7 %</b>	<b>15.7 %</b>	<b>14.4 %</b>	<b>34.7 %</b>	<b>33.0 %</b>	<b>30.4 %</b>	<b>28.1 %</b>
short-term liabilities to banks	2.9 %	5.8 %	4.7 %	5.1 %	4.8 %	4.4 %	4.1 %
Accounts payable	20.1 %	19.2 %	20.9 %	16.7 %	17.8 %	19.9 %	20.5 %
Advance payments received on orders	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Other liabilities (incl. from lease and rental contracts)	21.5 %	16.9 %	15.3 %	10.9 %	10.3 %	9.5 %	9.0 %
Deferred taxes	0.8 %	1.2 %	1.5 %	1.1 %	1.2 %	1.2 %	1.0 %
Deferred income	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
<b>Current liabilities</b>	<b>45.3 %</b>	<b>43.0 %</b>	<b>42.3 %</b>	<b>33.9 %</b>	<b>34.2 %</b>	<b>35.0 %</b>	<b>34.6 %</b>
<b>TOTAL LIABILITIES AND SHAREHOLDERS EQUITY</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>

Source: Company data, Hauck & Aufhäuser

Cash flow statement (EUR m)	2016	2017	2018	2019	2020E	2021E	2022E
Net profit/loss	20.4	29.4	48.5	49.5	54.4	78.1	102.1
Depreciation of fixed assets (incl. leases)	10.3	7.4	29.9	49.9	11.7	12.3	12.5
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	18.9	0.0	0.0	45.0	48.0	50.0
Others	-1.9	-13.6	-17.7	3.7	0.5	0.3	0.3
Cash flow from operations before changes in w/c	28.9	42.1	60.7	103.1	111.6	138.8	164.9
Increase/decrease in inventory	9.3	-17.9	-4.1	-16.0	-10.7	-34.1	-23.0
Increase/decrease in accounts receivable	-1.5	5.5	-23.1	-30.0	-15.5	-49.3	-33.2
Increase/decrease in accounts payable	20.3	15.2	2.1	49.7	26.1	50.1	33.7
Increase/decrease in other working capital positions	4.4	0.0	0.0	-11.8	0.0	0.0	0.0
Increase/decrease in working capital	32.5	2.8	-25.1	-8.1	-0.2	-33.4	-22.5
<b>Cash flow from operating activities</b>	<b>61.4</b>	<b>44.9</b>	<b>35.5</b>	<b>95.1</b>	<b>111.4</b>	<b>105.4</b>	<b>142.5</b>
CAPEX	9.3	23.0	25.1	27.1	31.9	37.4	40.2
Payments for acquisitions	59.2	11.5	39.6	27.2	43.5	7.5	7.5
Financial investments	4.3	5.7	-0.5	4.3	0.0	0.0	0.0
Income from asset disposals	-0.9	1.2	1.1	2.9	0.0	0.0	0.0
<b>Cash flow from investing activities</b>	<b>-73.6</b>	<b>-39.1</b>	<b>-63.1</b>	<b>-55.7</b>	<b>-75.4</b>	<b>-44.9</b>	<b>-47.7</b>
Cash flow before financing	-12.2	5.8	-27.6	39.3	36.0	60.5	94.7
Increase/decrease in debt position	39.8	28.8	1.2	128.1	0.0	0.0	0.0
Purchase of own shares	0.0	0.0	0.0	14.6	0.0	0.0	0.0
Capital measures	44.0	86.9	2.2	0.0	0.0	0.0	0.0
Dividends paid	3.5	4.9	8.3	10.6	12.6	13.6	19.6
Others	-8.5	-17.7	-15.9	-19.1	0.0	0.0	0.0
Effects of exchange rate changes on cash	0.0	-2.0	0.3	1.1	0.0	0.0	0.0
<b>Cash flow from financing activities</b>	<b>71.8</b>	<b>93.1</b>	<b>-20.9</b>	<b>83.8</b>	<b>-12.6</b>	<b>-13.6</b>	<b>-19.6</b>
Increase/decrease in liquid assets	59.5	97.0	-48.2	124.2	23.4	46.9	75.2
<b>Liquid assets at end of period</b>	<b>125.6</b>	<b>216.9</b>	<b>171.8</b>	<b>312.3</b>	<b>335.7</b>	<b>382.5</b>	<b>457.7</b>

Source: Company data, Hauck & Aufhäuser

Regional split (EUR m)	2016	2017	2018	2019	2020E	2021E	2022E
Domestic	60.1	108.3	98.4	102.2	102.4	117.3	149.4
yoy change	14.8 %	80.1 %	-9.1 %	3.8 %	0.2 %	14.5 %	27.4 %
Rest of Europe	166.3	242.7	300.0	336.9	359.1	429.5	497.5
yoy change	-9.8 %	46.0 %	23.6 %	12.3 %	6.6 %	19.6 %	15.8 %
NAFTA	n/a	132.1	133.2	152.7	171.1	215.5	223.3
yoy change	n/a	n/a	0.8 %	14.7 %	12.0 %	25.9 %	3.6 %
Asia Pacific	n/a	n/a	n/a	n/a	n/a	n/a	n/a
yoy change	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Rest of world	277.3	398.9	459.4	531.1	572.4	703.7	761.9
yoy change	19.8 %	43.8 %	15.2 %	15.6 %	7.8 %	22.9 %	8.3 %
<b>TTL</b>	<b>503.7</b>	<b>882.0</b>	<b>990.9</b>	<b>1,122.9</b>	<b>1,205.0</b>	<b>1,466.0</b>	<b>1,641.9</b>
yoy change	7.6 %	75.1 %	12.3 %	13.3 %	7.3 %	21.7 %	12.0 %

Source: Company data, Hauck & Aufhäuser



Key ratios (EUR m)	2016	2017	2018	2019	2020E	2021E	2022E
<b>P&amp;L growth analysis</b>							
Sales growth	7.6 %	75.1 %	12.3 %	13.3 %	7.3 %	21.7 %	12.0 %
EBITDA growth	21.3 %	97.9 %	33.0 %	23.4 %	37.7 %	37.8 %	47.1 %
EBIT growth	16.9 %	73.1 %	47.3 %	0.4 %	10.6 %	51.6 %	77.8 %
EPS growth	-9.3 %	29.9 %	58.9 %	9.2 %	19.6 %	57.0 %	87.8 %
<b>Efficiency</b>							
Total operating costs / sales	93.7 %	93.8 %	92.4 %	91.4 %	90.7 %	90.5 %	89.8 %
Sales per employee	223.6	306.0	254.1	259.8	277.4	334.2	748.6
EBITDA per employee	15.3	23.6	23.2	25.9	28.7	35.1	83.6
<b>Balance sheet analysis</b>							
Avg. working capital / sales	16.3 %	13.6 %	14.0 %	13.8 %	12.9 %	11.6 %	11.1 %
Inventory turnover (sales/inventory)	5.9	8.5	7.6	7.7	7.7	7.7	7.7
Trade debtors in days of sales	122.2	71.3	74.6	69.0	69.0	69.0	69.0
A/P turnover [(A/P*365)/sales]	97.3	64.1	65.2	66.6	70.0	70.0	70.0
Cash conversion cycle (days)	68.3	38.6	48.5	39.2	32.2	31.7	31.5
<b>Cash flow analysis</b>							
Free cash flow	52.1	21.9	10.4	68.0	79.5	68.0	102.2
Free cash flow/sales	10.3 %	2.5 %	1.1 %	6.1 %	6.6 %	4.6 %	6.2 %
FCF / net profit	357.3 %	97.3 %	23.2 %	138.4 %	147.7 %	88.2 %	101.2 %
Capex / depre	131.5 %	109.2 %	82.3 %	62.9 %	56.3 %	62.0 %	64.4 %
Capex / maintenance capex	0.0 %	145.7 %	n/a	116.6 %	108.9 %	128.1 %	138.5 %
Capex / sales	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Security</b>							
Net debt	-32.0	-101.8	-52.7	91.5	68.1	21.3	-53.9
Net Debt/EBITDA	0.0	0.0	0.0	0.8	0.5	0.1	0.0
Net debt / equity	neg.	neg.	neg.	0.2	0.2	0.0	neg.
Interest cover	5.5	6.0	10.0	6.9	8.9	16.7	21.6
Dividend payout ratio	33.1 %	36.6 %	23.5 %	25.6 %	25.4 %	25.4 %	25.4 %
<b>Asset utilisation</b>							
Capital employed turnover	1.3	1.7	1.9	1.3	1.3	1.5	1.5
Operating assets turnover	3.4	5.7	5.1	4.4	4.6	4.8	4.9
Plant turnover	18.3	27.7	26.7	11.3	11.3	12.7	13.1
Inventory turnover (sales/inventory)	5.9	8.5	7.6	7.7	7.7	7.7	7.7
<b>Returns</b>							
ROCE	8.8 %	9.4 %	11.9 %	8.8 %	9.4 %	10.1 %	12.2 %
ROE	9.5 %	7.4 %	12.6 %	13.2 %	13.0 %	16.2 %	18.1 %
<b>Other</b>							
Interest paid / avg. debt	6.0 %	6.6 %	5.3 %	3.4 %	2.9 %	1.4 %	1.4 %
No. employees (average)	2252	2882	3900	4322	4343	4387	2193
Number of shares	44.2	52.5	66.1	66.1	66.1	66.1	66.1
DPS	0.1	0.1	0.2	0.2	0.2	0.3	0.4
EPS reported	0.33	0.43	0.68	0.74	0.81	1.17	1.53
<b>Valuation ratios</b>							
P/BV	7.9	5.2	4.7	4.5	4.0	3.5	3.0
EV/sales	2.4	1.7	1.6	1.6	1.5	1.2	1.0
EV/EBITDA	34.6	22.2	17.9	15.9	14.1	11.1	8.9
EV/EBITA	49.3	24.9	26.4	28.8	15.5	12.1	9.6
EV/EBIT	49.3	36.2	26.4	28.8	25.8	18.3	13.5
EV/FCF	22.8	69.0	155.3	26.2	22.1	25.2	16.0
Adjusted FCF yield	1.8 %	2.9 %	4.1 %	5.4 %	5.8 %	7.4 %	9.4 %
Dividend yield	0.4 %	0.5 %	0.6 %	0.8 %	0.8 %	1.2 %	1.5 %

Source: Company data, Hauck & Aufhäuser

**Disclosures regarding research publications of Hauck & Aufhäuser Privatbankiers AG pursuant to section 85 of the German Securities Trading Act (WpHG) and distributed in the UK under an EEA branch passport, subject to the FCA requirements on research recommendation disclosures**

It is essential that any research recommendation is fairly presented and discloses interests of indicates relevant conflicts of interest. Pursuant to section 85 of the German Securities Trading Act (WpHG) a research report has to point out possible conflicts of interest in connection with the analysed company. Further to this, under the FCA’s rules on research recommendations, any conflicts of interest in connection with the recommendation must be disclosed. A conflict of interest is presumed to exist in particular if Hauck & Aufhäuser Privatbankiers AG

- (1) or any other person belonging to the same group with that person (as part of a consortium) within the past twelve months, acquired the financial instruments of the analysed company,
- (2) or any other person belonging to the same group with that person has entered into an agreement on the production of the research report with the analysed company,
- (3) has, within the past twelve months, been party to an agreement on the provision of investment banking services with the analysed company or have received services or a promise of services under the term of such an agreement,
- (4) holds a) 5% or more of the share capital of the analysed company, or b) the analysed company holds 5% or more of the share capital of Hauck & Aufhäuser Privatbankiers AG or its affiliate(s),
- (5) holds a net long (a) or a net short (b) position of 0.5% of the outstanding share capital of the analysed company or derivatives thereof,
- (6) or any other person belonging to the same group with that person is a market maker or liquidity provider in the financial instruments of the issuer,
- (7) or the analyst has any other significant financial interests relating to the analysed company such as, for example, exercising mandates in the interest of the analysed company or a significant conflict of interest with respect to the issuer,
- (8) The research report has been made available to the company prior to its publication. Thereafter, only factual changes have been made to the report.

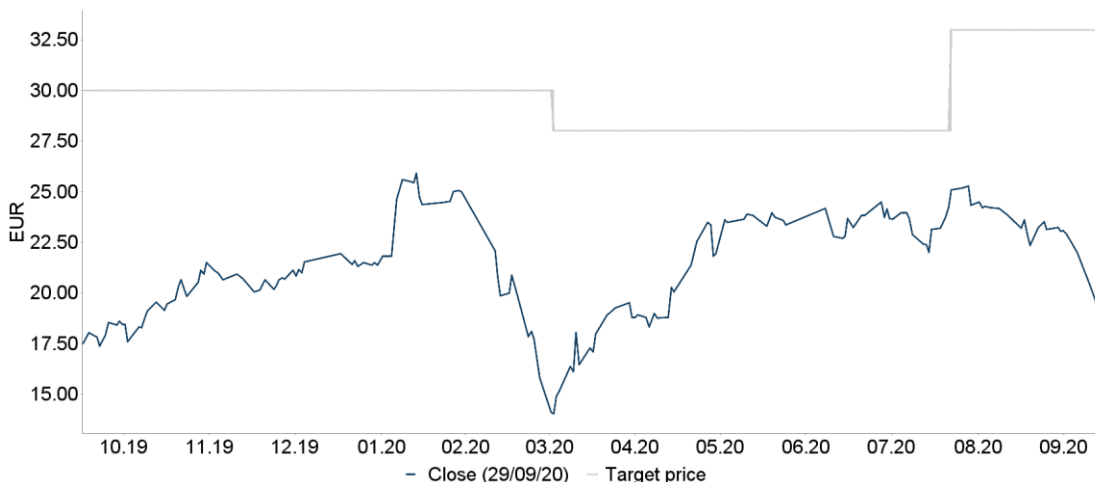
**Conflicts of interest that existed at the time when this research report was published:**

Company	Disclosure
S&T AG	3

**Historical target price and rating changes for S&T AG in the last 12 months**

**Price and Rating History  
S&T AG as of 01/10/20**

**Initiation coverage**  
30-May-12



Company	Date	Analyst	Rating	Target price	Close
S&T AG	11.08.2020	Wunderlich, CFA, Tim	Buy	EUR 33,00	EUR 25,18
	11.08.2020	Wunderlich, CFA, Tim	Buy	EUR 33,00	EUR 25,18
	10.08.2020	Wunderlich, CFA, Tim	Buy	EUR 33,00	EUR 25,08
	05.08.2020	Wunderlich, CFA, Tim	Buy	EUR 28,00	EUR 23,74
	06.05.2020	Wunderlich, CFA, Tim	Buy	EUR 28,00	EUR 21,36

28.04.2020	Wunderlich, CFA, Tim	Buy	EUR 28,00	EUR 18,80
03.04.2020	Wunderlich, CFA, Tim	Buy	EUR 28,00	EUR 17,97
19.03.2020	Wunderlich, CFA, Tim	Buy	EUR 28,00	EUR 14,88
03.03.2020	Wunderlich, CFA, Tim	Buy	EUR 30,00	EUR 20,86
04.11.2019	Wunderlich, CFA, Tim	Buy	EUR 30,00	EUR 19,68

## Hauck & Aufhäuser distribution of ratings and in proportion to investment banking services

<b>Buy</b>	70.07 %	79.17 %
<b>Sell</b>	8.16 %	0.00 %
<b>Hold</b>	21.77 %	20.83 %

Date of publication creation: 05/10/2020 08:13 AM

Date of publication dissemination: 05/10/2020 08:16 AM

### 1. General Information/Liabilities

This research report has been produced for the information purposes of institutional investors only, and is not in any way a personal recommendation, offer or solicitation to buy or sell the financial instruments mentioned herein. The document is confidential and is made available by Hauck & Aufhäuser Privatbankiers AG, exclusively to selected recipients [in DE, GB, FR, CH, US, UK, Scandinavia, and Benelux or, in individual cases, also in other countries]. A distribution to private investors in the sense of the German Securities Trading Act (WpHG) is excluded. It is not allowed to pass the research report on to persons other than the intended recipient without the permission of Hauck & Aufhäuser Privatbankiers AG. Reproduction of this document, in whole or in part, is not permitted without prior permission Hauck & Aufhäuser Privatbankiers AG. All rights reserved.

Under no circumstances shall Hauck & Aufhäuser Privatbankiers AG, any of its employees involved in the preparation, have any liability for possible errors or incompleteness of the information included in this research report – neither in relation to indirect or direct nor consequential damages. Liability for damages arising either directly or as a consequence of the use of information, opinions and estimates is also excluded. Past performance of a financial instrument is not necessarily indicative of future performance.

### 2. Responsibilities

This research report was prepared by the research analyst named on the front page (the "Producer"). The Producer is solely responsible for the views and estimates expressed in this report. The report has been prepared independently. The content of the research report was not influenced by the issuer of the analysed financial instrument at any time. It may be possible that parts of the research report were handed out to the issuer for information purposes prior to the publication without any major amendments being made thereafter.

### 3. Organisational Requirements

Hauck & Aufhäuser Privatbankiers AG took internal organisational and regulative precautions to avoid or accordingly disclose possible conflicts of interest in connection with the preparation and distribution of the research report. All members of Hauck & Aufhäuser Privatbankiers AG involved in the preparation of the research report are subject to internal compliance regulations. No part of the Producer's compensation is directly or indirectly related to the preparation of this financial analysis. In case a research analyst or a closely related person is confronted with a conflict of interest, the research analyst is restricted from covering this company.

### 4. Information Concerning the Methods of Valuation/Update

The determination of the fair value per share, i.e. the price target, and the resultant rating is done on the basis of the adjusted free cash flow (adj. FCF) method and on the basis of the discounted cash flow – DCF model. Furthermore, a peer group comparison is made.

The adj. FCF method is based on the assumption that investors purchase assets only at a price (enterprise value) at which the operating cash flow return after taxes on this investment exceeds their opportunity costs in the form of a hurdle rate of 7.5%. The operating cash flow is calculated as EBITDA less maintenance capex and taxes.

Within the framework of the DCF approach, the future free cash flows are calculated initially on the basis of a fictitious capital structure of 100% equity, i.e. interest and repayments on debt capital are not factored in initially. The adjustment towards the actual capital structure is done by discounting the calculated free cash flows with the weighted average cost of capital (WACC), which takes into account both the cost of equity capital and the cost of debt. After discounting, the calculated total enterprise value is reduced by the interest-bearing debt capital in order to arrive at the equity value.

Hauck & Aufhäuser Privatbankiers AG uses the following three-step rating system for the analysed companies:

Buy: Sustainable upside potential of more than 10% within 12 months  
 Sell: Sustainable downside potential of more than 10% within 12 months.  
 Hold: Upside/downside potential is limited. No immediate catalyst visible.

NB: The ratings of Hauck & Aufhäuser Privatbankiers AG are not based on a performance that is expected to be "relative" to the market.

The decision on the choice of the financial instruments analysed in this document was solely made by Hauck & Aufhäuser Privatbankiers AG. The opinions and estimates in this research report are subject to change without notice. It is within the discretion of Hauck & Aufhäuser Privatbankiers AG whether and when it publishes an update to this research report, but in general updates are created on a regular basis, after 6 months at the latest. A sensitivity analysis is included and published in company's initial studies.

### 5. Major Sources of Information

Part of the information required for this research report was made available by the issuer of the financial instrument. Furthermore, this report is based on publicly available sources (such as, for example, Bloomberg, Reuters, VWD-Trader and the relevant daily press) believed to be reliable. Hauck & Aufhäuser Privatbankiers AG has checked the information for plausibility but not for accuracy or completeness.

### 6. Competent Supervisory Authority

Hauck & Aufhäuser Privatbankiers AG are under supervision of the BaFin – German Federal Financial Supervisory Authority Bundesanstalt für Finanzdienstleistungsaufsicht), Graurheindorfer Straße 108, 53117 Bonn and Marie-Curie-Straße 24 – 28, 60439 Frankfurt a.M.

This document is distributed in the UK under a MiFID EEA branch passport and in compliance with the applicable FCA requirements.

### 7. Specific Comments for Recipients Outside of Germany

This research report is subject to the law of the Federal Republic of Germany. The distribution of this information to other states in particular to the USA, Canada, Australia and Japan may be restricted or prohibited by the laws applicable within this state.

### 8. Miscellaneous

According to Article 4(1) No. i of the delegated regulation 2016/958 supplementing regulation 596/2014 of the European Parliament, further information regarding investment recommendations of the last 12 months are published under:  
<https://www.hauck-aufhaeuser.com/en/investment-banking/equities#institutionalresearch>

**Disclosures for U.S. persons only**

This research report is a product of HAUCK & AUFHÄUSER PRIVATBANKIERS AG, which is the employer of the research analyst(s) who has prepared the research report. The research analyst(s) preparing the research report is/are resident outside the United States (U.S.) and are not associated persons of any U.S. regulated broker-dealer and therefore the analyst(s) is/are not subject to supervision by a U.S. broker-dealer, and is/are not required to satisfy the regulatory licensing requirements of FINRA or required to otherwise comply with U.S. rules or regulations regarding, among other things, communications with a subject company, public appearances and trading securities held by a research analyst account.

This report is intended for distribution by HAUCK & AUFHÄUSER PRIVATBANKIERS AG, only to "Major Institutional Investors" as defined by Rule 15a-6(b)(4) of the U.S. Securities and Exchange Act, 1934 (the Exchange Act) and interpretations thereof by U.S. Securities and Exchange Commission (SEC) in reliance on Rule 15a 6(a)(2). If the recipient of this report is not a Major Institutional Investor as specified above, then it should not act upon this report and return the same to the sender. Further, this report may not be copied, duplicated and/or transmitted onward to any U.S. person, which is not the Major Institutional Investor.

In reliance on the exemption from registration provided by Rule 15a-6 of the Exchange Act and interpretations thereof by the SEC in order to conduct certain business with Major Institutional Investors, HAUCK & AUFHÄUSER PRIVATBANKIERS AG, has entered into an agreement with a U.S. registered broker-dealer, Marco Polo Securities Inc. ("Marco Polo"). Transactions in securities discussed in this research report should be effected through Marco Polo or another U.S. registered broker dealer.

---

## Contacts: Hauck & Aufhäuser Privatbankiers AG

### Hauck & Aufhäuser Research

Hauck & Aufhäuser  
Privatbankiers AG  
Mittelweg 16/17  
20148 Hamburg  
Germany

Tel.: +49 (0) 40 414 3885 91  
Fax: +49 (0) 40 414 3885 71  
Email: research@ha-ib.de  
www.ha-research.de

**Tim Wunderlich, CFA**  
Head of Transactional Research  
Tel.: +49 40 414 3885 81  
E-Mail: tim.wunderlich@ha-ib.de

**Henning Breiter**  
Head of Research  
Tel.: +49 40 414 3885 73  
E-Mail: henning.breiter@ha-ib.de

**Marie-Thérèse Grübner**  
Head of Corporate Brokerage  
Tel.: +49 40 450 6342 3097  
E-Mail: marie-therese.gruebner@ha-ib.de

**Aliaksandr Halitsa**  
Analyst  
Tel.: +49 40 414 3885 83  
E-Mail: aliaksandr.halitsa@ha-ib.de

**Alina Köhler**  
Analyst  
Tel.: +49 40 450 6342 3095  
E-Mail: alina.koehler@ha-ib.de

**Christian Glowa**  
Analyst  
Tel.: +49 40 414 3885 95  
E-Mail: christian.glowa@ha-ib.de

**Christian Salis**  
Analyst  
Tel.: +49 40 414 3885 96  
E-Mail: christian.salis@ha-ib.de

**Christian Sandherr**  
Analyst  
Tel.: +49 40 414 3885 79  
E-Mail: christian.sandherr@ha-ib.de

**Frederik Bitter**  
Analyst  
Tel.: +49 40 450 6342 3091  
E-Mail: frederik.bitter@ha-ib.de

**Frederik Jarchow**  
Analyst  
Tel.: +49 40 414 3885 76  
E-Mail: frederik.jarchow@ha-ib.de

**Julius Stinauer**  
Analyst  
Tel.: +49 40 414 3885 84  
E-Mail: julius.stinauer@ha-ib.de

**Simon Bentlage**  
Analyst  
Tel.: +49 40 450 6342 3096  
E-Mail: simon.bentlage@ha-ib.de

### Hauck & Aufhäuser Sales

**Alexander Lachmann**  
Equity Sales  
Tel.: +41 43 497 30 23  
E-Mail: alexander.lachmann@ha-ib.de

**Carlos Becke**  
Equity Sales  
Tel.: +44 203 9473 245  
E-Mail: carlos.becke@ha-ib.de

**Markus Scharhag**  
Equity Sales  
Tel.: +49 89 23 93 2813  
E-Mail: markus.scharhag@ha-ib.de

**Christian Schwenkenbecher**  
Equity Sales  
Tel.: +44 203 9473 246  
E-Mail: christian.schwenkenbecher@ha-ib.de

**Christian Bybjerg**  
Equity Sales  
Tel.: +49 414 3885 74  
E-Mail: christian.bybjerg@ha-ib.de

**Hugues Madelin**  
Equity Sales  
Tel.: +33 1 78 41 40 62  
E-Mail: hugues.madelin@ha-ib.de

**Vincent Bischoff**  
Equity Sales  
Tel.: +49 40 414 3885 88  
E-Mail: vincent.bischoff@ha-ib.de

**Imogen Voorspuy**  
Equity Junior Sales  
Tel.: +44 203 9473 244  
E-Mail: imogen.voorspuy@ha-ib.de

### Hauck & Aufhäuser Sales Trading

Hauck & Aufhäuser  
Privatbankiers AG  
Mittelweg 16/17  
20148 Hamburg  
Germany

Tel.: +49 40 414 3885 78  
Fax: +49 40 414 3885 71  
Email: info@hauck-aufhaeuser.com  
www.hauck-aufhaeuser.com

**Christian von Schuler**  
Trading  
Tel.: +49 40 414 3885 77  
E-Mail: christian.schuler@hauck-aufhaeuser.com

**Fin Schaffer**  
Trading  
Tel.: +49 40 414 3885 98  
E-Mail: fin.schaffer@hauck-aufhaeuser.com

**Kathleen Jonas**  
Middle-Office  
Tel.: +49 40 414 3885 97  
E-Mail: kathleen.jonas@hauck-aufhaeuser.com

**Carolin Heidrich**  
Middle-Office  
Tel.: +49 176 10 59 41 52  
E-Mail: carolin.heidrich@hauck-aufhaeuser.com