

<b>Buy</b> <b>EUR 20.00</b>  Price <b>EUR 8.66</b> Upside <b>130.9 %</b>	<b>Value Indicators:</b> EUR DCF: 20.00 FCF-Value Potential 2022e: 16.00	<b>Share data:</b> Bloomberg: V3S GR Reuters: V3SG ISIN: DE000A0KEXC7	<b>Description:</b> Leading point-of-sale systems with a focus on the gastronomy and bakery sector
	<b>Market Snapshot:</b> EUR m Market cap: 69.2 No. of shares (m): 8.0 EV: 58.0 Freefloat MC: 33.4 Ø Trad. Vol. (30d): 256.30 th	<b>Shareholders:</b> Freefloat 48.3 % Thomas Stümmler 22.6 % Jens Reckendorf 19.1 % Primepulse SE 10.0 % TBF Global Asset Management 5.0 %	<b>Risk Profile (WRe):</b> 2020e Beta: 1.3 Price / Book: 3.1 x Equity Ratio: 63 %

## Q2 results ahead of expectations

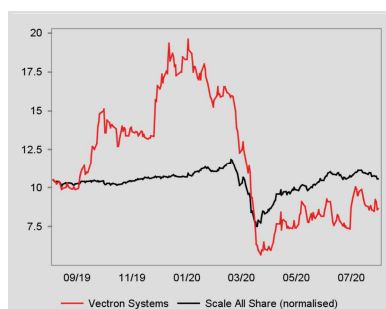
<b>Figures Q2/2020:</b> FY End: 31.12. in EUR m										<b>Comment on Figures:</b> <ul style="list-style-type: none"> <li>After a very weak start to the quarter, Vectron achieved a significantly higher sales level than feared</li> <li>EBITDA remained flat qoq, despite a significant sequential sales decline of &gt;30%</li> <li>The higher profitability is expected to reflect a better product mix (e.g. software upgrade comes with higher margins) and more favourable cost development than expected</li> <li>Profitability is still burdened by investments in digital services.</li> </ul>			
	<b>Q2 20</b>	Q2 20e	Q2 19	yoy	<b>6M 20</b>	6M 20e	6M 19	yoy					
<b>Sales</b>	5.1	3.0	6.1	-17 %	12.6	10.5	12.0	5 %					
<b>EBITDA</b>	-0.7	-2.4	-0.1	n.a.	-1.3	-3.1	-1.0	n.a.					

Vectron released preliminary Q2 results on Tuesday (28.07.2020). Despite a weak start to the quarter, sales development was better than feared towards the end of Q2. This should be attributable to the upcoming end of the non-application period for tamper-proof cash registers. At earnings level, EBITDA of EUR -0.7m remained at the Q1 level despite a 32% sales decline qoq. This reflects the absence of one-offs (capital increase costs were registered in Q1), probably a better product mix, generally better cost development and some savings measures.

The requirement for tamper-proof cash registers remains a strong demand driver in the short term in Germany. Some federal states have extended the non-objection period by two additional quarters to March 31 2021, following the decision by German federal ministry of finance that this period would not be extended post September 30. This should not affect H2 demand, however, as the exception will only be granted if the placement of a binding order for a new POS system, or upgrade, can be proved by the tax payer (restaurant, bakery etc.). Hence, demand should be significant in the quarters ahead for upgrades or replacements of older POS systems. It is assumed that 25-50% of the existing installed base will be replaced, which results in sales potential of EUR 50-80m in the coming ~18-36 months. As prolongation of the non-objection period in some federal states will only be negligible and recovery in demand has set in earlier than assumed, the estimates for FY 2020 are being raised.

The decisive factor for the investment case remains however the establishment of the POS system as central hardware for digital services (SaaS model), which could yield some news later in the year. The need for tamper-proof cash registers can act as a catalyst as potential customers have to acquire a new system. Rating and PT remain unchanged.

<b>Changes in Estimates:</b> FY End: 31.12. in EUR m							<b>Comment on Changes:</b> <ul style="list-style-type: none"> <li>2020 revenue estimate raised after better Q2 sales than expected and as POS regulation should lead to a further rise in demand in H2</li> <li>Earnings estimates raised based on better Q2 profitability and higher sales base</li> </ul>			
	2020e (old)	+ / -	2021e (old)	+ / -	2022e (old)	+ / -				
<b>Sales</b>	25.6	7.4 %	53.5	0.0 %	65.4	0.0 %				
<b>EBIT</b>	-3.8	n.m.	7.1	0.0 %	12.6	0.0 %				

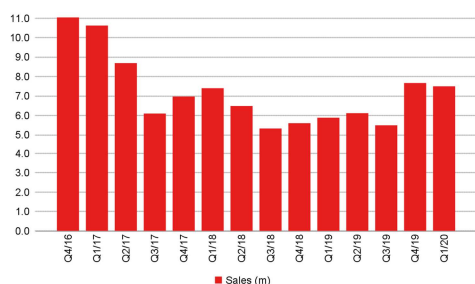


<b>Rel. Performance vs Scale All</b>	
1 month:	-5.4 %
6 months:	-41.3 %
Year to date:	-51.4 %
Trailing 12 months:	-17.9 %

**Company events:**  
31.08.20 Q2

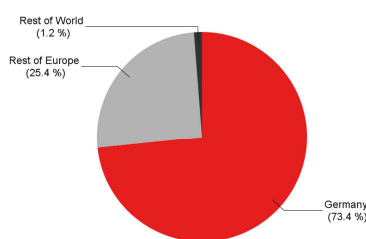
FY End: 31.12. in EUR m	CAGR (19-22e)	2016	2017	2018	2019	2020e	2021e	2022e
<b>Sales</b>	37.5 %	33.7	32.4	24.8	25.2	27.5	53.5	65.4
Change Sales yoy		33.7 %	-4.0 %	-23.3 %	1.4 %	9.2 %	94.6 %	22.3 %
Gross profit margin		54.4 %	56.7 %	53.7 %	57.8 %	58.4 %	57.5 %	58.0 %
<b>EBITDA</b>	-	3.6	2.3	-3.8	-1.4	-1.6	7.8	13.2
Margin		10.7 %	7.0 %	-15.2 %	-5.5 %	-6.0 %	14.5 %	20.2 %
<b>EBIT</b>	-	3.1	1.8	-5.4	-1.8	-2.3	7.1	12.6
Margin		9.1 %	5.4 %	-22.0 %	-7.1 %	-8.2 %	13.3 %	19.3 %
<b>Net income</b>	-	2.0	1.1	-3.9	-1.4	-1.9	4.6	8.3
<b>EPS</b>	-	1.23	0.16	-0.59	-0.19	-0.24	0.57	1.05
<b>EPS adj.</b>	-	1.23	0.16	-0.59	-0.19	-0.24	0.57	1.05
<b>DPS</b>	-	1.00	0.05	0.05	0.00	0.00	0.10	0.20
Dividend Yield		9.0 %	0.2 %	0.3 %	n.a.	n.a.	1.2 %	2.3 %
<b>FCFPS</b>		0.23	-0.46	-0.40	-0.38	-0.06	0.38	0.80
<b>FCF / Market cap</b>		2.1 %	-1.8 %	-2.1 %	-3.4 %	-0.7 %	4.3 %	9.2 %
<b>EV / Sales</b>		n.a.	5.0 x	5.2 x	3.2 x	2.1 x	1.0 x	0.8 x
<b>EV / EBITDA</b>		n.a.	71.4 x	n.a.	n.a.	n.a.	7.1 x	3.7 x
<b>EV / EBIT</b>		n.a.	92.2 x	n.a.	n.a.	n.a.	7.7 x	3.9 x
<b>P / E</b>		9.1 x	154.5 x	n.a.	n.a.	n.a.	15.2 x	8.2 x
<b>P / E adj.</b>		9.1 x	154.5 x	n.a.	n.a.	n.a.	15.2 x	8.2 x
<b>FCF Potential Yield</b>		n.a.	0.9 %	-1.8 %	-1.4 %	-2.3 %	9.6 %	18.4 %
<b>Net Debt</b>		-7.2	-1.7	1.2	-0.9	-11.2	-14.2	-19.8
<b>ROCE (NOPAT)</b>		29.8 %	11.2 %	n.a.	n.a.	n.a.	42.0 %	65.0 %
<b>Guidance:</b>	2020: -							

**Sales development**  
in EUR m



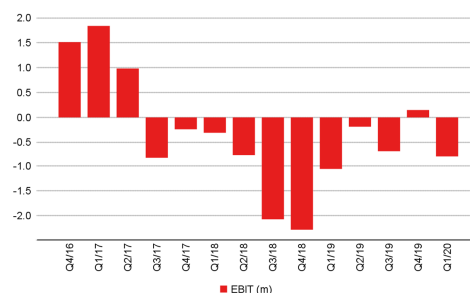
Source: Warburg Research

**Sales by regions**  
2017; in %



Source: Warburg Research

**EBIT development**  
in EUR m



Source: Warburg Research

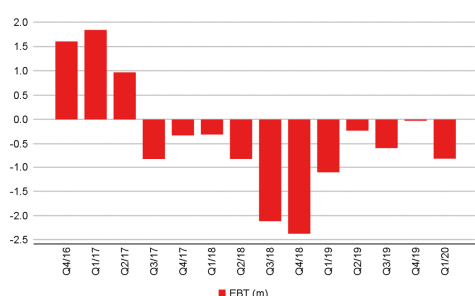
## Company Background

- Vectron is a leading provider of POS systems. The products are positioned in the medium to premium segment. With its high degree of functionality, Vectron is one of the technology and innovation leaders.
- Vectron focuses on the market for proprietary POS systems (30% of the overall market). PC-based systems (bulk of the market) usually require higher maintenance and are primarily used by large chain stores.
- Vectron's market share is particularly high in the food service and bakery industries, where the company is market leader for proprietary systems in the German-speaking area with a market share of ca. 25%.
- Vectron has some 180 employees. About one-third are employed in development and product management as the company aims to maintain its position as technology leader.
- Since end of 2013, Vectron addresses non-premium market segments and new markets abroad with a second trademark (Duratec) and simpler systems

## Competitive Quality

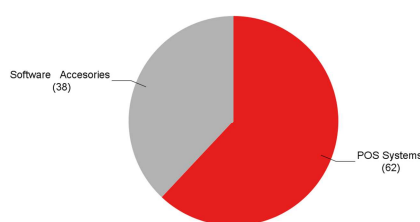
- Factors such as high reliability, ease of operation and low follow-up costs (maintenance/support) are required in the food service and bakery target sectors which are characterised by an atomistic customer structure.
- This explains the high penetration rate of the proprietary POS systems. Given that the large producers of POS systems mainly offer PC-based systems Vectron mainly faces smaller competitors.
- Vectron differentiates itself from the mainly smaller competitors by rigorously pursuing the further development of the POS systems and thanks to the high additional use offered by wide functionality.
- By focusing on the premium segment, Vectron avoids the typical problems in the lower segment: solely differentiating on price. This is underpinned by gross margins of ca. 55% and ROCEs of well above 10%.
- Current growth opportunities are arising from the establishment of the cooperation with DeutschlandCard and potentially further partners.

**EBT development**  
in EUR m



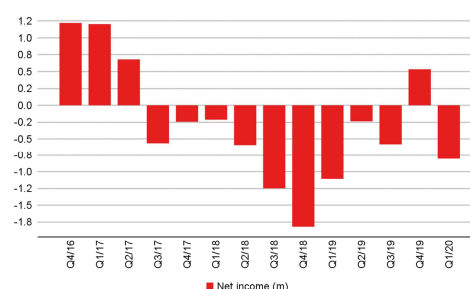
Source: Warburg Research

**Sales by segments**  
2017; in %



Source: Warburg Research

**Net income development**  
in EUR m



Source: Warburg Research

DCF model

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	
Sales	27.5	53.5	65.4	56.2	65.2	71.1	76.1	81.4	85.5	89.8	94.3	99.0	n.a.	1.8 %
Sales change	9.2 %	94.6 %	22.3 %	-14.0 %	16.0 %	9.0 %	7.0 %	7.0 %	5.0 %	5.0 %	5.0 %	5.0 %	n.a.	
EBIT	-2.3	7.1	12.6	7.9	11.7	14.2	15.2	16.3	17.1	18.0	18.9	19.8	n.a.	
EBIT-margin	-8.2 %	13.3 %	19.3 %	14.0 %	18.0 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	n.a.	
Tax rate (EBT)	24.3 %	31.0 %	31.0 %	30.5 %	30.5 %	30.5 %	30.5 %	30.5 %	30.5 %	30.5 %	30.5 %	30.5 %	n.a.	
NOPAT	-1.7	4.9	8.7	5.5	8.2	9.9	10.6	11.3	11.9	12.5	13.1	13.8	n.a.	
Depreciation	0.6	0.6	0.6	0.9	1.0	1.1	1.2	1.3	1.4	1.4	1.5	1.6	n.a.	
in % of Sales	2.3 %	1.2 %	0.9 %	1.6 %	1.6 %	1.6 %	1.6 %	1.6 %	1.6 %	1.6 %	1.6 %	1.6 %	n.a.	
Changes in provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.a.	
Change in Liquidity from														
- Working Capital	-1.3	3.0	2.0	-2.2	1.1	1.1	0.9	1.0	0.7	0.8	0.8	0.8	n.a.	
- Capex	0.6	0.6	0.6	0.9	1.0	1.1	1.2	1.3	1.4	1.4	1.5	1.6	n.a.	
Capex in % of Sales	2.1 %	1.1 %	0.9 %	1.6 %	1.6 %	1.6 %	1.6 %	1.6 %	1.6 %	1.6 %	1.6 %	1.6 %	n.a.	
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.a.	
Free Cash Flow (WACC Model)	-0.3	2.0	6.7	7.7	7.1	8.8	9.7	10.4	11.2	11.7	12.3	12.9	n.a.	14
PV of FCF	-0.3	1.8	5.7	6.1	5.2	5.9	6.0	5.9	5.9	5.7	5.5	5.4	n.a.	82
share of PVs	4.96 %			39.01 %										56.04 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	6.00 %	Financial Strength	1.20
Cost of debt (after tax)	2.8 %	Liquidity (share)	1.50
Market return	7.00 %	Cyclicality	1.10
Risk free rate	1.50 %	Transparency	1.40
		Others	1.30
<b>WACC</b>	<b>8.30 %</b>	<b>Beta</b>	<b>1.30</b>

Valuation (m)

Present values 2032e	64		
Terminal Value	82		
Financial liabilities	10		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	2		
Liquidity	23	No. of shares (m)	8.0
<b>Equity Value</b>	<b>160</b>	<b>Value per share (EUR)</b>	<b>19.98</b>

Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth							Beta	WACC	Delta EBIT-margin						
		1.00 %	1.25 %	1.50 %	1.75 %	2.00 %	2.25 %	2.50 %			-1.5 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+1.5 pp
1.49	9.3 %	16.49	16.72	16.96	17.21	17.48	17.78	18.09	1.49	9.3 %	15.89	16.33	16.77	17.21	17.65	18.10	18.54
1.40	8.8 %	17.63	17.90	18.19	18.49	18.82	19.18	19.56	1.40	8.8 %	17.07	17.54	18.02	18.49	18.97	19.44	19.92
1.35	8.5 %	18.25	18.55	18.87	19.21	19.57	19.97	20.39	1.35	8.5 %	17.73	18.22	18.71	19.21	19.70	20.19	20.69
1.30	8.3 %	18.93	19.25	19.60	19.98	20.38	20.82	21.30	1.30	8.3 %	18.44	18.95	19.46	19.98	20.49	21.00	21.52
1.25	8.0 %	19.64	20.00	20.39	20.81	21.26	21.75	22.28	1.25	8.0 %	19.20	19.74	20.27	20.81	21.34	21.88	22.41
1.20	7.8 %	20.42	20.82	21.25	21.71	22.21	22.76	23.37	1.20	7.8 %	20.04	20.59	21.15	21.71	22.27	22.83	23.38
1.11	7.3 %	22.16	22.65	23.18	23.76	24.40	25.10	25.87	1.11	7.3 %	21.93	22.54	23.15	23.76	24.38	24.99	25.60

- Model reflects fiscal regulation
- Increasing digitalization drives mid term sales and profitability increase
- Model is not yet reflecting the company target of > EUR 100m in sales by 2022

## Free Cash Flow Value Potential

Warburg Research's valuation tool "FCF Value Potential" reflects the ability of the company to generate sustainable free cash flows. It is based on the "FCF potential" - a FCF "ex growth" figure - which assumes unchanged working capital and pure maintenance capex. A value indication is derived via the perpetuity of a given year's "FCF potential" with consideration of the weighted costs of capital. The fluctuating value indications over time add a timing element to the DCF model (our preferred valuation tool).

in EUR m	2016	2017	2018	2019	2020e	2021e	2022e	
Net Income before minorities	n.a.	1.1	-3.9	-1.4	-1.9	4.8	8.6	
+ Depreciation + Amortisation	n.a.	0.5	1.7	0.4	0.6	0.6	0.6	
- Net Interest Income	n.a.	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	
- Maintenance Capex	n.a.	0.3	0.3	0.3	0.3	0.3	0.3	
+ Other	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	
<b>= Free Cash Flow Potential</b>	<b>n.a.</b>	<b>1.4</b>	<b>-2.3</b>	<b>-1.1</b>	<b>-1.3</b>	<b>5.3</b>	<b>9.1</b>	
FCF Potential Yield (on market EV)	n/a	0.9 %	-1.8 %	-1.4 %	-2.3 %	9.6 %	18.4 %	
WACC	8.30 %	8.30 %	8.30 %	8.30 %	8.30 %	8.30 %	8.30 %	
<b>= Enterprise Value (EV)</b>	<b>n.a.</b>	<b>161.4</b>	<b>128.5</b>	<b>79.9</b>	<b>58.0</b>	<b>55.0</b>	<b>49.4</b>	
<b>= Fair Enterprise Value</b>	<b>n.a.</b>	<b>16.6</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>63.9</b>	<b>109.5</b>	
- Net Debt (Cash)	n.a.	-11.2	-11.2	-11.2	-11.2	-14.2	-19.8	
- Pension Liabilities	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	
- Other	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	
- Market value of minorities	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	
+ Market value of investments	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	
<b>= Fair Market Capitalisation</b>	<b>n.a.</b>	<b>27.7</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>78.1</b>	<b>129.2</b>	
Number of shares, average	1.6	6.6	6.6	7.2	7.9	7.9	7.9	
<b>= Fair value per share (EUR)</b>	<b>n.a.</b>	<b>4.20</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>9.85</b>	<b>16.30</b>	
premium (-) / discount (+) in %						13.7 %	88.2 %	
<b>Sensitivity Fair value per Share (EUR)</b>								
	11.30 %	n.a.	2.92	n.a.	n.a.	n.a.	7.65	12.54
	10.30 %	n.a.	3.07	n.a.	n.a.	n.a.	8.22	13.51
	9.30 %	n.a.	3.25	n.a.	n.a.	n.a.	8.91	14.70
WACC	<b>8.30 %</b>	<b>n.a.</b>	<b>3.47</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>9.77</b>	<b>16.17</b>
	7.30 %	n.a.	3.76	n.a.	n.a.	n.a.	10.87	18.05
	6.30 %	n.a.	4.13	n.a.	n.a.	n.a.	12.31	20.52
	5.30 %	n.a.	4.64	n.a.	n.a.	n.a.	14.30	23.93

- Rising value indication with higher business volume...
- ...this is due to a high operating leverage given gross margins of >50%

Valuation	2016	2017	2018	2019	2020e	2021e	2022e
Price / Book	1.2 x	11.4 x	12.6 x	5.8 x	3.1 x	2.6 x	2.0 x
Book value per share ex intangibles	8.75	1.94	1.51	1.88	2.77	3.31	4.25
EV / Sales	n.a.	5.0 x	5.2 x	3.2 x	2.1 x	1.0 x	0.8 x
EV / EBITDA	n.a.	71.4 x	n.a.	n.a.	n.a.	7.1 x	3.7 x
EV / EBIT	n.a.	92.2 x	n.a.	n.a.	n.a.	7.7 x	3.9 x
EV / EBIT adj.*	n.a.	92.2 x	n.a.	n.a.	n.a.	7.7 x	3.9 x
P / FCF	48.7 x	n.a.	n.a.	n.a.	n.a.	23.0 x	10.9 x
P / E	9.1 x	154.5 x	n.a.	n.a.	n.a.	15.2 x	8.2 x
P / E adj.*	9.1 x	154.5 x	n.a.	n.a.	n.a.	15.2 x	8.2 x
Dividend Yield	9.0 %	0.2 %	0.3 %	n.a.	n.a.	1.2 %	2.3 %
FCF Potential Yield (on market EV)	n.a.	0.9 %	-1.8 %	-1.4 %	-2.3 %	9.6 %	18.4 %

\*Adjustments made for: -

## Consolidated profit & loss

In EUR m	2016	2017	2018	2019	2020e	2021e	2022e
<b>Sales</b>	<b>33.7</b>	<b>32.4</b>	<b>24.8</b>	<b>25.2</b>	<b>27.5</b>	<b>53.5</b>	<b>65.4</b>
Change Sales yoy	33.7 %	-4.0 %	-23.3 %	1.4 %	9.2 %	94.6 %	22.3 %
Increase / decrease in inventory	0.0	0.6	0.2	0.0	0.0	0.0	0.0
Own work capitalised	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Sales</b>	<b>33.7</b>	<b>33.0</b>	<b>25.0</b>	<b>25.2</b>	<b>27.5</b>	<b>53.5</b>	<b>65.4</b>
Material expenses	15.4	14.6	11.7	10.7	11.4	22.7	27.5
<b>Gross profit</b>	<b>18.4</b>	<b>18.4</b>	<b>13.3</b>	<b>14.5</b>	<b>16.1</b>	<b>30.8</b>	<b>37.9</b>
<i>Gross profit margin</i>	<i>54.4 %</i>	<i>56.7 %</i>	<i>53.7 %</i>	<i>57.8 %</i>	<i>58.4 %</i>	<i>57.5 %</i>	<i>58.0 %</i>
Personnel expenses	8.6	9.7	10.2	9.3	10.2	11.6	12.5
Other operating income	0.4	0.6	0.5	0.3	0.6	0.6	0.8
Other operating expenses	6.6	7.0	7.4	7.0	8.1	12.0	13.0
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBITDA</b>	<b>3.6</b>	<b>2.3</b>	<b>-3.8</b>	<b>-1.4</b>	<b>-1.6</b>	<b>7.8</b>	<b>13.2</b>
<i>Margin</i>	<i>10.7 %</i>	<i>7.0 %</i>	<i>-15.2 %</i>	<i>-5.5 %</i>	<i>-6.0 %</i>	<i>14.5 %</i>	<i>20.2 %</i>
Depreciation of fixed assets	0.3	0.3	0.4	0.2	0.4	0.4	0.4
<b>EBITA</b>	<b>3.3</b>	<b>1.9</b>	<b>-4.2</b>	<b>-1.6</b>	<b>-2.1</b>	<b>7.3</b>	<b>12.8</b>
Amortisation of intangible assets	0.2	0.2	1.3	0.2	0.2	0.2	0.2
Goodwill amortisation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBIT</b>	<b>3.1</b>	<b>1.8</b>	<b>-5.4</b>	<b>-1.8</b>	<b>-2.3</b>	<b>7.1</b>	<b>12.6</b>
<i>Margin</i>	<i>9.1 %</i>	<i>5.4 %</i>	<i>-22.0 %</i>	<i>-7.1 %</i>	<i>-8.2 %</i>	<i>13.3 %</i>	<i>19.3 %</i>
<b>EBIT adj.</b>	<b>3.1</b>	<b>1.8</b>	<b>-5.4</b>	<b>-1.8</b>	<b>-2.3</b>	<b>7.1</b>	<b>12.6</b>
Interest income	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Interest expenses	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Other financial income (loss)	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBT</b>	<b>3.0</b>	<b>1.7</b>	<b>-5.6</b>	<b>-2.0</b>	<b>-2.5</b>	<b>6.9</b>	<b>12.4</b>
<i>Margin</i>	<i>8.8 %</i>	<i>5.1 %</i>	<i>-22.6 %</i>	<i>-7.8 %</i>	<i>-9.0 %</i>	<i>13.0 %</i>	<i>19.0 %</i>
Total taxes	1.0	0.6	-1.7	-0.6	-0.6	2.1	3.8
<b>Net income from continuing operations</b>	<b>2.0</b>	<b>1.1</b>	<b>-3.9</b>	<b>-1.4</b>	<b>-1.9</b>	<b>4.8</b>	<b>8.6</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 before minorities</b>	<b>2.0</b>	<b>1.1</b>	<b>-3.9</b>	<b>-1.4</b>	<b>-1.9</b>	<b>4.8</b>	<b>8.6</b>
Minority interest	0.0	0.0	0.0	0.0	0.0	0.2	0.2
<b>Net income</b>	<b>2.0</b>	<b>1.1</b>	<b>-3.9</b>	<b>-1.4</b>	<b>-1.9</b>	<b>4.6</b>	<b>8.3</b>
<i>Margin</i>	<i>5.8 %</i>	<i>3.3 %</i>	<i>-15.6 %</i>	<i>-5.5 %</i>	<i>-6.8 %</i>	<i>8.5 %</i>	<i>12.7 %</i>
Number of shares, average	1.6	6.6	6.6	7.2	7.9	7.9	7.9
<b>EPS</b>	<b>1.23</b>	<b>0.16</b>	<b>-0.59</b>	<b>-0.19</b>	<b>-0.24</b>	<b>0.57</b>	<b>1.05</b>
EPS adj.	1.23	0.16	-0.59	-0.19	-0.24	0.57	1.05

\*Adjustments made for:

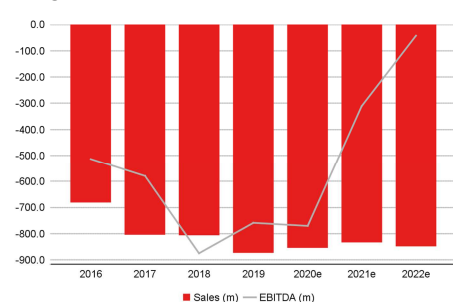
**Guidance: 2020: -**

## Financial Ratios

	2016	2017	2018	2019	2020e	2021e	2022e
Total Operating Costs / Sales	89.4 %	95.0 %	116.1 %	105.6 %	106.0 %	85.5 %	79.8 %
Operating Leverage	1.5 x	10.9 x	n.a.	-48.6 x	3.0 x	n.a.	3.4 x
EBITDA / Interest expenses	37.2 x	14.9 x	n.m.	n.m.	n.m.	38.8 x	66.2 x
Tax rate (EBT)	33.8 %	35.3 %	31.0 %	28.7 %	24.3 %	31.0 %	31.0 %
Dividend Payout Ratio	81.5 %	30.7 %	n.m.	0.0 %	0.0 %	16.6 %	18.5 %
Sales per Employee	235,783	203,667	190,962	193,610	211,454	411,385	503,062

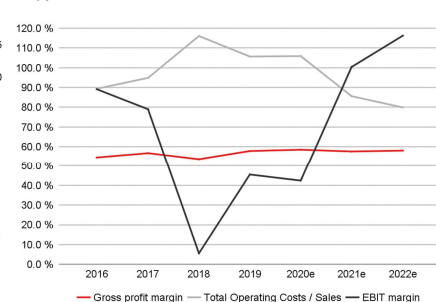
### Sales, EBITDA

in EUR m

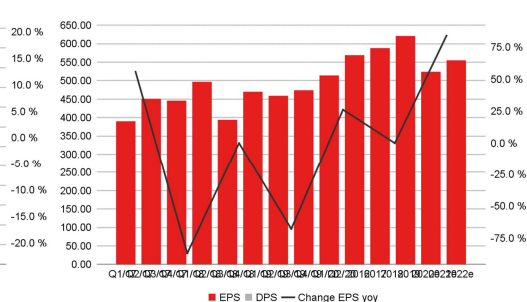


### Operating Performance

in %



### Performance per Share



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

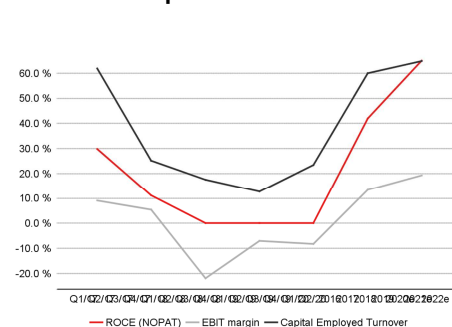
## Consolidated balance sheet

In EUR m	2016	2017	2018	2019	2020e	2021e	2022e
<b>Assets</b>							
Goodwill and other intangible assets	0.4	1.5	0.2	0.1	0.1	0.1	0.1
thereof other intangible assets	0.4	1.5	0.2	0.1	0.1	0.1	0.1
thereof Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property, plant and equipment	0.7	0.6	0.6	0.5	0.4	0.4	0.3
Financial assets	0.9	1.8	1.8	2.1	2.1	2.1	2.1
Other long-term assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Fixed assets</b>	<b>2.1</b>	<b>4.0</b>	<b>2.6</b>	<b>2.6</b>	<b>2.6</b>	<b>2.6</b>	<b>2.5</b>
Inventories	4.8	7.6	5.8	5.0	5.0	5.6	5.9
Accounts receivable	4.9	3.3	2.3	5.0	3.8	7.3	9.0
Liquid assets	11.7	5.5	11.6	11.3	21.6	24.6	30.2
Other short-term assets	1.2	1.1	2.7	2.8	2.3	0.7	0.7
<b>Current assets</b>	<b>22.5</b>	<b>17.5</b>	<b>22.3</b>	<b>24.1</b>	<b>32.7</b>	<b>38.2</b>	<b>45.8</b>
<b>Total Assets</b>	<b>24.6</b>	<b>21.5</b>	<b>24.9</b>	<b>26.7</b>	<b>35.3</b>	<b>40.8</b>	<b>48.3</b>
<b>Liabilities and shareholders' equity</b>							
Subscribed capital	1.6	6.6	6.6	7.3	8.0	8.0	8.0
Capital reserve	10.3	5.4	5.4	9.7	19.8	19.8	19.8
Retained earnings	0.0	0.0	0.0	0.0	-1.8	2.7	10.3
Other equity components	2.9	2.3	-1.9	-3.3	-3.8	-4.0	-4.0
Shareholders' equity	14.9	14.3	10.1	13.8	22.2	26.6	34.1
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total equity</b>	<b>14.9</b>	<b>14.3</b>	<b>10.1</b>	<b>13.8</b>	<b>22.2</b>	<b>26.6</b>	<b>34.1</b>
Provisions	3.2	1.7	1.0	1.2	1.2	1.2	1.2
thereof provisions for pensions and similar obligations	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial liabilities (total)	4.4	3.8	12.8	10.4	10.4	10.4	10.4
thereof short-term financial liabilities	0.8	1.1	0.8	10.4	10.4	10.4	10.4
Accounts payable	1.5	1.4	0.6	0.9	1.1	2.2	2.2
Other liabilities	0.6	0.2	0.4	0.4	0.4	0.4	0.4
<b>Liabilities</b>	<b>9.7</b>	<b>7.2</b>	<b>14.7</b>	<b>12.9</b>	<b>13.1</b>	<b>14.2</b>	<b>14.2</b>
<b>Total liabilities and shareholders' equity</b>	<b>24.6</b>	<b>21.5</b>	<b>24.9</b>	<b>26.7</b>	<b>35.3</b>	<b>40.8</b>	<b>48.3</b>

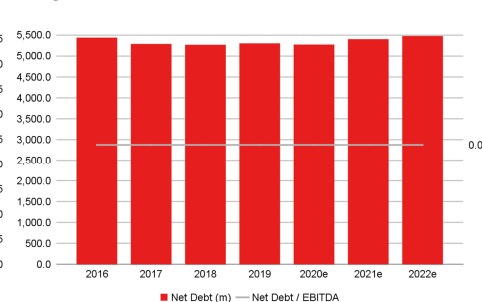
## Financial Ratios

	2016	2017	2018	2019	2020e	2021e	2022e
<b>Efficiency of Capital Employment</b>							
Operating Assets Turnover	3.8 x	3.2 x	3.1 x	2.6 x	3.4 x	4.8 x	5.0 x
Capital Employed Turnover	4.4 x	2.6 x	2.2 x	1.9 x	2.5 x	4.3 x	4.6 x
ROA	95.4 %	27.2 %	-151.1 %	-52.7 %	-71.8 %	177.9 %	330.9 %
<b>Return on Capital</b>							
ROCE (NOPAT)	29.8 %	11.2 %	n.a.	n.a.	n.a.	42.0 %	65.0 %
ROE	17.4 %	7.4 %	-31.7 %	-11.6 %	-10.4 %	18.7 %	27.5 %
Adj. ROE	17.4 %	7.4 %	-31.7 %	-11.6 %	-10.4 %	18.7 %	27.5 %
<b>Balance sheet quality</b>							
Net Debt	-7.2	-1.7	1.2	-0.9	-11.2	-14.2	-19.8
Net Financial Debt	-7.2	-1.7	1.2	-0.9	-11.2	-14.2	-19.8
Net Gearing	-48.5 %	-12.1 %	11.9 %	-6.5 %	-50.3 %	-53.4 %	-57.9 %
Net Fin. Debt / EBITDA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Book Value / Share	9.0	2.2	1.5	1.9	2.8	3.3	4.3
Book value per share ex intangibles	8.8	1.9	1.5	1.9	2.8	3.3	4.3

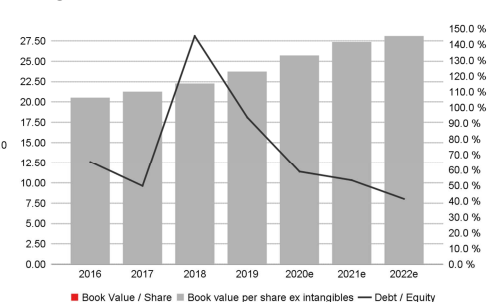
### ROCE Development



### Net debt in EUR m



### Book Value per Share in EUR



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research



## Consolidated cash flow statement

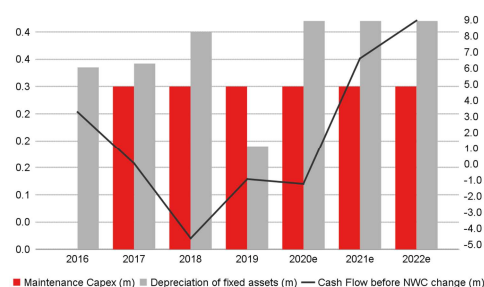
In EUR m	2016	2017	2018	2019	2020e	2021e	2022e
Net income	2.0	1.1	-3.9	-1.4	-1.9	4.6	8.3
Depreciation of fixed assets	0.3	0.3	0.4	0.2	0.4	0.4	0.4
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.2	0.2	1.3	0.2	0.2	0.2	0.2
Increase/decrease in long-term provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other non-cash income and expenses	0.8	-1.6	-2.4	0.1	0.0	1.4	0.0
<b>Cash Flow before NWC change</b>	<b>3.3</b>	<b>0.0</b>	<b>-4.6</b>	<b>-0.9</b>	<b>-1.2</b>	<b>6.6</b>	<b>9.0</b>
Increase / decrease in inventory	-1.0	-2.9	1.8	0.8	0.0	-0.6	-0.3
Increase / decrease in accounts receivable	-1.5	1.6	1.0	-2.7	1.2	-3.5	-1.7
Increase / decrease in accounts payable	0.0	0.0	-0.8	0.3	0.2	1.1	0.0
Increase / decrease in other working capital positions	0.0	-0.3	0.3	0.0	0.0	0.0	0.0
Increase / decrease in working capital (total)	-2.5	-1.5	2.3	-1.6	1.3	-3.0	-2.0
<b>Net cash provided by operating activities [1]</b>	<b>0.8</b>	<b>-1.5</b>	<b>-2.3</b>	<b>-2.5</b>	<b>0.1</b>	<b>3.6</b>	<b>7.0</b>
Investments in intangible assets	-0.2	-1.3	-0.2	-0.2	-0.2	-0.2	-0.2
Investments in property, plant and equipment	-0.3	-0.2	-0.4	-0.4	-0.4	-0.4	-0.4
Payments for acquisitions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial investments	0.0	-0.9	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	0.0	0.0	0.0	0.1	0.0	0.0	0.0
<b>Net cash provided by investing activities [2]</b>	<b>-0.4</b>	<b>-2.4</b>	<b>-0.3</b>	<b>-0.1</b>	<b>-0.6</b>	<b>-0.6</b>	<b>-0.6</b>
Change in financial liabilities	-3.3	-0.6	8.9	-2.3	0.0	0.0	0.0
Dividends paid	-0.7	-1.6	-0.3	0.0	0.0	0.0	-0.8
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	5.9	0.0	0.0	5.1	10.8	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net cash provided by financing activities [3]</b>	<b>1.9</b>	<b>-2.2</b>	<b>8.6</b>	<b>2.7</b>	<b>10.8</b>	<b>0.0</b>	<b>-0.8</b>
<b>Change in liquid funds [1]+[2]+[3]</b>	<b>2.2</b>	<b>-6.1</b>	<b>6.0</b>	<b>0.1</b>	<b>10.3</b>	<b>3.0</b>	<b>5.6</b>
Effects of exchange-rate changes on cash	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Cash and cash equivalent at end of period</b>	<b>11.7</b>	<b>5.5</b>	<b>11.6</b>	<b>11.7</b>	<b>21.6</b>	<b>24.6</b>	<b>30.2</b>

## Financial Ratios

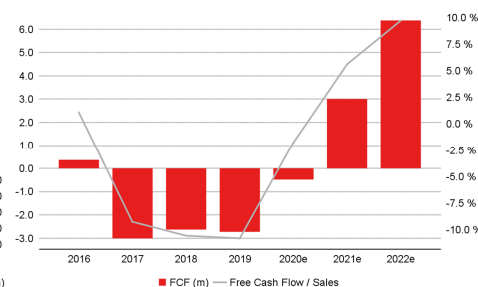
	2016	2017	2018	2019	2020e	2021e	2022e
<b>Cash Flow</b>							
FCF	0.4	-3.0	-2.6	-2.7	-0.5	3.0	6.4
Free Cash Flow / Sales	1.1 %	-9.3 %	-10.6 %	-10.8 %	-1.8 %	5.6 %	9.7 %
Free Cash Flow Potential	n.a.	1.4	-2.3	-1.1	-1.3	5.3	9.1
Free Cash Flow / Net Profit	18.6 %	-279.6 %	67.8 %	196.0 %	26.0 %	66.0 %	76.5 %
Interest Received / Avg. Cash	0.7 %	0.7 %	0.5 %	0.2 %	0.0 %	0.0 %	0.0 %
Interest Paid / Avg. Debt	1.6 %	3.7 %	2.5 %	1.7 %	1.9 %	1.9 %	1.9 %
<b>Management of Funds</b>							
Investment ratio	1.2 %	4.7 %	2.3 %	2.3 %	2.1 %	1.1 %	0.9 %
Maint. Capex / Sales	n.a.	0.9 %	1.2 %	1.2 %	1.1 %	0.6 %	0.5 %
Capex / Dep	78.6 %	300.2 %	34.5 %	148.7 %	93.5 %	93.5 %	93.5 %
Avg. Working Capital / Sales	20.7 %	27.3 %	34.1 %	32.8 %	30.5 %	17.2 %	17.9 %
Trade Debtors / Trade Creditors	336.9 %	228.8 %	375.5 %	541.0 %	345.5 %	331.8 %	409.1 %
Inventory Turnover	3.2 x	1.9 x	2.0 x	2.1 x	2.3 x	4.1 x	4.7 x
Receivables collection period (days)	53	37	33	73	50	50	50
Payables payment period (days)	34	36	19	32	35	35	29
Cash conversion cycle (Days)	131	191	196	211	175	104	99

### CAPEX and Cash Flow

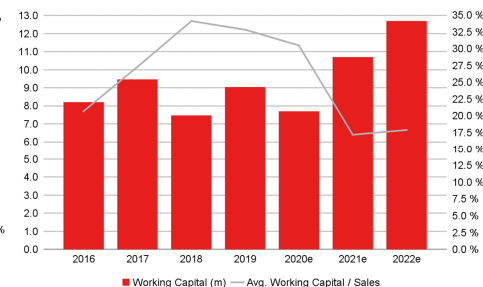
in EUR m



### Free Cash Flow Generation



### Working Capital



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research



**LEGAL DISCLAIMER**

This research report ("investment recommendation") was prepared by the Warburg Research GmbH, a fully owned subsidiary of the M.M.Warburg & CO (AG & Co.) KGaA and is passed on by the M.M.Warburg & CO (AG & Co.) KGaA. It is intended solely for the recipient and may not be passed on to another company without their prior consent, regardless of whether the company is part of the same corporation or not. It contains selected information and does not purport to be complete. The investment recommendation is based on publicly available information and data ("information") believed to be accurate and complete. Warburg Research GmbH neither examines the information for accuracy and completeness, nor guarantees its accuracy and completeness. Possible errors or incompleteness of the information do not constitute grounds for liability of M.M.Warburg & CO (AG & Co.) KGaA or Warburg Research GmbH for damages of any kind whatsoever, and M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH are not liable for indirect and/or direct and/or consequential damages. In particular, neither M.M.Warburg & CO (AG & Co.) KGaA nor Warburg Research GmbH are liable for the statements, plans or other details contained in these investment recommendations concerning the examined companies, their affiliated companies, strategies, economic situations, market and competitive situations, regulatory environment, etc. Although due care has been taken in compiling this investment recommendation, it cannot be excluded that it is incomplete or contains errors. M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH, their shareholders and employees are not liable for the accuracy and completeness of the statements, estimations and the conclusions derived from the information contained in this investment recommendation. Provided a investment recommendation is being transmitted in connection with an existing contractual relationship, i.e. financial advisory or similar services, the liability of M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH shall be restricted to gross negligence and wilful misconduct. In case of failure in essential tasks, M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH are liable for normal negligence. In any case, the liability of M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH is limited to typical, expectable damages. This investment recommendation does not constitute an offer or a solicitation of an offer for the purchase or sale of any security. Partners, directors or employees of M.M.Warburg & CO (AG & Co.) KGaA, Warburg Research GmbH or affiliated companies may serve in a position of responsibility, i.e. on the board of directors of companies mentioned in the report. Opinions expressed in this investment recommendation are subject to change without notice. All rights reserved.

**COPYRIGHT NOTICE**

This work including all its parts is protected by copyright. Any use beyond the limits provided by copyright law without permission is prohibited and punishable. This applies, in particular, to reproductions, translations, microfilming, and storage and processing on electronic media of the entire content or parts thereof.

**DISCLOSURE ACCORDING TO §85 OF THE GERMAN SECURITIES TRADING ACT (WPHG), MAR AND MIFID II INCL. COMMISSION DELEGATED REGULATION (EU) 2016/958 AND (EU) 2017/565**

The valuation underlying the investment recommendation for the company analysed here is based on generally accepted and widely used methods of fundamental analysis, such as e.g. DCF Model, Free Cash Flow Value Potential, NAV, Peer Group Comparison or Sum of the Parts Model (see also <http://www.mmwarburg.de/disclaimer/disclaimer.htm#Valuation>). The result of this fundamental valuation is modified to take into consideration the analyst's assessment as regards the expected development of investor sentiment and its impact on the share price.

Independent of the applied valuation methods, there is the risk that the price target will not be met, for instance because of unforeseen changes in demand for the company's products, changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, tax rate etc. For investments in foreign markets and instruments there are further risks, generally based on exchange rate changes or changes in political and social conditions.

This commentary reflects the opinion of the relevant author at the point in time of its compilation. A change in the fundamental factors underlying the valuation can mean that the valuation is subsequently no longer accurate. Whether, or in what time frame, an update of this commentary follows is not determined in advance.

Additional internal and organisational arrangements to prevent or to deal with conflicts of interest have been implemented. Among these are the spatial separation of Warburg Research GmbH from M.M.Warburg & CO (AG & Co.) KGaA and the creation of areas of confidentiality. This prevents the exchange of information, which could form the basis of conflicts of interest for Warburg Research GmbH in terms of the analysed issuers or their financial instruments.

The analysts of Warburg Research GmbH do not receive a gratuity – directly or indirectly – from the investment banking activities of M.M.Warburg & CO (AG & Co.) KGaA or of any company within the Warburg-Group.

All prices of financial instruments given in this investment recommendation are the closing prices on the last stock-market trading day before the publication date stated, unless another point in time is explicitly stated.

M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH are subject to the supervision of the Federal Financial Supervisory Authority, BaFin. M.M.Warburg & CO (AG & Co.) KGaA is additionally subject to the supervision of the European Central Bank (ECB).

**SOURCES**

All data and consensus estimates have been obtained from FactSet except where stated otherwise.

### Additional information for clients in the United States

1. This research report (the "Report") is a product of Warburg Research GmbH, Germany, a fully owned subsidiary of M.M.Warburg & CO (AG & Co.) KGaA, Germany (in the following collectively "Warburg"). Warburg is the employer of the research analyst(s), who have prepared the Report. The research analyst(s) reside outside the United States and are not associated persons of any U.S. regulated broker-dealer and therefore are not subject to the supervision of any U.S. regulated broker-dealer.
2. The Report is provided in the United States for distribution solely to "major U.S. institutional investors" under Rule 15a-6 of the U.S. Securities Exchange Act of 1934 by CIC.
3. CIC (Crédit Industriel et Commercial) and M.M. Warburg & CO have concluded a Research Distribution Agreement that gives CIC Market Solutions exclusive distribution in France, the US and Canada of the Warburg Research GmbH research product.
4. The research reports are distributed in the United States of America by CIC ("CIC") pursuant to a SEC Rule 15a-6 agreement with CIC Market Solutions Inc ("CICI"), a U.S. registered broker-dealer and a related company of CIC, and are distributed solely to persons who qualify as "Major U.S. Institutional Investors" as defined in SEC Rule 15a-6 under the Securities Exchange Act of 1934.
5. Any person who is not a Major U.S. Institutional Investor must not rely on this communication. The delivery of this research report to any person in the United States of America is not a recommendation to effect any transactions in the securities discussed herein, or an endorsement of any opinion expressed herein.

### Reference in accordance with section 85 of the German Securities Trading Act (WpHG) and Art. 20 MAR regarding possible conflicts of interest with companies analysed:

- 1- Warburg Research, or an affiliated company, or an employee of one of these companies responsible for the compilation of the research, hold a **share of more than 5%** of the equity capital of the analysed company.
- 2- Warburg Research, or an affiliated company, within the last twelve months participated in the **management of a consortium** for an issue in the course of a public offering of such financial instruments, which are, or the issuer of which is, the subject of the investment recommendation.
- 3- Companies affiliated with Warburg Research **manage financial instruments**, which are, or the issuers of which are, subject of the investment recommendation, in a market based on the provision of buy or sell contracts.
- 4- MMWB, Warburg Research, or an affiliated company, reached an agreement with the issuer to provide **investment banking and/or investment services** and the relevant agreement was in force in the last 12 months or there arose for this period, based on the relevant agreement, the obligation to provide or to receive a service or compensation - provided that this disclosure does not result in the disclosure of confidential business information.
- 5- The company compiling the analysis or an affiliated company had reached an **agreement on the compilation of the investment recommendation** with the analysed company.
- 6a- Warburg Research, or an affiliated company, holds a **net long position of more than 0.5%** of the total issued share capital of the analysed company.
- 6b- Warburg Research, or an affiliated company, holds a **net short position of more than 0.5%** of the total issued share capital of the analysed company.
- 6c- The issuer holds shares of more than 5% of the total issued capital of Warburg Research or an affiliated company.
- 7- The company preparing the analysis as well as its affiliated companies and employees have **other important interests** in relation to the analysed company, such as, for example, the exercising of mandates at analysed companies.

This report has been made accessible to the company analysed.

Company	Disclosure	Link to the historical price targets and rating changes (last 12 months)
Vectron Systems AG	3, 4, 5	<a href="http://www.mmwarburg.com/disclaimer/disclaimer_en/DE000A0KEXC7.htm">http://www.mmwarburg.com/disclaimer/disclaimer_en/DE000A0KEXC7.htm</a>

## INVESTMENT RECOMMENDATION

Investment recommendation: expected direction of the share price development of the financial instrument up to the given price target in the opinion of the analyst who covers this financial instrument.

-B-	<b>Buy:</b>	The price of the analysed financial instrument is expected to rise over the next 12 months.
-H-	<b>Hold:</b>	The price of the analysed financial instrument is expected to remain mostly flat over the next 12 months.
-S-	<b>Sell:</b>	The price of the analysed financial instrument is expected to fall over the next 12 months.
“-“	<b>Rating suspended:</b>	The available information currently does not permit an evaluation of the company.

## WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING

Rating	Number of stocks	% of Universe
Buy	129	63
Hold	58	28
Sell	11	5
Rating suspended	7	3
<b>Total</b>	<b>205</b>	<b>100</b>

## WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING ...

... taking into account only those companies which were provided with major investment services in the last twelve months.

Rating	Number of stocks	% of Universe
Buy	33	83
Hold	5	13
Sell	0	0
Rating suspended	2	5
<b>Total</b>	<b>40</b>	<b>100</b>

## PRICE AND RATING HISTORY VECTRON SYSTEMS AG AS OF 03.08.2020



Markings in the chart show rating changes by Warburg Research GmbH in the last 12 months. Every marking details the date and closing price on the day of the rating change.

**EQUITIES**

**Matthias Rode** +49 40 3282-2678  
Head of Equities mrode@mmwarburg.com

**RESEARCH**

**Michael Heider** +49 40 309537-280  
Head of Research mheider@warburg-research.com

**Henner Rüschemeyer** +49 40 309537-270  
Head of Research hrueschmeier@warburg-research.com

**Stefan Augustin** +49 40 309537-168  
Cap. Goods, Engineering saugustin@warburg-research.com

**Jan Bauer** +49 40 309537-155  
Renewables jbauer@warburg-research.com

**Jonas Blum** +49 40 309537-240  
Telco, Construction jblum@warburg-research.com

**Christian Cohrs** +49 40 309537-175  
Industrials & Transportation ccohrs@warburg-research.com

**Felix Ellmann** +49 40 309537-120  
Software, IT fellmann@warburg-research.com

**Jörg Philipp Frey** +49 40 309537-258  
Retail, Consumer Goods jfrey@warburg-research.com

**Marius Fuhrberg** +49 40 309537-185  
Financial Services mfuhrberg@warburg-research.com

**Mustafa Hidir** +49 40 309537-230  
Automobiles, Car Suppliers mhidir@warburg-research.com

**Ulrich Huwald** +49 40 309537-255  
Health Care, Pharma uhuwald@warburg-research.com

**Philipp Kaiser** +49 40 309537-260  
Real Estate pkaiser@warburg-research.com

**Thilo Kleibauer** +49 40 309537-257  
Retail, Consumer Goods tkleibauer@warburg-research.com

**Eggert Kuls** +49 40 309537-256  
Engineering ekuls@warburg-research.com

**Andreas Pläsier** +49 40 309537-246  
Banks, Financial Services aplaesier@warburg-research.com

**Malte Schaumann** +49 40 309537-170  
Technology mschaumann@warburg-research.com

**Patrick Schmidt** +49 40 309537-125  
Leisure, Internet pschmidt@warburg-research.com

**Oliver Schwarz** +49 40 309537-250  
Chemicals, Agriculture oschwarz@warburg-research.com

**Simon Stippig** +49 40 309537-265  
Real Estate sstippig@warburg-research.com

**Cansu Tatar** +49 40 309537-248  
Cap. Goods, Engineering ctatar@warburg-research.com

**Marc-René Tonn** +49 40 309537-259  
Automobiles, Car Suppliers mtonn@warburg-research.com

**Robert-Jan van der Horst** +49 40 309537-290  
Technology rvanderhorst@warburg-research.com

**Andreas Wolf** +49 40 309537-140  
Software, IT awolf@warburg-research.com

**INSTITUTIONAL EQUITY SALES**

**Marc Niemann** +49 40 3282-2660  
Head of Equity Sales, Germany mniemann@mmwarburg.com

**Klaus Schilling** +49 40 3282-2664  
Head of Equity Sales, Germany kschilling@mmwarburg.com

**Tim Beckmann** +49 40 3282-2665  
United Kingdom tbeckmann@mmwarburg.com

**Lyubka Bogdanova** +49 69 5050-7411  
Ireland, Poland, Australia lbogdanova@mmwarburg.com

**Jens Buchmüller** +49 69 5050-7415  
Scandinavia, Austria jbuchmueller@mmwarburg.com

**Alexander Eschweiler** +49 40 3282-2669  
Germany, Luxembourg aeschweiler@mmwarburg.com

**Matthias Fritsch** +49 40 3282-2696  
United Kingdom mfritsch@mmwarburg.com

**Tobias Hald** +49 40 3282-2695  
United Kingdom thald@mmwarburg.com

**Maximilian Martin** +49 69 5050-7413  
Austria, Poland mmartin@mmwarburg.com

**Christopher Seedorf** +49 69 5050-7414  
Switzerland cseedorf@mmwarburg.com

**Sophie Hauer** +49 69 5050-7417  
Roadshow/Marketing shauer@mmwarburg.com

**Juliane Niemann** +49 40 3282-2694  
Roadshow/Marketing jniemann@mmwarburg.com

**SALES TRADING**

**Oliver Merckel** +49 40 3282-2634  
Head of Sales Trading omerckel@mmwarburg.com

**Elyaz Dust** +49 40 3282-2702  
Sales Trading edust@mmwarburg.com

**Michael Ilgenstein** +49 40 3282-2700  
Sales Trading milgenstein@mmwarburg.com

**Marcel Magiera** +49 40 3282-2662  
Sales Trading mmagiera@mmwarburg.com

**Bastian Quast** +49 40 3282-2701  
Sales Trading bquast@mmwarburg.com

**Jörg Treptow** +49 40 3282-2658  
Sales Trading jtreptow@mmwarburg.com

**MACRO RESEARCH**

**Carsten Klude** +49 40 3282-2572  
Macro Research cklude@mmwarburg.com

**Dr. Christian Jasperneite** +49 40 3282-2439  
Investment Strategy cjasperneite@mmwarburg.com

**Our research can be found under:**

Warburg Research [research.mmwarburg.com/en/index.html](https://research.mmwarburg.com/en/index.html)  
Bloomberg MMWA GO  
FactSet [www.factset.com](https://www.factset.com)

Thomson Reuters [www.thomsonreuters.com](https://www.thomsonreuters.com)  
Capital IQ [www.capitaliq.com](https://www.capitaliq.com)

**For access please contact:**

**Andrea Schaper** +49 40 3282-2632  
Sales Assistance aschaper@mmwarburg.com

**Kerstin Muthig** +49 40 3282-2703  
Sales Assistance kmuthig@mmwarburg.com