

<b>Buy</b> (Hold) <b>EUR 77.00</b> (EUR 59.00)  Price <b>EUR 55.00</b> <b>Upside 40.0 %</b>	<b>Value Indicators:</b> EUR DCF: 77.36	<b>Warburg ESG Risk Score: 2.7</b> ESG Score (MSCI based): 3.0 Balance Sheet Score: 5.0 Market Liquidity Score: 0.0	<b>Description:</b> Producer and Distributor of displays for special applications in the industry.
	<b>Market Snapshot:</b> EUR m Market cap: 193.9 No. of shares (m): 3.5 EV: 209.3 Freefloat MC: 59.7 Ø Trad. Vol. (30d): 72.61 th	<b>Shareholders:</b> Freefloat 30.80 % Arrow Electronics 69.20 %	<b>Key Figures (WRe):</b> 2022e Beta: 1.3 Price / Book: 1.5 x Equity Ratio: 61 % Net Fin. Debt / EBITDA: 0.4 x Net Debt / EBITDA: 0.5 x

## Team effort is paying off; Upgrade to Buy

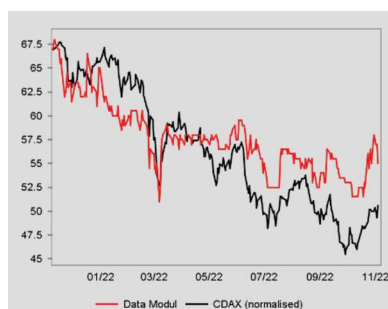
<b>Stated Figures Q3/2022:</b> Figures in EUR m	<table border="1"> <thead> <tr> <th></th> <th>Q3/22</th> <th>Q3/22e</th> <th>Q3/21</th> <th>yoy</th> <th>9M/22</th> <th>9M/21</th> <th>yoy</th> </tr> </thead> <tbody> <tr> <td><b>Sales</b></td> <td>76,0</td> <td>63,0</td> <td>45,8</td> <td>66,0%</td> <td>204,5</td> <td>137,7</td> <td>48,5%</td> </tr> <tr> <td><b>EBIT</b></td> <td>9,8</td> <td>4,0</td> <td>3,1</td> <td>212,4%</td> <td>19,9</td> <td>8,0</td> <td>149,6%</td> </tr> <tr> <td><i>margin</i></td> <td>12,9%</td> <td>7,8%</td> <td>6,8%</td> <td></td> <td>9,7%</td> <td>5,8%</td> <td></td> </tr> </tbody> </table>		Q3/22	Q3/22e	Q3/21	yoy	9M/22	9M/21	yoy	<b>Sales</b>	76,0	63,0	45,8	66,0%	204,5	137,7	48,5%	<b>EBIT</b>	9,8	4,0	3,1	212,4%	19,9	8,0	149,6%	<i>margin</i>	12,9%	7,8%	6,8%		9,7%	5,8%		<b>Comment on Figures:</b> <ul style="list-style-type: none"> <li>Data Modul AG presented the business figures for the third quarter and the first nine months of the 2022 financial year last Friday (4.11.22).</li> <li>These were well above expectations.</li> <li>The reasons for the beat are varied and essentially go back to earlier clear strategic decisions especially with regard to inventory and the regional structure.</li> </ul>
	Q3/22	Q3/22e	Q3/21	yoy	9M/22	9M/21	yoy																											
<b>Sales</b>	76,0	63,0	45,8	66,0%	204,5	137,7	48,5%																											
<b>EBIT</b>	9,8	4,0	3,1	212,4%	19,9	8,0	149,6%																											
<i>margin</i>	12,9%	7,8%	6,8%		9,7%	5,8%																												

The company is expected to chalk up the best year in its history, just in time for its 50th anniversary. The strategic decision of the management team to keep a large inventory has clearly paid off as it kept the company in an excellent position to deliver compared to the competition. While supply-chain problems weighed on many companies, Data Modul was able to meet the current high demand (partly post-pandemic catch-up effects).

**Revenue driven by all regions and main sectors:** Revenues were driven by all the important regions (Germany, Europe, USA) and sectors including smart-home, entertainment and medical. Furthermore, the **high cost discipline** of recent years is also paying off. Investment in international locations (especially Poland, but also the USA and China) in connection with the strategic initiative "touch tomorrow 2023" is likely to have had significant effects. The company benefits in some way from its position as a small player. Important decisions (high inventory, location Poland) can be made quickly and can have a relatively direct impact.

Order intake for the third quarter increased significantly by 68% to EUR 85.8m (EUR 51.1m) and thus forms the basis for further growth. Based on the figures presented, the forecasts (WRe, see box below) are increased again. **With a target price of EUR 77 (59), the share is now rated Buy (Hold).**

<b>Changes in Estimates:</b> FY End: 31.12. in EUR m	<table border="1"> <thead> <tr> <th></th> <th>2022e (old)</th> <th>+ / -</th> <th>2023e (old)</th> <th>+ / -</th> <th>2024e (old)</th> <th>+ / -</th> </tr> </thead> <tbody> <tr> <td><b>Sales</b></td> <td>239.6</td> <td>12.7 %</td> <td>242.0</td> <td>23.2 %</td> <td>258.9</td> <td>25.5 %</td> </tr> <tr> <td><b>EBIT</b></td> <td>16.8</td> <td>53.0 %</td> <td>17.7</td> <td>56.9 %</td> <td>18.9</td> <td>59.8 %</td> </tr> <tr> <td><b>EPS</b></td> <td>3.01</td> <td>61.5 %</td> <td>3.16</td> <td>64.2 %</td> <td>3.38</td> <td>66.9 %</td> </tr> </tbody> </table>		2022e (old)	+ / -	2023e (old)	+ / -	2024e (old)	+ / -	<b>Sales</b>	239.6	12.7 %	242.0	23.2 %	258.9	25.5 %	<b>EBIT</b>	16.8	53.0 %	17.7	56.9 %	18.9	59.8 %	<b>EPS</b>	3.01	61.5 %	3.16	64.2 %	3.38	66.9 %	<b>Comment on Changes:</b> <ul style="list-style-type: none"> <li>With the drastic improvement in sales and earnings in the current year, the model (WRe) has been completely revised.</li> <li>Despite the extremely high momentum of the current financial year, as well as its very impressive data for sales and earnings, lower growth is forecast again in the medium term in the current economic environment</li> </ul>
	2022e (old)	+ / -	2023e (old)	+ / -	2024e (old)	+ / -																								
<b>Sales</b>	239.6	12.7 %	242.0	23.2 %	258.9	25.5 %																								
<b>EBIT</b>	16.8	53.0 %	17.7	56.9 %	18.9	59.8 %																								
<b>EPS</b>	3.01	61.5 %	3.16	64.2 %	3.38	66.9 %																								

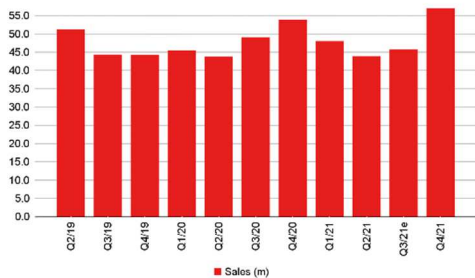


<b>Rel. Performance vs CDAX:</b>	
1 month:	-1.6 %
6 months:	2.1 %
Year to date:	7.6 %
Trailing 12 months:	7.3 %

<b>Company events:</b>	

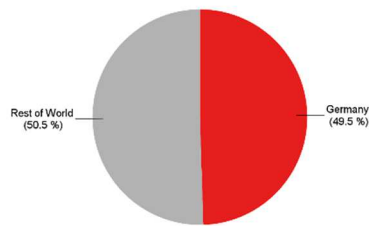
FY End: 31.12. in EUR m	CAGR (21-24e)	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022e</b>	<b>2023e</b>	<b>2024e</b>
<b>Sales</b>	18.6 %	241.4	203.3	192.2	194.8	270.0	298.0	324.8
Change Sales yoy		10.6 %	-15.8 %	-5.5 %	1.3 %	38.6 %	10.4 %	9.0 %
Gross profit margin		22.3 %	21.6 %	21.7 %	21.8 %	22.8 %	22.8 %	22.8 %
<b>EBITDA</b>	25.2 %	23.4	15.6	17.8	18.6	31.7	33.9	36.5
Margin		9.7 %	7.7 %	9.2 %	9.5 %	11.7 %	11.4 %	11.2 %
<b>EBIT</b>	33.5 %	20.8	10.2	11.8	12.7	25.7	27.7	30.2
Margin		8.6 %	5.0 %	6.2 %	6.5 %	9.5 %	9.3 %	9.3 %
<b>Net income</b>	36.0 %	14.3	6.5	7.6	7.9	17.1	18.3	19.9
<b>EPS</b>	36.0 %	4.05	1.85	2.14	2.24	4.86	5.19	5.64
<b>EPS adj.</b>	36.0 %	4.05	1.85	2.14	2.24	4.86	5.19	5.64
<b>DPS</b>	0.0 %	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Dividend Yield		0.2 %	0.2 %	0.3 %	0.2 %	0.2 %	0.2 %	0.2 %
<b>FCFPS</b>		1.45	0.99	2.08	-5.31	-5.30	1.06	1.94
<b>FCF / Market cap</b>		2.1 %	1.6 %	4.7 %	-9.8 %	-9.6 %	1.9 %	3.5 %
<b>EV / Sales</b>		0.9 x	1.0 x	0.7 x	1.0 x	0.8 x	0.7 x	0.6 x
<b>EV / EBITDA</b>		9.6 x	12.5 x	7.4 x	10.1 x	6.6 x	6.1 x	5.5 x
<b>EV / EBIT</b>		10.7 x	19.2 x	11.1 x	14.8 x	8.2 x	7.4 x	6.6 x
<b>P / E</b>		17.0 x	33.1 x	20.6 x	24.3 x	11.3 x	10.6 x	9.8 x
<b>P / E adj.</b>		17.0 x	33.1 x	20.6 x	24.3 x	11.3 x	10.6 x	9.8 x
<b>FCF Potential Yield</b>		5.1 %	1.4 %	3.4 %	4.5 %	9.1 %	9.9 %	11.1 %
<b>Net Debt</b>		-19.2	-20.7	-25.1	-3.7	15.4	12.0	5.6
<b>ROCE (NOPAT)</b>		20.5 %	9.0 %	10.1 %	9.3 %	13.9 %	12.5 %	12.4 %
<b>Guidance:</b>		Revenues +25% up to +40%, EBIT +85% up to +110% YoY						

**Sales development**  
in EUR m



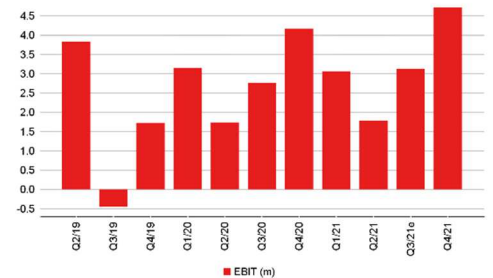
Source: Warburg Research

**Sales by regions**  
2021; in %



Source: Warburg Research

**EBIT development**  
in EUR m



Source: Warburg Research

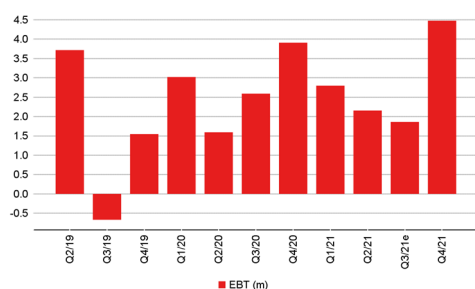
**Company Background**

- Display solutions for OEMs. With its own products, Data Modul forms the value-added connection between panel producers (LG, Sharp, Samsung etc.) and customers. Trade products complete the offering.
- Displays segment: distribution of standard and added-value products (e.g. additional equipping of the displays with PC components and software).
- In the Systems segment, Data Modul mainly develops and sells its own products and customer-specific solutions. This includes e.g. special monitors for marine navigation or medical technology.
- Increasingly important areas of business growth are embedded computer solutions and touch solutions.

**Competitive Quality**

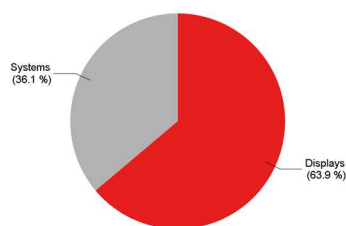
- Europe's largest display distributor.
- Focus on niche markets that are too small to be directly served by large display manufacturers, which leads to comparatively low competitive intensity.
- Strong customer loyalty with in-house design (Design-In) of customers' products.
- Earlier access to new technologies through the Distribution business.
- Expertise built up over 40 years.

**EBT development**  
in EUR m



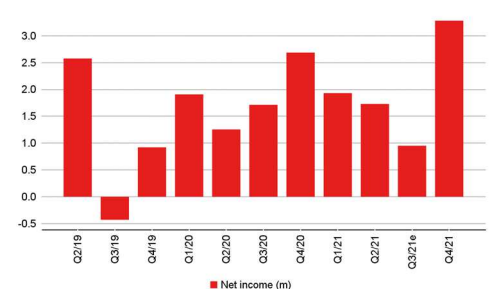
Source: Warburg Research

**Sales by segments**  
2021; 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	
	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e		
Sales	270.0	298.0	324.8	347.6	371.9	394.2	413.9	434.6	456.3	479.2	503.1	528.3	544.1		
Sales change	38.6 %	10.4 %	9.0 %	7.0 %	7.0 %	6.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	3.0 %	2.0 %
EBIT	25.7	27.7	30.2	31.3	33.5	35.5	37.3	39.1	41.1	43.1	45.3	47.5	49.0		
EBIT-margin	9.5 %	9.3 %	9.3 %	9.0 %	9.0 %	9.0 %	9.0 %	9.0 %	9.0 %	9.0 %	9.0 %	9.0 %	9.0 %	9.0 %	
Tax rate (EBT)	30.5 %	31.0 %	31.5 %	31.5 %	31.5 %	31.5 %	31.5 %	31.5 %	31.5 %	31.5 %	31.5 %	31.5 %	31.5 %	31.5 %	
NOPAT	17.8	19.1	20.7	21.4	22.9	24.3	25.5	26.8	28.1	29.5	31.0	32.6	33.5		
Depreciation	6.1	6.2	6.3	13.9	14.9	15.8	16.6	17.4	18.3	19.2	20.1	21.1	21.8		
in % of Sales	2.2 %	2.1 %	1.9 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	
Changes in provisions	0.0	0.0	0.0	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Change in Liquidity from															
- Working Capital	35.5	14.4	13.0	2.0	3.8	1.9	0.0	-0.4	-0.9	-1.4	-1.9	-2.5	-6.1		
- Capex	7.0	7.0	7.0	13.9	14.9	15.8	16.6	17.4	18.3	19.2	20.1	21.1	21.8		
Capex in % of Sales	2.6 %	2.3 %	2.2 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	4.0 %	
- 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	0.0	0.0	
Free Cash Flow (WACC Model)	-18.7	3.9	7.0	19.7	19.3	22.5	25.6	27.3	29.1	31.0	33.1	35.2	39.8	31	
PV of FCF	-18.5	3.5	5.8	14.9	13.3	14.2	14.8	14.4	14.0	13.6	13.3	12.9	13.3	140	
share of PVs	-3.43 %			51.57 %										51.86 %	

### Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	5.00 %	Financial Strength	1.30
Cost of debt (after tax)	1.7 %	Liquidity (share)	1.30
Market return	8.25 %	Cyclicality	1.30
Risk free rate	2.75 %	Transparency	1.30
		Others	1.30
<b>WACC</b>	<b>9.49 %</b>	<b>Beta</b>	<b>1.30</b>

### Valuation (m)

Present values 2034e	130		
Terminal Value	140		
Financial liabilities	15		
Pension liabilities	1		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	20	No. of shares (m)	3.5
<b>Equity Value</b>	<b>273</b>	<b>Value per share (EUR)</b>	<b>77.36</b>

### Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth							Delta EBIT-margin								
		1.25 %	1.50 %	1.75 %	2.00 %	2.25 %	2.50 %	2.75 %	-1.5 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+1.5 pp		
1.49	10.5 %	63.92	64.72	65.57	66.46	67.41	68.42	69.49	1.49	10.5 %	52.27	57.00	61.73	66.46	71.19	75.92	80.65
1.40	10.0 %	68.55	69.50	70.50	71.56	72.70	73.91	75.20	1.40	10.0 %	56.46	61.50	66.53	71.56	76.60	81.63	86.67
1.35	9.7 %	71.08	72.11	73.20	74.37	75.61	76.94	78.36	1.35	9.7 %	58.76	63.96	69.16	74.37	79.57	84.77	89.97
1.30	9.5 %	73.76	74.88	76.08	77.36	78.72	80.19	81.76	1.30	9.5 %	61.22	66.60	71.98	77.36	82.74	88.12	93.50
1.25	9.2 %	76.61	77.84	79.15	80.56	82.06	83.68	85.42	1.25	9.2 %	63.84	69.41	74.98	80.56	86.13	91.70	97.27
1.20	9.0 %	79.64	80.99	82.44	83.98	85.65	87.43	89.37	1.20	9.0 %	66.66	72.43	78.21	83.98	89.76	95.54	101.31
1.11	8.5 %	86.36	87.99	89.75	91.64	93.68	95.90	98.30	1.11	8.5 %	72.94	79.17	85.41	91.64	97.88	104.11	110.34

- Revenue is expected to grow based on the continuous expansion in the use of display technology.

Valuation	2018	2019	2020	2021	2022e	2023e	2024e
Price / Book	2.6 x	2.2 x	1.5 x	1.7 x	1.5 x	1.3 x	1.2 x
Book value per share ex intangibles	25.09	22.62	23.35	25.06	30.28	35.82	41.81
EV / Sales	0.9 x	1.0 x	0.7 x	1.0 x	0.8 x	0.7 x	0.6 x
EV / EBITDA	9.6 x	12.5 x	7.4 x	10.1 x	6.6 x	6.1 x	5.5 x
EV / EBIT	10.7 x	19.2 x	11.1 x	14.8 x	8.2 x	7.4 x	6.6 x
EV / EBIT adj.*	10.7 x	19.2 x	11.1 x	14.8 x	8.2 x	7.4 x	6.6 x
P / FCF	47.5 x	62.1 x	21.2 x	n.a.	n.a.	51.8 x	28.3 x
P / E	17.0 x	33.1 x	20.6 x	24.3 x	11.3 x	10.6 x	9.8 x
P / E adj.*	17.0 x	33.1 x	20.6 x	24.3 x	11.3 x	10.6 x	9.8 x
Dividend Yield	0.2 %	0.2 %	0.3 %	0.2 %	0.2 %	0.2 %	0.2 %
FCF Potential Yield (on market EV)	5.1 %	1.4 %	3.4 %	4.5 %	9.1 %	9.9 %	11.1 %

\*Adjustments made for: -

## Consolidated profit and loss

In EUR m	2018	2019	2020	2021	2022e	2023e	2024e
<b>Sales</b>	<b>241.4</b>	<b>203.3</b>	<b>192.2</b>	<b>194.8</b>	<b>270.0</b>	<b>298.0</b>	<b>324.8</b>
Change Sales yoy	10.6 %	-15.8 %	-5.5 %	1.3 %	38.6 %	10.4 %	9.0 %
COGS	187.6	159.4	150.4	152.4	208.4	230.1	250.8
<b>Gross profit</b>	<b>53.8</b>	<b>43.9</b>	<b>41.8</b>	<b>42.4</b>	<b>61.6</b>	<b>67.9</b>	<b>74.1</b>
<i>Gross margin</i>	<i>22.3 %</i>	<i>21.6 %</i>	<i>21.7 %</i>	<i>21.8 %</i>	<i>22.8 %</i>	<i>22.8 %</i>	<i>22.8 %</i>
Research and development	5.4	4.9	5.5	5.7	6.8	7.5	8.1
Sales and marketing	27.6	28.8	24.6	25.0	29.2	32.8	35.7
Administration expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other operating expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other operating income	0.0	0.0	0.1	1.0	0.0	0.0	0.0
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBITDA</b>	<b>23.4</b>	<b>15.6</b>	<b>17.8</b>	<b>18.6</b>	<b>31.7</b>	<b>33.9</b>	<b>36.5</b>
<i>Margin</i>	<i>9.7 %</i>	<i>7.7 %</i>	<i>9.2 %</i>	<i>9.5 %</i>	<i>11.7 %</i>	<i>11.4 %</i>	<i>11.2 %</i>
Depreciation of fixed assets	1.7	1.2	1.2	1.2	1.4	1.5	1.6
<b>EBITA</b>	<b>21.7</b>	<b>14.4</b>	<b>16.6</b>	<b>17.4</b>	<b>30.3</b>	<b>32.4</b>	<b>34.9</b>
Amortisation of intangible assets	0.9	4.3	4.7	4.7	4.7	4.7	4.7
Goodwill amortisation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBIT</b>	<b>20.8</b>	<b>10.2</b>	<b>11.8</b>	<b>12.7</b>	<b>25.7</b>	<b>27.7</b>	<b>30.2</b>
<i>Margin</i>	<i>8.6 %</i>	<i>5.0 %</i>	<i>6.2 %</i>	<i>6.5 %</i>	<i>9.5 %</i>	<i>9.3 %</i>	<i>9.3 %</i>
<b>EBIT adj.</b>	<b>20.8</b>	<b>10.2</b>	<b>11.8</b>	<b>12.7</b>	<b>25.7</b>	<b>27.7</b>	<b>30.2</b>
Interest income	0.0	0.0	2.3	0.0	0.0	0.0	0.0
Interest expenses	0.1	0.6	3.0	1.4	1.0	1.2	1.2
Other financial income (loss)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBT</b>	<b>20.7</b>	<b>9.6</b>	<b>11.1</b>	<b>11.3</b>	<b>24.7</b>	<b>26.5</b>	<b>29.0</b>
<i>Margin</i>	<i>8.6 %</i>	<i>4.7 %</i>	<i>5.8 %</i>	<i>5.8 %</i>	<i>9.1 %</i>	<i>8.9 %</i>	<i>8.9 %</i>
Total taxes	6.5	3.1	3.6	3.4	7.5	8.2	9.1
<b>Net income from continuing operations</b>	<b>14.3</b>	<b>6.5</b>	<b>7.6</b>	<b>7.9</b>	<b>17.1</b>	<b>18.3</b>	<b>19.9</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>14.3</b>	<b>6.5</b>	<b>7.6</b>	<b>7.9</b>	<b>17.1</b>	<b>18.3</b>	<b>19.9</b>
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net income</b>	<b>14.3</b>	<b>6.5</b>	<b>7.6</b>	<b>7.9</b>	<b>17.1</b>	<b>18.3</b>	<b>19.9</b>
<i>Margin</i>	<i>5.9 %</i>	<i>3.2 %</i>	<i>3.9 %</i>	<i>4.1 %</i>	<i>6.3 %</i>	<i>6.1 %</i>	<i>6.1 %</i>
Number of shares, average	3.5	3.5	3.5	3.5	3.5	3.5	3.5
<b>EPS</b>	<b>4.05</b>	<b>1.85</b>	<b>2.14</b>	<b>2.24</b>	<b>4.86</b>	<b>5.19</b>	<b>5.64</b>
EPS adj.	4.05	1.85	2.14	2.24	4.86	5.19	5.64

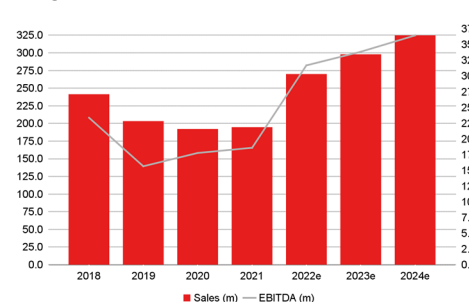
\*Adjustments made for:

**Guidance: Revenues +25% up to +40%, EBIT +85% up to +110% YoY**

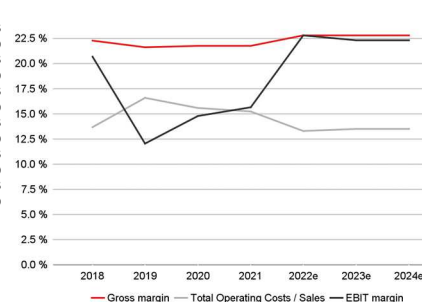
## Financial Ratios

	2018	2019	2020	2021	2022e	2023e	2024e
Total Operating Costs / Sales	13.7 %	16.6 %	15.6 %	15.2 %	13.3 %	13.5 %	13.5 %
Operating Leverage	2.9 x	3.2 x	-2.9 x	5.5 x	2.6 x	0.8 x	1.0 x
EBITDA / Interest expenses	320.1 x	26.5 x	5.8 x	13.1 x	31.7 x	28.2 x	30.4 x
Tax rate (EBT)	31.1 %	32.3 %	31.9 %	30.1 %	30.5 %	31.0 %	31.5 %
Dividend Payout Ratio	3.0 %	6.5 %	5.6 %	5.4 %	2.5 %	2.3 %	2.1 %
Sales per Employee	588,822	472,823	427,078	416,184	562,500	608,163	649,640

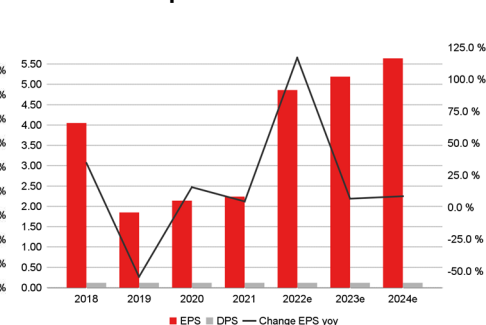
### Sales, EBITDA in EUR m



### Operating Performance in %



### Performance per Share



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

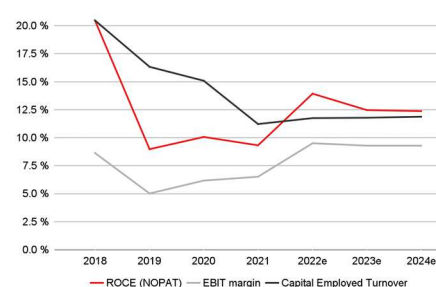
## Consolidated balance sheet

In EUR m	2018	2019	2020	2021	2022e	2023e	2024e
<b>Assets</b>							
Goodwill and other intangible assets	5.5	19.8	23.5	25.6	23.9	22.2	20.5
thereof other intangible assets	3.1	17.4	21.1	23.1	21.5	19.8	18.1
thereof Goodwill	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Property, plant and equipment	15.8	19.4	18.6	17.7	20.3	22.8	25.2
Financial assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other long-term assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Fixed assets</b>	<b>21.3</b>	<b>39.2</b>	<b>42.1</b>	<b>43.2</b>	<b>44.2</b>	<b>45.0</b>	<b>45.7</b>
Inventories	52.9	41.5	52.0	86.7	120.2	132.7	144.6
Accounts receivable	29.0	27.9	24.2	29.2	39.9	44.9	48.9
Liquid assets	25.0	26.4	26.7	20.2	1.1	4.4	10.9
Other short-term assets	6.0	12.5	8.0	9.4	9.4	9.4	9.4
<b>Current assets</b>	<b>112.8</b>	<b>108.4</b>	<b>110.9</b>	<b>145.6</b>	<b>170.7</b>	<b>191.5</b>	<b>213.8</b>
<b>Total Assets</b>	<b>134.1</b>	<b>147.6</b>	<b>153.0</b>	<b>188.8</b>	<b>214.8</b>	<b>236.5</b>	<b>259.5</b>
<b>Liabilities and shareholders' equity</b>							
Subscribed capital	10.6	10.6	10.6	10.6	10.6	10.6	10.6
Capital reserve	24.1	24.1	24.1	24.1	24.1	24.1	24.1
Retained earnings	58.6	64.0	71.1	78.5	95.3	113.3	132.8
Other equity components	0.8	0.9	0.1	0.7	0.6	0.5	0.4
Shareholders' equity	94.0	99.6	105.9	113.9	130.6	148.5	168.0
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total equity</b>	<b>94.0</b>	<b>99.6</b>	<b>105.9</b>	<b>113.9</b>	<b>130.6</b>	<b>148.5</b>	<b>168.0</b>
Provisions	3.8	18.6	19.5	23.7	24.3	25.0	25.7
thereof provisions for pensions and similar obligations	1.6	1.6	1.6	1.5	1.5	1.5	1.5
Financial liabilities (total)	4.2	4.2	0.0	15.0	15.0	15.0	15.0
Short-term financial liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accounts payable	13.7	9.2	11.8	21.0	29.6	32.7	35.6
Other liabilities	18.4	16.0	15.9	15.3	15.3	15.3	15.3
<b>Liabilities</b>	<b>40.1</b>	<b>48.0</b>	<b>47.1</b>	<b>74.9</b>	<b>84.2</b>	<b>87.9</b>	<b>91.5</b>
<b>Total liabilities and shareholders' equity</b>	<b>134.1</b>	<b>147.6</b>	<b>153.0</b>	<b>188.8</b>	<b>214.8</b>	<b>236.5</b>	<b>259.5</b>

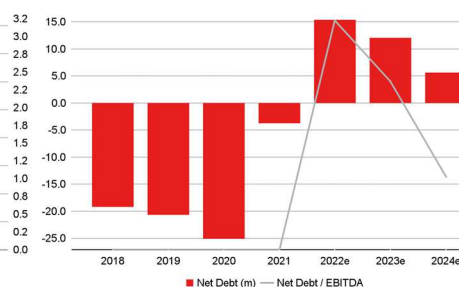
## Financial Ratios

	2018	2019	2020	2021	2022e	2023e	2024e
<b>Efficiency of Capital Employment</b>							
Operating Assets Turnover	2.9 x	2.6 x	2.3 x	1.7 x	1.8 x	1.8 x	1.8 x
Capital Employed Turnover	3.2 x	2.6 x	2.4 x	1.8 x	1.8 x	1.9 x	1.9 x
ROA	67.0 %	16.6 %	18.0 %	18.3 %	38.8 %	40.7 %	43.5 %
<b>Return on Capital</b>							
ROCE (NOPAT)	20.5 %	9.0 %	10.1 %	9.3 %	13.9 %	12.5 %	12.4 %
ROE	16.5 %	6.7 %	7.4 %	7.2 %	14.0 %	13.1 %	12.6 %
Adj. ROE	16.5 %	6.7 %	7.4 %	7.2 %	14.0 %	13.1 %	12.6 %
<b>Balance sheet quality</b>							
Net Debt	-19.2	-20.7	-25.1	-3.7	15.4	12.0	5.6
Net Financial Debt	-20.8	-22.2	-26.7	-5.2	13.9	10.6	4.1
Net Gearing	-20.4 %	-20.7 %	-23.7 %	-3.3 %	11.8 %	8.1 %	3.3 %
Net Fin. Debt / EBITDA	n.a.	n.a.	n.a.	n.a.	43.8 %	31.2 %	11.4 %
Book Value / Share	26.7	28.2	30.0	32.3	37.0	42.1	47.6
Book value per share ex intangibles	25.1	22.6	23.4	25.1	30.3	35.8	41.8

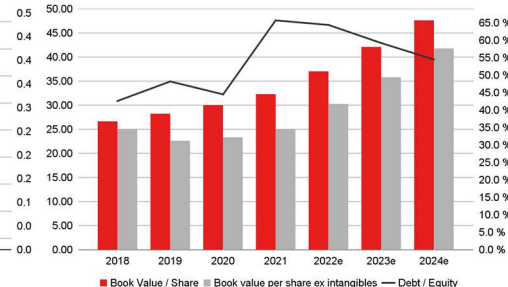
### ROCE Development



### Net debt in EUR m



### Book Value per Share in EUR



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

**Consolidated cash flow statement**

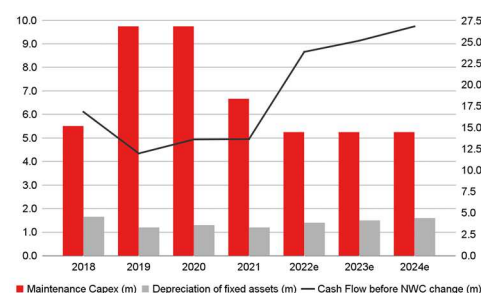
In EUR m	2018	2019	2020	2021	2022e	2023e	2024e
Net income	14.3	6.5	7.6	7.9	17.1	18.3	19.9
Depreciation of fixed assets	1.7	1.2	1.3	1.2	1.4	1.5	1.6
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.9	4.3	4.7	4.7	4.7	4.7	4.7
Increase/decrease in long-term provisions	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
Other non-cash income and expenses	0.0	0.0	0.0	0.0	0.7	0.7	0.7
<b>Cash Flow before NWC change</b>	<b>16.8</b>	<b>12.0</b>	<b>13.6</b>	<b>13.7</b>	<b>23.9</b>	<b>25.1</b>	<b>26.8</b>
Increase / decrease in inventory	-10.1	11.4	-10.5	-34.7	-33.5	-12.5	-11.9
Increase / decrease in accounts receivable	-1.8	1.1	3.7	-5.0	-10.7	-5.0	-4.0
Increase / decrease in accounts payable	0.0	-4.5	2.6	9.2	8.6	3.1	2.9
Increase / decrease in other working capital positions	5.9	-9.4	1.4	1.2	0.0	0.0	0.0
Increase / decrease in working capital (total)	-6.1	-1.5	-2.8	-29.4	-35.5	-14.4	-13.0
<b>Net cash provided by operating activities [1]</b>	<b>10.7</b>	<b>10.4</b>	<b>10.8</b>	<b>-15.7</b>	<b>-11.7</b>	<b>10.7</b>	<b>13.8</b>
Investments in intangible assets	-1.8	-6.3	-6.3	-3.0	-3.0	-3.0	-3.0
Investments in property, plant and equipment	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Payments for acquisitions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net cash provided by investing activities [2]</b>	<b>-5.6</b>	<b>-7.0</b>	<b>-3.4</b>	<b>-3.0</b>	<b>-7.0</b>	<b>-7.0</b>	<b>-7.0</b>
Change in financial liabilities	0.0	0.0	-4.2	15.0	0.0	0.0	0.0
Dividends paid	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	-1.6	-2.3	-2.4	0.0	0.0	0.0
<b>Net cash provided by financing activities [3]</b>	<b>-0.4</b>	<b>-2.0</b>	<b>-6.9</b>	<b>12.2</b>	<b>-0.4</b>	<b>-0.4</b>	<b>-0.4</b>
<b>Change in liquid funds [1]+[2]+[3]</b>	<b>4.7</b>	<b>1.5</b>	<b>0.4</b>	<b>-6.5</b>	<b>-19.1</b>	<b>3.3</b>	<b>6.4</b>
Effects of exchange-rate changes on cash	0.0	0.0	-0.2	0.1	0.0	0.0	0.0
<b>Cash and cash equivalent at end of period</b>	<b>25.0</b>	<b>26.4</b>	<b>26.7</b>	<b>20.2</b>	<b>1.1</b>	<b>4.4</b>	<b>10.9</b>

**Financial Ratios**

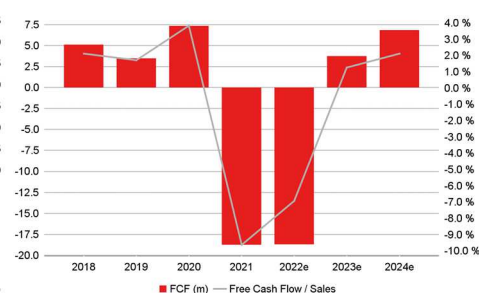
	2018	2019	2020	2021	2022e	2023e	2024e
<b>Cash Flow</b>							
FCF	5.1	3.5	7.3	-18.7	-18.7	3.7	6.8
Free Cash Flow / Sales	2.1 %	1.7 %	3.8 %	-9.6 %	-6.9 %	1.3 %	2.1 %
Free Cash Flow Potential	11.4	2.8	4.5	8.5	19.0	20.4	22.1
Free Cash Flow / Net Profit	35.8 %	53.5 %	97.2 %	-237.3 %	-109.1 %	20.5 %	34.4 %
Interest Received / Avg. Cash	0.1 %	0.0 %	8.8 %	0.0 %	0.0 %	0.0 %	0.0 %
Interest Paid / Avg. Debt	1.7 %	14.1 %	145.0 %	18.9 %	6.7 %	8.0 %	8.0 %
<b>Management of Funds</b>							
Investment ratio	2.4 %	5.0 %	5.3 %	3.6 %	2.6 %	2.3 %	2.2 %
Maint. Capex / Sales	2.3 %	4.8 %	5.1 %	3.4 %	1.9 %	1.8 %	1.6 %
Capex / Dep	226.1 %	188.2 %	172.8 %	119.5 %	115.3 %	113.4 %	111.6 %
Avg. Working Capital / Sales	25.7 %	31.6 %	32.4 %	40.9 %	41.8 %	46.2 %	46.6 %
Trade Debtors / Trade Creditors	211.4 %	303.1 %	205.1 %	139.4 %	134.8 %	137.3 %	137.4 %
Inventory Turnover	3.5 x	3.8 x	2.9 x	1.8 x	1.7 x	1.7 x	1.7 x
Receivables collection period (days)	44	50	46	55	54	55	55
Payables payment period (days)	27	21	29	50	52	52	52
Cash conversion cycle (Days)	120	124	144	212	213	214	214

**CAPEX and Cash Flow**

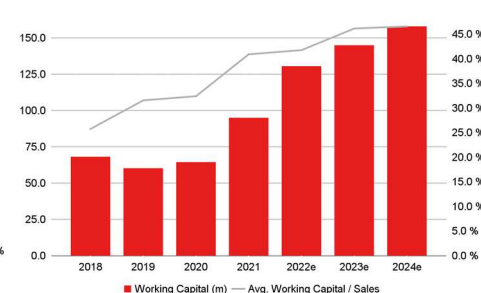
in EUR m



**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. The views expressed in this research report accurately reflect the research analyst's personal views about the subject securities and issuers. Unless otherwise specified in the research report, no part of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in the research report. 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.

The **Warburg ESG Risk Score** is based on information © 2020 MSCI ESG Research LLC. Reproduced by permission. Although Warburg Research's information providers, including without limitation, MSCI ESG Research LLC and its affiliates (the "ESG Parties"), obtain information (the "Information") from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness, of any data herein and expressly disclaim all express or implied warranties, including those of merchantability and fitness for a particular purpose. The Information may only be used for your internal use, may not be reproduced or disseminated in any form and may not be used as a basis for, or a component, of any financial instruments or products indices. Further, none of the Information can in and of itself be used to determine which securities to buy or sell or when to buy or sell them. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein, or any liability for any direct, indirect, special, punitive, consequential or any other damage (including lost profits) even if notified of the possibility.



### 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)
Data Modul	3, 5	<a href="http://www.mmwarburg.com/disclaimer/disclaimer_en/DE0005498901.htm">http://www.mmwarburg.com/disclaimer/disclaimer_en/DE0005498901.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	162	75
Hold	44	20
Sell	6	3
Rating suspended	4	2
<b>Total</b>	<b>216</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	45	80
Hold	8	14
Sell	1	2
Rating suspended	2	4
<b>Total</b>	<b>56</b>	<b>100</b>

## PRICE AND RATING HISTORY DATA MODUL AS OF 07.11.2022



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

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

**Dr. Christian Ehmann** +49 40 309537-167  
BioTech, Life Science cehmann@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

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

**Thilo Kleibauer** +49 40 309537-257  
Retail, Consumer Goods tkleibauer@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

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

**Simon Stippig** +49 40 309537-265  
Real Estate, Telco 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 69 5050-7400  
Head of Equity Sales, Germany kschilling@mmwarburg.com

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

**Lea Bogdanova** +49 69 5050-7411  
United Kingdom, Ireland lbogdanova@mmwarburg.com

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

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

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

**Christopher Seedorf** +49 40 3282-2695  
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

**Alicia Schmidt** +49 69 5050-7416  
Roadshow/Marketing Alicia.Schmidt@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 RESP MMWA GO  
FactSet [www.factset.com](https://www.factset.com)

Refinitiv [www.refinitiv.com](https://www.refinitiv.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