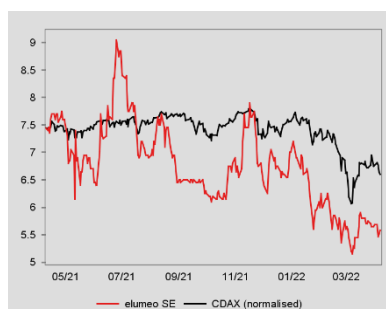


<b>Buy</b> <b>EUR 13.00</b>  Price <b>EUR 5.58</b> Upside <b>133.0 %</b>	<b>Value Indicators:</b> EUR	<b>Warburg ESG Risk Score: 1.2</b> ESG Score (MSCI based): 3.0 Balance Sheet Score: 0.5 Market Liquidity Score: 0.0	<b>Description:</b> elumeo is a vertically-integrated, multi-channel, precious jewellery retailer
	<b>Market Snapshot:</b> EUR m	<b>Shareholders:</b>	<b>Key Figures (WRe):</b> 2021e
	Market cap: 30.7 No. of shares (m): 5.5 EV: 26.1 Freefloat MC: 6.7	Freefloat: 21.8 % Blackflint Ltd. (Boyé): 26.6 % Management: 10.9 %	Beta: 1.4 Price / Book: 4.5 x Equity Ratio: 30 %

## First Glance: 2021 results validate our long term margin assumptions

On Friday elumeo released preliminary 2021 figures:

- In 2021 elumeo generated EUR 50.7m (+20%), beating our estimates by EUR 1.2m. This implies 5% growth in Q4 2021 despite a demanding comparison base (+16%). Full year adj. EBITDA rose more than 5-fold to EUR 4.9m (prior year EUR 0.9m), this implies EUR 2.4m adj. EBITDA in Q4. We would not extrapolate the Q4 margin, that said the full year adj. EBITDA margin of 9.7% validates our long-term target margin of 10%. Due to some positive one-time effects (won a major lawsuit) reported net income of EUR 9.2m is substantially above EBITDA.
- Despite the strong finish to the year, the current e-commerce and consumer environment is challenging. Bearing in mind that elumeo is comparing against a H1 2021 comparison base which grew 30%, we expect a back-end loaded year 2022 and a difficult H1.
- The video shopping app Jooli is growing vigorously and has now more than 100 channels and more than 130000 users in Germany and India for a total of 1.6m viewed videos. While it is early days for the platform, this is a highly attractive growth project and it is therefore reassuring that elumeo founder Wolfgang Boyé is now fully focussing on Jooli while CSO Florian Spatz, who has already been handling most of the day to day business is taking on full operational leadership.
- We confirm our Buy rating as the strong 2021 profitability underpins our margin assumptions while Jooli has strong optionality and can add significant further upside in the long run.



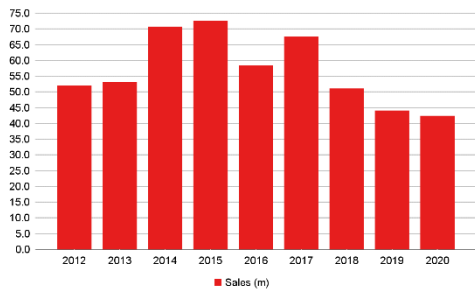
**Rel. Performance vs CDAX:**

1 month:	-0.3 %
6 months:	-0.2 %
Year to date:	-7.6 %
Trailing 12 months:	-12.9 %

**Company events:**

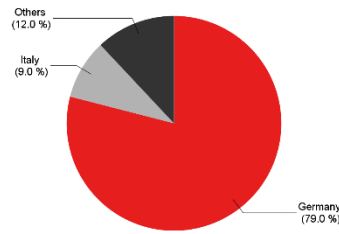
FY End: 31.12. in EUR m	CAGR (20-23e)	2017	2018	2019	2020	2021e	2022e	2023e
<b>Sales</b>	11.6 %	67.6	51.1	44.1	42.4	49.5	53.5	59.0
Change Sales yoy		15.5 %	-24.3 %	-13.7 %	-3.8 %	16.7 %	8.1 %	10.3 %
Gross profit margin		44.1 %	26.4 %	46.8 %	52.4 %	54.8 %	55.2 %	55.5 %
<b>EBITDA adj. Margin</b>	89.8 %	-0.6	-17.5	-0.3	0.9	3.6	5.0	6.0
EBIT Margin		-3.2 %	-36.1 %	-5.3 %	-0.1 %	5.2 %	7.4 %	8.4 %
<b>EBIT</b>	139.2 %	-1.6	-18.4	-2.3	0.3	2.0	3.0	3.9
Margin		-2.4 %	-36.1 %	-5.3 %	0.7 %	4.0 %	5.5 %	6.7 %
<b>Net income</b>	188.4 %	-6.0	-27.4	-2.6	0.2	1.9	2.9	3.7
<b>EPS</b>	188.4 %	-1.10	-4.98	-0.47	0.03	0.34	0.53	0.67
EPS adj.		-0.49	-3.73	-0.47	-0.03	0.45	0.71	0.85
<b>DPS</b>	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividend Yield		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>FCFPS</b>		0.90	-1.22	0.11	0.40	0.43	0.88	0.92
<b>EV / Sales</b>		0.9 x	0.8 x	0.3 x	0.3 x	0.6 x	0.5 x	0.4 x
<b>EV / EBITDA</b>		n.a.	n.a.	n.a.	10.7 x	10.2 x	6.5 x	4.3 x
<b>EV / EBIT</b>		n.a.	n.a.	n.a.	45.3 x	15.5 x	8.8 x	5.5 x
<b>P / E</b>		n.a.	n.a.	n.a.	73.8 x	16.5 x	10.5 x	8.3 x
<b>P / E adj.</b>		n.a.	n.a.	n.a.	n.a.	12.4 x	7.8 x	6.6 x
<b>FCF Potential Yield</b>		-1.8 %	-49.7 %	-15.7 %	4.4 %	7.5 %	12.5 %	18.9 %
<b>Net Financial Debt</b>		9.8	-0.6	-0.4	-2.3	-4.2	-8.6	-13.1
<b>ROE</b>		-17.0 %	-141.9 %	-47.8 %	3.6 %	33.4 %	33.3 %	28.4 %
<b>ROCE (NOPAT)</b>		n.a.	n.a.	n.a.	4.1 %	31.1 %	46.6 %	60.6 %
<b>Guidance:</b>		Low double digit sales growth and low- to mid-single digit EURm adj. EBITDA						

**Sales**  
in EUR m



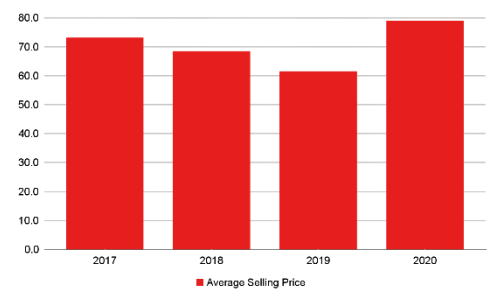
Source: Warburg Research

**Sales by regions**  
2020 in %



Source: Warburg Research

**average selling price**  
in EUR



Source: Warburg Research

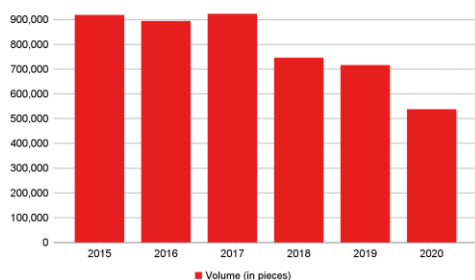
**Company Background**

- Elumeo is a precious jewellery retailer offering a broad range of gemstones mostly in the price range of EUR 25 to EUR 1,000. Products priced at more than EUR 1,000 generate about 15% of sales.
- Elumeo is a multi-channel retailer. Revenues generated on the company's television channel amount to about 60% of sales while e-commerce generates 35%.
- On its TV channels, Elumeo sells its products exclusively in a Dutch auction-like process. The auction starts with a high price, which is gradually lowered until customers bid at a price level they deem attractive.
- Elumeo has a range of collections targeting a variety of target customers with specific design elements.
- Due to the vertically integrated structure, elumeo is the price leader in (online-) jewellery.

**Competitive Quality**

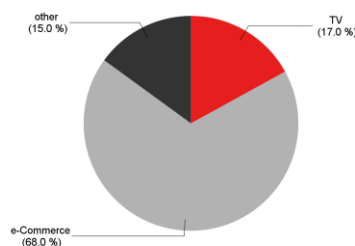
- Elumeo's vertically integrated business model cuts out several steps in the supply chain. It uses its cost leadership for a price differentiation to peers and prices are significantly lower than the competition.
- The integration of design and production processes in combination with distribution via a proprietary TV channel represent high barriers to entry. This model ensures very short lead times and a wide product assortment.
- The auction process leads to a higher customer engagement while the limited product availability coupled with the continuous supply of "fresh" merchandise prompts frequent purchases.
- The internet is already responsible for attracting about 60% of new customers. Structural growth of the internet sales channel should also be a major driver of growth for the company.

**pieces sold**



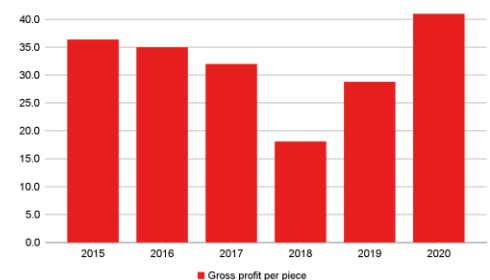
Source: Warburg Research

**New customers by channel**  
2020; in %



Source: Warburg Research

**Gross profit per piece**  
in EUR



Source: Warburg Research

DCF model

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value	
	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e		
Sales	49.5	53.5	59.0	64.9	70.1	75.0	79.5	83.5	87.6	92.0	96.6	101.5	104.5		
Sales change	16.7 %	8.1 %	10.3 %	10.0 %	8.0 %	7.0 %	6.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	3.0 %	2.0 %
EBIT	2.6	4.0	4.9	5.2	5.6	6.0	6.4	6.7	7.0	7.4	7.7	8.1	8.4		
EBIT-margin	5.2 %	7.4 %	8.4 %	8.0 %	8.0 %	8.0 %	8.0 %	8.0 %	8.0 %	8.0 %	8.0 %	8.0 %	8.0 %	8.0 %	
Tax rate (EBT)	0.0 %	0.0 %	3.9 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	5.0 %	
NOPAT	2.6	4.0	4.8	4.9	5.3	5.7	6.0	6.3	6.7	7.0	7.3	7.7	7.9		
Depreciation	1.0	1.0	1.1	1.3	1.4	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.1		
in % of Sales	2.1 %	1.9 %	1.8 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	
Changes in provisions	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Change in Liquidity from															
- Working Capital	0.0	0.0	0.0	0.6	0.6	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.3		
- Capex	0.4	0.6	0.6	1.3	1.4	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.1		
Capex in % of Sales	0.8 %	1.1 %	1.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %		
- Other	0.5	0.5	0.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Free Cash Flow (WACC Model)	2.3	3.9	4.7	3.8	4.4	5.2	5.5	5.9	6.2	6.5	6.8	7.2	7.6	6	
PV of FCF	2.4	3.6	4.0	3.0	3.1	3.4	3.4	3.3	3.2	3.1	2.9	2.8	2.8	32	
share of PVs	13.69 %			42.31 %										44.01 %	

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	0.00 %	Financial Strength	1.20
Cost of debt (after tax)	3.8 %	Liquidity (share)	2.50
Market return	7.00 %	Cyclicality	1.00
Risk free rate	1.50 %	Transparency	1.10
		Others	1.00
<b>WACC</b>	<b>8.98 %</b>	<b>Beta</b>	<b>1.36</b>

Valuation (m)

Present values 2033e	41		
Terminal Value	32		
Financial liabilities	0		
Pension liabilities	4		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	2	No. of shares (m)	5.5
<b>Equity Value</b>	<b>71</b>	<b>Value per share (EUR)</b>	<b>13.00</b>

Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth							Beta	WACC	Delta EBIT-margin						
		1.04 %	1.54 %	1.79 %	2.04 %	2.29 %	2.54 %	3.04 %			-5.0 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+5.0 pp
1.63	10.5 %	10.26	10.47	10.58	10.70	10.82	10.95	11.25	1.63	10.5 %	3.14	9.18	9.94	10.70	11.45	12.21	18.25
1.54	10.0 %	10.85	11.10	11.23	11.37	11.52	11.68	12.03	1.54	10.0 %	3.37	9.77	10.57	11.37	12.17	12.97	19.37
1.45	9.5 %	11.52	11.80	11.96	12.13	12.31	12.50	12.93	1.45	9.5 %	3.63	10.43	11.28	12.13	12.98	13.83	20.63
1.36	9.0 %	12.26	12.61	12.80	13.00	13.22	13.45	13.99	1.36	9.0 %	3.93	11.19	12.09	13.00	13.91	14.81	22.07
1.27	8.5 %	13.11	13.52	13.75	14.00	14.27	14.56	15.23	1.27	8.5 %	4.28	12.06	13.03	14.00	14.98	15.95	23.73
1.18	8.0 %	14.08	14.58	14.87	15.17	15.51	15.88	16.72	1.18	8.0 %	4.68	13.08	14.13	15.17	16.22	17.27	25.67
1.09	7.5 %	15.19	15.82	16.17	16.56	16.98	17.45	18.54	1.09	7.5 %	5.16	14.28	15.42	16.56	17.70	18.84	27.95

- We expect a return to mid single-digit sales growth and assume 2% growth in the terminal value
- The group EBITDA margin should reach the 10%-level, less than 70% of the historical peak margin of 15% in Germany (2014)
- We assume a beta of 1.4 to account for the low liquidity and the execution risk for the gross margin increase
- The tax loss carry-forwards lead to very low tax rate.

## 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	2017	2018	2019	2020	2021e	2022e	2023e	
Net Income before minorities	-2.1	-20.5	-2.6	0.2	1.9	2.9	3.7	
+ Depreciation + Amortisation	1.6	0.9	2.0	0.9	1.0	1.0	1.1	
- Net Interest Income	-0.6	-0.2	-0.2	-0.1	-0.1	0.0	0.0	
- Maintenance Capex	1.1	0.7	1.4	0.7	0.7	0.7	0.7	
+ Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>= Free Cash Flow Potential</b>	<b>-1.0</b>	<b>-20.0</b>	<b>-1.7</b>	<b>0.6</b>	<b>2.3</b>	<b>3.3</b>	<b>4.1</b>	
FCF Potential Yield (on market EV)	-1.8 %	-49.7 %	-15.7 %	4.4 %	7.5 %	12.5 %	18.9 %	
WACC	8.98 %	8.98 %	8.98 %	8.98 %	8.98 %	8.98 %	8.98 %	
<b>= Enterprise Value (EV)</b>	<b>58.5</b>	<b>40.2</b>	<b>11.1</b>	<b>13.1</b>	<b>30.5</b>	<b>26.1</b>	<b>21.5</b>	
<b>= Fair Enterprise Value</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>6.3</b>	<b>25.3</b>	<b>36.5</b>	<b>45.3</b>	
- Net Debt (Cash)	11.3	2.0	0.4	0.0	0.0	0.0	0.0	
- Pension Liabilities	7.5	7.5	7.5	7.5	4.5	4.0	4.0	
- Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
- Market value of minorities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
+ Market value of investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>= Fair Market Capitalisation</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>20.8</b>	<b>32.5</b>	<b>41.3</b>	
Number of shares, average	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
<b>= Fair value per share (EUR)</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>3.78</b>	<b>5.91</b>	<b>7.51</b>	
premium (-) / discount (+) in %					-32.3 %	5.8 %	34.6 %	
<b>Sensitivity Fair value per Share (EUR)</b>								
	11.98 %	n.a.	n.a.	n.a.	n.a.	2.63	4.25	5.45
	10.98 %	n.a.	n.a.	n.a.	n.a.	2.94	4.70	6.01
	9.98 %	n.a.	n.a.	n.a.	n.a.	3.32	5.24	6.68
WACC	<b>8.98 %</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>3.78</b>	<b>5.91</b>	<b>7.51</b>
	7.98 %	n.a.	n.a.	n.a.	n.a.	4.35	6.74	8.54
	6.98 %	n.a.	n.a.	n.a.	0.13	5.10	7.80	9.87
	5.98 %	n.a.	n.a.	n.a.	0.37	6.09	9.23	11.64

▪ We estimate maintenance capex in line with depreciation

Peer Group									
Company	Price	EV / Sales	EV / EBITDA		EV / EBIT		P / E		EPS CAGR
Prices in local currency		21e	21e	22e	21e	22e	21e	22e	(20-23e)
Average		-	-	-	-	-	-	-	-
Median		-	-	-	-	-	-	-	-
<b>elumeo</b>	<b>5.58</b>	<b>0.6</b>	<b>10.2</b>	<b>6.5</b>	<b>15.5</b>	<b>8.8</b>	<b>16.5</b>	<b>10.5</b>	<b>188.4 %</b>
Delta to median		-	-	-	-	-	-	-	-

▪ ...

Valuation								
	2017	2018	2019	2020	2021e	2022e	2023e	
Price / Book	1.5 x	5.0 x	1.7 x	2.6 x	4.5 x	2.9 x	2.0 x	
Book value per share ex intangibles	5.67	1.11	0.66	0.71	1.17	1.89	2.74	
EV / Sales	0.9 x	0.8 x	0.3 x	0.3 x	0.6 x	0.5 x	0.4 x	
EV / EBITDA	n.a.	n.a.	n.a.	10.7 x	10.2 x	6.5 x	4.3 x	
EV / EBIT	n.a.	n.a.	n.a.	45.3 x	15.5 x	8.8 x	5.5 x	
EV / EBIT adj.*	n.a.	n.a.	n.a.	n.a.	11.9 x	6.6 x	4.4 x	
P / FCF	9.7 x	n.a.	11.5 x	5.2 x	12.9 x	6.3 x	6.0 x	
P / E	n.a.	n.a.	n.a.	73.8 x	16.5 x	10.5 x	8.3 x	
P / E adj.*	n.a.	n.a.	n.a.	n.a.	12.4 x	7.8 x	6.6 x	
Dividend Yield	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
FCF Potential Yield (on market EV)	-1.8 %	-49.7 %	-15.7 %	4.4 %	7.5 %	12.5 %	18.9 %	

\*Adjustments made for: -

Company Specific Items							
	2017	2018	2019	2020	2021e	2022e	2023e
Active Customers	82,062	74,198	59,750	64,246	69,024	75,340	156,403
Revenue per Customer	823.28	688.90	737.87	660.12	717.15	710.12	377.23
Average Selling Price	73.16	68.50	61.54	79.00	62.67	64.51	67.76
eCommerce sales in % of group sales	34.5 %	39.0 %	41.8 %	51.2 %	51.8 %	56.5 %	111.8 %
eCommerce sales in EURm	23	20	18	22	26	30	66
Volume (in pieces)	923,476	746,254	716,395	538,019	789,825	829,317	870,783
Gross profit per piece	32.00	18.11	28.80	41.00	34.31	35.61	37.60

**Consolidated profit and loss**

In EUR m	2017	2018	2019	2020	2021e	2022e	2023e
<b>Sales</b>	<b>67.6</b>	<b>51.1</b>	<b>44.1</b>	<b>42.4</b>	<b>49.5</b>	<b>53.5</b>	<b>59.0</b>
Change Sales yoy	15.5 %	-24.3 %	-13.7 %	-3.8 %	16.7 %	8.1 %	10.3 %
COGS	37.7	37.6	23.5	20.2	22.4	24.0	26.3
<b>Gross profit</b>	<b>29.8</b>	<b>13.5</b>	<b>20.6</b>	<b>22.2</b>	<b>27.1</b>	<b>29.5</b>	<b>32.7</b>
<i>Gross margin</i>	<i>44.1 %</i>	<i>26.4 %</i>	<i>46.8 %</i>	<i>52.4 %</i>	<i>54.8 %</i>	<i>55.2 %</i>	<i>55.5 %</i>
Research and development	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sales and marketing	23.7	23.7	18.1	15.6	17.5	18.1	19.8
Administration expenses	8.9	7.7	8.3	7.0	8.0	8.5	9.0
Other operating expenses	0.0	0.6	1.2	0.2	0.0	0.1	0.1
Other operating income	1.1	0.1	4.7	0.9	0.3	0.1	0.1
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBITDA</b>	<b>0.0</b>	<b>-17.5</b>	<b>-0.3</b>	<b>1.2</b>	<b>3.0</b>	<b>4.0</b>	<b>5.0</b>
<i>Margin</i>	<i>0.0 %</i>	<i>-34.2 %</i>	<i>-0.7 %</i>	<i>2.9 %</i>	<i>6.1 %</i>	<i>7.5 %</i>	<i>8.5 %</i>
Depreciation of fixed assets	1.6	0.9	2.0	0.9	1.0	1.0	1.1
<b>EBITDA adj.</b>	<b>-0.6</b>	<b>-17.5</b>	<b>-0.3</b>	<b>0.9</b>	<b>3.6</b>	<b>5.0</b>	<b>6.0</b>
Margin	-0.8 %	-34.2 %	-0.7 %	2.1 %	7.3 %	9.3 %	10.2 %
Goodwill amortisation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBIT</b>	<b>-1.6</b>	<b>-18.4</b>	<b>-2.3</b>	<b>0.3</b>	<b>2.0</b>	<b>3.0</b>	<b>3.9</b>
<i>Margin</i>	<i>-2.4 %</i>	<i>-36.1 %</i>	<i>-5.3 %</i>	<i>0.7 %</i>	<i>4.0 %</i>	<i>5.5 %</i>	<i>6.7 %</i>
<b>EBIT adj.</b>	<b>-2.2</b>	<b>-18.4</b>	<b>-2.3</b>	<b>-0.1</b>	<b>2.6</b>	<b>4.0</b>	<b>4.9</b>
Interest income	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest expenses	0.6	0.2	0.2	0.1	0.1	0.1	0.1
Other financial income (loss)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBT</b>	<b>-2.2</b>	<b>-18.6</b>	<b>-2.6</b>	<b>0.2</b>	<b>1.9</b>	<b>2.9</b>	<b>3.9</b>
<i>Margin</i>	<i>-3.3 %</i>	<i>-36.5 %</i>	<i>-5.9 %</i>	<i>0.4 %</i>	<i>3.8 %</i>	<i>5.5 %</i>	<i>6.6 %</i>
Total taxes	-0.1	1.8	0.0	0.0	0.0	0.0	0.2
<b>Net income from continuing operations</b>	<b>-2.1</b>	<b>-20.5</b>	<b>-2.6</b>	<b>0.2</b>	<b>1.9</b>	<b>2.9</b>	<b>3.7</b>
Income from discontinued operations (net of tax)	-3.9	-6.9	0.0	0.0	0.0	0.0	0.0
<b>Net income before minorities</b>	<b>-6.0</b>	<b>-27.4</b>	<b>-2.6</b>	<b>0.2</b>	<b>1.9</b>	<b>2.9</b>	<b>3.7</b>
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net income</b>	<b>-6.0</b>	<b>-27.4</b>	<b>-2.6</b>	<b>0.2</b>	<b>1.9</b>	<b>2.9</b>	<b>3.7</b>
<i>Margin</i>	<i>-8.9 %</i>	<i>-53.6 %</i>	<i>-5.9 %</i>	<i>0.4 %</i>	<i>3.8 %</i>	<i>5.5 %</i>	<i>6.3 %</i>
Number of shares, average	5.5	5.5	5.5	5.5	5.5	5.5	5.5
<b>EPS</b>	<b>-1.10</b>	<b>-4.98</b>	<b>-0.47</b>	<b>0.03</b>	<b>0.34</b>	<b>0.53</b>	<b>0.67</b>
EPS adj.	-0.49	-3.73	-0.47	-0.03	0.45	0.71	0.85

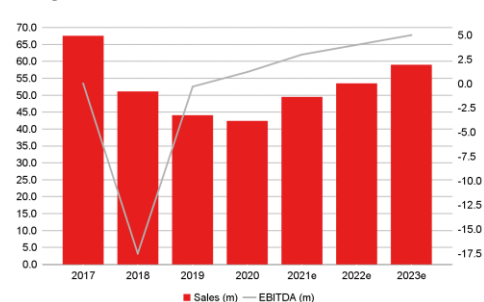
\*Adjustments made for:

**Guidance: Low double digit sales growth and low- to mid-single digit EURm adj. EBITDA**

**Financial Ratios**

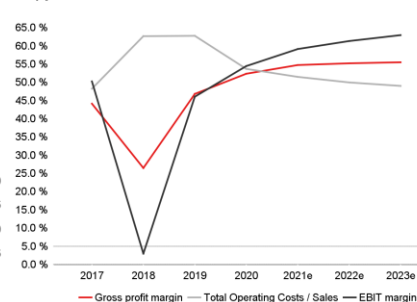
	2017	2018	2019	2020	2021e	2022e	2023e
Total Operating Costs / Sales	48.2 %	62.7 %	62.8 %	53.7 %	51.5 %	49.9 %	49.0 %
Operating Leverage	-5.3 x	-43.4 x	6.3 x	n.a.	34.7 x	6.3 x	3.2 x
EBITDA / Interest expenses	0.0 x	n.m.	n.m.	9.1 x	30.0 x	80.0 x	99.9 x
Tax rate (EBT)	3.3 %	-9.9 %	0.0 %	0.0 %	0.0 %	0.0 %	5.0 %
Dividend Payout Ratio	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Sales per Employee	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

**Sales, EBITDA**  
in EUR m



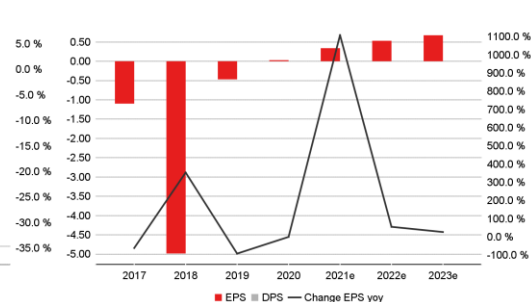
Source: Warburg Research

**Operating Performance**  
in %



Source: Warburg Research

**Performance per Share**



Source: Warburg Research

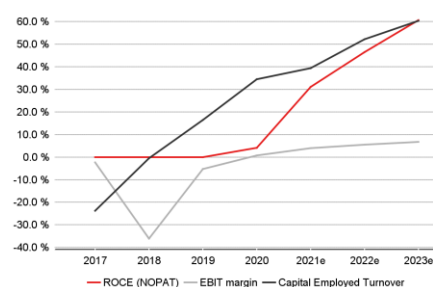
**Consolidated balance sheet**

In EUR m	2017	2018	2019	2020	2021e	2022e	2023e
<b>Assets</b>							
Goodwill and other intangible assets	0.8	0.6	0.5	0.4	0.4	0.3	0.3
thereof other intangible assets	0.8	0.6	0.5	0.4	0.4	0.3	0.3
thereof Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property, plant and equipment	9.4	2.2	1.6	1.3	1.2	1.3	1.4
Financial assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other long-term assets	2.3	0.4	3.3	3.0	2.5	2.0	1.5
<b>Fixed assets</b>	<b>12.4</b>	<b>3.2</b>	<b>5.4</b>	<b>4.7</b>	<b>4.1</b>	<b>3.6</b>	<b>3.2</b>
Inventories	33.5	20.5	13.4	12.1	12.4	12.3	13.0
Accounts receivable	3.0	1.4	1.4	1.2	1.5	1.6	1.8
Liquid assets	1.5	2.6	0.9	2.3	4.2	8.6	13.1
Other short-term assets	2.4	1.0	0.5	0.8	0.8	0.8	0.8
<b>Current assets</b>	<b>40.5</b>	<b>25.5</b>	<b>16.2</b>	<b>16.5</b>	<b>18.8</b>	<b>23.3</b>	<b>28.7</b>
<b>Total Assets</b>	<b>54.7</b>	<b>28.8</b>	<b>21.6</b>	<b>21.2</b>	<b>22.9</b>	<b>26.9</b>	<b>31.8</b>
<b>Liabilities and shareholders' equity</b>							
<b>Total equity</b>	<b>32.0</b>	<b>6.7</b>	<b>4.1</b>	<b>4.3</b>	<b>6.8</b>	<b>10.7</b>	<b>15.4</b>
Provisions	1.0	7.8	7.5	6.9	6.0	5.5	5.0
thereof provisions for pensions and similar obligations	0.7	7.5	4.5	4.0	4.0	4.0	4.0
Financial liabilities (total)	11.3	2.0	0.4	0.0	0.0	0.0	0.0
Short-term financial liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accounts payable	7.3	9.0	5.6	6.8	6.9	7.5	8.3
Other liabilities	3.1	3.4	3.8	3.2	3.2	3.2	3.2
<b>Liabilities</b>	<b>22.8</b>	<b>22.2</b>	<b>17.5</b>	<b>16.8</b>	<b>16.1</b>	<b>16.1</b>	<b>16.4</b>
<b>Total liabilities and shareholders' equity</b>	<b>54.7</b>	<b>28.8</b>	<b>21.6</b>	<b>21.2</b>	<b>22.9</b>	<b>26.9</b>	<b>31.8</b>

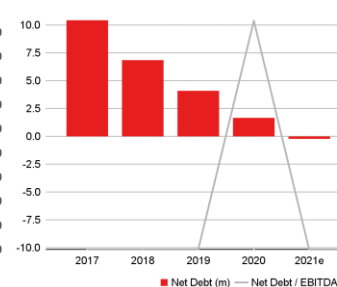
**Financial Ratios**

	2017	2018	2019	2020	2021e	2022e	2023e
<b>Efficiency of Capital Employment</b>							
Operating Assets Turnover	1.8 x	3.4 x	4.1 x	5.4 x	6.1 x	6.9 x	7.5 x
Capital Employed Turnover	1.6 x	3.8 x	5.4 x	7.1 x	7.5 x	8.7 x	9.5 x
ROA	-48.8 %	-858.0 %	-47.9 %	3.3 %	46.0 %	80.6 %	116.8 %
<b>Return on Capital</b>							
ROCE (NOPAT)	n.a.	n.a.	n.a.	4.1 %	31.1 %	46.6 %	60.6 %
ROE	-17.0 %	-141.9 %	-47.8 %	3.6 %	33.4 %	33.3 %	28.4 %
Adj. ROE	-7.6 %	-106.1 %	-47.8 %	-4.5 %	44.2 %	44.7 %	35.6 %
<b>Balance sheet quality</b>							
Net Debt	10.4	6.8	4.1	1.7	-0.2	-4.6	-9.2
Net Financial Debt	9.8	-0.6	-0.4	-2.3	-4.2	-8.6	-13.1
Net Gearing	32.6 %	102.5 %	99.4 %	38.3 %	-3.3 %	-42.8 %	-59.5 %
Net Fin. Debt / EBITDA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Book Value / Share	5.8	1.2	0.7	0.8	1.2	2.0	2.8
Book value per share ex intangibles	5.7	1.1	0.7	0.7	1.2	1.9	2.7

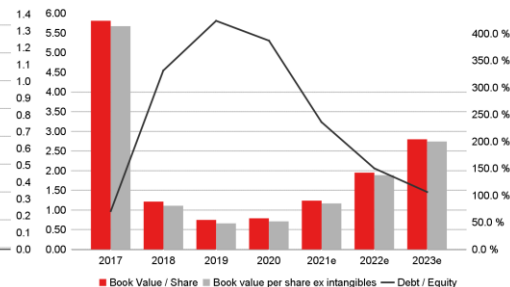
**ROCE Development**



**Net debt in EUR m**



**Book Value per Share in EUR**



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

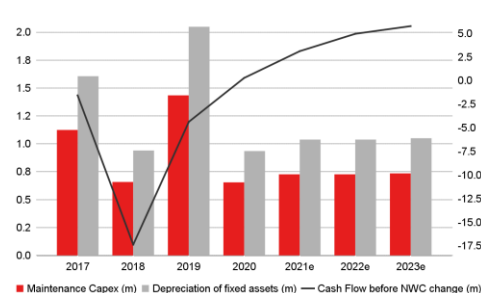
**Consolidated cash flow statement**

In EUR m	2017	2018	2019	2020	2021e	2022e	2023e
Net income	-6.0	-27.4	-2.6	0.2	1.9	2.9	3.7
Depreciation of fixed assets	1.6	0.9	2.0	0.9	1.0	1.0	1.1
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increase/decrease in long-term provisions	0.0	0.2	0.6	-0.3	-0.4	0.0	0.0
Other non-cash income and expenses	2.8	8.9	-4.4	-0.5	0.6	1.0	1.0
<b>Cash Flow before NWC change</b>	<b>-1.6</b>	<b>-17.4</b>	<b>-4.4</b>	<b>0.3</b>	<b>3.1</b>	<b>5.0</b>	<b>5.8</b>
Increase / decrease in inventory	4.6	4.4	7.1	1.2	-0.2	0.1	-0.7
Increase / decrease in accounts receivable	-0.4	1.9	0.6	0.0	-0.3	-0.1	-0.2
Increase / decrease in accounts payable	2.6	4.7	-2.5	0.9	0.2	0.6	0.8
Increase / decrease in other working capital positions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increase / decrease in working capital (total)	6.8	11.1	5.1	2.2	-0.3	0.5	-0.1
<b>Net cash provided by operating activities [1]</b>	<b>5.2</b>	<b>-6.3</b>	<b>0.8</b>	<b>2.4</b>	<b>2.8</b>	<b>5.5</b>	<b>5.7</b>
Investments in intangible assets	0.0	0.1	0.0	0.0	0.1	0.1	0.1
Investments in property, plant and equipment	0.2	0.4	0.2	0.2	0.3	0.5	0.5
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>-0.2</b>	<b>-0.5</b>	<b>-0.2</b>	<b>-0.2</b>	<b>-0.4</b>	<b>-0.6</b>	<b>-0.6</b>
Change in financial liabilities	-2.0	-3.3	-2.2	-0.8	-0.5	-0.5	-0.5
Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	-3.2	10.5	0.0	0.0	0.0	0.0	0.0
<b>Net cash provided by financing activities [3]</b>	<b>-5.2</b>	<b>7.2</b>	<b>-2.2</b>	<b>-0.8</b>	<b>-0.5</b>	<b>-0.5</b>	<b>-0.5</b>
<b>Change in liquid funds [1]+[2]+[3]</b>	<b>-0.3</b>	<b>0.4</b>	<b>-1.6</b>	<b>1.4</b>	<b>1.9</b>	<b>4.4</b>	<b>4.6</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>1.5</b>	<b>2.6</b>	<b>0.9</b>	<b>2.3</b>	<b>4.2</b>	<b>8.6</b>	<b>13.1</b>

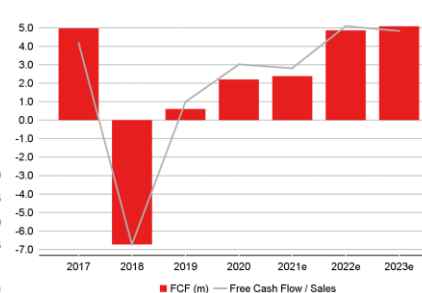
**Financial Ratios**

	2017	2018	2019	2020	2021e	2022e	2023e
<b>Cash Flow</b>							
FCF	5.0	-6.7	0.6	2.2	2.4	4.9	5.1
Free Cash Flow / Sales	7.4 %	-13.2 %	1.4 %	5.2 %	4.8 %	9.1 %	8.6 %
Free Cash Flow Potential	-1.0	-20.0	-1.7	0.6	2.3	3.3	4.1
Free Cash Flow / Net Profit	-82.2 %	24.6 %	-23.5 %	1428.4 %	127.9 %	166.8 %	137.3 %
Interest Received / Avg. Cash	0.0 %	0.2 %	0.2 %	0.3 %	0.1 %	0.1 %	0.0 %
Interest Paid / Avg. Debt	5.0 %	3.3 %	19.5 %	60.0 %	n.a.	n.a.	n.a.
<b>Management of Funds</b>							
Investment ratio	0.3 %	0.9 %	0.4 %	0.5 %	0.8 %	1.1 %	1.0 %
Maint. Capex / Sales	1.7 %	1.3 %	3.3 %	1.5 %	1.5 %	1.4 %	1.2 %
Capex / Dep	14.4 %	48.2 %	8.7 %	23.9 %	38.5 %	57.8 %	57.1 %
Avg. Working Capital / Sales	48.4 %	41.2 %	25.0 %	18.6 %	13.7 %	12.5 %	10.9 %
Trade Debtors / Trade Creditors	40.4 %	15.8 %	24.8 %	18.2 %	21.4 %	21.4 %	21.4 %
Inventory Turnover	1.1 x	1.8 x	1.8 x	1.7 x	1.8 x	1.9 x	2.0 x
Receivables collection period (days)	16	10	12	11	11	11	11
Payables payment period (days)	71	87	88	122	113	114	115
Cash conversion cycle (Days)	270	122	132	108	100	84	77

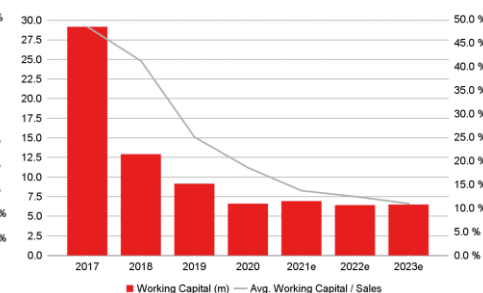
**CAPEX and Cash Flow**  
in EUR m



**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.

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.

Company	Disclosure	Link to the historical price targets and rating changes (last 12 months)
elumeo	5	<a href="http://www.mmwarburg.com/disclaimer/disclaimer_en/DE000A11Q059.htm">http://www.mmwarburg.com/disclaimer/disclaimer_en/DE000A11Q059.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	171	81
Hold	34	16
Sell	4	2
Rating suspended	2	1
<b>Total</b>	<b>211</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	52	87
Hold	5	8
Sell	1	2
Rating suspended	2	3
<b>Total</b>	<b>60</b>	<b>100</b>

**PRICE AND RATING HISTORY ELUMEO AS OF 08.04.2022**



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

**Jonas Blum** +49 40 309537-240  
Telco, Media, Construction jblum@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

**Thor Höfs** +49 40 309537-255  
Software, IT thoefs@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

**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 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

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

## SALES TRADING

**Oliver Merkel** +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](http://research.mmwarburg.com/en/index.html)  
Bloomberg RESP MMWA GO  
FactSet [www.factset.com](http://www.factset.com)

Refinitiv [www.refinitiv.com](http://www.refinitiv.com)  
Capital IQ [www.capitaliq.com](http://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