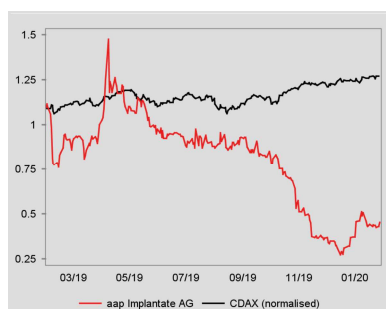


Buy EUR 2.00 Price EUR 0.45 Upside 342.5 %	Value Indicators: EUR DCF: 2.04	Share data: Bloomberg: AAQ GR Reuters: AAQG.DE ISIN: DE0005066609	Description: Producer of implants to mend broken bones
	Market Snapshot: EUR m Market cap: 13.8 No. of shares (m): 32.1 EV: 18.4 Freefloat MC: 7.0 Ø Trad. Vol. (30d): 25.06 th	Shareholders: Freefloat 50.8 % <i>Ratio Capital Management</i> 16.3 % <i>Noes Beheer B.V.</i> 13.6 % <i>Jürgen W. Krebs</i> 9.9 % <i>Deepblue Holding AG</i> 4.9 %	Risk Profile (WRe): 2019e Beta: 1.6 Price / Book: 0.5 x Equity Ratio: 76 %

Preliminary sales figures 2019: US business strong, gaining momentum

- Delivering on FY sales guidance:** aap Implantate yesterday (28.01.2020) reported preliminary sales figures for Q4 and FY 2019. Sales increased by 17% to EUR 3.1m in Q4, driven by a strong finish in the US market (+56% to EUR 0.7m). This pushed FY sales to EUR 11.7m (+9% y-o-y), slightly above our expectation and in the middle of the given guidance range of EUR 11-13m. Earnings figures for 2019 have not been provided nor has an outlook for 2020.
- Further efficiency and cost-saving measures planned:** The outlook for 2020 and the (new) management agenda will be presented within the next couple of weeks, as the management is currently in the process of exploring further efficiency and cost-saving measures. First measures, like the discontinuation of parts of the standard trauma portfolio, were already implemented in 2019. Further initiatives could include the reduction, if not discontinuation, of sales activities in certain markets and make-or-buy considerations for instruments. This should help to streamline the cost structure of the company and to improve earnings and cash flow.
- US business gaining momentum:** Management delivered on its promise to improve the important US business. Here the number of weekly surgeries using aap's implants almost doubled when compared to the previous year's level. Furthermore contracts with two national purchasing groups were concluded, giving aap access to a nationwide network of hospitals and surgical centers. This should help to drive sales further in 2020 in our view. Additionally, aap said that discussions with a world-leading US medical technology company regarding a development and supply agreement were well advanced.
- Silver coating technology:** No news published. Approval was received from the German Federal Institute for Drugs and Medical Devices (BfArM) to start a human clinical study but the approvals of federal ethics commissions are still pending. Meanwhile the training of participating doctors and the equipping of participating hospitals continues. Furthermore funding of EUR 2.7m to finance the human clinical study was secured from the German Federal Ministry of Education and Research (BMBF) in November 2019. An animal study to develop magnesium-based implants was initiated and is showing first very promising results. The company is conducting intensified talks with investors to secure funding for the development of this innovative technology.
- Buy rating reiterated:** The very positive sales development, especially in the important US market, is laying the foundation for further growth, in our view. The higher-margin sales in the US and the envisaged cost-saving programme should also have a positive impact on earnings. First measures were already taken in 2019. Key remains the start of the human clinical study to develop the innovative silver coating technology for implants. aap Implantate is the first company worldwide that will test an antibacterial silver coating on anatomical plates for fractures in such a study. Buy rating reiterated.

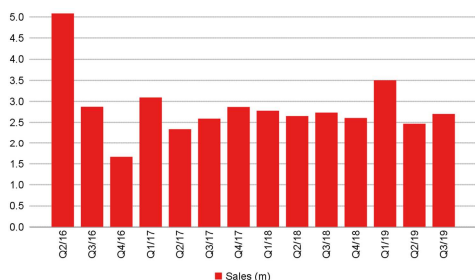


Rel. Performance vs CDAX:	
1 month:	21.2 %
6 months:	-59.8 %
Year to date:	19.2 %
Trailing 12 months:	-75.2 %

Company events:	
31.01.20	Prel. FY 2019
30.03.20	APC
31.05.20	Q1
19.06.20	AGM

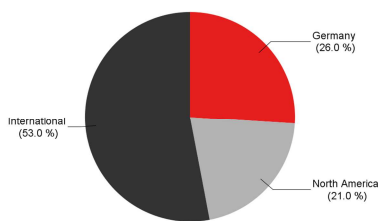
FY End: 31.12. in EUR m	CAGR (18-21e)	2015	2016	2017	2018	2019e	2020e	2021e
Sales	26.6 %	28.0	14.7	10.9	10.8	11.0	17.9	21.9
Change Sales yoy		-11.4 %	-47.5 %	-25.8 %	-1.1 %	1.7 %	63.1 %	22.3 %
EBITDA	-	-1.9	16.0	-6.2	-6.4	-6.0	-1.8	0.1
Margin		-6.7 %	109.0 %	-57.0 %	-59.5 %	-54.5 %	-9.9 %	0.5 %
EBITDA adj.		-1.9	-7.9	-6.2	-6.4	-6.0	-1.8	0.1
Margin		-6.7 %	-53.7 %	-57.0 %	-59.5 %	-54.5 %	-9.9 %	0.5 %
EBIT	-	-4.9	13.7	-8.0	-8.1	-8.8	-4.1	-2.7
Margin		-17.5 %	93.4 %	-73.3 %	-75.5 %	-80.6 %	-22.9 %	-12.5 %
Net income	-	-5.3	14.6	-8.9	-7.8	-9.1	-3.9	-2.5
EPS	-	-0.17	0.47	-0.31	-0.27	-0.30	-0.12	-0.08
DPS	-	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.
FCFPS		-0.02	-0.30	-0.26	-0.31	-0.20	-0.18	-0.10
FCF / Market cap		-1.0 %	-22.8 %	-17.9 %	-18.0 %	-44.9 %	-42.1 %	-22.7 %
EV / Sales		1.9 x	1.3 x	2.7 x	4.2 x	1.1 x	1.0 x	1.0 x
EV / EBITDA		n.a.	1.2 x	n.a.	n.a.	n.a.	n.a.	209.7 x
EV / EBIT		n.a.	1.4 x	n.a.	n.a.	n.a.	n.a.	n.a.
P / E		n.a.	2.8 x	n.a.	n.a.	n.a.	n.a.	n.a.
FCF Potential Yield		-8.3 %	73.4 %	-25.9 %	-18.2 %	-72.8 %	-21.7 %	-12.3 %
Net Debt		-15.0	-21.5	-12.2	-3.9	-1.2	4.6	7.7
ROCE (NOPAT)		n.a.	48.8 %	n.a.	n.a.	n.a.	n.a.	n.a.
Guidance:		Sales EUR 11.0-13.0m, EBITDA EUR -6.0 to -5.0m						

Sales development in EUR m



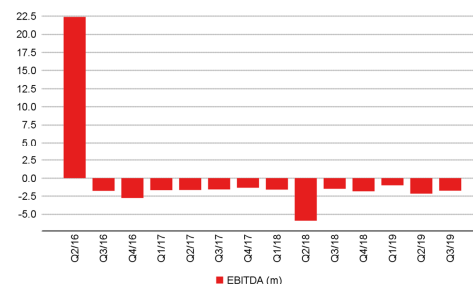
Source: Warburg Research

Sales by regions 2018; in %



Source: Warburg Research

EBITDA development in EUR m



Source: Warburg Research

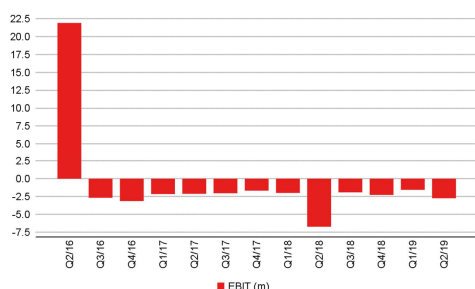
Company Background

- aap Implantate AG develops, produces and sells medical implants, which are primarily used in orthopaedics to mend fractures.
- aap Implantate AG was founded in 1990 as a MBO from the Johnson & Johnson Group and is headquartered in Berlin.
- The company covers the entire value chain and sells the products worldwide with a focus on established markets as Germany, North America as well as further European countries.
- The products are sold by direct sale, international sales partners or OEM partnerships.
- Increasing in importance are the so-called "Global Partners", larger companies interested in an agreement to distribute aap's current products (and, if approved, the silver coating technology) via their sales channels.

Competitive Quality

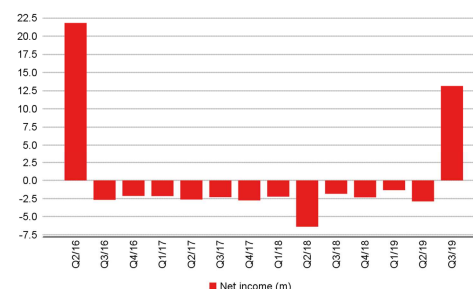
- aap Implantate AG has developed a patent protected anatomical plating system (LOQTEQ), which provides significant improvements for surgeons, hospitals and clinics as well as patients.
- Additionally aap has a promising development pipeline with an antibacterial silver coating for the implants as well as coated magnesium implants.

EBIT development in EUR m



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
	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	
Sales	11.0	17.9	21.9	30.4	39.2	42.5	45.4	48.3	51.0	53.7	56.2	58.4	60.4	
Sales change	1.7 %	63.1 %	22.3 %	39.2 %	28.8 %	8.5 %	6.8 %	6.4 %	5.5 %	5.3 %	4.7 %	4.0 %	3.3 %	2.5 %
EBIT	-8.8	-4.1	-2.7	2.3	5.2	6.2	7.2	8.1	9.0	9.9	11.7	12.2	12.6	
EBIT-margin	-80.6 %	-22.9 %	-12.5 %	7.5 %	13.1 %	14.7 %	15.8 %	16.9 %	17.7 %	18.5 %	20.8 %	20.8 %	20.8 %	
Tax rate (EBT)	-3.7 %	2.5 %	3.8 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	
NOPAT	-9.2	-4.0	-2.6	1.6	3.7	4.5	5.2	5.9	6.5	7.1	8.4	8.8	9.0	
Depreciation	2.9	2.3	2.8	3.7	4.5	4.4	4.2	4.0	3.7	3.4	2.8	2.3	1.8	
in % of Sales	26.2 %	13.0 %	13.0 %	12.3 %	11.4 %	10.4 %	9.3 %	8.2 %	7.3 %	6.3 %	5.0 %	4.0 %	3.0 %	
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	0.0	
Change in Liquidity from														
- Working Capital	-1.7	3.5	2.7	1.2	-0.2	1.3	1.2	1.2	1.1	1.1	1.0	0.9	0.8	
- Capex	1.7	0.7	0.7	2.2	2.5	2.2	2.2	2.1	2.0	1.8	1.8	1.8	1.8	
Capex in % of Sales	15.8 %	4.1 %	3.3 %	7.3 %	6.4 %	5.2 %	4.8 %	4.3 %	3.9 %	3.4 %	3.2 %	3.0 %	3.0 %	
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	
Free Cash Flow (WACC Model)	-6.3	-5.9	-3.2	1.9	5.8	5.4	6.1	6.6	7.2	7.6	8.4	8.4	8.3	9
PV of FCF	-6.2	-5.3	-2.7	1.5	4.0	3.3	3.4	3.4	3.4	3.3	3.3	3.0	2.7	41
share of PVs	-24.54 %			53.81 %										70.73 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	15.00 %	Financial Strength	2.40
Cost of debt (after tax)	6.8 %	Liquidity (share)	1.80
Market return	7.00 %	Cyclicality	1.20
Risk free rate	1.50 %	Transparency	1.40
		Others	1.20
WACC	9.77 %	Beta	1.60

Valuation (m)

Present values 2031e	17		
Terminal Value	41		
Financial liabilities	0		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	8	No. of shares (m)	32.1
Equity Value	65	Value per share (EUR)	2.04

Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth							Beta	WACC	Delta EBIT-margin						
		1.75 %	2.00 %	2.25 %	2.50 %	2.75 %	3.00 %	3.25 %			-1.5 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+1.5 pp
1.81	10.8 %	1.62	1.65	1.68	1.71	1.74	1.77	1.81	1.81	10.8 %	1.54	1.60	1.65	1.71	1.76	1.82	1.88
1.71	10.3 %	1.76	1.79	1.83	1.86	1.90	1.94	1.98	1.71	10.3 %	1.68	1.74	1.80	1.86	1.92	1.98	2.04
1.65	10.0 %	1.84	1.87	1.91	1.95	1.99	2.03	2.08	1.65	10.0 %	1.76	1.82	1.89	1.95	2.01	2.07	2.13
1.60	9.8 %	1.92	1.96	2.00	2.04	2.09	2.13	2.19	1.60	9.8 %	1.85	1.91	1.98	2.04	2.10	2.17	2.23
1.55	9.5 %	2.01	2.05	2.09	2.14	2.19	2.24	2.30	1.55	9.5 %	1.94	2.01	2.07	2.14	2.21	2.27	2.34
1.49	9.3 %	2.10	2.15	2.19	2.25	2.30	2.36	2.43	1.49	9.3 %	2.04	2.11	2.18	2.25	2.32	2.38	2.45
1.39	8.8 %	2.31	2.36	2.42	2.49	2.55	2.63	2.71	1.39	8.8 %	2.26	2.33	2.41	2.49	2.56	2.64	2.71

- With EUR 20-22m in sales, the company is expected to reach break-even (EBITDA).
- Beta is relatively high owing to the cyclicality of customers order behavior.

Valuation	2015	2016	2017	2018	2019e	2020e	2021e
Price / Book	1.7 x	0.7 x	1.0 x	1.4 x	0.5 x	0.5 x	0.6 x
Book value per share ex intangibles	0.97	1.42	1.07	0.75	0.49	0.39	0.35
EV / Sales	1.9 x	1.3 x	2.7 x	4.2 x	1.1 x	1.0 x	1.0 x
EV / EBITDA	n.a.	1.2 x	n.a.	n.a.	n.a.	n.a.	209.7 x
EV / EBIT	n.a.	1.4 x	n.a.	n.a.	n.a.	n.a.	n.a.
EV / EBIT adj.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
P / FCF	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
P / E	n.a.	2.8 x	n.a.	n.a.	n.a.	n.a.	n.a.
P / E adj.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dividend Yield	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
FCF Potential Yield (on market EV)	-8.3 %	73.4 %	-25.9 %	-18.2 %	-72.8 %	-21.7 %	-12.3 %

*Adjustments made for: -

Consolidated profit & loss

In EUR m	2015	2016	2017	2018	2019e	2020e	2021e
Sales	28.0	14.7	10.9	10.8	11.0	17.9	21.9
Change Sales yoy	-11.4 %	-47.5 %	-25.8 %	-1.1 %	1.7 %	63.1 %	22.3 %
Increase / decrease in inventory	3.8	1.3	-0.5	0.0	0.0	0.0	0.0
Own work capitalised	2.1	1.4	1.3	1.9	1.8	1.1	1.7
Total Sales	33.9	17.4	11.7	12.6	12.8	18.9	23.6
Material expenses	13.7	5.7	1.9	2.3	2.6	3.2	3.9
Gross profit	20.2	11.6	9.8	10.3	10.1	15.7	19.7
<i>Gross profit margin</i>	<i>72.2 %</i>	<i>79.1 %</i>	<i>89.9 %</i>	<i>95.5 %</i>	<i>92.4 %</i>	<i>88.0 %</i>	<i>90.0 %</i>
Personnel expenses	11.9	10.0	7.4	7.8	8.7	9.8	11.9
Other operating income	1.6	24.3	0.8	0.5	1.6	1.6	1.6
Other operating expenses	11.8	10.0	9.4	9.4	9.0	9.3	9.3
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	-1.9	16.0	-6.2	-6.4	-6.0	-1.8	0.1
<i>Margin</i>	<i>-6.7 %</i>	<i>109.0 %</i>	<i>-57.0 %</i>	<i>-59.5 %</i>	<i>-54.5 %</i>	<i>-9.9 %</i>	<i>0.5 %</i>
Depreciation of fixed assets	1.6	1.1	1.2	1.1	2.3	1.4	1.7
EBITA	-3.5	14.9	-7.4	-7.5	-8.3	-3.2	-1.6
Amortisation of intangible assets	0.9	1.1	0.6	0.7	0.5	0.9	1.1
Goodwill amortisation	0.5	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	-4.9	13.7	-8.0	-8.1	-8.8	-4.1	-2.7
<i>Margin</i>	<i>-17.5 %</i>	<i>93.4 %</i>	<i>-73.3 %</i>	<i>-75.5 %</i>	<i>-80.6 %</i>	<i>-22.9 %</i>	<i>-12.5 %</i>
EBIT adj.	-4.9	-10.2	-8.0	-8.1	-8.8	-4.1	-2.7
Interest income	0.0	0.0	0.0	0.0	0.3	0.3	0.3
Interest expenses	0.0	0.0	0.0	0.0	0.2	0.2	0.2
Other financial income (loss)	-0.4	0.3	-1.3	0.5	0.0	0.0	0.0
EBT	-5.3	14.0	-9.3	-7.7	-8.7	-4.0	-2.6
<i>Margin</i>	<i>-19.1 %</i>	<i>95.6 %</i>	<i>-85.3 %</i>	<i>-71.0 %</i>	<i>-79.7 %</i>	<i>-22.3 %</i>	<i>-12.1 %</i>
Total taxes	0.0	-0.6	0.0	0.0	0.3	-0.1	-0.1
Net income from continuing operations	-5.3	14.6	-9.3	-7.6	-9.1	-3.9	-2.5
Income from discontinued operations (net of tax)	0.0	-0.1	0.3	-0.2	0.0	0.0	0.0
Net income before minorities	-5.3	14.6	-8.9	-7.8	-9.1	-3.9	-2.5
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income	-5.3	14.6	-8.9	-7.8	-9.1	-3.9	-2.5
<i>Margin</i>	<i>-19.1 %</i>	<i>99.2 %</i>	<i>-82.0 %</i>	<i>-72.5 %</i>	<i>-82.6 %</i>	<i>-21.8 %</i>	<i>-11.6 %</i>
Number of shares, average	30.7	30.8	28.6	28.7	30.7	32.1	32.1
EPS	-0.17	0.47	-0.31	-0.27	-0.30	-0.12	-0.08
EPS adj.	-0.17	-0.30	-0.31	-0.27	-0.30	-0.12	-0.08

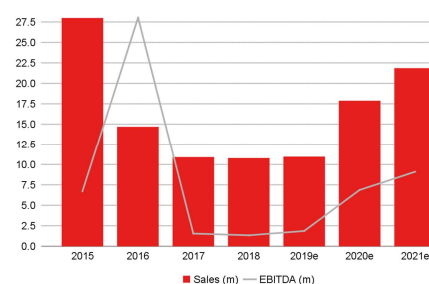
*Adjustments made for:

Guidance: Sales EUR 11.0-13.0m, EBITDA EUR -6.0 to -5.0m

Financial Ratios

	2015	2016	2017	2018	2019e	2020e	2021e
Total Operating Costs / Sales	127.9 %	9.2 %	164.0 %	176.8 %	170.9 %	115.9 %	107.5 %
Operating Leverage	-922.7 x	n.a.	n.a.	-1.7 x	5.1 x	-0.9 x	-1.5 x
EBITDA / Interest expenses	n.m.	800.5 x	n.m.	n.m.	n.m.	n.m.	0.5 x
Tax rate (EBT)	-0.2 %	-4.2 %	0.3 %	0.2 %	-3.7 %	2.5 %	3.8 %
Dividend Payout Ratio	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Sales per Employee	156,302	94,755	75,186	74,352	75,586	123,283	150,730

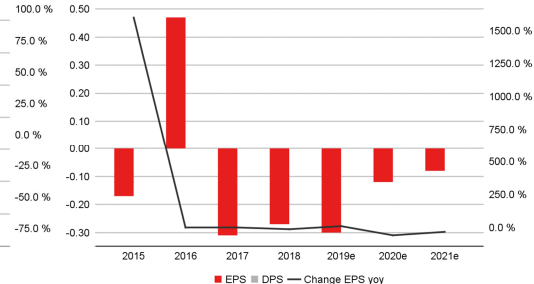
Sales, EBITDA
in EUR m



Operating Performance
in %



Performance per Share



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

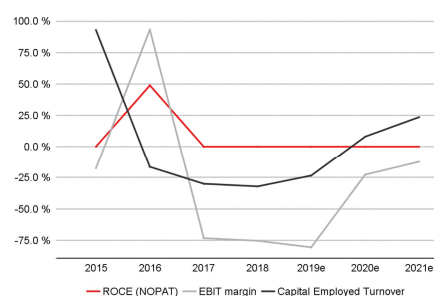
Consolidated balance sheet

In EUR m	2015	2016	2017	2018	2019e	2020e	2021e
Assets							
Goodwill and other intangible assets	10.4	11.1	11.8	13.3	13.1	13.1	13.1
thereof other intangible assets	0.5	0.1	0.1	0.2	0.0	0.0	0.0
thereof Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property, plant and equipment	7.7	7.6	7.2	6.9	5.3	4.6	3.6
Financial assets	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other long-term assets	0.0	1.8	1.1	0.6	0.6	0.6	0.6
Fixed assets	18.3	20.8	20.3	20.9	19.1	18.4	17.4
Inventories	9.7	11.1	9.6	9.6	8.4	11.9	14.6
Accounts receivable	5.5	2.9	2.5	2.7	2.2	3.6	4.4
Liquid assets	19.6	23.8	13.3	4.3	3.3	1.8	0.3
Other short-term assets	1.8	5.3	4.7	4.8	4.8	4.8	4.8
Current assets	36.6	43.1	30.2	21.3	18.6	22.0	24.1
Total Assets	54.9	63.9	50.5	42.2	37.7	40.4	41.5
Liabilities and shareholders' equity							
Subscribed capital	30.7	30.8	28.6	28.7	32.1	32.1	32.1
Capital reserve	17.6	17.5	19.9	20.0	20.1	20.1	20.1
Retained earnings	0.9	15.2	12.1	11.9	2.8	-1.1	-3.6
Other equity components	-8.9	-8.7	-18.0	-25.7	-26.4	-25.5	-24.4
Shareholders' equity	40.3	54.8	42.6	34.9	28.7	25.7	24.2
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total equity	40.3	54.8	42.6	34.9	28.7	25.7	24.2
Provisions	0.3	0.4	0.8	0.3	0.3	0.3	0.3
thereof provisions for pensions and similar obligations	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial liabilities (total)	4.6	2.3	1.1	0.3	2.0	6.3	8.0
thereof short-term financial liabilities	3.3	1.3	0.3	0.0	0.0	4.3	6.0
Accounts payable	4.1	2.5	1.8	2.1	2.2	3.6	4.4
Other liabilities	5.6	3.8	4.3	4.5	4.5	4.5	4.5
Liabilities	14.6	9.1	7.9	7.3	9.0	14.7	17.2
Total liabilities and shareholders' equity	54.9	63.9	50.5	42.2	37.7	40.4	41.5

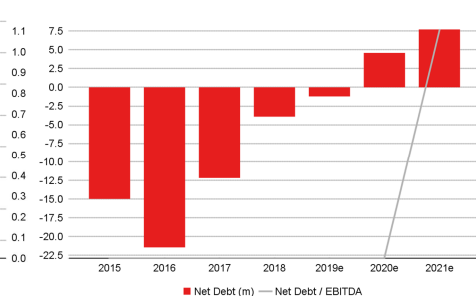
Financial Ratios

	2015	2016	2017	2018	2019e	2020e	2021e
Efficiency of Capital Employment							
Operating Assets Turnover	1.5 x	0.8 x	0.6 x	0.6 x	0.8 x	1.1 x	1.2 x
Capital Employed Turnover	1.1 x	0.4 x	0.4 x	0.3 x	0.4 x	0.6 x	0.7 x
ROA	-29.2 %	70.2 %	-44.0 %	-37.4 %	-47.4 %	-21.2 %	-14.6 %
Return on Capital							
ROCE (NOPAT)	n.a.	48.8 %	n.a.	n.a.	n.a.	n.a.	n.a.
ROE	-12.5 %	30.7 %	-18.4 %	-20.2 %	-28.5 %	-14.3 %	-10.2 %
Adj. ROE	-12.5 %	-19.6 %	-18.4 %	-20.2 %	-28.5 %	-14.3 %	-10.2 %
Balance sheet quality							
Net Debt	-15.0	-21.5	-12.2	-3.9	-1.2	4.6	7.7
Net Financial Debt	-15.0	-21.5	-12.2	-3.9	-1.2	4.6	7.7
Net Gearing	-37.2 %	-39.2 %	-28.7 %	-11.2 %	-4.2 %	17.9 %	31.8 %
Net Fin. Debt / EBITDA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	7523.9 %
Book Value / Share	1.3	1.8	1.5	1.2	0.9	0.8	0.8
Book value per share ex intangibles	1.0	1.4	1.1	0.8	0.5	0.4	0.3

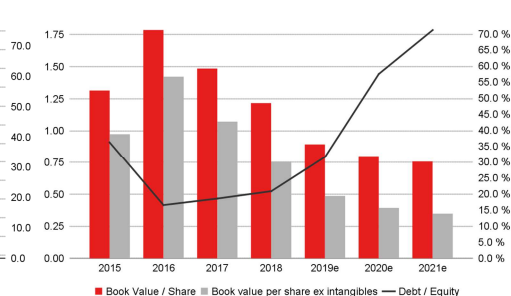
ROCE Development



**Net debt
in EUR m**



**Book Value per Share
in EUR**



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

Consolidated cash flow statement

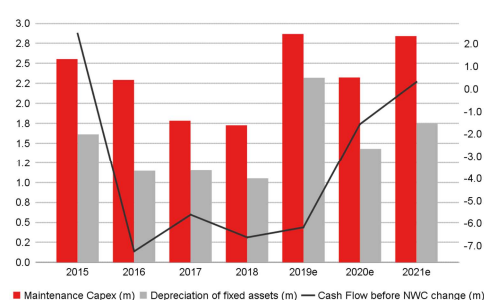
In EUR m	2015	2016	2017	2018	2019e	2020e	2021e
Net income	-5.3	14.6	-9.3	-7.6	-9.1	-3.9	-2.5
Depreciation of fixed assets	1.6	1.1	1.2	1.1	2.3	1.4	1.7
Amortisation of goodwill	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.9	1.1	0.6	0.7	0.5	0.9	1.1
Increase/decrease in long-term provisions	0.0	0.4	0.3	-0.5	0.0	0.0	0.0
Other non-cash income and expenses	4.8	-24.6	1.5	-0.2	0.0	0.0	0.0
Cash Flow before NWC change	2.5	-7.2	-5.6	-6.6	-6.2	-1.6	0.3
Increase / decrease in inventory	0.0	0.1	0.1	0.6	1.2	-3.5	-2.7
Increase / decrease in accounts receivable	0.0	0.0	0.0	0.0	0.5	-1.4	-0.8
Increase / decrease in accounts payable	0.0	0.0	0.0	0.0	0.1	1.4	0.8
Increase / decrease in other working capital positions	0.0	-0.1	0.1	0.1	0.0	0.0	0.0
Increase / decrease in working capital (total)	0.0	0.0	0.2	0.7	1.7	-3.5	-2.7
Net cash provided by operating activities [1]	2.5	-7.2	-5.4	-5.9	-4.5	-5.1	-2.4
Investments in intangible assets	0.0	-1.0	-1.3	-2.2	-1.0	0.0	0.0
Investments in property, plant and equipment	-3.1	-1.0	-0.7	-0.7	-0.7	-0.7	-0.7
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	0.1	31.9	0.5	0.0	0.0	0.0	0.0
Net cash provided by investing activities [2]	-3.1	29.8	-1.5	-3.0	-1.7	-0.7	-0.7
Change in financial liabilities	-1.1	-2.3	-1.4	-0.8	1.7	4.3	1.7
Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchase of own shares	0.0	0.0	-3.4	0.0	0.0	0.0	0.0
Capital measures	0.2	0.0	0.1	0.1	3.5	0.0	0.0
Other	-1.0	-2.3	1.2	0.6	0.0	0.0	0.0
Net cash provided by financing activities [3]	-1.9	-4.6	-3.5	-0.2	5.2	4.3	1.7
Change in liquid funds [1]+[2]+[3]	-2.5	18.1	-10.5	-9.0	-1.0	-1.5	-1.4
Effects of exchange-rate changes on cash	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Cash and cash equivalent at end of period	9.7	23.8	13.3	4.3	3.3	1.8	0.3

Financial Ratios

	2015	2016	2017	2018	2019e	2020e	2021e
Cash Flow							
FCF	-0.7	-9.3	-7.5	-8.9	-6.2	-5.8	-3.1
Free Cash Flow / Sales	-2.4 %	-63.4 %	-68.6 %	-82.5 %	-56.5 %	-32.5 %	-14.3 %
Free Cash Flow Potential	-4.4	14.3	-7.6	-8.3	-9.2	-4.0	-2.6
Free Cash Flow / Net Profit	12.7 %	-63.9 %	83.7 %	113.8 %	68.3 %	149.0 %	123.3 %
Interest Received / Avg. Cash	0.0 %	0.1 %	0.0 %	0.0 %	8.0 %	12.0 %	28.8 %
Interest Paid / Avg. Debt	0.8 %	0.6 %	2.8 %	4.2 %	16.7 %	4.8 %	2.8 %
Management of Funds							
Investment ratio	11.2 %	13.6 %	18.8 %	26.9 %	15.8 %	4.1 %	3.3 %
Maint. Capex / Sales	9.1 %	15.6 %	16.4 %	16.0 %	26.2 %	13.0 %	13.0 %
Capex / Dep	103.9 %	87.2 %	114.8 %	167.7 %	60.4 %	31.5 %	25.8 %
Avg. Working Capital / Sales	48.0 %	76.8 %	100.2 %	95.3 %	84.5 %	56.8 %	60.6 %
Trade Debtors / Trade Creditors	134.5 %	115.5 %	145.1 %	123.9 %	100.0 %	100.0 %	100.0 %
Inventory Turnover	1.4 x	0.5 x	0.2 x	0.2 x	0.3 x	0.3 x	0.3 x
Receivables collection period (days)	72	73	85	90	73	74	73
Payables payment period (days)	109	162	342	335	305	408	408
Cash conversion cycle (Days)	221	614	1,619	1,255	934	1,015	1,020

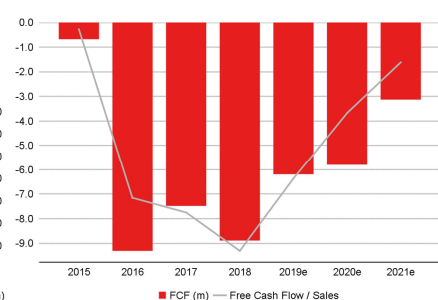
CAPEX and Cash Flow

in EUR m



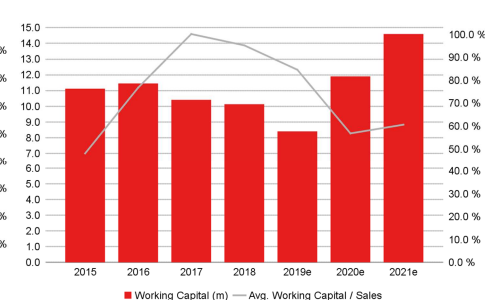
Source: Warburg Research

Free Cash Flow Generation



Source: Warburg Research

Working Capital



Source: Warburg Research

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Company	Disclosure	Link to the historical price targets and rating changes (last 12 months)
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-B-	Buy:	The price of the analysed financial instrument is expected to rise over the next 12 months.
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“-“	Rating suspended:	The available information currently does not permit an evaluation of the company.

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Rating	Number of stocks	% of Universe
Buy	117	58
Hold	74	36
Sell	7	3
Rating suspended	5	2
Total	203	100

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	31	79
Hold	6	15
Sell	0	0
Rating suspended	2	5
Total	39	100

PRICE AND RATING HISTORY AAP IMPLANTATE AS OF 29.01.2020



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.

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