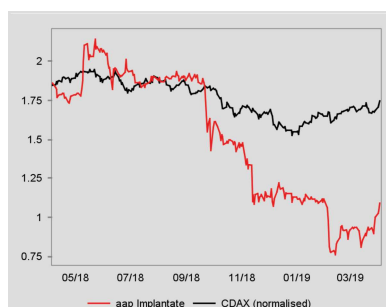


Buy EUR 2.00 Price EUR 1.09 Upside 83.5 %	Value Indicators: EUR DCF: 2.04	Share data: Bloomberg: AAQ GR Reuters: AAQG.DE ISIN: DE0005066609	Description: Producer of implants to mend broken bones
	Market Snapshot: EUR m Market cap: 31.2 No. of shares (m): 28.6 EV: 34.2 Freefloat MC: 14.1 Ø Trad. Vol. (30d): 15.45 th	Shareholders: Freefloat 45.2 % <i>Ratio Capital Management</i> 15.8 % <i>Noes Beheer B.V.</i> 11.7 % <i>Jürgen W. Krebs</i> 9.9 % <i>Taaleritehdas</i> 6.8 %	Risk Profile (WRe): 2018e Beta: 1.6 Price / Book: 0.9 x Equity Ratio: 81 %

Q1 preliminary sales show strong start to the year

- **Strong start to the year:** aap Implantate reported preliminary Q1 sales of EUR 3.5m, 25% higher than the previous year's level of EUR 2.8m. The company was guiding for sales of between EUR 2.0m to EUR 3.0m and, on the strength of the preliminary sales figure, is now anticipating a smaller EBITDA loss of only EUR -1.2m to EUR -0.9m for Q1 (previously: EUR -1.8m to EUR -1.2m). The FY guidance was maintained.
- **All regions contributing to double-digit growth rate:** Positive is that all regions contributed strong growth to the sales increase in Q1. The main driver was International excluding North America (NA), which grew by 28% to EUR 2.1m, with positive contributions from Europe excl. Germany (+30%) and BRICS states (+11%), followed by North America, which recorded sales growth of 18% to EUR 0.6m. Given the sales level already achieved, performance in Germany was strong at +14%, thus maintaining last year's growth momentum. Important to note is that growth in the International segment (excl. NA) is based on established client relationships rather than new wins. We regard this as a positive sign as it demonstrates that a relationship with a customer is stable once it is established.
- **Business in North America stabilizing:** This is also reflected in the development in North America, where sales increased by 18%. A closer look reveals that this was mainly driven by sales to aap's network of distributors. As no new global partnership was signed, sales to global partners remained at low levels. However, management recently said that it is still in the process of establishing this distribution line for its Trauma products. But, as it is still early days - aap entered the NA market in 2015 - our hopes are now pinned on the coming quarters.
- **Silver coating technology attracting strong interest from global players:** A few days before the preliminary release, the company provided an update on the innovative antibacterial silver coating technology, saying that it registered a high level of interest from global orthopaedic companies at a business fair in Las Vegas, U.S.A. Furthermore, the company is in ongoing constructive talks with regulatory authorities regarding the required human clinical study and these are progressing according to plan. The company aims to start the human clinical study in H1 2019.
- **Q1 is a validation of the underlying business case:** aap reported a strong start to the year for its underlying Trauma business, substantiating the FY guidance, which is targeting sales of EUR 13-15m (at the mid-point: +30% y-oy). The same is true for the FY EBITDA guidance, which is anticipating an EBITDA loss of between minus EUR 4.4m to minus EUR 2.8m.
- **Buy rating reiterated:** Our DCF model, including the successful development of silver coating technology, suggests a fair value per share of EUR 2.00. Excluding the antibacterial technology, which is still in the development process, we derive a DCF value of EUR 1.50 per share. aap is currently valued at only 2.3x EV/sales (2019e) vs. 3.8x derived for the peer-group, showing a clear undervaluation of the business. In view of the upside potential derived and the positive news-flow, we reiterate our Buy rating.



Rel. Performance vs CDAX:

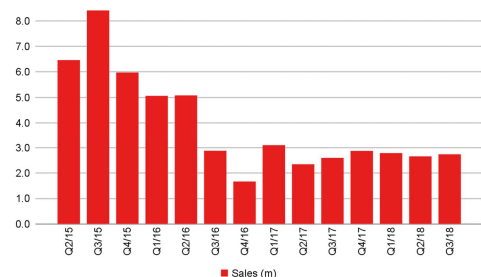
1 month:	14.2 %
6 months:	-28.4 %
Year to date:	-16.3 %
Trailing 12 months:	-37.3 %

Company events:

30.04.19	FY 2018
13.05.19	Q1
21.06.19	AGM
14.08.19	Q2

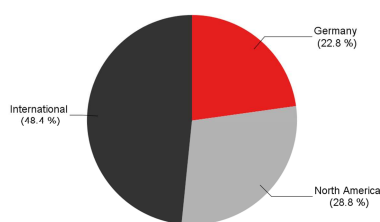
FY End: 31.12. in EUR m	CAGR (17-20e)	2014	2015	2016	2017	2018e	2019e	2020e
Sales	17.9 %	31.6	28.0	14.7	10.9	10.8	14.0	17.9
Change Sales yoy		-21.0 %	-11.4 %	-47.5 %	-25.8 %	-1.1 %	30.3 %	27.3 %
EBITDA	-	2.3	-1.9	16.0	-6.2	-6.7	-3.6	-1.8
Margin		7.2 %	-6.7 %	109.0 %	-57.0 %	-61.8 %	-25.4 %	-9.9 %
EBITDA adj.		2.3	-1.9	-7.9	-6.2	-6.7	-3.6	-1.8
Margin		7.2 %	-6.7 %	-53.7 %	-57.0 %	-61.8 %	-25.4 %	-9.9 %
EBIT	-	0.0	-4.9	13.7	-8.0	-8.1	-5.4	-4.1
Margin		-0.1 %	-17.5 %	93.4 %	-73.3 %	-74.8 %	-38.4 %	-22.9 %
Net income	-	-0.5	-5.3	14.6	-8.9	-7.9	-5.2	-3.9
EPS	-	-0.01	-0.17	0.47	-0.31	-0.27	-0.18	-0.14
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		-0.26	-0.02	-0.30	-0.26	-0.31	-0.22	-0.16
FCF / Market cap		-7.3 %	-1.0 %	-22.5 %	-17.9 %	-28.1 %	-20.5 %	-14.7 %
EV / Sales		2.4 x	1.9 x	1.3 x	2.7 x	2.6 x	2.4 x	2.2 x
EV / EBITDA		33.5 x	n.a.	1.2 x	n.a.	n.a.	n.a.	n.a.
EV / EBIT		n.a.	n.a.	1.4 x	n.a.	n.a.	n.a.	n.a.
P / E		n.a.	n.a.	2.8 x	n.a.	n.a.	n.a.	n.a.
FCF Potential Yield		-0.4 %	-8.3 %	73.4 %	-25.9 %	-28.6 %	-15.5 %	-10.3 %
Net Debt		-7.8	-15.0	-21.5	-12.2	-3.4	3.0	7.6
ROCE (NOPAT)		n.a.	n.a.	48.8 %	n.a.	n.a.	n.a.	n.a.
Guidance:		2019: sales EUR 13.0-15.0m, EBITDA EUR -4.4 to -2.8m						

Sales development
in EUR m



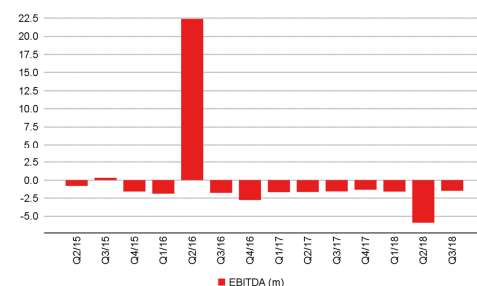
Source: Warburg Research

Sales by regions
2017; in %



Source: Warburg Research

EBITDA development
in EUR m



Source: Warburg Research

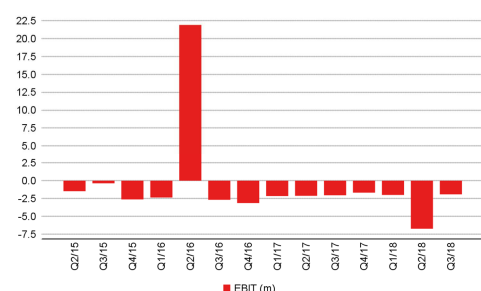
Company Background

- 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

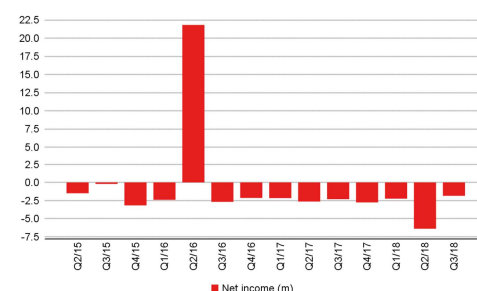
- aap Implantate AG has developed a patent protected anatomical plating system (LOQTEQ), which provides significant improvements for surgeons, hospitals and clinics as well as patients.
- Additionally aap has a promising development pipeline with an antibacterial silver coating for the implants as well 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
	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	
Sales	10.8	14.0	17.9	21.9	30.4	39.2	42.5	45.4	48.3	51.0	53.7	56.2	58.4	2.5 %
Sales change	-1.1 %	30.3 %	27.3 %	22.3 %	39.2 %	28.8 %	8.5 %	6.8 %	6.4 %	5.5 %	5.3 %	4.7 %	4.0 %	
EBIT	-8.1	-5.4	-4.1	-1.9	2.3	5.2	6.2	7.2	8.1	9.0	9.9	11.7	12.2	20.8 %
EBIT-margin	-74.8 %	-38.4 %	-22.9 %	-8.6 %	7.5 %	13.1 %	14.7 %	15.8 %	16.9 %	17.7 %	18.5 %	20.8 %	20.8 %	
Tax rate (EBT)	1.3 %	1.9 %	2.5 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	8.8
NOPAT	-8.0	-5.3	-4.0	-1.4	1.6	3.7	4.5	5.2	5.9	6.5	7.1	8.4	8.8	
Depreciation	1.4	1.8	2.3	2.7	3.5	4.1	4.0	3.7	3.5	3.2	2.7	2.2	1.8	3.0 %
in % of Sales	13.0 %	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	0.9
Change in Liquidity from														
- Working Capital	-0.4	1.3	1.3	-1.2	0.8	3.5	1.3	1.2	1.2	1.1	1.1	1.0	0.9	1.8
- Capex	2.7	1.7	1.7	2.1	2.1	2.1	2.0	2.0	1.9	1.7	1.7	1.7	1.8	
Capex in % of Sales	25.3 %	12.3 %	9.7 %	9.6 %	6.8 %	5.2 %	4.8 %	4.3 %	3.9 %	3.4 %	3.2 %	3.0 %	3.0 %	0.0
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)	-8.9	-6.5	-4.7	0.5	2.2	2.2	5.1	5.8	6.4	6.9	7.0	8.0	7.8	9
PV of FCF	-9.2	-6.1	-4.0	0.4	1.6	1.4	3.0	3.1	3.1	3.1	2.8	2.9	2.6	
share of PVs	-41.81 %			52.32 %										89.49 %

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 2030e	5		
Terminal Value	41		
Financial liabilities	1		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	13	No. of shares (m)	28.6
Equity Value	58	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 %	1.58	1.61	1.65	1.68	1.71	1.75	1.79	1.81	10.8 %	1.50	1.56	1.62	1.68	1.74	1.80	1.86
1.71	10.3 %	1.73	1.77	1.81	1.85	1.89	1.93	1.98	1.71	10.3 %	1.65	1.72	1.78	1.85	1.91	1.97	2.04
1.65	10.0 %	1.81	1.85	1.89	1.94	1.98	2.03	2.09	1.65	10.0 %	1.74	1.80	1.87	1.94	2.00	2.07	2.14
1.60	9.8 %	1.90	1.94	1.99	2.04	2.09	2.14	2.20	1.60	9.8 %	1.83	1.90	1.97	2.04	2.11	2.18	2.24
1.55	9.5 %	1.99	2.04	2.09	2.14	2.20	2.26	2.33	1.55	9.5 %	1.93	2.00	2.07	2.14	2.21	2.29	2.36
1.49	9.3 %	2.09	2.14	2.20	2.26	2.32	2.39	2.46	1.49	9.3 %	2.03	2.11	2.18	2.26	2.33	2.41	2.48
1.39	8.8 %	2.32	2.38	2.44	2.52	2.59	2.68	2.77	1.39	8.8 %	2.27	2.35	2.43	2.52	2.60	2.68	2.76

- 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.

Peer Group

Company	LC	Price in LC	MC in LC m	EV in LC m	P / E		EV / Sales		EV / EBITDA	
					19e	20e	19e	20e	19e	20e
Globus Medical	USD	47.41	3,609.9	4,070.5	27.6 x	24.7 x	5.3 x	4.8 x	15.3 x	13.6 x
NuVasive	USD	55.57	2,881.7	3,366.4	24.5 x	21.9 x	2.9 x	2.8 x	11.8 x	10.9 x
Orthofix	USD	55.36	1,055.2	985.6	31.1 x	27.0 x	2.1 x	1.9 x	15.6 x	12.6 x
Wright Medical	USD	30.88	3,886.5	4,810.3	19.9 x	16.7 x	5.0 x	4.5 x	29.0 x	22.4 x
Integra LifeSciences	USD	54.25	4,623.7	5,839.1	20.2 x	18.0 x	3.8 x	3.6 x	15.8 x	14.4 x
Average					60.3 x	32.3 x	3.8 x	3.5 x	17.5 x	14.8 x
Median					27.6 x	24.7 x	3.8 x	3.6 x	15.6 x	13.6 x
aap Implantate	EUR	1.04	29.9	32.9	neg.	neg.	2.3 x	1.8 x	neg.	neg.
Valuation difference to Average					n.a.	n.a.	63%	93%	n.a.	n.a.
Fair value per share based on Average					n.a.	n.a.	1.76	2.10	n.a.	n.a.

- Peer group comparison shows the undervaluation of aap
- The valuation of unprofitable peers is considerably higher in terms of EV/sales
- Peers include trauma companies with a global presence
- aap is a pure player in the trauma area. The peer group demonstrates the potential of a pure trauma focus.

Valuation

	2014	2015	2016	2017	2018e	2019e	2020e
Price / Book	1.9 x	1.7 x	0.7 x	1.0 x	0.9 x	1.1 x	1.3 x
Book value per share ex intangibles	0.99	0.97	1.42	1.07	0.75	0.56	0.42
EV / Sales	2.4 x	1.9 x	1.3 x	2.7 x	2.6 x	2.4 x	2.2 x
EV / EBITDA	33.5 x	n.a.	1.2 x	n.a.	n.a.	n.a.	n.a.
EV / EBIT	n.a.	n.a.	1.4 x	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.	n.a.	2.8 x	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)	-0.4 %	-8.3 %	73.4 %	-25.9 %	-28.6 %	-15.5 %	-10.3 %

*Adjustments made for: -

Consolidated profit & loss

In EUR m	2014	2015	2016	2017	2018e	2019e	2020e
Sales	31.6	28.0	14.7	10.9	10.8	14.0	17.9
Change Sales yoy	-21.0 %	-11.4 %	-47.5 %	-25.8 %	-1.1 %	30.3 %	27.3 %
Increase / decrease in inventory	2.1	3.8	1.3	-0.5	0.0	0.0	0.0
Own work capitalised	0.3	2.1	1.4	1.3	0.9	1.1	1.1
Total Sales	34.0	33.9	17.4	11.7	11.6	15.2	18.9
Material expenses	12.3	13.7	5.7	1.9	1.9	2.5	3.2
Gross profit	21.7	20.2	11.6	9.8	9.7	12.6	15.7
Gross profit margin	68.8 %	72.2 %	79.1 %	89.9 %	90.0 %	90.0 %	88.0 %
Personnel expenses	12.2	11.9	10.0	7.4	8.5	8.8	9.8
Other operating income	3.1	1.6	24.3	0.8	1.6	1.6	1.6
Other operating expenses	10.3	11.8	10.0	9.4	9.5	9.0	9.3
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	2.3	-1.9	16.0	-6.2	-6.7	-3.6	-1.8
Margin	7.2 %	-6.7 %	109.0 %	-57.0 %	-61.8 %	-25.4 %	-9.9 %
Depreciation of fixed assets	0.8	1.6	1.1	1.2	0.9	1.1	1.4
EBITA	1.5	-3.5	14.9	-7.4	-7.5	-4.7	-3.2
Amortisation of intangible assets	1.5	0.9	1.1	0.6	0.5	0.7	0.9
Goodwill amortisation	0.0	0.5	0.0	0.0	0.0	0.0	0.0
EBIT	0.0	-4.9	13.7	-8.0	-8.1	-5.4	-4.1
Margin	-0.1 %	-17.5 %	93.4 %	-73.3 %	-74.8 %	-38.4 %	-22.9 %
EBIT adj.	0.0	-4.9	-10.2	-8.0	-8.1	-5.4	-4.1
Interest income	0.0	0.0	0.0	0.0	0.3	0.3	0.3
Interest expenses	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Other financial income (loss)	0.0	-0.4	0.3	-1.3	0.0	0.0	0.0
EBT	-0.2	-5.3	14.0	-9.3	-8.0	-5.3	-4.0
Margin	-0.6 %	-19.1 %	95.6 %	-85.3 %	-73.9 %	-37.6 %	-22.3 %
Total taxes	0.3	0.0	-0.6	0.0	-0.1	-0.1	-0.1
Net income from continuing operations	-0.5	-5.3	14.6	-9.3	-7.9	-5.2	-3.9
Income from discontinued operations (net of tax)	0.0	0.0	-0.1	0.3	0.0	0.0	0.0
Net income before minorities	-0.5	-5.3	14.6	-8.9	-7.9	-5.2	-3.9
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income	-0.5	-5.3	14.6	-8.9	-7.9	-5.2	-3.9
Margin	-1.4 %	-19.1 %	99.2 %	-82.0 %	-72.9 %	-36.9 %	-21.8 %
Number of shares, average	30.7	30.7	30.8	28.6	28.6	28.6	28.6
EPS	-0.01	-0.17	0.47	-0.31	-0.27	-0.18	-0.14
EPS adj.	-0.01	-0.17	-0.30	-0.31	-0.27	-0.18	-0.14

*Adjustments made for:

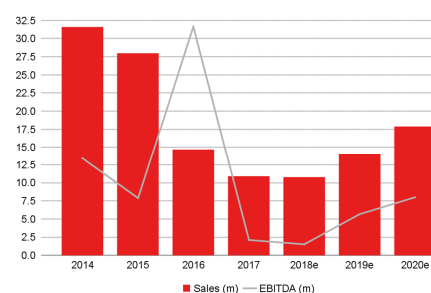
Guidance: 2019: sales EUR 13.0-15.0m, EBITDA EUR -4.4 to -2.8m

Financial Ratios

	2014	2015	2016	2017	2018e	2019e	2020e
Total Operating Costs / Sales	100.4 %	127.9 %	9.2 %	164.0 %	169.8 %	133.4 %	115.9 %
Operating Leverage	4.7 x	-922.7 x	n.a.	n.a.	-0.7 x	-1.1 x	-0.9 x
EBITDA / Interest expenses	28.8 x	n.m.	800.5 x	n.m.	n.m.	n.m.	n.m.
Tax rate (EBT)	-162.1 %	-0.2 %	-4.2 %	0.3 %	1.3 %	1.9 %	2.5 %
Dividend Payout Ratio	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Sales per Employee	213,473	156,302	94,755	75,186	74,331	96,854	123,283

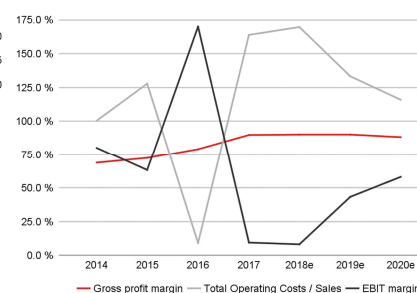
Sales, EBITDA

in EUR m

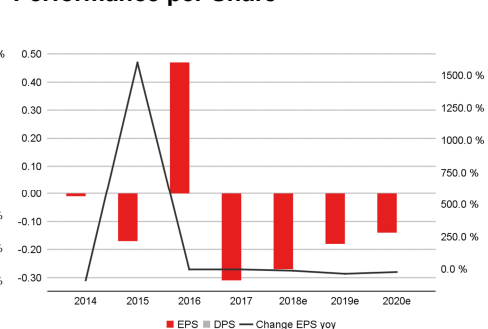


Operating Performance

in %



Performance per Share



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

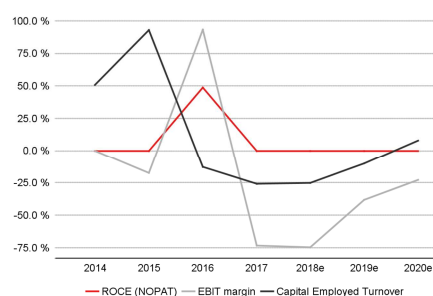
Consolidated balance sheet

In EUR m	2014	2015	2016	2017	2018e	2019e	2020e
Assets							
Goodwill and other intangible assets	15.2	10.4	11.1	11.8	11.7	11.7	11.7
thereof other intangible assets	0.5	0.5	0.1	0.1	0.0	0.0	0.0
thereof Goodwill	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Property, plant and equipment	7.7	7.7	7.6	7.2	7.1	6.7	6.0
Financial assets	1.7	0.2	0.2	0.2	0.2	0.2	0.2
Other long-term assets	0.0	0.0	1.8	1.1	1.1	1.1	1.1
Fixed assets	24.5	18.3	20.8	20.3	20.1	19.7	19.0
Inventories	9.4	9.7	11.1	9.6	9.5	10.8	11.9
Accounts receivable	9.3	5.5	2.9	2.5	2.2	2.8	3.6
Liquid assets	12.2	19.6	23.8	13.3	4.5	2.1	1.5
Other short-term assets	2.4	1.8	5.3	4.7	4.7	4.7	4.7
Current assets	33.3	36.6	43.1	30.2	20.9	20.4	21.7
Total Assets	57.9	54.9	63.9	50.5	41.0	40.1	40.7
Liabilities and shareholders' equity							
Subscribed capital	30.7	30.7	30.8	28.6	28.6	28.6	28.6
Capital reserve	17.6	17.6	17.5	19.9	19.9	19.9	19.9
Retained earnings	0.7	0.9	15.2	12.1	4.2	-1.0	-4.9
Other equity components	-3.6	-8.9	-8.7	-18.0	-19.6	-19.8	-19.9
Shareholders' equity	45.4	40.3	54.8	42.6	33.1	27.7	23.7
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total equity	45.4	40.3	54.8	42.6	33.1	27.7	23.7
Provisions	0.4	0.3	0.4	0.8	0.8	0.8	0.8
thereof provisions for pensions and similar obligations	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Financial liabilities (total)	4.3	4.6	2.3	1.1	1.1	5.0	9.0
thereof short-term financial liabilities	2.0	3.3	1.3	0.3	0.3	4.3	8.3
Accounts payable	2.9	4.1	2.5	1.8	1.7	2.3	2.9
Other liabilities	4.8	5.6	3.8	4.3	4.3	4.3	4.3
Liabilities	12.4	14.6	9.1	7.9	7.9	12.4	17.0
Total liabilities and shareholders' equity	57.9	54.9	63.9	50.5	41.0	40.1	40.7

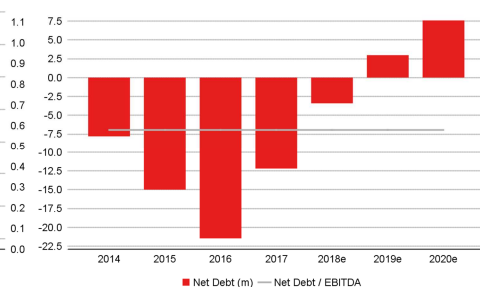
Financial Ratios

	2014	2015	2016	2017	2018e	2019e	2020e
Efficiency of Capital Employment							
Operating Assets Turnover	1.3 x	1.5 x	0.8 x	0.6 x	0.6 x	0.8 x	1.0 x
Capital Employed Turnover	0.8 x	1.1 x	0.4 x	0.4 x	0.4 x	0.5 x	0.6 x
ROA	-1.9 %	-29.2 %	70.2 %	-44.0 %	-39.2 %	-26.4 %	-20.5 %
Return on Capital							
ROCE (NOPAT)	n.a.	n.a.	48.8 %	n.a.	n.a.	n.a.	n.a.
ROE	-1.0 %	-12.5 %	30.7 %	-18.4 %	-20.8 %	-17.1 %	-15.1 %
Adj. ROE	-1.0 %	-12.5 %	-19.6 %	-18.4 %	-20.8 %	-17.1 %	-15.1 %
Balance sheet quality							
Net Debt	-7.8	-15.0	-21.5	-12.2	-3.4	3.0	7.6
Net Financial Debt	-7.9	-15.0	-21.5	-12.2	-3.4	3.0	7.6
Net Gearing	-17.2 %	-37.2 %	-39.2 %	-28.7 %	-10.3 %	10.8 %	32.0 %
Net Fin. Debt / EBITDA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Book Value / Share	1.5	1.3	1.8	1.5	1.2	1.0	0.8
Book value per share ex intangibles	1.0	1.0	1.4	1.1	0.7	0.6	0.4

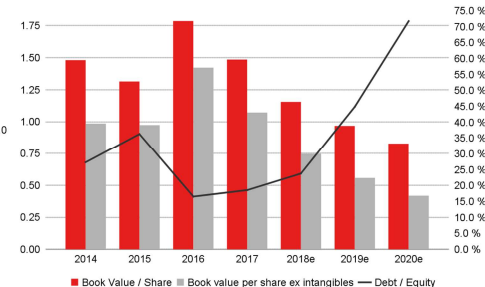
ROCE Development



Net debt in EUR m



Book Value per Share in EUR



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

Consolidated cash flow statement

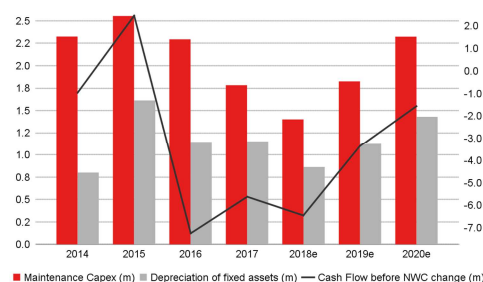
In EUR m	2014	2015	2016	2017	2018e	2019e	2020e
Net income	-0.5	-5.3	14.6	-9.3	-7.9	-5.2	-3.9
Depreciation of fixed assets	0.8	1.6	1.1	1.2	0.9	1.1	1.4
Amortisation of goodwill	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	1.5	0.9	1.1	0.6	0.5	0.7	0.9
Increase/decrease in long-term provisions	0.2	0.0	0.4	0.3	0.0	0.0	0.0
Other non-cash income and expenses	-3.0	4.8	-24.6	1.5	0.0	0.0	0.0
Cash Flow before NWC change	-1.0	2.5	-7.2	-5.6	-6.5	-3.4	-1.6
Increase / decrease in inventory	-2.0	0.0	0.1	0.1	0.1	-1.3	-1.1
Increase / decrease in accounts receivable	0.0	0.0	0.0	0.0	0.3	-0.6	-0.8
Increase / decrease in accounts payable	0.0	0.0	0.0	0.0	-0.1	0.6	0.6
Increase / decrease in other working capital positions	0.0	0.0	-0.1	0.1	0.0	0.0	0.0
Increase / decrease in working capital (total)	-2.0	0.0	0.0	0.2	0.4	-1.3	-1.3
Net cash provided by operating activities [1]	-2.9	2.5	-7.2	-5.4	-6.1	-4.7	-2.9
Investments in intangible assets	-2.0	0.0	-1.0	-1.3	-2.0	-1.0	-1.0
Investments in property, plant and equipment	-1.2	-3.1	-1.0	-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	18.3	0.1	31.9	0.5	0.0	0.0	0.0
Net cash provided by investing activities [2]	13.2	-3.1	29.8	-1.5	-2.7	-1.7	-1.7
Change in financial liabilities	-0.6	-1.1	-2.3	-1.4	0.0	4.0	4.0
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	-3.4	0.0	0.0	0.0
Capital measures	0.0	0.2	0.0	0.1	0.0	0.0	0.0
Other	0.0	-1.0	-2.3	1.2	0.0	0.0	0.0
Net cash provided by financing activities [3]	-0.6	-1.9	-4.6	-3.5	0.0	4.0	4.0
Change in liquid funds [1]+[2]+[3]	9.7	-2.5	18.1	-10.5	-8.8	-2.4	-0.6
Effects of exchange-rate changes on cash	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Cash and cash equivalent at end of period	12.2	9.7	23.8	13.3	4.5	2.1	1.5

Financial Ratios

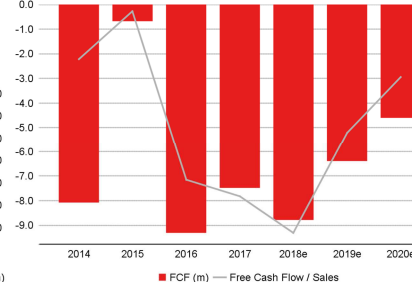
	2014	2015	2016	2017	2018e	2019e	2020e
Cash Flow							
FCF	-8.1	-0.7	-9.3	-7.5	-8.8	-6.4	-4.6
Free Cash Flow / Sales	-19.4 %	-2.4 %	-62.7 %	-68.6 %	-81.5 %	-45.5 %	-25.7 %
Free Cash Flow Potential	-0.3	-4.4	14.3	-7.6	-8.0	-5.3	-4.0
Free Cash Flow / Net Profit	1347.6 %	12.7 %	-63.1 %	83.6 %	111.7 %	123.3 %	118.2 %
Interest Received / Avg. Cash	0.0 %	0.0 %	0.1 %	0.0 %	3.4 %	9.1 %	17.0 %
Interest Paid / Avg. Debt	1.8 %	0.8 %	0.6 %	2.8 %	18.5 %	6.5 %	2.8 %
Management of Funds							
Investment ratio	10.1 %	11.2 %	13.6 %	18.8 %	25.3 %	12.3 %	9.7 %
Maint. Capex / Sales	7.4 %	9.1 %	15.6 %	16.4 %	13.0 %	13.0 %	13.0 %
Capex / Dep	137.6 %	103.9 %	87.2 %	114.8 %	195.0 %	94.9 %	74.5 %
Avg. Working Capital / Sales	46.5 %	48.0 %	76.8 %	100.2 %	94.7 %	75.8 %	66.8 %
Trade Debtors / Trade Creditors	315.3 %	134.5 %	115.5 %	145.1 %	129.4 %	121.7 %	124.1 %
Inventory Turnover	1.3 x	1.4 x	0.5 x	0.2 x	0.2 x	0.2 x	0.3 x
Receivables collection period (days)	107	72	73	85	75	73	74
Payables payment period (days)	88	109	162	342	320	332	329
Cash conversion cycle (Days)	299	221	614	1,619	1,542	1,300	1,094

CAPEX and Cash Flow

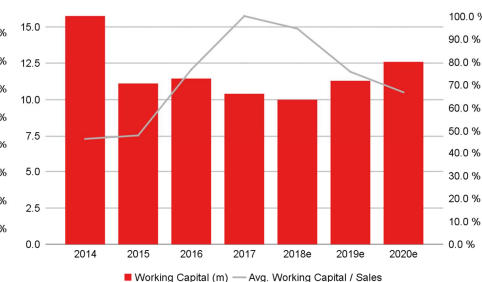
in EUR m



Free Cash Flow Generation



Working Capital



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

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-B-	Buy:	The price of the analysed financial instrument is expected to rise over the next 12 months.
-H-	Hold:	The price of the analysed financial instrument is expected to remain mostly flat over the next 12 months.
-S-	Sell:	The price of the analysed financial instrument is expected to fall over the next 12 months.
“-“	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	128	65
Hold	57	29
Sell	5	3
Rating suspended	8	4
Total	198	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 04.04.2019



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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