

Buy EUR 2.25 (EUR 2.10) Price EUR 1.68 Upside 34.1 %	Value Indicators: EUR DCF: 2.25	Share data: Bloomberg: AAQ GR Reuters: AAQG.DE ISIN: DE0005066609	Description: Producer of implants to mend broken bones
	Market Snapshot: EUR m Market cap: 49.6 No. of shares (m): 29.6 EV: 35.9 Freefloat MC: 21.1 Ø Trad. Vol. (30d): 93.47 th	Shareholders: Freefloat 42.5 % <i>Ratio Capital</i> 15.9 % Jürgen W. Krebs 12.5 % Noes Beheer B.V. 11.7 % Taaleritehdas 6.8 %	Risk Profile (WRe): 2017e Beta: 1.6 Price / Book: 1.1 x Equity Ratio: 84 %

On track to deliver on FY guidance following satisfying Q3

aap Implantate reported Q3 results on November 14 and confirmed its FY guidance. No update on strategic projects was given at this point in time.

- Well on track:** aap Implantate reported Q3 sales of EUR 2.6m and EBITDA of minus EUR 1.6m, both within the given quarterly guidance range. The company confirmed the FY target ranges for sales and EBITDA and now expects both to come in towards the lower ends. The company is aiming for sales of between EUR 10.0-13.0m (comparable figure 2016: EUR 10.5m) and EBITDA of between minus EUR 6.5 and minus EUR 4.5m (2016: minus EUR 7.9m).
- Ongoing high sales growth in North America:** Reported Q3 sales, including the contribution of discontinued activities, fell by 10% to EUR 2.6m. In contrast, sales of continuing business (pure Trauma including LOQTEQ technology) grew by 11% to EUR 2.57m. Growth in the core business thus almost offset sales divested. After 9M sales growth of continuing business is +13%. With sales in North America still up 14% in Q3, the marginal slowdown of sales growth in Q3 is related to the development in Europe excluding DACH, which lagged slightly behind expectations (Italy, Turkey). Reported EBITDA improved in the first nine months by 8% yoy (minus EUR 4.874m vs. minus EUR 5.325m). Excluding one-time items for the disposal of non-core business units, efficiency measures and costs related to the share buyback (adjusted) EBITDA improved by 27% to minus EUR 3.683m (9M 2016: minus EUR 5.027m). Assuming one-time costs of approx. EUR 1.5m for FY 2017 (WRe) reported FY EBITDA would come in towards the lower end of the given guidance range.
- Silver coating technology, clinical trial preparations developing according to plan:** During the Q3 conference call management confirmed that the clinical trial preparations were proceeding according to plan. Discussions with European and US regulators regarding the study design are ongoing. Furthermore aap reported initial positive feedback from orthopaedic clinics that might participate in the planned trials. Management confirmed the timetable to deliver a roadmap regarding the potential size and costs of the studies in early 2018. In view of this no update on potential strategic options regarding the silver coating technology was provided at this point in time. The silver coating technology would, if successful, fulfil an unmet medical need, helping to avoid infections. This explains the industry-wide interest in developing such a technology. Against this background, aap's management has said it is open to all forms of cooperation. This would allow the involvement of a partner at an early stage and ease the (financial) burden of the development and roll-out process for aap.
- Buy rating with a PT of EUR 2.25 reiterated:** aap is well on track to deliver on its FY guidance. In regard to the operating business, the broadening of the range of applications for its innovative LOQTEQ system is bearing fruit. The same is true for the strategy to focus on established markets like North America and the DACH region, reducing the risk and volatility of the underlying business. Expected continued sales growth should have a clear positive impact on earnings in the coming years. Additionally the silver coating technology offers further upside, if successful. We have included potential contributions starting in 2019. A strategic deal with an industry partner could help to realize the value earlier. Following the sale of non-core business units, aap is in a good financial position with a strong balance sheet. In view of this, we confirm our Buy rating with a DCF-derived PT of EUR 2.25.

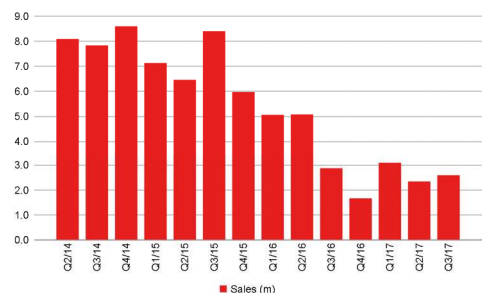


Rel. Performance vs CDAX:	
1 month:	-11.1 %
6 months:	25.2 %
Year to date:	24.7 %
Trailing 12 months:	11.1 %

Company events:
29.11.17 EKF

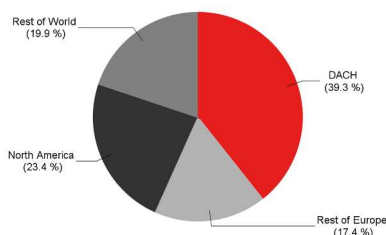
FY End: 31.12. in EUR m	CAGR (16-19e)	2013	2014	2015	2016	2017e	2018e	2019e
Sales	13.2 %	40.0	31.6	28.0	14.7	10.7	13.4	21.3
Change Sales yoy		9.8 %	-21.0 %	-11.4 %	-47.5 %	-27.5 %	25.8 %	59.2 %
Gross profit margin		72.7 %	68.8 %	72.2 %	79.1 %	92.8 %	76.0 %	78.0 %
EBITDA	-84.2 %	7.4	2.3	-1.9	16.0	-6.2	-5.5	0.1
Margin		18.4 %	7.2 %	-6.7 %	109.0 %	-58.4 %	-40.7 %	0.3 %
EBITDA adj.		7.4	2.3	-1.9	-7.9	-6.2	-5.5	0.1
Margin		18.4 %	7.2 %	-6.7 %	-53.7 %	-58.4 %	-40.7 %	0.3 %
EBIT	-	-2.1	0.0	-4.9	13.7	-7.0	-6.4	-1.4
Margin		-5.3 %	-0.1 %	-17.5 %	93.4 %	-65.4 %	-47.7 %	-6.7 %
Net income	-	-2.2	-0.5	-5.3	14.6	-5.9	-4.5	-1.0
EPS	-	-0.07	-0.01	-0.17	0.47	-0.20	-0.16	-0.03
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		-0.07	-0.26	-0.02	-0.30	-0.14	-0.28	-0.27
FCF / Market cap		-7.3 %	-7.3 %	-1.0 %	-22.5 %	-8.8 %	-16.4 %	-16.4 %
EV / Sales		1.2 x	2.4 x	1.9 x	1.3 x	3.2 x	3.1 x	2.3 x
EV / EBITDA		6.6 x	33.5 x	n.a.	1.2 x	n.a.	n.a.	789.7 x
EV / EBIT		n.a.	n.a.	n.a.	1.4 x	n.a.	n.a.	n.a.
P / E		n.a.	n.a.	n.a.	2.8 x	n.a.	n.a.	n.a.
FCF Potential Yield		9.3 %	-0.4 %	-8.3 %	73.4 %	-17.5 %	-11.0 %	-2.1 %
Net Debt		3.2	-7.8	-15.0	-21.5	-13.8	-5.9	2.0
ROCE (NOPAT)		n.a.	n.a.	n.a.	48.8 %	n.a.	n.a.	n.a.
Guidance:		Sales EUR 10-13m, adj. EBITDA EUR -6.5 to -4.5m (both more at lower end)						

Sales development in EUR m



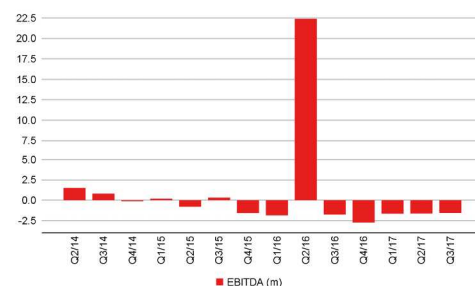
Source: Warburg Research

Sales by regions 2016; in %



Source: Warburg Research

EBITDA development in EUR m



Source: Warburg Research

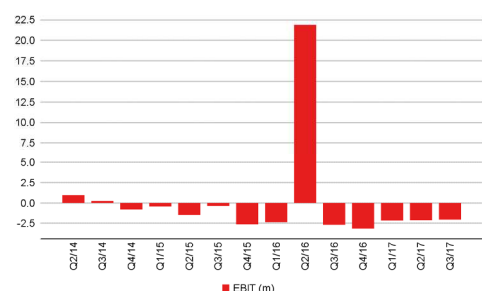
Company Background

- aap Implantate AG develops, produces and sells medical implants, which are primarily used in orthopaedics to mend fractures.
- The company covers the entire value chain and sells the products worldwide with the focus on the USA, the DACH region as well as on further European markets.
- The products are sold by direct sale, international sales partners or OEMs.
- aap Implantate AG was founded in 1990 as a MBO from the Johnson & Johnson Group and is headquartered in Berlin.

Competitive Quality

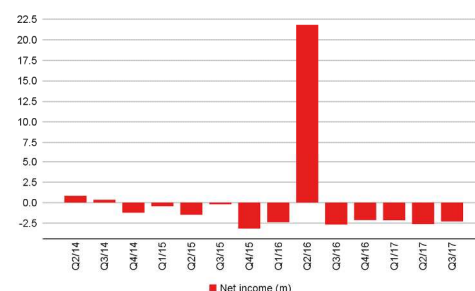
- aap Implantate AG has developed a patent protected anatomical plating system (LOQTEQ), which provides significant improvements for surgeons, hospitals and clinics as well as patients.
- Additionally aap has a promising product pipeline with an antibacterial silver coating for the implants as well as resorbable magnesium implants.
- The sale of the subsidiary aap Biomaterials has provided the company with sufficient financial funds to grow organically and inorganically.

EBIT development in EUR m





Source: Warburg Research

Net income development in EUR m



Source: Warburg Research

aap Implantate AG – Company Overview

Business units	Trauma		
Products	Plating systems, screws, LOQTEQ		
			
Product series	LOQTEQ	Osteosynthesis plating systems	Cannulated screws
Pipeline	Silver coating	Resorbable magnesium implants	
Sales continued	EUR 10.5m (2016)		
EBITDA (continued operations, WRe)	Breakeven expected in 2020		
Sites	Headquarters and production are located in Berlin		
Target markets	Europe, USA, emerging markets (BRICS & SMIT)		
Distribution	Direct sales; distributors		
History	Foundation 1970 – MBO in 1990 – IPO in 1999		

Source: Warburg Research, aap

DCF model

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	
Sales	10.7	13.4	21.3	29.6	33.2	37.2	41.5	45.8	50.0	53.8	57.3	60.4	62.8	
Sales change	-27.5 %	25.8 %	59.2 %	38.8 %	12.2 %	12.0 %	11.5 %	10.5 %	9.1 %	7.7 %	6.5 %	5.3 %	4.0 %	2.5 %
EBIT	-7.0	-6.4	-1.4	1.8	3.6	4.9	6.3	7.7	9.1	10.4	11.5	12.5	13.2	
EBIT-margin	-65.4 %	-47.7 %	-6.7 %	6.0 %	10.7 %	13.1 %	15.2 %	16.8 %	18.2 %	19.3 %	20.1 %	20.7 %	21.0 %	
Tax rate (EBT)	14.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	28.0 %	
NOPAT	-6.0	-4.6	-1.0	1.3	2.6	3.5	4.5	5.6	6.5	7.5	8.3	9.0	9.5	
Depreciation	0.7	0.9	1.5	2.1	2.3	2.6	2.9	3.2	3.5	3.8	4.0	4.2	4.4	
in % of Sales	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	
Changes in provisions	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Change in Liquidity from														
- Working Capital	-3.0	2.3	6.4	-4.2	1.6	1.8	1.9	1.9	1.8	1.7	1.5	1.3	-0.2	
- Capex	2.0	2.0	2.0	2.8	3.0	3.2	3.5	3.7	3.9	4.0	4.1	4.3	4.5	
Capex in % of Sales	18.8 %	14.9 %	9.4 %	9.3 %	9.0 %	8.7 %	8.4 %	8.1 %	7.8 %	7.4 %	7.1 %	7.1 %	7.1 %	
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)	-4.3	-8.0	-7.9	5.1	0.3	1.2	2.1	3.2	4.3	5.6	6.7	7.7	9.6	9
PV of FCF	-4.3	-7.2	-6.5	3.8	0.2	0.7	1.2	1.6	2.0	2.4	2.6	2.7	3.1	41
share of PVs	-41.80 %			47.69 %										94.11 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	15.00 %	Financial Strength	1.80
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	1.80
WACC	9.77 %	Beta	1.60

Valuation (m)

Present values 2029e	3		
Terminal Value	41		
Financial liabilities	2		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	24	No. of shares (m)	28.6
Equity Value	65	Value per share (EUR)	2.25

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 %	1.82	1.84	1.88	1.91	1.94	1.98	2.02	1.81	10.8 %	1.73	1.79	1.85	1.91	1.97	2.03	2.09
1.71	10.3 %	1.96	1.99	2.03	2.07	2.11	2.15	2.20	1.71	10.3 %	1.87	1.94	2.00	2.07	2.13	2.20	2.26
1.65	10.0 %	2.04	2.07	2.11	2.16	2.20	2.25	2.30	1.65	10.0 %	1.96	2.02	2.09	2.16	2.22	2.29	2.36
1.60	9.8 %	2.12	2.16	2.21	2.25	2.30	2.36	2.42	1.60	9.8 %	2.04	2.11	2.18	2.25	2.32	2.39	2.46
1.55	9.5 %	2.21	2.26	2.30	2.36	2.41	2.47	2.54	1.55	9.5 %	2.14	2.21	2.28	2.36	2.43	2.50	2.57
1.49	9.3 %	2.31	2.36	2.41	2.47	2.53	2.59	2.67	1.49	9.3 %	2.24	2.32	2.39	2.47	2.54	2.62	2.69
1.39	8.8 %	2.52	2.58	2.65	2.72	2.79	2.88	2.97	1.39	8.8 %	2.47	2.55	2.64	2.72	2.80	2.88	2.97

- From 2017, sales are purely generated by Trauma products. Biomaterials contributed still to sales in 2016.
- The divestment of Biomaterials had an extraordinary impact on EBITDA in the quantity of approx. EUR 23m in 2016.
- With EUR 20m 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		
					17e	18e	19e	17e	18e	19e	17e	18e	19e
Globus Medical	USD	36.59	2,652.4	3,129.5	28.9 x	26.6 x	24.2 x	5.0 x	4.6 x	4.3 x	14.2 x	12.9 x	11.8 x
NuVasive	USD	57.29	2,920.0	3,480.2	29.9 x	25.4 x	21.7 x	3.4 x	3.2 x	3.0 x	13.1 x	11.7 x	10.7 x
Orthofix	USD	53.37	973.0	919.1	37.9 x	29.9 x	26.4 x	2.1 x	2.0 x	2.0 x	11.4 x	10.5 x	9.7 x
Wright Medical	USD	24.80	2,604.4	3,241.2	neg.	2,066.7 x	81.3 x	4.4 x	4.0 x	3.6 x	38.6 x	26.5 x	19.4 x
Integra LifeSciences	USD	47.56	3,732.4	4,421.8	25.4 x	20.8 x	18.0 x	3.8 x	3.0 x	2.8 x	16.8 x	12.8 x	11.2 x
Average					30.5 x	433.9 x	34.3 x	3.7 x	3.4 x	3.1 x	18.8 x	14.9 x	12.6 x
Median					29.4 x	26.6 x	24.2 x	3.8 x	3.2 x	3.0 x	14.2 x	12.8 x	11.2 x
aap Implantate	EUR	1.68	48.1	32.5	neg.	neg.	neg.	3.0 x	2.4 x	1.5 x	neg.	neg.	512.0 x
Valuation difference to Average					n.a.	n.a.	n.a.	22%	39%	106%	n.a.	n.a.	-98%
Fair value per share based on Average					n.a.	n.a.	n.a.	1.93	2.12	2.88	n.a.	n.a.	0.57

- Peer group comparison clearly 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							
	2013	2014	2015	2016	2017e	2018e	2019e
Price / Book	1.0 x	1.9 x	1.7 x	0.7 x	1.1 x	1.2 x	1.2 x
Book value per share ex intangibles	1.06	0.99	0.97	1.42	1.18	1.01	0.98
EV / Sales	1.2 x	2.4 x	1.9 x	1.3 x	3.2 x	3.1 x	2.3 x
EV / EBITDA	6.6 x	33.5 x	n.a.	1.2 x	n.a.	n.a.	789.7 x
EV / EBIT	n.a.	n.a.	n.a.	1.4 x	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.	n.a.	2.8 x	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)	9.3 %	-0.4 %	-8.3 %	73.4 %	-17.5 %	-11.0 %	-2.1 %

*Adjustments made for: -

Consolidated profit & loss

In EUR m	2013	2014	2015	2016	2017e	2018e	2019e
Sales	40.0	31.6	28.0	14.7	10.7	13.4	21.3
Change Sales yoy	9.8 %	-21.0 %	-11.4 %	-47.5 %	-27.5 %	25.8 %	59.2 %
Increase / decrease in inventory	-1.0	2.1	3.8	1.3	0.0	0.0	0.0
Own work capitalised	2.0	0.3	2.1	1.4	1.2	1.1	1.7
Total Sales	41.0	34.0	33.9	17.4	11.9	14.5	23.0
Material expenses	12.0	12.3	13.7	5.7	2.0	4.3	6.4
Gross profit	29.1	21.7	20.2	11.6	9.9	10.2	16.6
<i>Gross profit margin</i>	<i>72.7 %</i>	<i>68.8 %</i>	<i>72.2 %</i>	<i>79.1 %</i>	<i>92.8 %</i>	<i>76.0 %</i>	<i>78.0 %</i>
Personnel expenses	14.6	12.2	11.9	10.0	7.8	8.2	9.2
Other operating income	4.3	3.1	1.6	24.3	0.7	1.6	1.6
Other operating expenses	11.4	10.3	11.8	10.0	9.0	9.0	9.0
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	7.4	2.3	-1.9	16.0	-6.2	-5.5	0.1
<i>Margin</i>	<i>18.4 %</i>	<i>7.2 %</i>	<i>-6.7 %</i>	<i>109.0 %</i>	<i>-58.4 %</i>	<i>-40.7 %</i>	<i>0.3 %</i>
Depreciation of fixed assets	2.2	0.8	1.6	1.1	0.2	0.3	0.4
EBITA	5.2	1.5	-3.5	14.9	-6.4	-5.7	-0.4
Amortisation of intangible assets	7.3	1.5	0.9	1.1	0.5	0.7	1.1
Goodwill amortisation	0.0	0.0	0.5	0.0	0.0	0.0	0.0
EBIT	-2.1	0.0	-4.9	13.7	-7.0	-6.4	-1.4
<i>Margin</i>	<i>-5.3 %</i>	<i>-0.1 %</i>	<i>-17.5 %</i>	<i>93.4 %</i>	<i>-65.4 %</i>	<i>-47.7 %</i>	<i>-6.7 %</i>
EBIT adj.	-2.1	0.0	-4.9	-10.2	-7.0	-6.4	-1.4
Interest income	0.0	0.0	0.0	0.0	0.3	0.3	0.3
Interest expenses	0.2	0.1	0.0	0.0	0.2	0.2	0.2
Other financial income (loss)	0.0	0.0	-0.4	0.3	0.0	0.0	0.0
EBT	-2.3	-0.2	-5.3	14.0	-6.9	-6.3	-1.3
<i>Margin</i>	<i>-5.7 %</i>	<i>-0.6 %</i>	<i>-19.1 %</i>	<i>95.6 %</i>	<i>-64.4 %</i>	<i>-47.0 %</i>	<i>-6.2 %</i>
Total taxes	-0.2	0.3	0.0	-0.6	-1.0	-1.8	-0.4
Net income from continuing operations	-2.0	-0.5	-5.3	14.6	-5.9	-4.5	-1.0
Income from discontinued operations (net of tax)	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0
Net income before minorities	-2.2	-0.5	-5.3	14.6	-5.9	-4.5	-1.0
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income	-2.2	-0.5	-5.3	14.6	-5.9	-4.5	-1.0
<i>Margin</i>	<i>-5.4 %</i>	<i>-1.4 %</i>	<i>-19.1 %</i>	<i>99.2 %</i>	<i>-55.4 %</i>	<i>-33.8 %</i>	<i>-4.5 %</i>
Number of shares, average	30.7	30.7	30.7	30.8	29.6	28.6	28.6
EPS	-0.07	-0.01	-0.17	0.47	-0.20	-0.16	-0.03
EPS adj.	-0.07	-0.01	-0.17	-0.30	-0.20	-0.16	-0.03

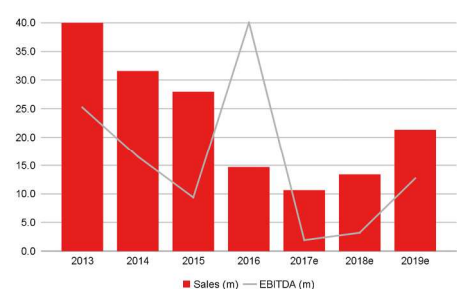
*Adjustments made for:

Guidance: Sales EUR 10-13m, adj. EBITDA EUR -6.5 to -4.5m (both more at lower end)

Financial Ratios

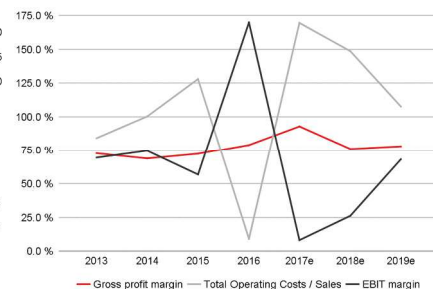
	2013	2014	2015	2016	2017e	2018e	2019e
Total Operating Costs / Sales	84.2 %	100.4 %	127.9 %	9.2 %	169.6 %	148.7 %	107.7 %
Operating Leverage	n.a.	4.7 x	-922.7 x	n.a.	n.a.	-0.3 x	-1.3 x
EBITDA / Interest expenses	40.6 x	28.8 x	n.m.	800.5 x	n.m.	n.m.	0.3 x
Tax rate (EBT)	10.0 %	-162.1 %	-0.2 %	-4.2 %	14.0 %	28.0 %	28.0 %
Dividend Payout Ratio	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Sales per Employee	336,042	213,473	156,302	94,755	73,462	92,400	147,062

Sales, EBITDA
in EUR m



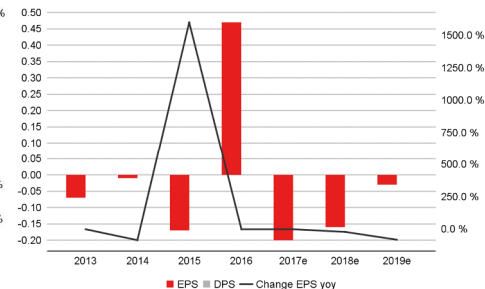
Source: Warburg Research

Operating Performance
in %



Source: Warburg Research

Performance per Share



Source: Warburg Research

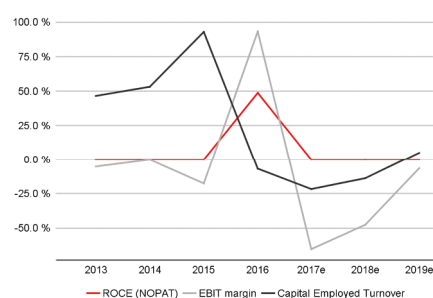
Consolidated balance sheet

In EUR m	2013	2014	2015	2016	2017e	2018e	2019e
Assets							
Goodwill and other intangible assets	14.5	15.2	10.4	11.1	11.0	11.0	11.0
thereof other intangible assets	0.9	0.5	0.5	0.1	0.0	0.0	0.0
thereof Goodwill	1.6	1.6	0.0	0.0	0.0	0.0	0.0
Property, plant and equipment	5.9	7.7	7.7	7.6	8.4	9.1	9.7
Financial assets	1.8	1.7	0.2	0.2	0.2	0.2	0.2
Other long-term assets	0.0	0.0	0.0	1.8	1.8	1.8	1.8
Fixed assets	22.2	24.5	18.3	20.8	21.4	22.1	22.7
Inventories	9.4	9.4	9.7	11.1	8.2	10.3	16.4
Accounts receivable	7.0	9.3	5.5	2.9	2.1	2.7	4.3
Liquid assets	1.6	12.2	19.6	23.8	16.1	8.2	3.3
Other short-term assets	25.0	2.4	1.8	5.3	5.3	5.3	5.3
Current assets	43.0	33.3	36.6	43.1	31.7	26.5	29.4
Total Assets	65.2	57.9	54.9	63.9	53.1	48.6	52.1
Liabilities and shareholders' equity							
Subscribed capital	30.7	30.7	30.7	30.8	28.3	28.3	28.3
Capital reserve	18.8	17.6	17.6	17.5	17.5	17.5	17.5
Retained earnings	0.7	0.7	0.9	15.2	9.3	4.7	3.8
Other equity components	-3.1	-3.6	-8.9	-8.7	-10.3	-10.7	-10.6
Shareholders' equity	47.0	45.4	40.3	54.8	44.8	39.8	39.0
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total equity	47.0	45.4	40.3	54.8	44.8	39.8	39.0
Provisions	0.3	0.4	0.3	0.4	0.4	0.4	0.4
thereof provisions for pensions and similar obligations	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Financial liabilities (total)	4.7	4.3	4.6	2.3	2.3	2.3	5.3
thereof short-term financial liabilities	2.6	2.0	3.3	1.3	1.3	1.3	4.3
Accounts payable	2.9	2.9	4.1	2.5	1.8	2.2	3.5
Other liabilities	10.4	4.8	5.6	3.8	3.8	3.8	3.8
Liabilities	18.2	12.4	14.6	9.1	8.3	8.7	13.1
Total liabilities and shareholders' equity	65.2	57.9	54.9	63.9	53.1	48.6	52.1

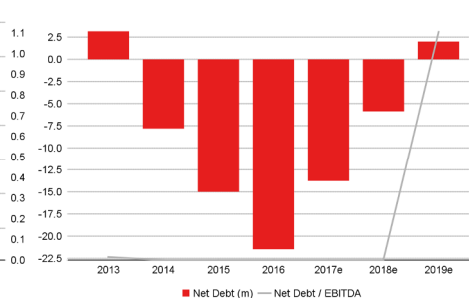
Financial Ratios

	2013	2014	2015	2016	2017e	2018e	2019e
Efficiency of Capital Employment							
Operating Assets Turnover	2.0 x	1.3 x	1.5 x	0.8 x	0.6 x	0.7 x	0.8 x
Capital Employed Turnover	0.8 x	0.8 x	1.1 x	0.4 x	0.3 x	0.4 x	0.5 x
ROA	-9.7 %	-1.9 %	-29.2 %	70.2 %	-27.6 %	-20.5 %	-4.2 %
Return on Capital							
ROCE (NOPAT)	n.a.	n.a.	n.a.	48.8 %	n.a.	n.a.	n.a.
ROE	-4.4 %	-1.0 %	-12.5 %	30.7 %	-11.9 %	-10.7 %	-2.4 %
Adj. ROE	-4.4 %	-1.0 %	-12.5 %	-19.6 %	-11.9 %	-10.7 %	-2.4 %
Balance sheet quality							
Net Debt	3.2	-7.8	-15.0	-21.5	-13.8	-5.9	2.0
Net Financial Debt	3.1	-7.9	-15.0	-21.5	-13.8	-5.9	2.0
Net Gearing	6.7 %	-17.2 %	-37.2 %	-39.2 %	-30.7 %	-14.7 %	5.1 %
Net Fin. Debt / EBITDA	42.6 %	n.a.	n.a.	n.a.	n.a.	n.a.	3156.6 %
Book Value / Share	1.5	1.5	1.3	1.8	1.6	1.4	1.4
Book value per share ex intangibles	1.1	1.0	1.0	1.4	1.2	1.0	1.0

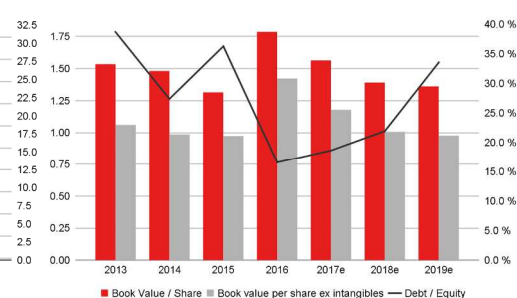
ROCE Development



Net debt in EUR m



Book Value per Share in EUR



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

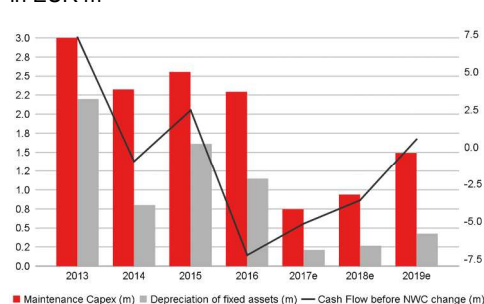
Consolidated cash flow statement

In EUR m	2013	2014	2015	2016	2017e	2018e	2019e
Net income	-2.2	-0.5	-5.3	14.6	-5.9	-4.5	-1.0
Depreciation of fixed assets	2.2	0.8	1.6	1.1	0.2	0.3	0.4
Amortisation of goodwill	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Amortisation of intangible assets	7.3	1.5	0.9	1.1	0.5	0.7	1.1
Increase/decrease in long-term provisions	0.0	0.2	0.0	0.4	0.0	0.0	0.0
Other non-cash income and expenses	0.0	-3.0	4.8	-24.6	0.0	0.0	0.0
Cash Flow before NWC change	7.3	-1.0	2.5	-7.2	-5.2	-3.6	0.5
Increase / decrease in inventory	-4.6	-2.0	0.0	0.1	2.9	-2.1	-6.1
Increase / decrease in accounts receivable	0.0	0.0	0.0	0.0	0.8	-0.6	-1.6
Increase / decrease in accounts payable	0.8	0.0	0.0	0.0	-0.7	0.4	1.3
Increase / decrease in other working capital positions	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
Increase / decrease in working capital (total)	-3.8	-2.0	0.0	0.0	3.0	-2.3	-6.4
Net cash provided by operating activities [1]	3.5	-2.9	2.5	-7.2	-2.2	-5.9	-5.9
Investments in intangible assets	-5.7	-2.0	0.0	-1.0	-1.0	-1.0	-1.0
Investments in property, plant and equipment	-1.1	-1.2	-3.1	-1.0	-1.0	-1.0	-1.0
Payments for acquisitions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	3.5	18.3	0.1	31.9	0.0	0.0	0.0
Net cash provided by investing activities [2]	-2.2	13.2	-3.1	29.8	-2.0	-2.0	-2.0
Change in financial liabilities	-1.5	-0.6	-1.1	-2.3	0.0	0.0	3.0
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	0.0	-3.5	0.0	0.0
Capital measures	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Other	-1.0	0.0	-1.0	-2.3	0.0	0.0	0.0
Net cash provided by financing activities [3]	-2.5	-0.6	-1.9	-4.6	-3.5	0.0	3.0
Change in liquid funds [1]+[2]+[3]	-1.2	9.7	-2.5	18.1	-7.7	-7.9	-4.8
Effects of exchange-rate changes on cash	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Cash and cash equivalent at end of period	2.5	12.2	9.7	23.8	16.1	8.2	3.3

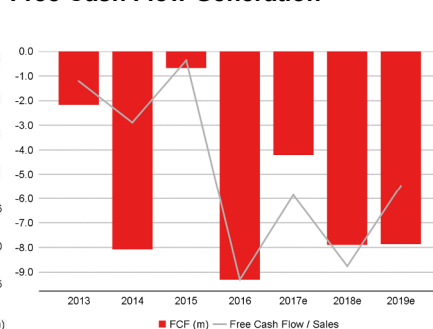
Financial Ratios

	2013	2014	2015	2016	2017e	2018e	2019e
Cash Flow							
FCF	-2.2	-8.1	-0.7	-9.3	-4.2	-7.9	-7.9
Free Cash Flow / Sales	-8.2 %	-19.4 %	-2.4 %	-62.7 %	-39.5 %	-58.9 %	-36.9 %
Free Cash Flow Potential	4.5	-0.3	-4.4	14.3	-6.0	-4.6	-1.1
Free Cash Flow / Net Profit	151.5 %	1347.6 %	12.7 %	-63.1 %	71.3 %	174.2 %	821.7 %
Interest Received / Avg. Cash	0.0 %	0.0 %	0.0 %	0.1 %	1.5 %	2.5 %	5.2 %
Interest Paid / Avg. Debt	2.9 %	1.8 %	0.8 %	0.6 %	8.7 %	8.7 %	5.2 %
Management of Funds							
Investment ratio	17.1 %	10.1 %	11.2 %	13.6 %	18.8 %	14.9 %	9.4 %
Maint. Capex / Sales	7.5 %	7.4 %	9.1 %	15.6 %	7.0 %	7.0 %	7.0 %
Capex / Dep	72.0 %	137.6 %	103.9 %	87.2 %	268.2 %	213.3 %	134.0 %
Avg. Working Capital / Sales	34.3 %	46.5 %	48.0 %	76.8 %	93.6 %	72.0 %	65.7 %
Trade Debtors / Trade Creditors	246.6 %	315.3 %	134.5 %	115.5 %	116.7 %	122.7 %	122.9 %
Inventory Turnover	1.3 x	1.3 x	1.4 x	0.5 x	0.2 x	0.4 x	0.4 x
Receivables collection period (days)	64	107	72	73	72	74	74
Payables payment period (days)	87	88	109	162	334	187	200
Cash conversion cycle (Days)	252	274	200	682	1,485	866	925

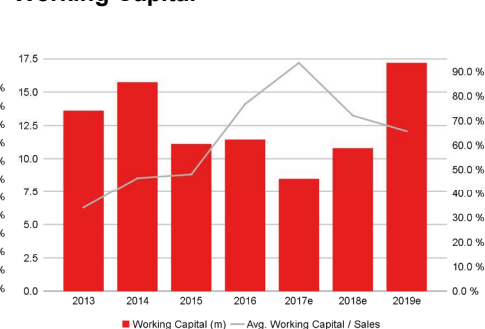
CAPEX and Cash Flow
in EUR m



Free Cash Flow Generation



Working Capital



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

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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.
-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.

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING

Rating	Number of stocks	% of Universe
Buy	105	52
Hold	90	44
Sell	8	4
Rating suspended	0	0
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	76
Hold	9	22
Sell	1	2
Rating suspended	0	0
Total	41	100

PRICE AND RATING HISTORY AAP IMPLANTATE AS OF 20.11.2017



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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