aap Implantate

(CDAX, Health Care)

WARBURG RESEARCH

Buy	
EUR **4.50**	
Price	EUR 3.20
Upside	**40.7 %**

Value Indicators:	EUR
DCF:	4.42
SotP:	4.40
Peer Group:	4.42

Share data:	
Bloomberg:	AAQ GR
Reuters:	AAQG.DE
ISIN:	DE0005066609

Description:

Producer of implants and biomaterials to mend broken bones

Market Snapshot:	EUR m
Market cap:	98.1
No. of shares (m):	30.7
EV:	77.7
Freefloat MC:	25.8
Ø Trad. Vol. (30d; EUR):	88.05 th

Shareholders:	
Freefloat	26.3 %
Noes de Vries	16.7 %
Elocin B.V	15.3 %
Jürgen W. Krebs	12.6 %
Fidelity Funds	5.5 %

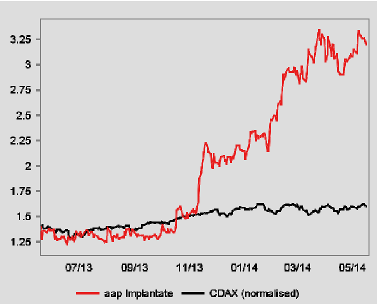
Risk Profile (WRe):	2014e
Beta:	1.4
Price / Book:	1.9 x
Equity Ratio:	82 %
Net Fin. Debt / EBITDA:	-3.8 x
Net Debt / EBITDA:	-3.8 x

The Bones of Solid Growth - Initiate with BUY

aap is an innovative medical technological company which operates within the two orthopaedic segments of Biomaterials and Trauma. Within Biomaterials (Revenue '13 EUR 17.7m), the company manufactures bone cements and mixing systems. This business unit is the company's profitable Cash Cow. Within the Trauma segment, (Revenue '13 EUR 9.6m), aap develops and markets bone implants that are used to support the recovery of breaks and fractures. Since Q4 2011 aap has marketed the LOQTEQ implant which, through its innovative design and extensive clinical advantages, represents the most promising growth driver for the company.

- **A focus on Trauma:** In 2009, aap implemented a transparent strategy for simplification of the company. With the sale of the Dutch subsidiary (EMCM) in Q1 2014, the company came significantly closer to reaching its aim of becoming a pure player in the Trauma business (EMCM revenue: EUR 12.5m – therefore group revenues down by -13.6% 2014e yoy). The positioning of aap Biomaterials GmbH (second business unit along with Trauma) is currently being evaluated. app has already appointed an investment bank to assist in the divestment process. With the recent sale of EMCM, a purchase price of EUR 18m was reached (9x EV/EBITDA). A possible sale of aap Biomaterials GmbH (EBITDA '13 EUR 4m WRe) could bring in a further EUR 36m.
- **LOQTEQ drives growth:** with revenue growth of 9.8%, aap could significantly exceed last year's market growth rate of 6%. The key driver of this growth is aap's innovative LOQTEQ. Revenues for the **patented implants grew last year by over 150%**, reaching EUR 5m. By 2020, a sales contribution of EUR 40m is estimated.
- **Acquisitions provide synergies:** Current disposable liquid assets of EUR 17.1m (Q1 14), as well as potential cash assets from the sale of aap Biomaterials, could allow a quick expansion of aap's Trauma segment. Rapidly-growing Trauma companies (Revenue +15% p.a.) such as aap have lately been purchased for multiples of 5-7x EV/Sales, whereas the more slow-growing Trauma peers (Revenue +5% p.a.) have been evaluated at 1.5-3.0x EV/Sales. With targeted acquisitions and strategic expansion of Trauma products, app offers investors additional potential for shareholder value generation.
- **aap as an acquisition target:** Around 88% of the orthopaedics market is dominated by seven international players and with the latest merger between Biomet and Zimmer, consolidation of the market is continuing. These large companies are growing at a significantly slower rate than smaller niche players within the sector which have been more frequently purchased in recent years. The US company, Wright Medical has bought three companies within three years and paid EV/Sales of between 5-5,5x. Currently, aap is valued 2.2x EV/Sales 2014e.

Against the backdrop of the high potential represented by LOQTEQ and a promising product pipeline, **we initiate coverage with Buy, price target EUR 4.50. The shown undervaluation of the DCF-model is clearly confirmed by the peer group comparison.** A possible acquisition of aap offers additional share price potential.



Rel. Performance vs CDAX:	
1 month:	8.3 %
6 months:	39.8 %
Year to date:	48.0 %
Trailing 12 months:	110.0 %

Company events:	
23.05.14	Warburg Highlights
13.06.14	AGM
14.08.14	Q2
14.11.14	Q3

FY End: 31.12. in EUR m	CAGR (13-16e)	2010	2011	2012	2013	2014e	2015e	2016e
Sales	5.6 %	28.4	29.2	36.4	40.0	34.6	40.3	47.1
Change Sales yoy		-14.1 %	2.7 %	24.7 %	9.8 %	-13.6 %	16.8 %	16.9 %
Gross profit margin		*81.0 %*	*85.3 %*	*78.4 %*	*72.7 %*	*74.4 %*	*75.0 %*	*75.5 %*
EBITDA	2.5 %	3.4	4.1	7.1	7.4	5.3	6.7	7.9
Margin		*12.1 %*	*14.1 %*	*19.6 %*	*18.4 %*	*15.4 %*	*16.7 %*	*16.8 %*
EBIT	-	0.7	1.2	3.2	-2.1	2.7	3.8	4.6
Margin		*2.5 %*	*4.0 %*	*8.8 %*	*-5.3 %*	*7.9 %*	*9.4 %*	*9.8 %*
Net income	-	0.0	0.4	2.4	-2.5	2.7	3.7	4.1
EPS	-	0.00	0.01	0.08	-0.08	0.09	0.12	0.13
DPS	-	0.00	0.00	0.00	0.00	0.00	0.04	0.04
Dividend Yield		0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	1.3 %	1.3 %
FCFPS		-0.06	-0.03	0.10	-0.11	0.19	0.08	0.10
EV / Sales		1.5 x	1.2 x	0.9 x	1.2 x	2.2 x	1.8 x	1.5 x
EV / EBITDA		12.8 x	8.7 x	4.8 x	6.6 x	14.6 x	11.0 x	8.8 x
EV / EBIT		61.3 x	30.8 x	10.7 x	n.a.	28.5 x	19.5 x	15.1 x
P / E		n.a.	96.9 x	12.5 x	n.a.	35.5 x	26.7 x	24.6 x
FCF Yield Potential		7.5 %	2.6 %	11.0 %	8.6 %	3.3 %	4.9 %	5.8 %
Net Debt		9.1	7.1	3.9	3.3	-20.4	-24.2	-28.4
ROE		0.1 %	0.8 %	4.9 %	-4.9 %	5.4 %	6.9 %	7.0 %
ROCE (NOPAT)		0.4 %	1.4 %	5.2 %	-4.3 %	6.1 %	11.5 %	12.4 %
Guidance:	Guidance 2014: Revenue EUR 35m (+22% yoy), EBITDA EUR 5m-6m							

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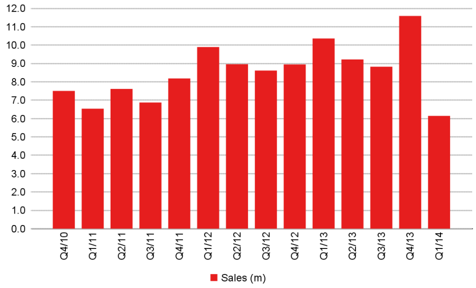
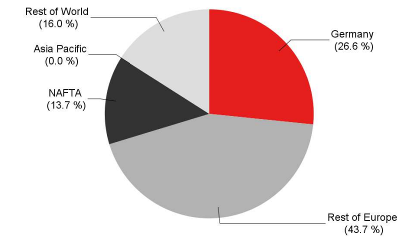
Sales development
in EUR m



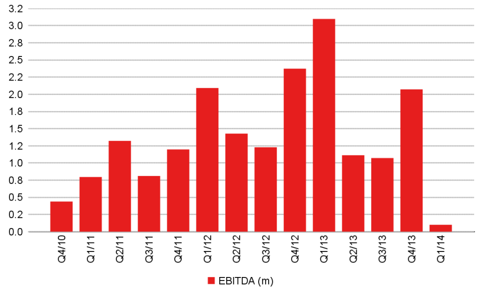
Source: Warburg Research

Sales by regions
2013; in %



Source: Warburg Research

EBITDA development
in EUR m



Source: Warburg Research

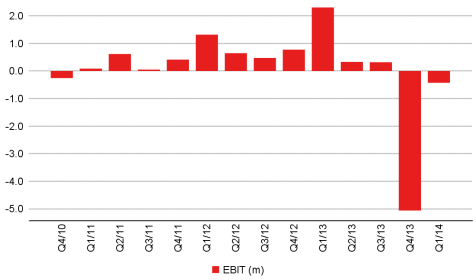
Company Background

- aap Implantate AG develops, produces and sells medical implants, which are primarily used in orthopaedics to mend fractures.
- With the business areas Trauma and Biomaterials, the company covers the entire value chain and sells the products worldwide with the focus on Europe, the USA as well as on the BRICS and SMIT markets.
- The products are sold by direct sale, international sales partners or OEMs (including Stryker, Zimmer, Biomet or Smith& Nephew).
- aap Implantate AG was founded in 1990 as a MBO from the Johnson & Johnson Group and is headquartered in Berlin. The company has 217 employees.

Competitive Quality

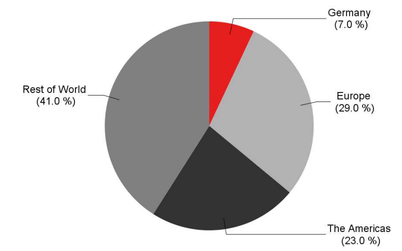
- aap Implantate AG has developed a patent protected Trauma implant (LOQTEQ), which provides significant improvements for surgeons, hospitals and clinics as well as patients.
- Additionally aap has a promising product pipeline with an antibacterial silver coating for the implants as well as resorbable magnesium implants.
- The most recent sale of the Dutch subsidiary has provided the company with sufficient financial funds to grow organically and inorganically.
- In the Biomaterials division, aap has established a network with the largest Medtech companies (e.g. Zimmer, Stryker, Smith &Nephew, Johnson & Johnson).

EBIT development
in EUR m



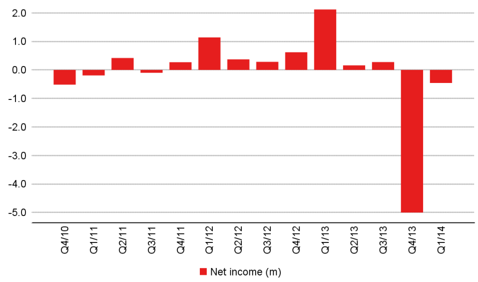
Source: Warburg Research

LOQTEQ - Sales by regions
2013; in %



Source: Warburg Research

Net income development
in EUR m



Source: Warburg Research

Company background

aap business activities involve the manufacturing and international marketing of implants for accident surgery and orthopaedics. Its products are predominantly for use within traumatology, osteosynthesis (fracture healing) and spinal surgery. In addition to this, the company also supplies biomaterials, bone cements and cement mixing systems which are used within orthopaedics. aap is responsible for the entire value-added chain.

The company is located in Berlin, where Trauma products (plating systems and screws) are manufactured. Biomaterial products (bone cement and cementing technology), are manufactured in Dieburg, Germany. The company, which employs 217 people, was formed in 1990 and has been listed on the stock exchange since 1999.

While aap distributes the products worldwide. Its main focus is on Europe and the USA, as well as on emerging markets within BRICS and SMIT countries. Distribution is organised through globally present OEM partnerships and distributors. Within German-speaking countries, aap is directly responsible for distribution.

aap Implantate AG

Business units	Trauma			Biomaterials		
Products	Plating systems, screws, LOQTEQ			Bone cement, mixing systems		
						
Product series	LOQTEQ	Osteo-synthesis plating systems	Cannulated screws	Bone cement	Collagen fleeces	Accessories
Pipeline	Silver coating; Resorbable magnesium implants					
Revenues	EUR 9.6m (LOQTEQ: EUR 5.0m)			EUR 29.1m		
Revenues (continued operations)	EUR 9.6m (LOQTEQ: EUR 5.0m)			EUR 17.7m		
EBITDA (WRe) (continued operations)	Break even in 2014 expected			Profitable: c. 30% EBITDA-margin		
Sites	Berlin			Dieburg		
Target markets	Europe, USA, Emerging Markets (BRICS & SMIT)			Europe, USA		
Distribution	Direct sales; distributors			Distributors; OEM,		
History	Foundation 1970 – MBO in 1990 – IPO in 1999					

Source: Warburg Research, aap

Investment Case

Trauma +52.4% in 2013, LOQTEQ +150% in 2013

Product innovation with strong growth

Since the management took office in 2009, the company has had a strong focus on the Trauma segment. Consequently, the product portfolio of the related subsidiaries has been reduced and disposable resources have been invested in the development of the LOQTEQ plating system. LOQTEQ "Locking Technology" is a patented advancement of "LCP" implant (Locking Compression Plate), which is from app's biggest competitor DePuy Synthes. LOQTEQ was launched in Q4 2011. In the previous financial year of 2013, revenues had already reached a high of EUR 5m (+150% yoy). In addition to this, the company has a patented product pipeline, such as the silver coating of implants. The silver coated implants are expected to be launched in 2015.

Additionally, app is also active within the Biomaterials segment. Here, the company manufactures products which are necessary for operational procedures (e.g. artificial hips), namely, bone cements as well as cement mixing machines. In the previous financial year, aap's Biomaterials saw revenues of EUR 17.7m.

Visibility constantly increasing – Pure Play: Trauma

In line with its focussing strategy the company has separated itself from any additional activities and recently sold its Dutch contract business. Proceeds gained from the sale of the subsidiary EMCM (EUR 18m corresponds to 9x EV/EBITDA) will be invested in the internationalisation of LOQTEQ and in the further development of an antibacterial silver coating, as well as an resorbable magnesium implant. Furthermore, management has discussed potential acquisitions within the Trauma segment. The clear goal is the expansion of the company's Trauma product portfolio (e.g. orthopaedic nails).

The following table illustrates the discontinued business segments. It is only the Reconstructive Implant business (artificial hip and shoulder joints) that will be booked at-equity in a Chinese joint venture (aap's share 30%). The strategic significance of the remaining Biomaterials unit is currently being evaluated by the company. app has already appointed an investment bank to assist in the divestment process.

Transformation continues

Focus on core business

	2008	2009	2010	2011	2012	2013	2014
Dental	+						
Analytics	+						
Medical Aesthetics	+						
Recon	+	+	+	+	+		
Contract Manufacturing	+	+	+	+	+	+	
Biomaterials	+	+	+	+	+	+	(+)
Trauma	+	+	+	+	+	+	+

Source: Warburg Research, aap

aap is a nascent and healthy company (equity quote 75%; Net debt EUR -14.7m FY 2013) and its management is following transparent strategies. As a result of its focus on becoming a producer of Osteosynthetic implants (implants that do not remain in the body, thus greatly reducing risk), the company is set to gain an international presence. The main aims of management are as follows:

- Continued development of the LOQTEQ series
- Acquisitions within the Trauma segment
- Improvements of the balance sheet structure
- When the necessary legal and financial conditions are in place, management is aiming a dividend payment or a share buyback program.

Owing to the innovative LOQTEQ products, a significantly positive development is expected. The essential pillars of the investment case are:

- The latest LOQTEQ product generation has been marketed since Q4 2011 and is now available in 20 countries (15 countries in 2012). In 2013 revenues had already reached EUR 5m (+150% yoy) or 12.6% of group revenues. The immediate acceptance of the product in important markets such as Germany and the USA illustrates the quality of the implants and the growth potential of app.
- aap has set out a clear strategy which is based on the emerging markets within BRICS and SMIT countries. The main reason for this is the rapidly growing demand for implants as a result of increasing industrialisation: this has led to a large increase in the number of accidents occurring in the workplace and in road traffic. It is expected that the growth of the medical technological market within emerging markets will be 9-16% per year.
- In 2013, aap gained international distribution partners in China, Russia and Saudi Arabia. In Mexico and Brazil, where distribution partners have already been named, product approval is expected in 2014.
- In line with increased sales markets and the expansion of the product portfolio (approval of further plating systems), a sales contribution of EUR 10m (WRe) is expected in 2014 from LOQTEQ alone.
- If the targeted Trauma revenue of EUR 15m is reached, this segment is expected to reach break even. aap is aiming for an EBITDA margin of c. 20% in the mid term while peers are reaching an EBITDA margin of up to 33% for comparable products. Similar margins are possible for aap as a result of successful market penetration.
- A promising product pipeline is evident for aap: the additional expansion of the LOQTEQ portfolio (+6 plates to a total of 12 plating systems in 2013), an antibacterial silver coating (affiliated patents have now been approved in the USA – 2015 European market entry planned), and a resorbable magnesium implant (targeted market entry 2016). These products are set to positively influence aap's top and bottom line within a short term horizon.
- Competitiveness is secured with patents.
- The promising product pipeline should provide long-lasting support to the company in reaching a Freshness Index of >20%. This indicates that 20% of revenue will be made from the sale of products that have been on the market for less than three years.

Overall, aap is considered as an innovative company which has now started to take its first steps within a nascent business segment.

aap focuses on shareholder value

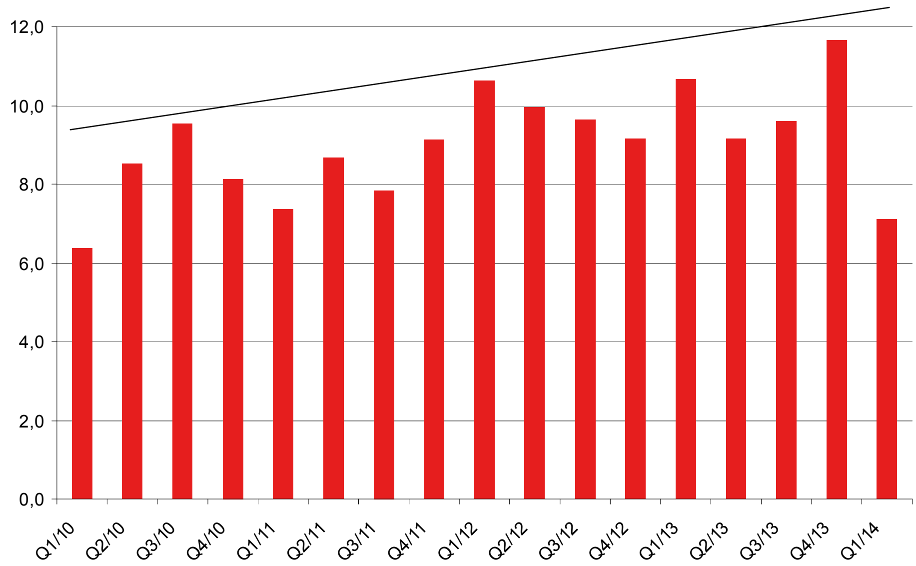
The company distinguishes itself through its transparent communication. This is reflected in the representation of company results that are oriented toward shareholder value. With a backdrop of value enhancement, aap reports on 'Economic Profit' figures which are derived from a comparison of the WACC and ROCE. Furthermore, a management agenda, illustrating strategic and organic company aims, is published every year. The level to which these aims are achieved is evaluated after every financial year.

The FY counts: quarters are of little significance

Only full year of significance

To gain an understanding of the operational conditions, it is necessary to consider the financial year. Volatile revenues are explained by LOQTEQ's nascent life-cycle and the order behaviour of clients and distributors. When the company gains a new customer, the customer orders a minimum inventory of aap products at the start of the business relationship. These first and recurring orders can impact revenues for the quarter. As it stands, aap still lacks the critical scale and corresponding client base which then leads to aforementioned revenue volatility. A general growth rate is, however, apparent throughout the quarters. As a result of increasing revenue in the Trauma segment and the acquisition of new clients, well-balanced quarterly revenues are expected.

Revenues by quarter – Q1 14: after EMCM divestment



Source: Warburg Research, aap

Dividends or share buy-back possibility

Dividends possible

In the course of 2014, the company looks set to fulfil the remaining legal conditions of the German commercial code (HGB), in order to pay dividends. In so far as those liquid funds which are not required for acquisitions or investments, management is considering a dividend payout. As an alternative to the dividend, the company has discussed a share buy-back programme. All legal conditions for a dividend payout should be fulfilled after the sale of the Biomaterials division at the latest. A payout ratio of 20-30% (WRe) is therefore possible.

Newsflow

Q1: LOQTEQ starts 2014 with a 175% increase in revenue

On May 15, aap reported quarterly results. For the first three months of 2014, the company recorded revenue of EUR 7.1m (EUR 10.4m in Q1 13) and EBITDA of EUR 0.1m (EUR 3.1m in Q1 13). The decline in revenue and EBITDA is a result of the sale of the subsidiary EMCM. Additionally, last year's Q1 revenue benefited from a positive one-off impact totalling EUR 3.1m from a development and supply contract and a licence contract in the Biomaterials division.

The reported revenue of EUR 7.1m in Q1 14 still includes a revenue contribution of EUR 1m from the subsidiary EMCM for the months of January and February (sale effective as of February 28). Excluding the special effects, revenue in the two continued operations Trauma and Biomaterials rose by 33% yoy from EUR 4.6m to EUR 6.1m in Q1. EBITDA also showed very positive development in Q1. Excluding EMCM and special effects, EBITDA increased from EUR -1.1m to EUR 0.1m. EBIT clearly increased by EUR 2m to EUR -0.4m.

The revenue of the new product LOQTEQ alone rose by 175% to EUR 1.1m. Revenue in the area of Trauma thus rose from EUR 1.5m to EUR 2.2m (+47% yoy). Unit sales generated in countries like Russia, Italy, Spain or the Czech Republic made a significant contribution to the revenue increase. This shows that the internationalisation strategy is fully intact.

The Biomaterials segment posted solid 25% growth to EUR 3.9m and also contributed to the strong start to the year. As aap does not report separate segmental results, only the cumulated EBITDA contributions for the areas of Trauma and Biomaterials are available. On a full-year basis, break even is expected for the Trauma while an EBITDA margin of c. 30% is expected for the Biomaterials activities.

Guidance Q2

The company continues to expect strong growth based on the LOQTEQ implants. In Q1 the product portfolio was expanded by one plate system. On the basis of the strong quarterly result, the full-year outlook was confirmed. For Q2, aap is expecting revenues of EUR 7.6m to EUR 8.2m and an EBITDA of EUR 1m-1.5m.

Even if the annual target of EUR 35m in revenue and EUR 5m-6m EBITDA seems ambitious at first glance, bear in mind that it is difficult to draw conclusions based on individual quarterly results. With the new product LOQTEQ, individual customer contracts can have a strong impact on the quarterly results. Following the sale of EMCM and with a wide customer base of LOQTEQ, quarterly results are expected to be less volatile. Distribution partners gained in Q1 as well as the expansion of the product portfolio should have a positive impact over the course of the year and should contribute to the attainment of the full-year targets.

The focusing strategy in the Trauma segment will be further pursued. aap has already referred to a possible sale of the Biomaterials division. During Q1, an M&A company has been hired to support aap in the spin-off of the aap Biomaterials GmbH.

Guidance 2015-2017

For the next three years, aap has drafted an outlook in which management anticipates annual revenue and EBITDA growth of more than 20%.

DCF valuation: EUR 4.42

Valuation

- Initiation of coverage with a Buy recommendation.
- Price target of EUR 4.50 is essentially based on the DCF model.
- The DCF model best reflects the long-term growth potential.
- Peer group analysis highlights the undervaluation.
- SotP with M&A multiples shows strong share price potential.

DCF reflects long-term growth

The DCF model best reflects the long-term potential and prospects for aap. The most recent product LOQTEQ has only been on the market for two years and is growing strongly. The company is targeting an EBITDA margin of 20% in the medium term, which hits our expectations. Established competitors (including the leading competitor DePuy Synthes which is part of the Johnson & Johnson Group with a market share of 50%) generate EBITDA margins of greater than 30% and EBIT margins of more than 27%. The German competitor Königsee Implantate achieves an EBIT margin of more than 40% on revenues of about EUR 20m.

With a starting base of EUR 15m revenue (WRe) for the Trauma division, mainly driven by LOQTEQ (EUR 10m WRe) in 2014e, revenues of more than EUR 40m by 2020 are considered possible with this product series alone (CAGR 14-20 26.5%). For the group as a whole, growth will be far less with a CAGR of 13.7 % until 2020.

The terminal growth rate is based on an EBITDA margin of c. 27% and is therefore slightly below the peer level (c. 30%). Once LOQTEQ has achieved a certain level of market acceptance, higher margin levels are realistic for LOQTEQ. With terminal growth of 3.5% and a WACC of more than 10.1%, a fair value of EUR 4.42 is derived.

DCF model

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	2014e	**2015e**	**2016e**	**2017e**	**2018e**	**2019e**	**2020e**	**2021e**	**2022e**	**2023e**	**2024e**	**2025e**	**2026e**	
Sales	34.6	40.3	47.1	53.9	59.7	65.3	70.0	74.8	79.6	84.4	89.6	94.8	100.0	
Sales change	*-13.6 %*	*16.8 %*	*16.9 %*	*14.4 %*	*10.6 %*	*9.5 %*	*7.1 %*	*6.8 %*	*6.4 %*	*6.1 %*	*6.1 %*	*5.8 %*	*5.5 %*	*3.5 %*
EBIT	2.7	3.8	4.6	5.6	6.5	7.5	8.7	10.5	12.4	14.4	17.0	19.4	20.5	
EBIT-margin	*7.9 %*	*9.4 %*	*9.8 %*	*10.4 %*	*10.9 %*	*11.5 %*	*12.5 %*	*14.1 %*	*15.6 %*	*17.1 %*	*19.0 %*	*20.5 %*	*20.5 %*	
Tax rate (EBT)	*6.9 %*	*5.1 %*	*12.7 %*	*17.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	
NOPAT	2.5	3.6	4.0	4.6	4.9	5.6	6.5	7.9	9.3	10.8	12.8	14.6	15.4	
Depreciation	2.6	2.9	3.3	3.5	3.9	4.2	4.5	4.9	5.2	5.5	5.8	6.2	6.5	
in % of Sales	*7.5 %*	*7.3 %*	*7.0 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	
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	-3.7	0.8	1.0	1.3	1.4	1.4	0.8	1.1	1.1	1.1	1.2	0.7	1.2	
- Capex	3.2	3.3	3.4	3.5	3.9	4.2	4.5	4.9	5.2	5.5	5.8	6.2	6.5	
Capex in % of Sales	*9.3 %*	*8.2 %*	*7.2 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	
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)	5.6	2.4	2.9	3.4	3.5	4.3	5.8	6.8	8.2	9.7	11.6	13.8	14.2	16
PV of FCF	5.6	2.2	2.4	2.5	2.4	2.6	3.2	3.5	3.8	4.1	4.4	4.8	4.5	75
share of PVs	**8.51 %**			**29.67 %**										**61.83 %**

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	0.00 %	Financial Strength	1.20
Cost of debt (after tax)	4.2 %	Liquidity (share)	1.50
Market return	8.00 %	Cyclicality	1.40
Risk free rate	2.50 %	Transparency	1.40
		Others	1.38
WACC	**10.06 %**	**Beta**	**1.38**

Valuation (m)

Present values 2026e	46		
Terminal Value	75		
Financial liabilities	5		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	20	No. of shares (m)	30.7
Equity Value	**136**	**Value per share (EUR)**	**4.42**

Sensitivity Value per Share (EUR)

		Terminal Growth						
Beta	WACC	2.75 %	3.00 %	3.25 %	**3.50 %**	3.75 %	4.00 %	4.25 %
1.56	11.1 %	3.62	3.68	3.73	3.80	3.86	3.93	4.00
1.47	10.6 %	3.88	3.94	4.01	4.08	4.16	4.25	4.34
1.42	10.3 %	4.02	4.09	4.16	4.25	4.33	4.43	4.53
1.38	10.1 %	4.17	4.25	4.33	**4.42**	4.52	4.62	4.73
1.33	9.8 %	4.33	4.42	4.51	4.61	4.72	4.83	4.96
1.28	9.6 %	4.51	4.60	4.70	4.81	4.93	5.07	5.21
1.19	9.1 %	4.90	5.02	5.15	5.28	5.43	5.60	5.78

		Delta EBIT-margin						
Beta	WACC	-1.5 pp	-1.0 pp	-0.5 pp	**+0.0 pp**	+0.5 pp	+1.0 pp	+1.5 pp
1.56	11.1 %	3.48	3.58	3.69	3.80	3.90	4.01	4.12
1.47	10.6 %	3.74	3.86	3.97	4.08	4.20	4.31	4.43
1.42	10.3 %	3.89	4.01	4.13	4.25	4.36	4.48	4.60
1.38	10.1 %	4.05	4.17	4.30	**4.42**	4.54	4.67	4.79
1.33	9.8 %	4.22	4.35	4.48	4.61	4.74	4.87	4.99
1.28	9.6 %	4.41	4.55	4.68	4.81	4.95	5.08	5.22
1.19	9.1 %	4.85	4.99	5.14	5.28	5.43	5.58	5.72

- In 2013, one-third of the revenue was generated in the Trauma division and two-thirds in the Biomaterials division.
- This ratio will turn around in the medium term. As of 2020, Trauma is expected to generate almost 70% of revenue.
- 2013 EBIT was burdened by one-time effects. In 2014e, the Trauma division is expected to break even.
- The EBIT margin in perpetuity is assumed at 21%. With successful market penetration, higher margins are possible.
- Beta is relatively low owing to the good financial situation and the sector's resistance to cyclicality.

Analysis with Trauma peers
EUR 4.42 (2014e)

Peer group sees some substantially higher multiples

Prevailing international medical technical companies will now be reviewed in order to access the company's peer group. As a result of the failing profitability of many peers, a consideration of total revenue is most comparable. The validity of such a comparison, is however, limited for the following reasons:

- The regional focus among the peer group is varied. In the USA and Japan the same products are three to four times as expensive, making it possible for multiple comparisons based on EV/Sales to be biased.
- Well-established competitors are to a certain extent significantly larger than app or are conglomerates.
- There is only a small number of pure players in the Trauma sector.
- At the present moment aap is itself still not a Trauma pure play.

With regard to continued operations, aap's total revenues for 2013 were EUR 28.6m (Trauma EUR 9.6m; Biomaterials EUR 17.7m: other EUR 1.3m). While the Trauma division currently shows a negative EBITDA, Biomaterials is highly profitable with an EBITDA margin of around 30% (WRe).

Against this backdrop, aap is compared with two peer groups. First peer is regarding the Trauma segment, while the second peer is based on biomaterial companies. Particularly in view of company strategy and the focus on the Trauma business, Trauma peers are of greater importance when making comparisons.

In both comparisons, sales multiples are applied as standard while earnings multiples are a less valid point of comparison.

Peergroup - Key Figures: Trauma

Company	LC	Price in LC	MC in LC m	EV in LC m	EPS 14e	EPS 15e	EPS 16e	Sales 14e	Sales 15e	Sales 16e	EBITDA 14e	EBITDA 15e	EBITDA 16e	EBIT 14e	EBIT 15e	EBIT 16e
Tornier	USD	20.86	1,013.0	1,032.5	-0.45	-0.19	-0.04	321.1	346.9	371.5	25.8	33.7	44.6	-23.6	-7.2	-2.0
Wright Medical	USD	29.60	1,476.9	1,398.0	-1.33	-0.79	-0.27	310.5	356.6	416.7	-17.7	10.2	44.4	-53.4	-33.6	-23.7
Globus	USD	24.68	1,658.2	2,001.2	0.94	1.07	1.21	483.6	542.9	599.5	163.2	186.2	213.0	135.3	155.7	191.0
LDR Holding	USD	22.89	583.0	549.0	-0.49	-0.23	0.28	129.7	154.4	188.0	-2.7	2.4	17.4	-7.0	-0.2	13.6
0,00	0,00	0,00	0,0	0,0	0,00	0,00	0,00	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
aap Implantate	**EUR**	**3.20**	**98.1**	**101.5**	**0.09**	**0.12**	**0.13**	**34.6**	**40.3**	**47.1**	**5.3**	**6.7**	**7.9**	**2.7**	**3.8**	**5.4**

Trauma: Peergroup - Valuation Multiples

Company	LC	Price in LC	MC in LC m	EV in LC m	P / E 14e	P / E 15e	P / E 16e	EV / Sales 14e	EV / Sales 15e	EV / Sales 16e	EV / EBITDA 14e	EV / EBITDA 15e	EV / EBITDA 16e	EV / EBIT 14e	EV / EBIT 15e	EV / EBIT 16e
Tornier	USD	20.86	1,013.0	1,032.5	neg.	neg.	neg.	3.2 x	3.0 x	2.8 x	40.0 x	30.7 x	23.1 x	neg.	neg.	neg.
Wright Medical	USD	29.60	1,476.9	1,398.0	neg.	neg.	neg.	4.5 x	3.9 x	3.4 x	neg.	137.3 x	31.5 x	neg.	neg.	neg.
Globus	USD	24.68	1,658.2	2,001.2	26.2 x	23.1 x	20.4 x	4.1 x	3.7 x	3.3 x	12.3 x	10.7 x	9.4 x	14.8 x	12.9 x	10.5 x
LDR Holding	USD	22.89	583.0	549.0	neg.	neg.	80.9 x	4.2 x	3.6 x	2.9 x	neg.	226.1 x	31.5 x	neg.	neg.	40.5 x
Average					26.2 x	23.1 x	50.6 x	4.0 x	3.5 x	3.1 x	26.2 x	101.2 x	23.9 x	14.8 x	12.9 x	25.5 x
Median					26.2 x	23.1 x	50.6 x	4.2 x	3.6 x	3.1 x	26.2 x	84.0 x	27.3 x	14.8 x	12.9 x	25.5 x
aap Implantate	**EUR**	**3.20**	**98.1**	**101.5**	**35.6 x**	**26.7 x**	**24.6 x**	**2.9 x**	**2.5 x**	**2.2 x**	**19.1 x**	**15.1 x**	**12.8 x**	**37.2 x**	**26.8 x**	**18.8 x**
Valuation difference to Average					-26%	-13%	106%	37%	41%	44%	37%	572%	86%	-60%	-52%	35%
Fair value per share based on Average					2.36	2.77	6.58	4.42	4.54	4.65	4.43	22.12	6.06	1.21	1.48	4.37

Source: Warburg Research, Bloomberg

Tornier Medical

Revenue 2013: USD 310m – EBITDA USD 16.2m (Margin: 5.2%)

Tornier is a global medical technology company which specialises in over 100 implant products for surgical procedures on extremity joints, such as those in the shoulders, hands and feet, as well as biomaterials for tissue regeneration procedures. In 2012, Tornier acquired a company that specialised in hands and feet implants. Tornier, which was founded in 2006, has a history that dates back to the 1940s and distributes products to 45 countries.

Wright Medical

Revenue 2013: USD 242m – EBITDA USD -19.6m (Margin: -8.1%)

The Wright Medical Group specialises in products for extremity and hip joints as well as biomaterials for fracture procedures and the acceleration of tissue regeneration. Wright Medical is a multinational company with product lines in numerous countries and on every continent. The company was founded in 1950 and started specialising in implantology at an early stage.

In recent years, the company experienced significant growth through acquisitions and paid between 5-5.5 EV/Revenue for purchase price.

Globus Medical

Revenue 2013: USD 434m – EBITDA USD 145.54m (Margin: 33.5%)

Globus Medical specialises in implants and biomaterials used within surgical procedures on the vertebral column. The company was formed in 2003 and claims to be the fastest-growing company of all time within the orthopaedic sector. The product portfolio for spinal surgery currently consists of over 100 products and there are around 30 further products currently at development stage.

LDR Holding

Revenue 2013: USD 112m – EBITDA USD 1.7m (Margin: 1.5%)

LDR Holding was formed in 2000. The company specialises in neurosurgical medical technology and focuses specifically on spinal surgery for spinal functionality defects. The company is represented in North and South America, Europe and Asia, either directly or via a distribution network. The product portfolio consists of neurosurgical implant products and biomaterials such as bone replacement materials.

Analysis with Biomaterials peers EUR 3.42 (2014e)

Peer: Biomaterials

When compared with peers within the Biomaterials sector, evaluations are lower than when making a comparison with peers within that of Trauma. Despite this, aap is still highly profitable within this sector while comparable groups are in deficit. Furthermore, in light of missing estimations, the possibility of a direct comparison is limited.

Peergroup - Key Figures: Biomaterials

Company	LC	Price in LC	MC in LC m	EV in LC m	EPS 14e	EPS 15e	EPS 16e	Sales 14e	Sales 15e	Sales 16e	EBITDA 14e	EBITDA 15e	EBITDA 16e	EBIT 14e	EBIT 15e	EBIT 16e
Anika Therapeutics	USD	46.33	668.1	588.2	2.22	1.65	n.a.	103.7	99.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bacterin International	USD	0.67	36.8	49.0	-0.22	-0.06	n.a.	35.7	41.6	n.a.	-6.2	n.a.	n.a.	-6.5	n.a.	n.a.
CryoLife	USD	8.68	243.8	206.0	0.20	0.38	n.a.	147.3	157.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MiMedx Group	USD	5.35	566.7	520.5	-0.02	0.12	0.19	100.8	146.5	181.3	12.8	29.0	n.a.	n.a.	n.a.	n.a.
RTI Surgical	USD	4.32	244.6	337.1	0.08	0.16	n.a.	250.6	269.6	290.0	22.8	30.7	n.a.	n.a.	n.a.	n.a.
aap Implantate	**EUR**	**3.20**	**98.1**	**101.5**	**0.04**	**0.06**	**0.08**	**36.2**	**42.4**	**48.6**	**5.2**	**6.5**	**7.5**	**1.6**	**2.5**	**5.8**

Biomaterials: Peergroup - Valuation Multiples

Company	LC	Price in LC	MC in LC m	EV in LC m	P / E 14e	P / E 15e	P / E 16e	EV / Sales 14e	EV / Sales 15e	EV / Sales 16e	EV / EBITDA 14e	EV / EBITDA 15e	EV / EBITDA 16e	EV / EBIT 14e	EV / EBIT 15e	EV / EBIT 16e
Anika Therapeutics	USD	46.33	668.1	588.2	20.9 x	28.1 x	n.a.	5.7 x	5.9 x	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bacterin International	USD	0.67	36.8	49.0	neg.	neg.	n.a.	1.4 x	1.2 x	n.a.	neg.	n.a.	n.a.	neg.	n.a.	n.a.
CryoLife	USD	8.68	243.8	206.0	43.4 x	22.7 x	n.a.	1.4 x	1.3 x	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MiMedx Group	USD	5.35	566.7	520.5	neg.	46.5 x	28.2 x	5.2 x	3.6 x	2.9 x	40.7 x	17.9 x	n.a.	n.a.	n.a.	n.a.
RTI Surgical	USD	4.32	244.6	337.1	54.0 x	27.3 x	n.a.	1.3 x	1.3 x	1.2 x	14.8 x	11.0 x	n.a.	n.a.	n.a.	n.a.
Average					39.4 x	31.2 x	28.2 x	3.0 x	2.6 x	2.0 x	27.7 x	14.5 x	n.a.	n.a.	n.a.	n.a.
Median					43.4 x	27.7 x	28.2 x	1.4 x	1.3 x	2.0 x	27.7 x	14.5 x	n.a.	n.a.	n.a.	n.a.
aap Implantate	**EUR**	**3.20**	**98.1**	**101.5**	**80.0 x**	**53.3 x**	**40.0 x**	**2.8 x**	**2.4 x**	**2.1 x**	**19.5 x**	**15.5 x**	**13.5 x**	**64.7 x**	**41.2 x**	**17.4 x**
Valuation difference to Average					-51%	-42%	-30%	7%	10%	-3%	42%	-7%	n.a.	n.a.	n.a.	n.a.
Fair value per share based on Average					1.58	1.87	2.25	3.42	3.54	3.08	4.59	2.98	n.a.	n.a.	n.a.	n.a.

Source: Warburg Research, Bloomberg

Sum of the parts (SotP) indicates potential

Sum of the Parts: EUR 4.40 (2014e)

For the SotP evaluation, the company is sub-classified into the operative Trauma segment (including growth driver LOQTEQ) and the Biomaterial segment. Here, it is important to remember that the Trauma business shows a negative EBITDA contribution and is supported by the profitable biomaterial business segment. As such, sales multiples, derived from the peer group, are referred to when making the SotP evaluation. Additionally, a comparison with recent M&A transactions is made. It is possible that in light of potential synergies from strategic buyers such as Wright Medical, aap could be rated significantly higher.

M&A Transactions

Date	Buyer	Target company	EV/ (LTM) Sales	Transaction
2014	Wright Medical	OrthoPro	5,50	M&A
2014	Wright Medical	Solana Surgical	5,50	M&A
2013	Wright Medical	Biotech International	5,33	M&A
2013	LDR Holding		2,97	IPO
2013	Wright Medical	WG Healtcare	n.a	M&A
2012	Globus Medical		2,60	IPO
2012	Tornier	OrthoHelix	5,78	M&A
2011	Tonier		3,38	IPO
2011	Stryker	Memometal	5,40	M&A
2010	China Kanghui		5,55	IPO
		Mean	**4,67**	

Source: Warburg Research, FactSet

Further M&A activity expected

The US peer LDR Holding announced on May 13 that it has raised USD 32.1m through capital increase. According to LDR, the funds will allow for the acquisition of single products, technologies or a company.

Wright Medical: M&A activities parallel with aap

In view of rapid growth within the Extremities sector, Wright Medical is going ahead with the mentioned acquisitions. All acquisitions allow for the expansion of the product portfolio. According to Wright, the company is still on the search for suitable target firms, for which it would pay current market multiples of 5.5x EV/Sales.

OrthoPro, USA – Purchase Price USD 36m – 5.5x EV/Sales

OrthoPro is a focussed niche supplier of surgical implants and screws which are used on the feet and ankles. With its CSS (Cannulated Screw Systems) surgical screws and its Rx-Fix Rail External Fixator, the OrthoPro has developed innovative products and has succeeded in increasing awareness of them in a short period of time. The company was formed in 2003.

Solana Surgical, USA – Purchase price USD 90m – 5.5x EV/Sales

The company was formed in 2011 by managers within the Orthopaedics sector and the first product entered the market in the same year. Its product portfolio contains plate systems, screws and biomaterials. Solana is considered a young and innovative company and focuses on foot and hand implants.

Biotech International, France – Purchase Price USD 80m – 5.3x EV/Revenue

Biotech designs, produces and distributes orthopaedic implants for medical procedures on the extremities, such as the shoulders, elbows, feet and hands. Products include plate systems, screws and bone substitutes. Products include plating systems, screws and bone substitutes. The French company was formed in 1987.

All companies share distinct similarities with app, namely:

- young and innovative product portfolios
- specialised niche supplier
- high growth rates.

From WR's point of view, the multiples only reflect the growth potential of the patented LOQTEQ technology to a certain extent, however the current undervaluation of app is evident. The multiple analysis clearly supports the DCF results.

SotP aap Implantate

	Sales 2014e	Sales 2015e	EV/ Sales 2014	EV/ Sales 2015	Trauma M&A Multiples	fair value 14	fair value 15	fair value 14 M&A
Trauma	15,00	20,4	4,02	3,53	4,67	60,3	72,1	70,0
Biomaterials	19,55	19,9	2,99	2,64	2,99	58,5	52,6	58,5
Other Assets								
Net Debt (without EMCM)						-14,7	-14,7	-14,7
Joint Venture aap Joints (at equity)						1,5	1,5	1,5
Fair Value						**135,0**	**140,9**	**144,6**
Number of shares						30,7	30,7	30,7
Fair Value per share						**4,40**	**4,59**	**4,72**

Source: Warburg Research, Bloomberg

SotP on M&A multiples: EUR 4.72

The table summarises the SotP analysis. Based on the assumptions and the underlying multiples, app constitutes a fair value EUR 4.40, according to 2014 estimations. The evaluation of EUR 4.72 on latest M&A transactions indicates a significantly higher potential and results demonstrate the undervaluation for app and confirm the DCF findings.

Reallocation of liquid funds offers valuation potential

Real Options: M&A

aap's Biomaterials division is a lucrative subsidiary. The company is currently evaluating the divestment of this subsidiary. The likely sale of this unit could release further financial resources. These resources and existing liquid funds of EUR 17.1m (Q1 14) could be used for potential acquisitions in the Trauma area.

The above mentioned M&A transactions and related multiples (average 4.7x EV/Sales) are primarily related to the rapidly growing middle-sized companies such as aap, which are bought buy global players within the medical technical sector. Buyers are interested in buying innovative and fast-growing companies in order to inorganically drive forward their own slower growth.

Furthermore, smaller and more specialised companies which drive forward qualitative products with less pronounced growth opportunities are active on the orthopaedic market. Accordingly, their multiple-based valuation (average 1.5-3.0x EV/Sales) is lower. These companies can be interested in app for a number of reasons: in order to drive their own growth; to supply international distribution partnerships with an acquired portfolio; and to transfer their higher valuation multiples to the acquired revenue.

As such, an inorganic extension of the product portfolio would increase the acceptance of app among buyers as a one stop shop, thereby significantly easing the acquisition of new clients. This is likely to have a positive impact on revenue and earnings.

Hence, this provides the potential for changes to occur:

- Acquisition of smaller trauma companies outside the capital markets.
- Pay lower multiples.

- Achieve higher growth rates as a result of the merger.
- Utilisation of synergies in the product portfolio.
- Transfer of higher capital market valuations to acquired companies.

As such, the focussing strategy in combination with the supposed financial leverage of acquired companies creates the potential for increased shareholder value.

aap's history shaped by M&A

Company & Products

History

- 1970 Founding of Mecron med. Prod. GmbH
- 1984 Takeover by Johnson & Johnson
- 1990 MBO and founding of aap GmbH & Co. Betriebs AG
- 1999 IPO
- 2000 The bone cement and bio material business is taken over with the Mebio/ Coripharm Group
- 2002 Development of bone regeneration material Ostim®
- 2003 Initial authorisation in Europe for the antibiotic carrier PerOssal®
- 2005 Acquisition of Osartis GmbH and investment in ADC Dental Care GmbH
- 2006 Takeover of Dutch Fame Group
- 2007 Integration of aap bio implants Netherlands B.V.; closing of contracts with Medtronic and Zimmer & Wright Medical
- 2008 Change of strategy: Focus on the core areas with the target of becoming a pure player in the area of trauma implants; Divestment of the areas Dental, Analytics and Medical Aesthetics
- 2011 International product launch of trauma implant LOQTEQ
- 2012 Recon (knee, hip and shoulder implants) successfully transferred – aap holds 30% in the Joint Venture aap Joints GmbH
- 2013 Successful divestment of order production EMCM B.V. (Netherlands) – Transaction closed in Q1 2014

A focus on Trauma

Transformation strategy

Since 2009, management has been gradually restructuring the aap conglomerate by divesting niche areas and investing the freed-up capacities in the further development of the LOQTEQ product and bringing it to market maturity. Currently, the company is only active in the areas of Biomaterial and Trauma, which is held in the highest esteem by global customers. For more than 10 years the company has been conducting business with big-name companies like Zimmer, Stryker, Smith & Nephew or Johnson & Johnson, which should promote positive development of the Trauma division.

The company itself currently values the strategic retention of the Biomaterials division so that, under certain circumstances, further concentration on Trauma activities can be expected. From the Warburg Research perspective, with the sustainable achievement of break even in the Trauma business, a sale of aap Biomaterials GmbH is very likely. For 2014, management expects positive EBITDA in the Trauma business. Accordingly, aap Biomaterials GmbH could be divested in the short term. Comparable transactions as well as the sale of the Dutch subsidiary EMCM (9x EV/ EBITDA) were carried out with about 8-10x EV/EBITDA. With an adjusted EBITDA '13 of EUR 4m (WRe) for the amortised Biomaterials area, this would mean proceeds of EUR 32-40m.

Fifth generation trauma implants: LOQTEQ

The Trauma product LOQTEQ addresses an orthopaedic market volume of about USD 6.1bn, which is driven by high growth rates. In this market, revenue of about USD 3bn is generated with screws and plate systems, like those produced by aap.

With the IP-protected trauma plate production series LOQTEQ, aap plans to cover more

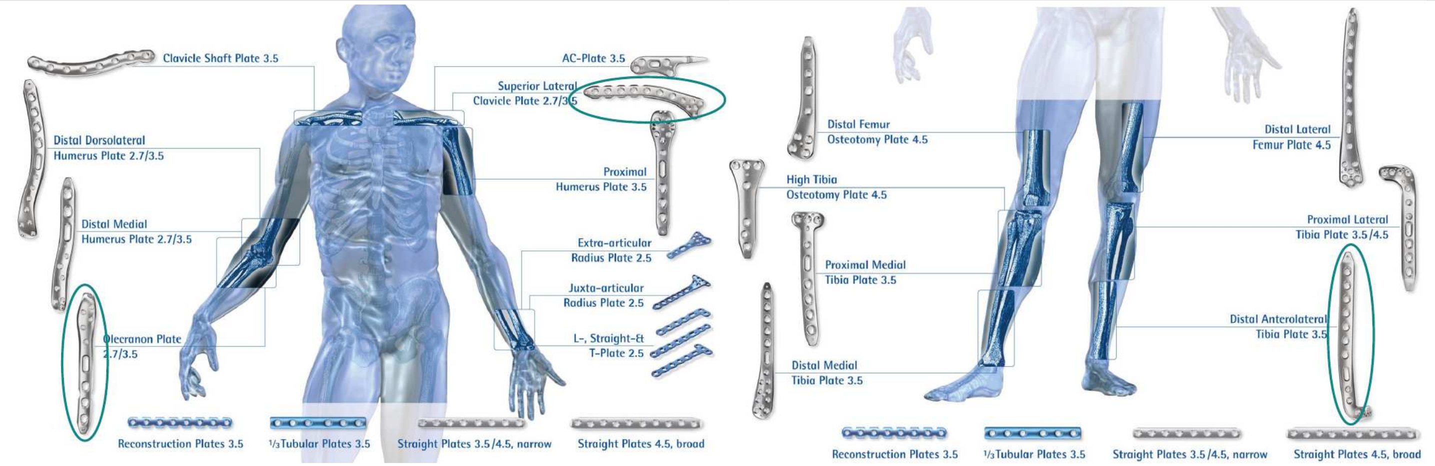
90% coverage of the relevant application areas expected in 2014

than 90% of the most common areas of application in the trauma business of the lower and upper extremities (shoulder to ankle). Coverage of 80% was already achieved in 2013. Implants in the hands, feet or head area are not included in these areas. Additionally, differentiation is seen in applications in the spine area and the large joints (shoulder, hip and knee joints). These implants remain in the body long term and therefore need to meet entirely different physical functionality and requirements.

Currently, aap's new LOQTEQ plate systems are CE certified. This is the precondition for market authorisation in Europe. Three further plate systems are presently in the process of authorisation. Successful certification is expected in FY 2014. Additional plate systems will follow in order to reach the targeted 90% coverage.

In aap's product portfolio, only the most common applications have been represented up to now. With the targeted product coverage of more than 90%, aap will also be classified as a full supplier by distributors and hospitals. This should lead to a higher presence and the more frequent use of the products as aap should then be regarded by its clients as a one-stop-supplier.

aap covers c. 80% of the relevant application areas with LOQTEQ (upper and under extremities)



Legend: highlighted implants were launched in 2013 Source: Warburg Research, aap

Generally implants can be differentiated as such:

1) Osteosynthetic implants – are removed after the generation of the bone.

2) Endoprothesis implants – remain in the body

The core business of aap is osteosynthetic implants, which are generally removed from the bones after nine to 24 months. In comparison to competitors, the innovative LOQTEQ product provides clear benefits in the handling, which are apparent during and after the operation.

LOQTEQ closes up to 2mm (competitors max. 1.5mm)

With broken bones, under certain circumstances, an initial operation might be necessary to straighten the bone structure (bone-breaks with fractures greater than 2mm) before the implant can be inserted. With LOQTEQ technology, this preparatory operation can sometimes be avoided as the implant has a patented functionality which facilitates compression. The fixed and stable-angle positioning of the screws in the pre-punctured holes on the plate, an automatic compression of the skeletal structure is brought about in the first step with the tightening of the screws (thus closing the breakage). With the second step, the reconstructed form is fixed and is supported with the implant. In comparison to competitors' products the LOQTEQ implant lightens the surgical invasive process, shortens the operative time and thus saves the hospital considerable costs.

LOQTEQ has clinical benefits

The implant offers the patient the benefit that, under certain circumstances, only a (shorter) operation is necessary. The recovery process is therefore faster with fewer complications and a lower risk of infection.

A general problem in osteosythensis (implants are removed after recovery), is that a second operation is necessary; the first to insert the implant and another to remove the implant. Up to now in about 10-12% of cases, stable-angle implants led to so-called cold welding. Similar metals with very high surface properties meld so strongly together that the melding is comparable to a welding process. For medical implants this means that the screws meld together with the plate and can make a removal considerably more difficult. The complexity of the surgery increases. With LOQTEQ, aap has created a product that has not shown any cold welding up to now.

Cold welding as stable as thermal welding

Cold welding of implants

To release a cold welding, the screw-head must be mechanically removed with a drill. The laborious operation harbours risk potential as it generates metal filings that can remain in the body. Up to now, no cold welding has been registered with LOQTEQ products. There are currently 150 observed cases, none of which showed any evidence of cold welding. Cold welding can arise as early as after nine months and in up to 10-20% of implants (the results of clinical studies vary). If aap products should continue to show no proven case of cold welding, it would clearly highlight the quality of the implant.

USP of LOQTEQ technology

LOQTEQ shows clear advantages over the competition

The titanium product is highly comparable to existing products (strong dependence on the products of DePuy Synthes – market share 50%) and therefore offers a simple and rapid learning process for surgeons. However, the aap product is clearly distinguishable in terms of quality and price:

- LOQTEQ orientates itself to the market leader but is sold for 10-15% less, which should provide for more rapid market entry.
- LOQTEQ is patent protected and does not affect any existing patents, according to aap.
- There has been no proven occurrence of cold welding (screw head melds into the implant plate), which means an expensive and high-risk operation is avoided.
- The system works with a simpler handling process than competing products.
- LOQTEQ enables the closing of variable breakages of 0-2mm with just one screw in one bore hole (main competitor Synthes can close a maximum breakage of 1.5mm but without the same level of flexibility and it requires various screw types to do so).
- The system gives the surgeon more freedom and more flexibility.
- The comparably simple handling provides for clear cost savings in hospitals with shorter operation times.
- Up to now, no occurrence of cold welding has been observed.
- The healing and recovery process is faster and therefore less expensive for patients, hospitals and health insurance companies.

Two further innovations are in the development process

Product Pipeline

Silver coating technology

The company is presently working on silver coating of the implants. At its location in Berlin, a testing facility has already been installed and has gone into operation. Silver coating involves covering the implant with a thin layer of silver which has an antibacterial effect and prevents the formation of fungi and bacteria. The precious metal has an ionising effect on the tissue surrounding the implant and prevents possible infection. This accelerates the healing process and allows for the avoidance of complications. In turn this dispenses with the need for follow-up operations and as a result saves costs. An associated technology to upgrade and improve the implants with the silver coating has already been successfully patented in the US. A market launch is targeted in the second half of 2015.

Magnesium technology

Additionally, aap is also working on a resorbable implant which dissolves once the bone has healed and is broken down by the body. Conventional implants made of titanium or steel alloys are surgically removed after the healing process, which results in renewed strain on the patient as well as costs for the funding bodies (usually insurers).

In general, various materials have resorbable properties but aap has specialised in magnesium and is working with the Chinese partner econtec Co. Ltd. On the development of a magnesium implant. A market launch of the magnesium product is anticipated by aap in the coming two to three years.

National and international trade

Sales

aap addresses the target markets using various distribution channels and market strategies. All LOQTEQ products are exclusively offered over the aap brand while biomaterials are also sold under OEM brands. Against the background of becoming a global supplier of trauma products, the LOQTEQ product series remains an exclusive product under the aap brand.

Direct sales:

In Germany and in the German-speaking neighbouring countries, aap sells its products in direct sales. Supply contracts are agreed with independent clinics or hospitals but also with hospital chains. The close contact with users means that aap can respond to the needs of the surgeons and make relevant improvements in the innovative products.

Sales network in 60 countries:

aap is supported by regional sales partners in its target to internationalise. An application is made in the relevant countries for a sales licence (e.g. CE certification in Germany; FDA approval in the US). Following the successful granting of the sales licence, the previously appointed sales partners are supplied with the products.

Authorities in Mexico and Brazil are currently examining authorisation applications for LOQTEQ. As the regional authorities normally refer to the European (CE) or American (FDA) standards, an expansion of the sale of LOQTEQ to all nine BRICS and SMIT states is only a question of time. As well as the nine developing countries, the core markets include the US, EU and western Europe.

OEM partnerships:

aap is an OEM for international and well-known medical engineering companies within the Biomaterials segment. 2004 saw the beginning of a successful partnership between the company and Smith & Nephew. Today, aap produces materials for all important MedTech companies including Zimmer, Stryker, Heraeus, Medtronic or Johnson & Johnson. Furthermore, 20-25% of Biomaterials are marketed with the aap brand. Within the Trauma division the company is planning an aap brand and does not produce anything for OEMs.

Experienced management with a clear strategy

Management

On the April 28 aap announced a change within its Management. In line with a gradually increased focus on the Trauma sector, the complexity of aap was significantly reduced. In reducing the number of management positions from three to two, the company structure was simplified. At the end of May 2014, present CEO, Biense Visser will hand over his position to Bruke Seyoum Alemu, present COO. If the vote at the annual general shareholders’ meeting is in agreement, Visser will move to the Supervisory Board.

Biense Visser, CEO

Between 2007 and 2008 Visser occupied a seat on the aap Supervisory Board, before being called to management board in 2009. Since then, the CEO has represented the Corporate Development sector, Legal Affairs and Investor and Public Relations. Visser has gained several years' experience within a number of leading management positions. Furthermore, he has been and continues to be active within various supervisory boards. In line with the successful implementation of the focus strategy, Visser will take on a position within the Supervisory Board.

Bruke Seyoum Alemu, COO (CEO as of 1 June 2014)

Bruke Seyoum Alemu has worked for aap for over 19 years and has been a member of the board of directors since 1999. Since December 2009, the nuclear scientist has occupied the position of COO. Alemu is responsible for research and development, production as well as distribution and marketing. On June 1, 2014, Alemu will replace Biense Visser and will subsequently be responsible for product development, the supply chain, distribution and marketing and business development.

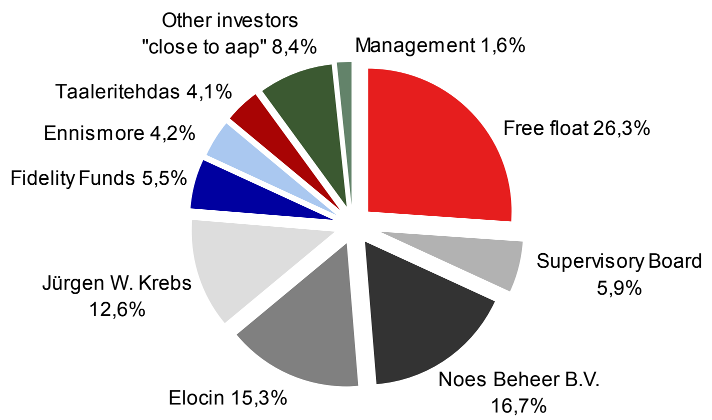
Marek Hahn, CFO

When in 2010, Marek Hahn was appointed to the Board of Managing Directors, he had been head of aap's corporate finance department since 2007. Since then, Hahn has been responsible for the Finance, Personnel, IT and Administration divisions. In line with Biense Visser's transferral on May 31, Hahn will additionally take over responsibility for Investor & Public Relations and Legal Affairs.

Shareholder Structure

aap was founded in 1990 under a management buyout. The Berlin-based company has been listed on the stock market since 1999 (Prime Standard since 2003). In total, 30.67 million shares have been issued. Currently, the Free Float stands at c. 26.3%. The remaining 66.2% of outstanding shares are owned by financial investors. Further, the management owns 1.6% of shares and the board of directors owns around 5.9% (5.3% belong to Rubino Girolama via Deep Blue Holding).

Shareholder structure



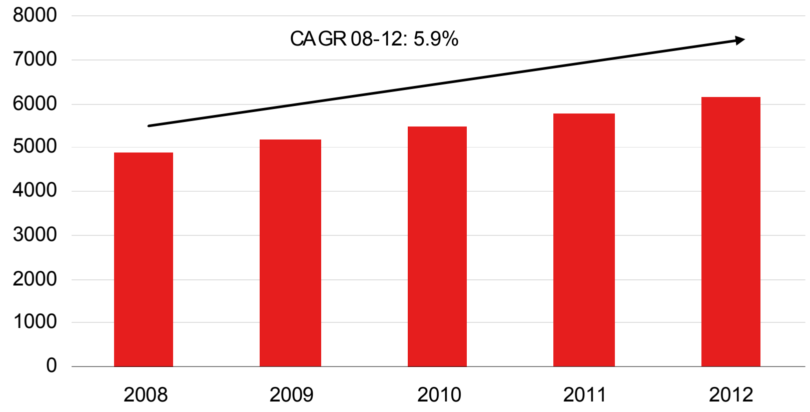
Source: Warburg Research, aap

Market & Competition

Market Parameters

The main area of metallic and medical implants sector falls within the scope endoprosthesis i.e. implants that remain within the body and are predominantly used as joint replacements, e.g. in the hips, knees and shoulders. With its plating systems and screws, aap is addressing a sub-segment within the entire market for orthopaedic implants, which has a volume of EUR 3bn. The entire Orthopaedics market is valued at around USD 6.1bn. aap is competing with a number of companies on this niche market.

Worldwide fracture repair sales (in USD Millions)



Source: Warburg Research, ORTHOWORLD 2013

The ability to plan and to prepare for a surgical procedure is the most distinguishing factor in the implants market as well as the requirements of the implants themselves. Trauma implants are normally needed spontaneously, for bone procedures that are required after accidents on the road, in the household, in the workplace or during leisure activities. As such, in order for hospitals to quickly carry out operations, it is compulsory for them to stock a minimum inventory for various body sizes and for a varied span of application (e.g. elbows and thigh bones). In Germany, (aap's smallest Trauma market – German LOQTEQ revenue share c. 7.1%) this necessary inventory within every hospital is supplied and financed by the manufacturer. Accordingly, the manufacturer then also covers the working capital costs for the client. This is one consequence of the increasing purchasing power, which is being strengthened through the concentration of demand within purchasing associations. This factor plays a minor role for aap as a result of the low revenue share in Germany.

Macroeconomic trends intact,…

aap is profiting from a general growth trend within the medical technological sector; a trend which is perceived as a worldwide market growth. The main drivers are:

- Technological progress
- Demographic change
- Widening concepts of health
- Higher willingness to spend more in order to live longer and with better living standards

However, these factors are up against state austerity measures for many service provisions.

…however, cost pressures increase

Constant and persistent implementations of cost-cutting measures within the health care system have, in the past, placed an increased pressure on hospitals and manufacturers. Further, regulations from the German Government have supported this cost pressure. As a consequence, hospitals have created purchasing associations which implement strict discounts and bonus claims. This pushes the price pressure onto the manufacturer. aap counteracts these costs with clinically profitable products which support shorter and more minimally invasive operations and through which, total costs of an implant procedure are reduced (e.g. personnel procedural costs).

Competitors

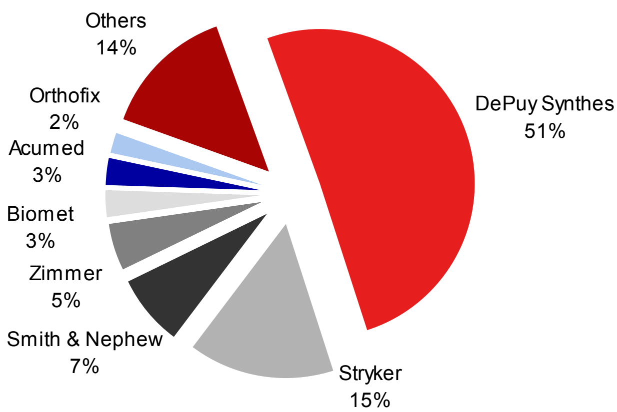
DePuy Synthes with 50% market share…

With a market share of some 50%, DePuy Synthes, which merged with Johnson & Johnson in 2012, is the leading trauma supplier. However, there are other suppliers which partly cater for niche markets such as trauma implants for hand and feet bones or for the spine.

DePuy was able to maintain its position as market leader due to close cooperation with the Association for the Study of Internal Fixation (AO Foundation). This association was formed in 1958 by a group of surgeons in Switzerland for the improvement and development of operational procedures on broken bones. The foundation formed the brand "Synthes" in 1960 and is constantly developing new products. These innovations are then distributed by industrial partners, e.g. Straumann and Mathys, under the brand name "Synthes".

Since 1984, the AO Foundation has concentrated on fundamental research, development, training and clinical documentation. Since its formation, the foundation has set new standards (e.g. fracture classification), developed products and procedures and built up a global network of doctors and surgeons. Through continual training for surgeons with Synthes products, the profile and affinity of the brand among surgeons has increased, resulting in the current market positioning of the DePuy Synthes company.

Global market shares – 7 players dominate 88% of the market



Source: Warburg Research, ORTHOWORLD 2013

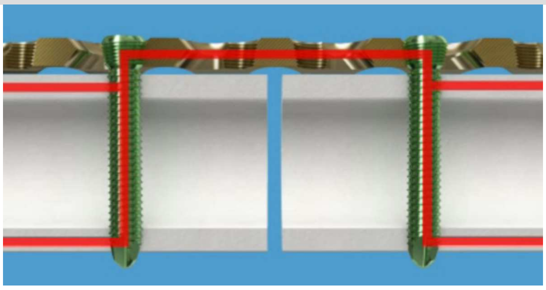
Along with DePuy Synthes, global players such as Zimmer, Stryker, Smith & Nephew, and niche suppliers such as aap or Königsee Implantate are also active in the Trauma sector.

Competitive qualities

…but aap offers advantages over DePuy Synthes

The most significant achievement of aap is the successful development and patenting of the LOQTEQ product series. The product series is based on the LCP product from market leader, DePuy Synthes. LCP is the 'Locking Compression Plate' for the lockable compression which has been distribute by Sythes for around ten years. Synthes was bought over by Johnson & Johnson in 2011 for USD 21.3bn. Revenues for DePuy Synthes are unknown but the market share is estimated to be around 50%.

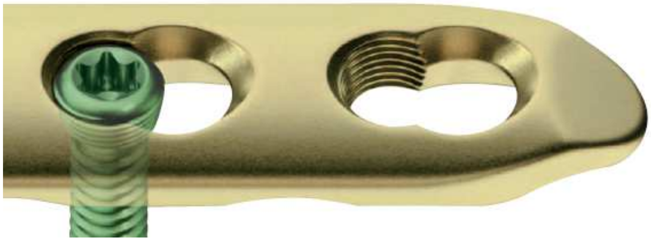
Function of trauma implants



Source: Warburg Research, DePuy Synthes

The LCP-product combines the standard plating technology of locking screws with compression. In the first step, the implant reduces the fracture and pushes the bones together in the second step. With the help of the screws, the implant bears the pressure of the fracture, allowing for ease of recovery.

Market leader Synthes: 2 boreholes for 2 different screws



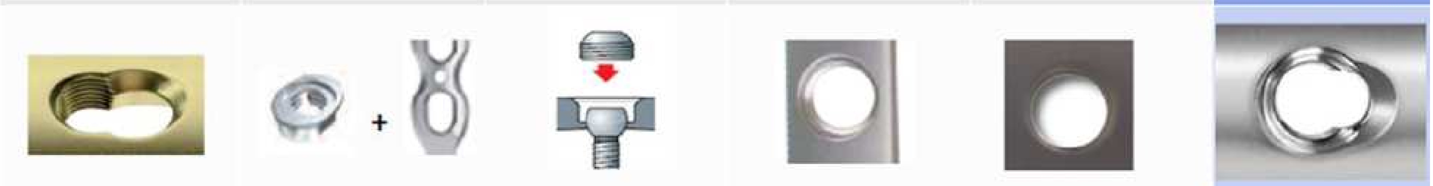
Source: Warburg Research, DePuy Synthes

LOQTEQ as a significant development

The biggest disadvantage of the Synthes products is that it requires the use of 2 different screws in two separate boreholes. The left hole fixes the implant and the bone with enhanced angular stability, while the right hole can be used to compress the fracture gap (max. 1.5mm). The degree of compression is determined by the design of the borehole and hence not adjustable. Additionally, owing to the lack of threads in the right-hand borehole, the locking function is not given. This can lead to a lose connection which cannot absorb the pressure of the fracture. Although the LCP technology was indeed a significant development, there have not been any improvements made to its shortcomings since it was introduced. All of the disadvantages that have just been mentioned have been overcome by the innovative development of LOQTEQ.

Boreholes and locking technologies

Synthes	Stryker	Zimmer	S&N	Königsee	aap
LCP	AxSOS	NCB	Peri-LOC		LOQTEQ®

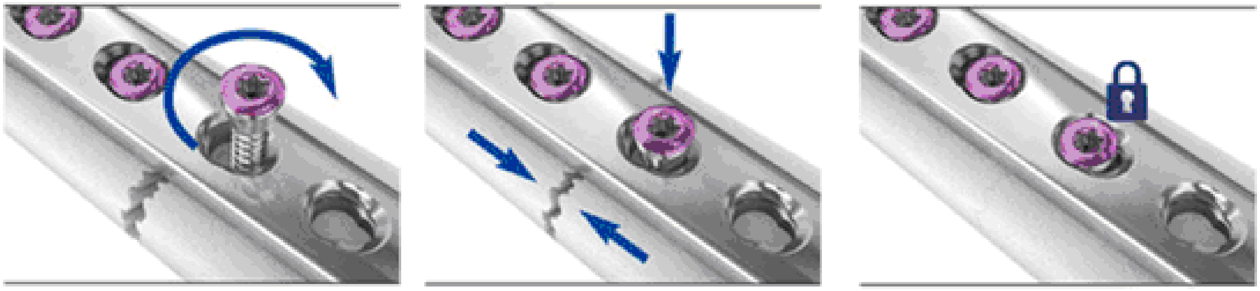


Source: Warburg Research, aap

LOQTEQ is a clinical improvement

Alongside Synthes, there are various other manufacturers (e.g. Stryker, Zimmer) that provide solutions, but which, as well requiring screws for implantation, also require additional components such as hoods and clamps. This can significantly increases the time and effort required for operations. Conversely, other manufacturers do not offer any form of compression functionality. In such cases, fractures need to be realigned during an initial surgical intervention. There is no other company which is capable of introducing a product which would be competitive with those of the market leader Synthes. LOQTEQ however, offers numerous clinical advantages which could enable an abroad market penetration.

aap's LOQTEQ: 1 borehole - 1 screw - variable compression (0 mm up to 2.0mm)



The pictures show a fracture which is stabilized within three steps: from realigning / fixation, to compression, to locking.

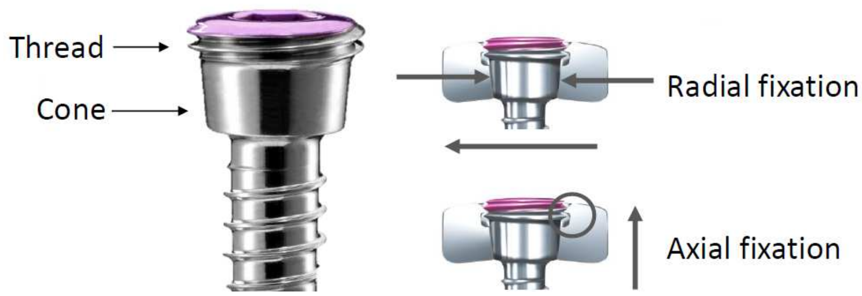
Source: Warburg Research, aap

USP: Innovative screws and borehole shape

aap can boast a number of advantageous characteristics as the company does not merely achieve compression through a plating system and lowering of the borehole, but rather also with the use of a conical-shaped screw head. This conical shape in combination with a lower thread surface allows for less contact between the plating system and the screw. This is seen as the reason which allows cold welding to be avoided.

Screw head shape makes all the difference

USP : Functional screw head



Source: Warburg Research, aap

- LOQTEQ only requires one screw and one borehole. This reduces operation times and therefore costs for hospitals.
- The compression of the fracture gap can be variably controlled (0-2mm).
- The surgeon has flexibility in deciding which of the borehole's function will be used.
- In developing this key product, app used market leader Synthes as a basis and as such, the majority of end customers are aware of the products.
- All further developments are internationally patented by aap.
- aap has international trade partners within all important medical technological markets.
- aap produces exclusively in Germany and meets all qualitative requirements from surgeons and end customers. All production sites are certified according to European regulations for medical products and Quality System Regulations of the FDA.
- German-made products continue to be valued highly among end customers, especially in emerging markets such as Brazil, India, Russia and China.
- aap is on its way to becoming a One-Stop-Shop: 80% of relevant application areas are covered by aap. In the course of the year, further plating systems will be legally

accepted, allowing for the 90% threshold for recognition will have been surpassed.

- In light of market penetration, the implant systems are currently distributed at 10-15% less than products from the market leader.
- As a result of the EMCM subsidiary sale, sufficient funds are available to finance growth.

Overall, aap's LOQTEQ system has the potential and the competitive strength to replace Synthes' established technology in the long-term. Simultaneously however, the evidence for strong competition calls for continuous investment in Research and Development. With its internally-developed silver coating and magnesium implants, aap illustrates a promising innovation pipeline and as such, demonstrates that it is capable of meeting all necessary requirements.

The Growth Drivers

Annually more than 50 million bone fractures worldwide

More accidents expected

Demand for osteosynthetic implants predominantly results from accidents that happen at the workplace, in the home, on the road and during sports and free-time activities. Furthermore, there can be an increased seasonal demand for implants as a result of snowy and icy winters. In contrast to this need, the producers are seeing increasing price pressure. Health insurance companies and the State are continually becoming less inclined to the pay reimbursements.

Globalisation and industrialisation are further factors for the increased demand. In light of technological progress, increasing numbers of people are spending more time on the road, whether it is due to commuting purposes, migratory purposes or urban growth. Further, changed workplaces become more risky, for example civil engineering both above and below ground level. As such, aap is participating in the aspired internationalisation in BRICS and SMIT countries.

Further significant growth expected

Until the year 2020, the Hamburg Institute of International Economics (HWWI) expects to see yearly increases of 9-16% in the medical technology sector within emerging markets. With regards to industrialised countries, this figure sits at 3-4%. On average, growth rates of the global medical technology market, and in particular, of trauma products at an increased rate of 6-7% each year. While the total market for orthopaedic implants amounts to USD 6.1bn, the trauma market amounts to USD 3bn. (see chapter Market and Competition). More than 50 million bone fractures are recorded worldwide each year.

In its aims to gain a stronger presence in the emerging markets, aap is also expected to see double-digit revenue growth in the long term, which is significant higher than total market growth.

The innovative product is currently at the approval procedure stage in many countries such including Brazil and Mexico. As the USA and Germany have already approved the product, it is simply a question of time before regional regulations allow for the same to occur in new markets; FDA and CE are the most comprehensive certification procedures worldwide. Hence, those agencies are the benchmark for local agencies.

If the LOQTEQ – Technology is regionally approved, it should be possible for the company to form further sales agreements with other distributors. The LOQTEQ roll-out is expected for further markets in 2014. The product has been presented to trade partners in the following countries:

- Europe: UK, Netherlands, Denmark, Sweden und Greece
- Africa: Nigeria, Angola, South Africa
- South America: Argentina

The company is on the right path to forming sales agreements with all nine BRICS and SMIT countries. In 2013, China, Russia and Saudi Arabia were supplied for the first time. At the end of 2013, sales agreements were reached in five of the nine target markets. Sales partners have now also been named in Brazil and Mexico although product approval is still being awaited. Certification and approval is expected to take place in 2014.

A considerable network of international well-known distributors has already been established. This track record is set to continue in the future. The following summary lists some cooperating medical technical distributors within the Biomaterial segment.

Selected distribution partners and OEMs (Biomaterials segment)

Source: Warburg Research, aap

Longstanding contractual relationships within the Biomaterials segment provide an opportunity for quick growth in the Trauma segment. The above mentioned companies are all supplied with biomaterials; some are also supplied with trauma products. From this, aap runs already business connections with the biggest global distributing companies.

Internationalisation

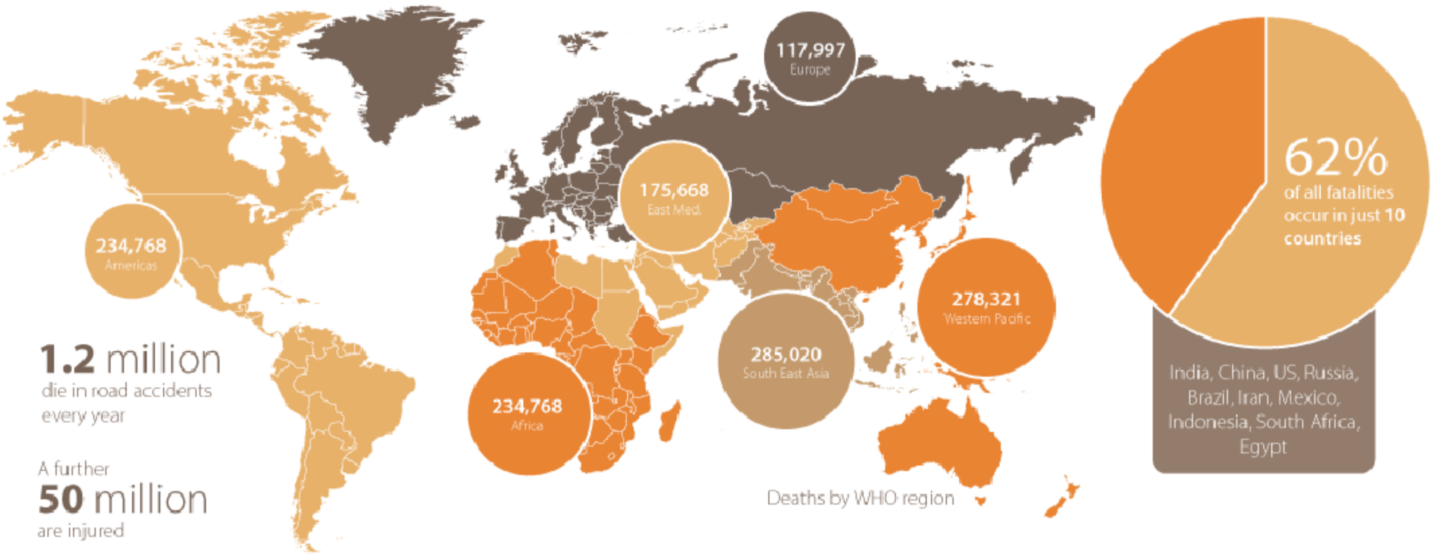
The global increase within the medical technological sector is also evident with app. Along with demographic changes and the increase in self-financed medication, increased access to medical treatment has also been significant for the company. As a result of its early internationalisation, aap is already present in the BRICS countries and has now also started to move into SMIT countries.

In light of the somewhat rapid economic growth in these countries, figures for both city populations and the number of people employed by industrial companies are increasing. As such, the countries are significant for aap. Both industrialisation and urbanisation are leading to more accidents on the road as well as in the workplace. Those facts are subsequently bringing about an increase in demand for bone regeneration implants.

Road accidents lead to increased demand in the USA, BRIC and SMIT

The number of road traffic deaths is used regularly to determine road safety. The following graph from the WHO shows that every year more than 50 million people are injured in road accidents. Additionally, 62% of all road traffic deaths occur in the following ten countries: India, China, Russia, Brazil, Iran, Mexico, Indonesia, South Africa, Egypt and the USA. aap has either had a market entry in six of these ten countries or is set to do so in the near future (China, Russia, Brazil, Iran, Mexico and Egypt). A third of all trauma operations are carried out in the USA, while the remaining two thirds are distributed globally.

50m injured in road accidents – 62% of fatalities occur in US, BRICS- und SMIT-countries



Source: Warburg Research, WHO 2011

USA, BRICS und SMIT have the most accidents

The WHO predicts that as a result of the increased numbers of personally owned vehicles, road traffic accidents will belong to the five most common cause of death by the year 2030, higher than aids, lung cancer and diabetes. This illustrates the consequences of road traffic accidents, which are set to cause an increase in the demand for bone implants. Many countries only opt for little or no measures in order to curtail the causes of accidents or the consequences of road traffic accidents.

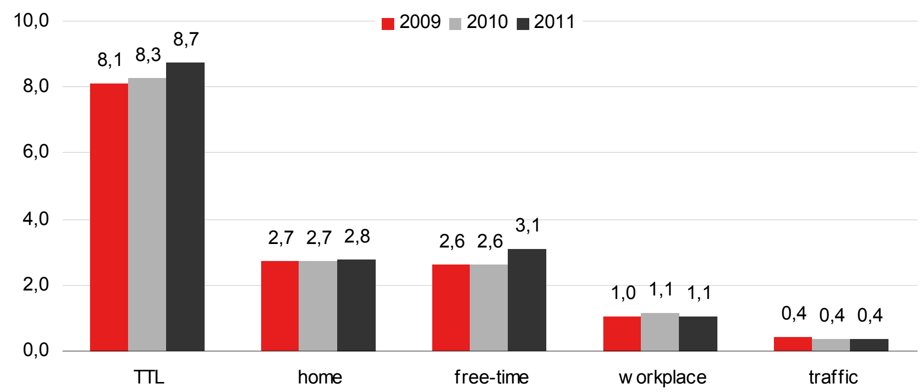
- Speed limits for inhabited areas exist in a mere 29% of countries
- Seatbelts is compulsory in only present in 57% of countries
- 60% of countries permit drivers of two-wheeled vehicles to drive without a helmet
- Over 90% of countries have laws against driving under the influence of alcohol. The WHO's drink drive limit of below 0.5% is only enforced in 50% of countries.

Estimates for the coming years do not predict the situation to change.

Industrialised Countries: impacted by DIY and leisure activities

While the highest number of road traffic and work-place accidents take place in emerging countries, prosperity within industrialised countries has also led to a high risk of injury as a result of DIY and high-risk leisure activities, such as extreme sports.

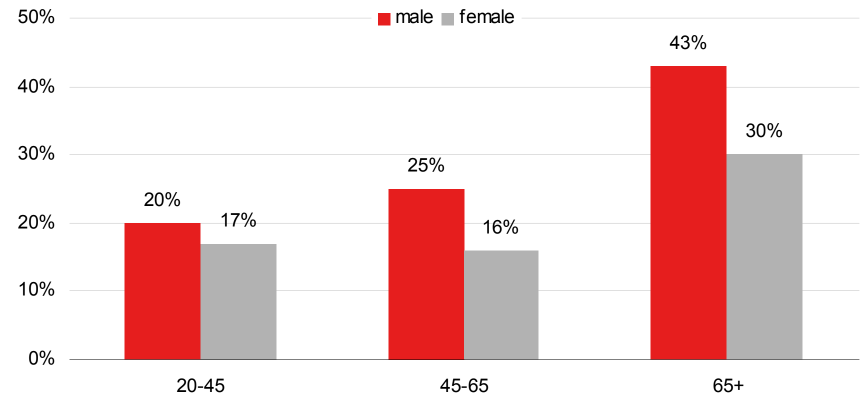
Number of accidents by crash scene from 2009-2011 (in millions)



Source: Warburg Research, Statista

In addition to this, demographic changes are creating the potential for an increased demand in trauma products. Higher life expectancy, combined with increased prosperity and improved health are leading to a larger number of accidents. The elderly have an increased risk of falling and in addition, the technical developments could remain undervalued. For example, the increasing number of accidents on fast going E-bikes has already led to positive sales trend at aap.

% of people who have fallen in the last two years (TTL population)



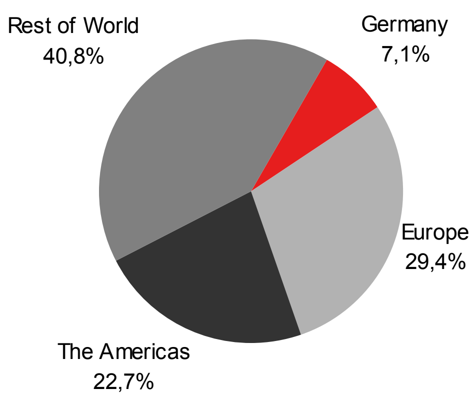
Source: Warburg Research, BKK Bundesverband; Statista

Another significant impact of demographic changes is the largely increased number of osteoporosis cases. In Europe alone, a fracture as a result of the disease is recorded every 30 seconds and worldwide, more than 200 million people are affected by the disease. In Europe, Japan and the USA, the number of people with the disease is estimated to be around 75 million.

High International Points for Medical Products

Along with general growth trends outside of Europe, the overseas markets are more significant for app as a result of higher price points. The USA is the world's largest market for trauma implants with a third of all operations taking place there. Sales figures per trauma implant in the USA are two to three times higher. In Japan, prices are set three to four times higher. In emerging markets, prices can reach as much as double the European market level. Although higher prices are shared among trading agents, aap can reach higher margins in comparison with the domestic market. Against this background, the LOQTEQ sales split by region is explained.

LOQTEQ: Sales split by region



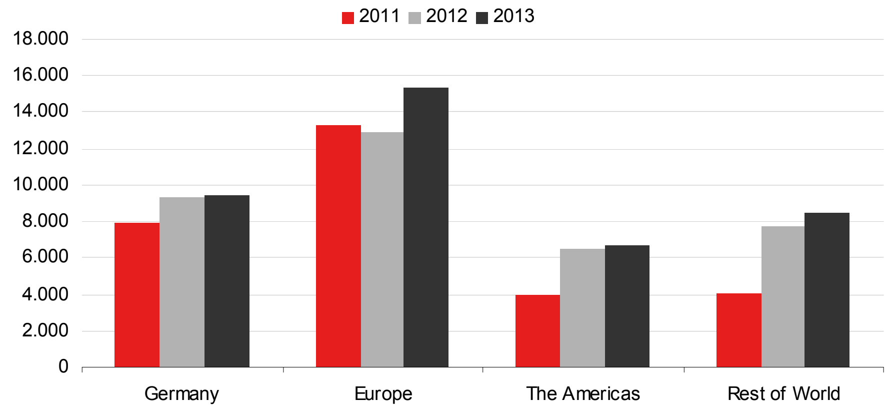
Source: Warburg Research, aap

The fact that hospitals in Germany are organised by purchasing organisations, places significant pressure on producers. As such, One-Stop-Shops, to which aap still does not belong, are preferred. After the product coverage of 90% of fields of relevant application is reached, purchasing organisations will classify the supplier as 'fully-fledged' and will enter into negotiations. aap looks set to reach this target in the current financial year. The result is set to be a clear increase in sales figures on the domestic market, where until now, LOQTEQ has occupied a smaller shares of total sales.

Outlook 2020

Development of international markets demonstrates the company's strong sales growth (CAGR 10-13: +12.0%) over the last years. Between 2011 and 2012, revenue in North America (80% share in sales for the Americas) and Asia almost doubled. In 2013, growth in these markets slowed down, although turnover growth for the whole group was once again reported at 9.8%. Growth in 2013 was essentially driven by revenue in Europe.

Strong growth in Northern America and Asia



Source: aap Implantate AG; Warburg Research

Through the balanced, international presence in recent years, the company reached significant growth rates (CAGR 10-13: +12%), through which app has become stronger than the orthopaedics market (c. 6% p.a.). In light of the potential of the new LOQTEQ product, growth of a similar scale can still be expected. Until 2020, a CAGR of 13.7% is expected. In the years following, an annual growth of 8% (above market level) is anticipated. Furthermore, by 2020, LOQTEQ alone is expected to generate a turnover of over EUR 40m. Turnover for the whole group could reach EUR 60-70m.

Healthy and liquid

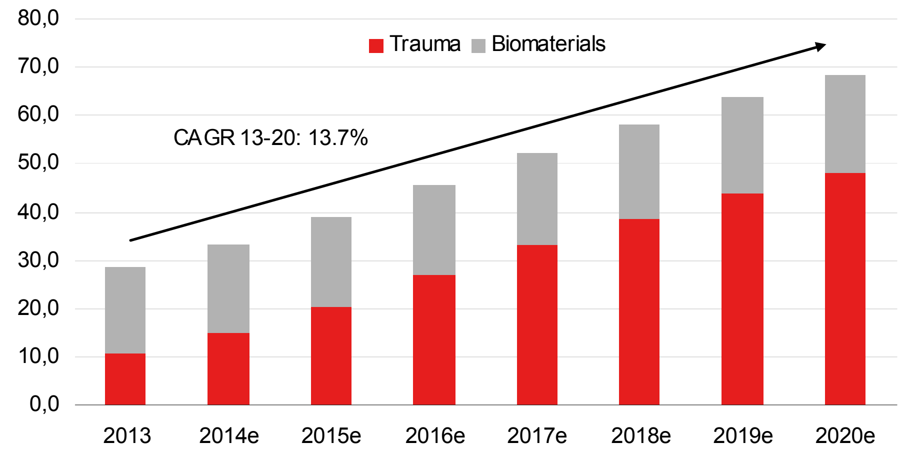
Finances

Strategy takes hold – Margin improvement expected

The strategy of focusing on the area of Trauma has led to a situation over the past years in which the P&L has been difficult to compare from year to year. Revenues and operating margins have been subject to such a mix effect, resulting from the divestment of non-core areas as well as the sometimes strong development of the remaining business areas, that a clear historical valuation is very difficult. With additional divestment activities by aap the transparency has been, and will be, increased further. The assumptions are now based on the two areas. In Biomaterials, slight growth is expected, more or less in line with inflation. In Trauma, growth expectations vary between LOQTEQ and other Trauma. For LOQTEQ, a CAGR 2014-2020 of 26.5% is expected, which corresponds to revenue of c. EUR 40m in 2020. The remaining Trauma business is expected to record a CAGR of 5.7% in the same time period, in accordance with the expected market growth. For the total revenue a CAGR 2013-2020 of 13.7% is assumed.

At the beginning of 2014, the Dutch subsidiary EMCM (revenue EUR 12.5m) was sold. For the continued business activities (EUR 28.6m in 2013), revenue of about EUR 34.6m is anticipated for the current fiscal year. With the sale of EMCM, EBITDA is expected to decline slightly to EUR 5.3m. 2013 EBIT was burdened by one-offs and extraordinary write-downs resulting from the sale of EMCM. For 2014, much more positive EBIT development is anticipated.

Strong growth in Trauma segment expected (ohne EMCM)



Source: Warburg Research, aap

Decisive for the further course of the fiscal year 2014 is the targeted revenue in the area of Trauma, which is expected at c. EUR 15m. LOQTEQ with revenue of c. EUR 10m accounts for the largest part. With that, the Trauma area should record a black zero at EBITDA level in 2014.

Lower capitalised own work

Capitalised own work strongly reduced

On average, aap invests 10% of the revenue in R&D, which is slightly above the sector average of 9%. The result of this was a considerable asset position of capitalised own work. This was to a great extent sold with the EMCM or corrected. With that, this item declined yoy by EUR 24.9m to EUR 14.5m at the end of 2013. This results in a clearly lower risk of extraordinary write-downs but also the planned write-downs should in future be lower, thus improving the EBIT margin.

EUR 18.0 Mio. through EMCM B.V. sale

Liquidity rises after the sale of EMCM B.V.

In the context of the focusing strategy, the company announced in the second half of 2013 that it would part with its Dutch subsidiary. The order business for the production of bone cement and filler materials was located here. The sale of the asset put aap in a solid liquidity situation. With sale proceeds of more than EUR 18m, the company has sufficient liquid funds of EUR 17.1m in Q1 14, which it can use to finance organic growth. Additionally, acquisitions in the Trauma area could be considered or a dividend could be paid out for the first time. When the necessary legal and financial conditions are in place.

Debt reduced further

Reduced net debt

The company's positive operating cash flow meant debt could be further reduced. In FY 2013, net debt decreased from EUR 4.4m to EUR -14.6m (this already takes into account the sale proceeds of the sold business area EMCM). This positive development was achieved with the repayment of borrowed capital, which improved the financial result among other things. In the course of the investment in capitalised own work as well as the repayment of debt, the liquid funds decreased by EUR 2.3m to EUR 1.5m on the date of the annual report. With securities held for sale and the already payments already received (three part-payments of EUR 6m) after the sale of EMCM until the end of April 2014, aap has currently a comfortable cash position of about EUR 17.1m, which offers a solid base for further growth.

Equity strengthened – almost independently of banks

Strong equity ratio: 75%

With the Biomaterials division, aap has a real cash cow. With revenue of EUR 17.7m, the area generates EBITDA-margin of about 30% (WRe). This division as well as the sale of the EMCM subsidiary in Q1, provided aap with a very healthy balance sheet.

At the end of 2013, aap had an impressive equity ratio of c. 74.4%. As well as strengthening equity, the debts to credit institutes was reduced by EUR 1.8m to EUR 4.7m and a company loan of EUR 1.1m was paid back. With that, the interest-bearing debts account for a share of just 9.8% of the balance sheet total. The net debt of EUR -14.6m has already been outlined in the paragraph above.

DCF model

Figures in EUR m	Detailed forecast period 2014e	2015e	2016e	Transitional period 2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	Term. Value
Sales	34.6	40.3	47.1	53.9	59.7	65.3	70.0	74.8	79.6	84.4	89.6	94.8	100.0	
Sales change	*-13.6 %*	*16.8 %*	*16.9 %*	*14.4 %*	*10.6 %*	*9.5 %*	*7.1 %*	*6.8 %*	*6.4 %*	*6.1 %*	*6.1 %*	*5.8 %*	*5.5 %*	*3.5 %*
EBIT	2.7	3.8	4.6	5.6	6.5	7.5	8.7	10.5	12.4	14.4	17.0	19.4	20.5	
EBIT-margin	*7.9 %*	*9.4 %*	*9.8 %*	*10.4 %*	*10.9 %*	*11.5 %*	*12.5 %*	*14.1 %*	*15.6 %*	*17.1 %*	*19.0 %*	*20.5 %*	*20.5 %*	
Tax rate (EBT)	*6.9 %*	*5.1 %*	*12.7 %*	*17.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	*25.0 %*	
NOPAT	2.5	3.6	4.0	4.6	4.9	5.6	6.5	7.9	9.3	10.8	12.8	14.6	15.4	
Depreciation	2.6	2.9	3.3	3.5	3.9	4.2	4.5	4.9	5.2	5.5	5.8	6.2	6.5	
in % of Sales	*7.5 %*	*7.3 %*	*7.0 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	
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	-3.7	0.8	1.0	1.3	1.4	1.4	0.8	1.1	1.1	1.1	1.2	0.7	1.2	
- Capex	3.2	3.3	3.4	3.5	3.9	4.2	4.5	4.9	5.2	5.5	5.8	6.2	6.5	
Capex in % of Sales	*9.3 %*	*8.2 %*	*7.2 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	*6.5 %*	
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)	5.6	2.4	2.9	3.4	3.5	4.3	5.8	6.8	8.2	9.7	11.6	13.8	14.2	16
PV of FCF	5.6	2.2	2.4	2.5	2.4	2.6	3.2	3.5	3.8	4.1	4.4	4.8	4.5	75
share of PVs	8.51 %			29.67 %										61.83 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	0.00 %	Financial Strength	1.20
Cost of debt (after tax)	4.2 %	Liquidity (share)	1.50
Market return	8.00 %	Cyclicality	1.40
Risk free rate	2.50 %	Transparency	1.40
		Others	1.38
WACC	**10.06 %**	**Beta**	**1.38**

Valuation (m)

Present values 2026e	46		
Terminal Value	75		
Financial liabilities	5		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	20	No. of shares (m)	30.7
Equity Value	**136**	**Value per share (EUR)**	**4.42**

Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth 2.75 %	3.00 %	3.25 %	**3.50 %**	3.75 %	4.00 %	4.25 %
1.56	11.1 %	3.62	3.68	3.73	3.80	3.86	3.93	4.00
1.47	10.6 %	3.88	3.94	4.01	4.08	4.16	4.25	4.34
1.42	10.3 %	4.02	4.09	4.16	4.25	4.33	4.43	4.53
1.38	10.1 %	4.17	4.25	4.33	**4.42**	4.52	4.62	4.73
1.33	9.8 %	4.33	4.42	4.51	4.61	4.72	4.83	4.96
1.28	9.6 %	4.51	4.60	4.70	4.81	4.93	5.07	5.21
1.19	9.1 %	4.90	5.02	5.15	5.28	5.43	5.60	5.78

Beta	WACC	Delta EBIT-margin -1.5 pp	-1.0 pp	-0.5 pp	**+0.0 pp**	+0.5 pp	+1.0 pp	+1.5 pp
1.56	11.1 %	3.48	3.58	3.69	3.80	3.90	4.01	4.12
1.47	10.6 %	3.74	3.86	3.97	4.08	4.20	4.31	4.43
1.42	10.3 %	3.89	4.01	4.13	4.25	4.36	4.48	4.60
1.38	10.1 %	4.05	4.17	4.30	**4.42**	4.54	4.67	4.79
1.33	9.8 %	4.22	4.35	4.48	4.61	4.74	4.87	4.99
1.28	9.6 %	4.41	4.55	4.68	4.81	4.95	5.08	5.22
1.19	9.1 %	4.85	4.99	5.14	5.28	5.43	5.58	5.72

- In 2013, one-third of the revenue was generated in the Trauma division and two-thirds in the Biomaterials division.
- This ratio will turn around in the medium term. As of 2020, Trauma is expected to generate almost 70% of revenue.
- 2013 EBIT was burdened by one-time effects. In 2014e, the Trauma division is expected to break even.
- The EBIT margin in perpetuity is assumed at 21%. With successful market penetration, higher margins are possible.
- Beta is relatively low owing to the good financial situation and the sector's resistance to cyclicality.

Sum of the parts

M&A Transaction

Date	Buyer	Target company	EV/ (LTM) Sales	Transaction
2014	Wright Medical	OrthoPro	5,50	M&A
2014	Wright Medical	Solana Surgical	5,50	M&A
2013	Wright Medical	Biotech International	5,33	M&A
2013	LDR Holding		2,97	IPO
2013	Wright Medical	WG Healtcare	n.a	M&A
2012	Globus Medical		2,60	IPO
2012	Tornier	OrthoHelix	5,78	M&A
2011	Tonier		3,38	IPO
2011	Stryker	Memometal	5,40	M&A
2010	China Kanghui		5,55	IPO
		Mean	**4,67**	

SotP aap Implantate

	Sales 2014e	Sales 2015e	EV/ Sales 2014	EV/ Sales 2015	Trauma M&A Multiples	fair value 14	fair value 15	fair value 14 M&A
Trauma	15,00	20,4	4,02	3,53	4,67	60,3	72,1	70,0
Biomaterials	19,55	19,9	2,99	2,64	2,99	58,5	52,6	58,5
Other Assets								
Net Debt (without EMCM)						-14,7	-14,7	-14,7
Joint Venture aap Joints (at equity)						1,5	1,5	1,5
Fair Value						**135,0**	**140,9**	**144,6**
Number of shares						30,7	30,7	30,7
Fair Value per share						**4,40**	**4,59**	**4,72**

Source: Warburg Research, Bloomberg

Valuation

	2010	2011	2012	2013	2014e	2015e	2016e
Price / Book	0.8 x	0.6 x	0.6 x	0.9 x	1.9 x	1.7 x	1.6 x
Book value per share ex intangibles	0.28	0.34	0.37	1.11	1.19	1.35	1.53
EV / Sales	1.5 x	1.2 x	0.9 x	1.2 x	2.2 x	1.8 x	1.5 x
EV / EBITDA	12.8 x	8.7 x	4.8 x	6.6 x	14.6 x	11.0 x	8.8 x
EV / EBIT	61.3 x	30.8 x	10.7 x	n.a.	28.5 x	19.5 x	15.1 x
EV / EBIT adj.*	61.3 x	30.8 x	10.7 x	n.a.	28.5 x	19.5 x	15.1 x
P / FCF	n.a.	n.a.	9.6 x	n.a.	17.0 x	38.7 x	32.5 x
P / E	n.a.	96.9 x	12.5 x	n.a.	35.5 x	26.7 x	24.6 x
P / E adj.*	n.a.	96.9 x	12.5 x	n.a.	35.5 x	26.7 x	24.6 x
Dividend Yield	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	1.3 %	1.3 %
Free Cash Flow Yield Potential	7.5 %	2.6 %	11.0 %	8.6 %	3.3 %	4.9 %	5.8 %

*Adjustments made for: -

Consolidated profit & loss

In EUR m	2010	2011	2012	2013	2014e	2015e	2016e
Sales	**28.4**	**29.2**	**36.4**	**40.0**	**34.6**	**40.3**	**47.1**
Change Sales yoy	-14.1 %	2.7 %	24.7 %	9.8 %	-13.6 %	16.8 %	16.9 %
Increase / decrease in inventory	0.8	0.8	0.2	-1.0	-0.3	0.0	0.0
Own work capitalised	3.3	3.0	2.7	2.0	2.1	2.0	2.4
Total Sales	**32.6**	**33.0**	**39.3**	**41.0**	**36.3**	**42.4**	**49.5**
Material Expenses	9.5	8.1	10.8	12.0	10.6	12.1	13.9
Gross profit	**23.0**	**24.9**	**28.6**	**29.1**	**25.7**	**30.3**	**35.6**
Gross profit margin	*81.0 %*	*85.3 %*	*78.4 %*	*72.7 %*	*74.4 %*	*75.0 %*	*75.5 %*
Personnel expenses	12.1	11.9	13.5	14.6	13.4	15.7	18.4
Other operating income	2.6	1.9	3.3	4.3	4.0	4.1	4.6
Other operating expenses	10.1	10.8	11.2	11.4	11.0	11.9	13.9
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	**3.4**	**4.1**	**7.1**	**7.4**	**5.3**	**6.7**	**7.9**
Margin	*12.1 %*	*14.1 %*	*19.6 %*	*18.4 %*	*15.4 %*	*16.7 %*	*16.8 %*
Depreciation of fixed assets	1.0	1.1	1.1	2.2	0.9	0.9	0.9
EBITA	**2.4**	**3.1**	**6.0**	**5.2**	**4.5**	**5.8**	**7.0**
Amortisation of intangible assets	1.7	1.9	2.8	7.3	1.7	2.0	2.4
Goodwill amortization	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	**0.7**	**1.2**	**3.2**	**-2.1**	**2.7**	**3.8**	**4.6**
Margin	*2.5 %*	*4.0 %*	*8.8 %*	*-5.3 %*	*7.9 %*	*9.4 %*	*9.8 %*
EBIT adj.	**0.7**	**1.2**	**3.2**	**-2.1**	**2.7**	**3.8**	**4.6**
Interest income	0.0	0.1	0.0	0.0	0.3	0.3	0.3
Interest expenses	0.6	0.6	0.5	0.2	0.2	0.2	0.2
Other financial income (loss)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBT	**0.2**	**0.6**	**2.7**	**-2.3**	**2.9**	**3.9**	**4.7**
Margin	*0.7 %*	*2.1 %*	*7.5 %*	*-5.7 %*	*8.3 %*	*9.6 %*	*10.0 %*
Total taxes	0.1	0.2	0.3	0.2	0.2	0.2	0.6
Net income from continuing operations	**0.1**	**0.4**	**2.4**	**-2.5**	**2.7**	**3.7**	**4.1**
Income from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income before minorities	**0.0**	**0.4**	**2.4**	**-2.5**	**2.7**	**3.7**	**4.1**
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income	**0.0**	**0.4**	**2.4**	**-2.5**	**2.7**	**3.7**	**4.1**
Margin	*0.2 %*	*1.3 %*	*6.6 %*	*-6.1 %*	*7.8 %*	*9.2 %*	*8.7 %*
Number of shares, average	27.8	29.6	30.7	30.7	30.7	30.7	30.7
EPS	**0.00**	**0.01**	**0.08**	**-0.08**	**0.09**	**0.12**	**0.13**
EPS adj.	0.00	0.01	0.08	-0.08	0.09	0.12	0.13

*Adjustments made for:

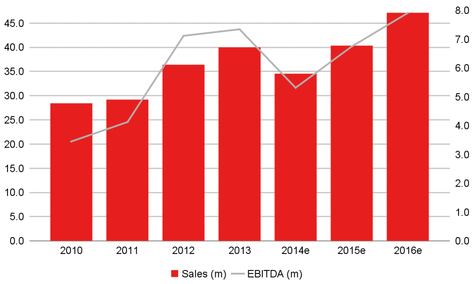
Guidance: Guidance 2014: Revenue EUR 35m (+22% yoy), EBITDA EUR 5m-6m

Financial Ratios

	2010	2011	2012	2013	2014e	2015e	2016e
Total Operating Costs / Sales	102.4 %	98.9 %	88.5 %	84.2 %	89.6 %	88.3 %	88.2 %
Operating Leverage	5.7 x	23.1 x	7.1 x	n.a.	n.a.	2.3 x	1.3 x
EBITDA / Interest expenses	6.1 x	6.8 x	13.7 x	40.6 x	35.5 x	33.7 x	39.6 x
Tax rate (EBT)	72.6 %	36.1 %	11.5 %	-7.9 %	6.9 %	5.1 %	12.7 %
Dividend Payout Ratio	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	33.2 %	29.8 %
Sales per Employee	n.a.	109,793	137,932	n.a.	n.a.	n.a.	n.a.

Sales, EBITDA

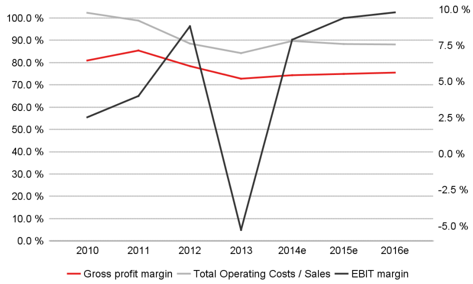
in EUR m



Source: Warburg Research

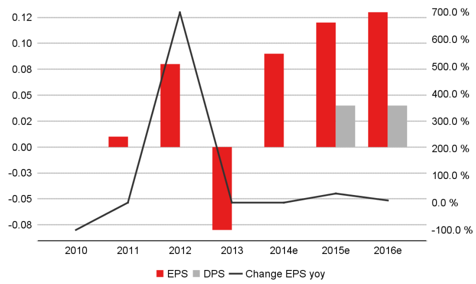
Operating Performance

in %



Source: Warburg Research

Performance per Share



Source: Warburg Research

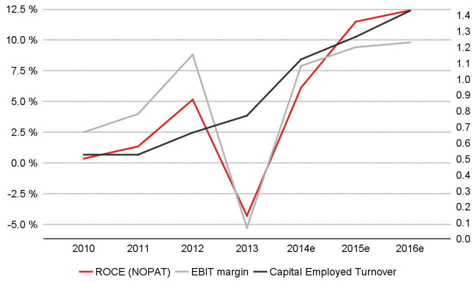
Consolidated balance sheet

In EUR m	2010	2011	2012	2013	2014e	2015e	2016e
Assets							
Goodwill and other intangible assets	37.0	38.2	39.4	14.5	14.8	14.8	14.4
thereof other intangible assets	6.1	5.5	5.1	0.9	1.1	1.1	0.8
thereof Goodwill	12.5	12.5	12.5	1.6	1.6	1.6	1.6
Property, plant and equipment	5.2	5.1	5.1	5.9	6.2	6.6	7.1
Financial assets	0.4	0.4	0.4	1.8	1.8	1.8	1.8
Other long-term assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fixed assets	**42.6**	**43.7**	**44.9**	**22.2**	**22.8**	**23.2**	**23.3**
Inventories	12.7	14.0	13.9	9.4	7.7	8.1	8.6
Accounts receivable	6.2	5.5	4.2	7.0	4.7	5.5	6.5
Liquid assets	0.9	2.2	3.7	1.6	25.4	29.1	33.4
Other short-term assets	1.3	0.8	1.8	25.0	2.0	2.0	2.0
Current assets	**21.1**	**22.5**	**23.7**	**43.0**	**39.8**	**44.8**	**50.5**
Total Assets	**63.6**	**66.2**	**68.6**	**65.2**	**62.6**	**67.9**	**73.8**
Liabilities and shareholders' equity							
Subscribed capital	27.9	30.7	30.7	30.7	30.7	30.7	30.7
Capital reserve	40.0	40.4	18.6	18.8	18.8	18.8	18.8
Retained earnings	0.2	0.2	0.2	0.8	3.5	8.4	13.7
Other equity components	-23.4	-23.0	1.4	-1.7	-1.7	-1.7	-1.7
Shareholder's equity	44.7	48.4	50.9	48.5	51.2	56.1	61.5
Minority interest	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total equity	**44.9**	**48.4**	**50.9**	**48.5**	**51.2**	**56.1**	**61.5**
Provisions	0.2	0.2	0.2	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 liabilites (total)	10.0	9.2	7.6	4.9	4.9	4.9	4.9
thereof short-term financial liabilities	5.5	5.5	4.5	2.6	2.6	2.6	2.6
Accounts payable	3.0	3.1	3.3	2.9	2.5	2.9	3.4
Other liabilities	5.6	5.2	6.7	8.7	3.7	3.7	3.7
Liabilities	**18.8**	**17.8**	**17.7**	**16.7**	**11.4**	**11.8**	**12.3**
Total liabilities and shareholders' equity	**63.6**	**66.2**	**68.6**	**65.2**	**62.6**	**67.9**	**73.8**

Financial Ratios

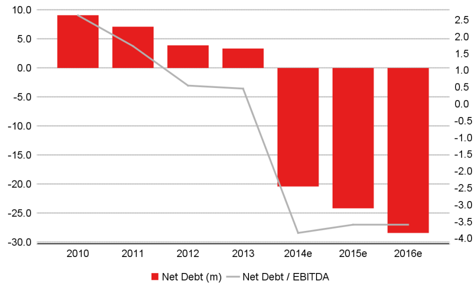
	2010	2011	2012	2013	2014e	2015e	2016e
Efficiency of Capital Employment							
Operating Assets Turnover	1.4 x	1.4 x	1.9 x	2.1 x	2.1 x	2.3 x	2.5 x
Capital Employed Turnover	0.5 x	0.5 x	0.7 x	0.8 x	1.1 x	1.3 x	1.4 x
ROA	0.1 %	0.9 %	5.4 %	-11.0 %	11.7 %	15.9 %	17.7 %
Return on Capital							
ROCE (NOPAT)	0.4 %	1.4 %	5.2 %	-4.3 %	6.1 %	11.5 %	12.4 %
ROE	0.1 %	0.8 %	4.9 %	-4.9 %	5.4 %	6.9 %	7.0 %
Adj. ROE	0.1 %	0.8 %	4.9 %	-4.9 %	5.4 %	6.9 %	7.0 %
Balance sheet quality							
Net Debt	9.1	7.1	3.9	3.3	-20.4	-24.2	-28.4
Net Financial Debt	9.1	7.1	3.9	3.3	-20.5	-24.2	-28.5
Net Gearing	20.3 %	14.7 %	7.7 %	6.9 %	-39.9 %	-43.1 %	-46.3 %
Net Fin. Debt / EBITDA	262.8 %	171.4 %	54.4 %	45.2 %	-384.5 %	-359.6 %	-359.5 %
Book Value / Share	1.6	1.6	1.7	1.6	1.7	1.8	2.0
Book value per share ex intangibles	0.3	0.3	0.4	1.1	1.2	1.3	1.5

ROCE Development



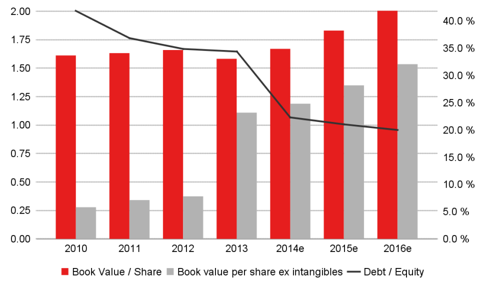
Source: Warburg Research

Net debt
in EUR m



Source: Warburg Research

Book Value per Share
in EUR



Source: Warburg Research

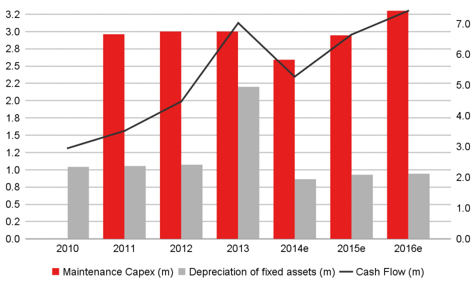
Consolidated cash flow statement

In EUR m	2010	2011	2012	2013	2014e	2015e	2016e
Net income	0.0	0.4	2.4	-2.5	2.7	3.7	4.1
Depreciation of fixed assets	1.0	1.1	1.1	2.2	0.9	0.9	0.9
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	1.7	1.9	2.8	7.3	1.7	2.0	2.4
Increase/decrease in long-term provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other non-cash income and expenses	0.2	0.2	-1.9	0.0	0.0	0.0	0.0
Cash Flow	**3.0**	**3.5**	**4.5**	**7.0**	**5.3**	**6.6**	**7.4**
Increase / decrease in inventory	-0.6	-0.5	1.4	-4.3	1.7	-0.4	-0.5
Increase / decrease in accounts receivable	0.0	0.0	0.0	0.0	2.3	-0.8	-1.0
Increase / decrease in accounts payable	0.3	0.2	1.3	0.8	-0.4	0.4	0.5
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)	-0.3	-0.3	2.6	-3.5	3.7	-0.8	-1.0
Net cash provided by operating activities	**2.7**	**3.2**	**7.1**	**3.5**	**9.0**	**5.8**	**6.4**
Investments in intangible assets	-3.3	-3.1	-2.8	-5.7	-2.0	-2.0	-2.0
Investments in property, plant and equipment	-1.1	-0.9	-1.1	-1.1	-1.2	-1.3	-1.4
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	0.3	0.0	3.5	18.0	0.0	0.0
Net cash provided by investing activities	**-4.4**	**-3.7**	**-3.9**	**-3.3**	**14.8**	**-3.3**	**-3.4**
Change in financial liabilities	0.3	-1.1	-1.4	-2.5	0.0	0.0	0.0
Dividends paid	0.0	0.0	0.0	0.0	0.0	1.2	1.2
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	-0.1	-0.2	0.0	0.0	0.0	0.0
Net cash provided by financing activities	**0.3**	**1.8**	**-1.6**	**-2.5**	**0.0**	**1.2**	**1.2**
Change in liquid funds	-1.5	1.2	1.5	-2.3	23.8	3.8	4.2
Effects of exchange-rate changes on cash	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash and cash equivalent at end of period	**0.9**	**2.2**	**3.7**	**1.4**	**25.4**	**29.1**	**33.4**

Financial Ratios

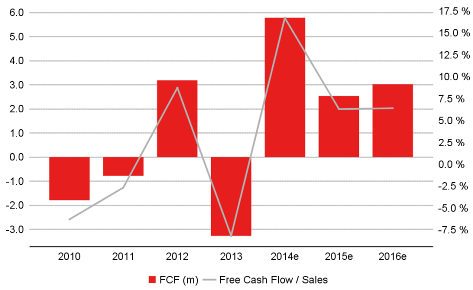
	2010	2011	2012	2013	2014e	2015e	2016e
Cash Flow							
FCF	-1.8	-0.8	3.2	-3.3	5.8	2.5	3.0
Free Cash Flow / Sales	-6.3 %	-2.6 %	8.7 %	-8.2 %	16.7 %	6.3 %	6.4 %
Free Cash Flow Potential	3.3	0.9	3.8	4.2	2.5	3.6	4.0
Free Cash Flow / Sales	-6.3 %	-2.6 %	8.7 %	-8.2 %	16.7 %	6.3 %	6.4 %
Free Cash Flow / Net Profit	-3812.8 %	-197.2 %	132.3 %	133.6 %	215.8 %	68.7 %	73.3 %
Interest Received / Avg. Cash	2.1 %	3.8 %	1.0 %	0.0 %	2.2 %	1.1 %	1.0 %
Interest Paid / Avg. Debt	5.7 %	6.3 %	6.2 %	2.9 %	3.1 %	4.1 %	4.1 %
Management of Funds							
Investment ratio	15.6 %	13.6 %	10.7 %	17.1 %	9.3 %	8.2 %	7.2 %
Maint. Capex / Sales	0.0 %	10.1 %	8.2 %	7.5 %	7.5 %	7.3 %	7.0 %
Capex / Dep	162.9 %	134.6 %	99.8 %	72.0 %	123.5 %	112.0 %	103.0 %
Avg. Working Capital / Sales	54.0 %	54.4 %	41.0 %	34.2 %	33.9 %	25.5 %	23.7 %
Trade Debtors / Trade Creditors	209.1 %	176.5 %	129.7 %	246.6 %	188.0 %	189.7 %	191.2 %
Inventory Turnover	0.8 x	0.6 x	0.8 x	1.3 x	1.4 x	1.5 x	1.6 x
Receivables collection period (days)	80	69	42	64	50	50	50
Payables payment period (days)	114	141	110	87	86	87	89
Cash conversion cycle (Days)	470	595	379	251	215	189	167

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)
aap Implantate	5	http://www.mmwarburg.com/disclaimer/disclaimer_en/DE0005066609.htm

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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-	**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 – RESEARCH UNIVERSE BY RATING

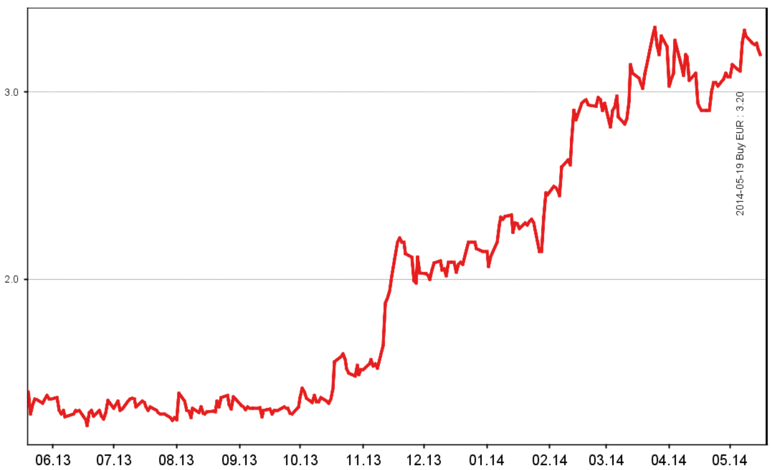
Rating	Number of stocks	% of Universe
Buy	105	53
Hold	78	39
Sell	12	6
Rating suspended	3	2
Total	**198**	**100**

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING …

… Looking only at companies for which a disclosure according to § 34b of the Germany Securities Trading Act and the FinAnV has to be made.

Rating	Number of stocks	% of Universe
Buy	80	57
Hold	51	36
Sell	7	5
Rating suspended	2	1
Total	**140**	**100**

PRICE AND RATING HISTORY AAP IMPLANTATE AS OF 19.05.2014



The chart has markings if Warburg Research GmbH changed its rating in the last 12 months. Every marking represents the date and closing price on the day of the rating change.

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