

Company	Price (EUR)	PT (EUR)	Rating	MC	EV	P/E	P/B	Div.yield	ROCE	Analyst		
			Potential (%)	EUR m	EUR m	16e	17e	18e	16e	16e	Tel.	
<b>Heidelberger Druck</b>	2.46	3.55	<b>Buy</b>	633.3	1,341.2	13.0 x	9.1 x	n/a	1.6 x	n/a	8.9 %	Eggert Kuls +49 40 309537-256
<b>Koenig &amp; Bauer</b>	44.16	50.80	<b>Buy</b>	729.7	703.8	16.7 x	12.1 x	11.1 x	2.5 x	1.1%	18.2 %	Eggert Kuls +49 40 309537-256
<b>technotrans</b>	16.54	23.10	<b>Buy</b>	107.7	91.9	15.1 x	12.4 x	9.8 x	2.0 x	3.3 %	18.9 %	Eggert Kuls +49 40 309537-256
<b>Dr. Hönle</b>	22.92	30.00	<b>Buy</b>	126.3	131.1	14.1 x	11.4 x	n/a	2.0 x	2.6 %	14.6 %	Malte Schaumann +49 40 309537-170

## Drupa fair could give print sector another boost

**World’s leading trade fair for the print industry will take place from May 31 to June, 10 2016**

From May 31 to June, 10 2016 the Drupa fair will take place in Düsseldorf. Drupa is the world’s leading trade show for graphic and industrial print as well as media and multichannel. The last Drupa event in 2012 attracted roughly 314,500 visitors from 130 countries. As the most important sector fair, Drupa is renowned for innovations and new technological trends. So far the event has taken place every four years but in future, will take place every three years.

### Digital solutions and Print shop 4.0 expected to be important topics

Trade fair highlights will include several innovations in digital printing which have so far played only a minor role (estimated share on print volume <10%) as well as further integration of all technologies used in a print shop under the motto “Print Shop 4.0”. Furthermore, as in the past, speed, productivity and to a rising extent efficient use of resources and a reduction in energy consumption are important issues.

### Remarkable increase in Q2 order intake expected for printing press manufacturers

While we do not believe the impact of the Drupa fair on the order intake of the companies is as important as in the past when printing press manufacturers spoke of a “fifth quarter” in terms of new orders, we nevertheless expect that impact to be clearly visible in Q2 2016 figures. For example, after the last Drupa in 2012, Heidelberg reported order intake of EUR 890m for the quarter, up 34% or an increase of EUR 225m yoy. Koenig & Bauer for the same period reported similar development (order intake up 37% or an increase of EUR 92m). We assume that additional orders received in the Drupa quarter could amount to some 200m for Heidelberg and around EUR 100m for Koenig & Bauer.

### After Koenig & Bauer’s recent very strong run, Heidelberg now offers highest upside

We highlight printing press producers Heidelberg, Koenig & Bauer as well as suppliers technotrans and Dr. Hönle in this report. All four companies are rated Buy. After massive outperformance of the market over the last 12 months, the remaining upside for Koenig & Bauer is meanwhile limited at 15%. Heidelberg, technotrans and Dr. Hönle offer upside to our target prices of between 31% and 44%. So far the best performer has been Koenig & Bauer, having had a very strong run. However we now see the highest upside for Heidelberg.

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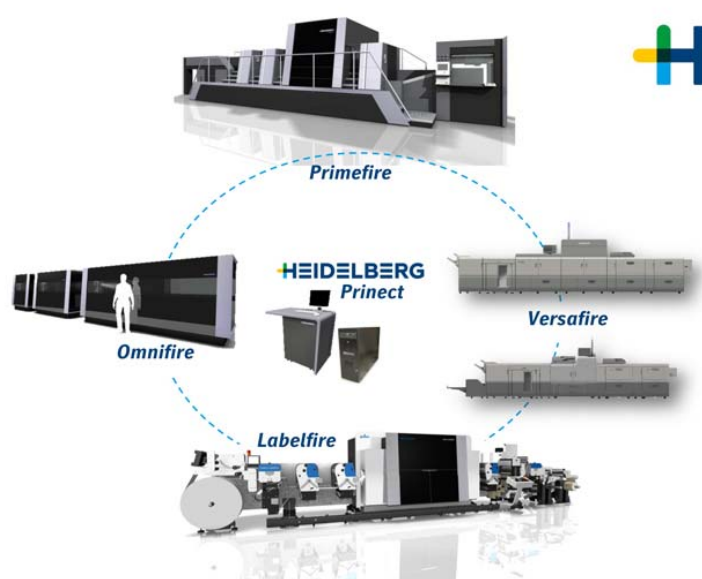
## Drupa fair highlights by company

### Heidelberg

#### Focus on digital and autonomous printing

Heidelberg's focus at the Drupa exhibition is on its portfolio of digital printing presses and on the process of autonomous printing. Under the motto "Simply Smart" Heidelberg claims to present "the printing world of tomorrow". Smart technologies comprise solutions for the entire value chain of the printing process.

#### Digital portfolio bears standardised name "Fire"



Source: Warburg Research

Heidelberg's entire digital portfolio bears the standardised family name "Fire" (comparable to the "Speedmaster"-name for the sheet-fed offset machines) and comprises the "Versafire CP/CV" for economic production of short runs, the "Gallus Labelfire 340" for flexible label production and the "Omnifire 250/1000" for printing on virtually all objects.

#### World premiere of "Primefire 106" addressing packaging markets

With the world premiere of the "Primefire 106" at the Drupa trade show, Heidelberg is extending its digital portfolio with a machine for the industrial production of digital printing applications in B1 format. The Primefire 106 is based on the most modern inkjet technology from Heidelberg's cooperation partner Fuji and on the proven printing press platform of Heidelberg. Core competencies of Heidelberg, such as the non-contacting paper sheet guide and feeder and delivery technology are included in the machine. According to Heidelberg this is the first digital printing press for industrial production in a new format class for short and medium production runs with quality on par with offset printing. The Primefire is primarily addressing the packaging market where the B1 format is used as standard. Primfire can be integrated in existing post-press equipment in a print shop.

#### "Versafire" for short and personalised print runs

Heidelberg Versafire CP/CV is the new name for the already existing Linoprint CP/CV digital printing systems. The Heidelberg Versafire is the all-round system for the economic production of short and personalised runs. Heidelberg launched the system in

cooperation with Ricoh in 2011, and has been continuously refining it ever since. Some 1,000 machines have been sold so far, making it a huge success.

#### **“Labelfire” for digital label printing**

Gallus Labelfire 340 is the new name for the former Gallus DCS 340 for the growth market of digital label printing. The machine was successfully launched at Label Expo 2015 in Brussels. It is distributed by Swiss subsidiary Gallus. Production of the Labelfire will start this quarter. So far, Heidelberg has received orders for roughly a dozen machines.

#### **“Omnifire” for flexible printing on three-dimensional objects**

Heidelberg Omnifire 250/1000 is the new name for Heidelberg’s 4D printing systems, replacing the former name Heidelberg Jetmaster Dimension 250/1000. Heidelberg uses the term 4D printing to describe personalised and flexible printing on various three-dimensional objects such as balls, drinking bottles, and other mass-produced items, especially from the consumer goods industry. In addition, Heidelberg is working on the development of systems also suitable for industrial application, for example in the automotive industry. The launch of the Heidelberg Omnifire 1000 is planned for the end of 2016.

#### **“Smart Print Shop”: Automatisation of printing processes**

The goal of the Smart Print Shop is to integrate digital and offset printing. The entire digital printing portfolio can be integrated into the overall workflow of a print shop together with the Heidelberg offset systems via the new Prinect Digital Front End (DFE). Web-to-print applications as well as multi-channel publishing business models are also supported. With the Smart Print Shop concept, Heidelberg offers a solution where users can largely automate their offset and digital printing processes as well as manage them in a uniform and transparent way. A comprehensive range of services and consumables is also available for all products to enable users to exploit the potential of their value chain.

#### **New generation of “Speedmaster” series**

In sheet-fed offset, Heidelberg will present a new generation of the Speedmaster series which can be integrated into the digitised process more easily and quickly. The new Prinect Press Center XL 2 machine control station assumes the role of the digital interface in the workflow and helps the operator to fully exploit the performance of the machine.

### **Prinect Press Center XL**



Source: Warburg Research

### New “Anicolor” technology for greater flexibility and productivity

Heidelberg will be presenting the next generation of Anicolor technology at Drupa 2016 with Speedmaster XL 75 Anicolor 2 for greater flexibility, speed and productivity. The machine will allow for more profitable production of short runs. This is achieved with technological innovations like the Anicolor Booster which can be activated at the push of a button on the Prinect Press Center and permits a wider range of inks thanks to an improved setting range for ink density on different printing stocks. Furthermore, the machine allows the operator to choose between “standard”, “short”, or even “none” for the ink shut-off time, depending on the colour assignment from one job to the next.

### Speedmaster XL 75 with new Anicolor 2



Source: Warburg Research

### Conclusion: Expanded digital portfolio should support growing packaging and consumables business in future

Heidelberg’s Drupa portfolio is strongly related to digital printing and integration of overall workflow of a print shop. We are expecting the digital business incl. software and consumables to grow from around EUR 100m in fiscal year 2015/16 to around EUR 250–300m by 2020. This is equivalent to a CAGR of some 30%. Especially the Primefire 106, which addresses the packaging markets, could help raise Heidelberg’s share in this growing end market. However, KBA recently announced its intention to develop a competing machine together with Xerox. A higher installed base of digital machines would automatically lead to an increase in the consumables business in future (last year around EUR 450m, 19% of group sales).

So far, we estimate Heidelberg’s share in packaging to be around 30% of equipment business, thus clearly lower than Koenig & Bauer’s share which was at around 70% most recently. Packaging markets are expected to grow by some 4% p.a. going forward while media and commercial applications, where Heidelberg is traditionally strong, are expected to remain stable or even shrink further.

The additional impact of the Drupa fair for Heidelberg could amount to some EUR 200m in our view. Drupa costs are expected to amount to some EUR 10m.

## Koenig & Bauer

### Innovations in digital, flexo and offset printing

Under the motto “Add more KBA to your day” Koenig & Bauer will showcase innovative products and processes in digital, flexo and offset printing at this year’s Drupa fair. In addition, new products for offline post-press and finishing will be shown as well as services and workflow solutions under the brand “KBA 4.0”.

### Ultra-large packaging sheet-fed press “Rapida 145” with new features

The “Rapida 145” with new features and more than 30m long will probably be the largest sheet-fed press presented at Drupa. The six-colour press with coater, triple delivery extension and double-pile delivery is raised for packaging printing and is equipped with a new automatic pile and palette logistic system. New features include pneumatic plate stretching, automatic quality control, press operation via tablet and an increased production speed of up to 18,000 sheets per hour.



Source: Warburg Research

### “Rapida 106” with energy saving LED-UV printing

KBA’s “Rapida 106”, already known as makeready and speed world champion with speeds of up to 20,000 sheets per hour, will be shown at Drupa as a long perfecter for 4-back-4 printing with coater, double delivery extension, simultaneous plate change and LED-UV curing. The energy-saving LED-UV printing permits the immediate post-press of print products and impresses with brilliant colours, even on uncoated stock, according to Koenig & Bauer. KBA can be seen as a trendsetter in the relatively new field of LED-UV printing. The Rapida 106, shown at the Drupa fair, is extensively automated. New features include TouchTronic operation with one-button job change. The machine is embedded in KBA’s Drupa stand network via the LogoTronic Professional tool.

### “Rapida 105 PRO” shown on partner Vinfoil’s stand

A five-colour Rapida 105 PRO with coater and the new KBA CF Optima cold-foil module for the high-quality inline finishing of folding carton with cold foil will be exhibited directly beside KBA on partner Vinfoil’s stand. The new module allows the multiple use of the cold foil thus saving costs. The medium-format press that was added to KBA’s portfolio in 2015 features numerous automation components and is connected to the KBA workflow via LogoTronic Professional.

### Premiere of “Rapida 75 PRO” as five-colour version

The new Rapida 75 PRO will celebrate its premiere as a five-colour version with coater at Drupa. It closes the gap between the Rapida 75 and the highly automated Rapida 76 in terms of its printing speed of up to 16,000 sheets per hour. The ErgoTronic console with TouchTronic operation is a standard feature. Automatic plate change and one-button job change are just two of the many options available. The Rapida 75 PRO is available with up to 10 printing units and perfecting, and will also feature LED-UV.

### “RotaJET L” series: digital web-fed press for corrugated board and folding carton

The Digital & Web division will showcase the redesigned RotaJET L series which has a flexible modular design with new inkjet technology for printing widths from 77 to 138cm and speeds of 150m or 300 metres per minute depending on resolution. The goals of this development were optimum print quality, even on coated stock, maximum flexibility for all relevant applications in the field of commercial and industrial printing and the highest level of productivity. The RotaJET L series is the only inkjet press that can be upgraded on site at a later date with regard to printing width, colour content, output quality and speed. It can handle huge volumes with a maximum web width of 138cm and automatic reelstands. KBA offers the RotaJET L in suitable configurations for commercial, book, publication and industrial printing. A 4/0 version of the RotaJET 77 will be presented live in Düsseldorf printing on various substrates for the packaging, publishing and target communication segments, as well as industrial applications. The advanced polymer pigment inks in connection with the new inkjet head technology result in an improved print quality even on coated offset stock.

### RotaJET L



Source: Warburg Research

### Subsidiary Flexotecnica to present innovations for flexible packaging printing

Italian subsidiary KBA-Flexotecnica will be present at the KBA stand for the first time at this year’s Drupa. The new NEO XD LR CI web press will be exhibited as an eight-colour press with low-migration, water-based ink for film printing. The NEO XD LR is designed for printing with solvent- and water-based ink as well as radiation-cured ink, such as UV-LED and EB. With up to 12 colours, print lengths from 400 to 1,200mm, a maximum web width of 1,650mm, maximum speeds of up to 500 metres per minute and practical automation, it is suited to a raft of applications in the field of flexible packaging printing.

### Rotary die-cutter “Rapida RDC 106” for print finishing

The KBA Rapida RDC 106 rotary die-cutter, developed by KBA-Sheetfed for print finishing, will also feature on the KBA stand. The rotary die-cutter which will be presented in connection with sheetfed offset presses producing packaging can handle stock at

speeds of up to 14,000 sheets per hour.

#### **Partnership with Xerox: digital sheet-fed press for folding carton market**

Shortly before the Drupa fair, KBA and Xerox announced a partnership to develop an industrial digital sheetfed press for the folding carton market (in competition with Heidelberg's Primefire 106). Until now, wide format cartons, for items like cosmetics, food and pharmaceutical products, have relied on traditional analog offset production printing. The KBA VariJET 106 integrates Xerox's inkjet technology into the KBA Rapida 106 press platform. KBA and Xerox will share additional details about the new press concept during presentations at their respective stands at Drupa.

#### **Conclusion: Strong growth expected in digital for packaging applications**

KBA's Drupa portfolio underpins the company's goal to raise its share of business with packaging applications, which is expected to grow by some 4% annually going forward. Highlights in our view are the ultra-large packaging sheet-fed press "Rapida 145", the "RotaJET L" digital web-fed press for corrugated board and folding carton and Flexotecnica's innovations for flexible packaging printing. Most recently, packaging solutions have accounted for around 70% of Koenig & Bauer's equipment business. We are expecting the digital business to grow from around EUR 10m+ last year to around EUR 100m by 2020. This is equivalent to a CAGR of some 65%. In addition, KBA has recently announced that it will develop a digital printing press together with Xerox which will be in competition with Heidelberg's Primefire 106.

The additional impact of the Drupa fair for Koenig & Bauer could amount to some EUR 100m in our view. Drupa costs are expected to amount to some EUR 6.5m.

## **technotrans**

#### **Innovative solutions for cooling and fluid technology**

technotrans has been a reliable supplier to the printing industry for more than three decades. Under the motto "Partner in Print" the company will present innovative solutions for various fields in cooling and fluid technology. Main areas are cooling systems for digital printing and UV printing solutions, sustainable and resource-efficient solutions and interconnected smart control systems.

#### **"omega.line" and "smartchiller": cooling systems for digital printing**

Cooling systems for digital printing applications are part of the highly efficient and flexible technotrans series "omega.line" and "smartchiller". These systems are customised in line with very specific requirements. The "smartchiller" product series with a particularly high level of efficiency has been developed for cooling of digital printing presses for the lower and medium power range.



**smartchiller**

Source: Warburg Research

**Modules for cooling of UV LED dryers**

Furthermore, technotrans will present cooling modules for applications involving highly reactive UV inks. The system is used for cooling of UV LED dryers ensuring consistent results. A second product for UV inks is an ink supply system with a patented piston sealing system along with the ink agitators of the “ink.mate” series. In contrast to conventional inks, UV ink is rather sensitive in terms of pressure load, shearing force and heat which could lead to polymerisation. The automatic ink supply prevents any direct contact with the UV ink, which could cause skin reactions.

**“alpha.c” and “beta.c” for dampening solution circulation and ink temperature control**

These solutions as well as the following two product series are seen by technotrans as facilitating more sustainability in print production. The “alpha.c” is designed for medium and small formats while the “beta.c” can be used for medium to large formats in sheet-fed offset printing. These products are used for dampening solution circulation and ink temperature control in a single unit. Both systems offer energy-efficient cooling concepts for the infinitely variable adaption of the refrigeration capacity to the actual demand. At Drupa, technotrans will present its particularly sustainable model “alpha.c eco” and “beta.c. blue”. Both systems are optimised in terms of energy efficiency.

**beta.c blue**

Source: Warburg Research

**High alcohol dosing accuracy with “alcosmart AZR”**

The “alcosmart AZR”, a resource-efficient solution with a particularly high level of alcohol dosing accuracy will also be shown at the fair.

**Smart systems for future of printing**

Presentation of smart systems, which facilitate simultaneous operation and monitoring provide a look into the future of printing. technotrans will show its new control concept for on-site or remote operation. Another exhibit is the smart data network for ink batch management. In addition, technotrans will show several technological updates of already established products.

**Conclusion: Future growth in the Print business is expected to come from digital and flexo**

Highlights at the Drupa trade fair include cooling systems for digital printing, UV printing solutions and interconnected smart control systems in our view. Generally, technotrans' innovations and upgraded versions are used in printing presses to improve productivity and efficiency as well as reduce the consumption of resources, like energy.

As a single-source supplier to both Heidelberg and Koenig & Bauer, technotrans will automatically benefit from higher order intake of the OEMs. Hence, turnover of the Technology division should benefit from higher print business in H2 2016 and beginning of 2017. The company will also be the supplier for a new machine of a leading manufacturer of flexible packaging solutions which should strongly support print turnover in the future. We expect technotrans' print business to grow over the next years especially in the fields of digital and flexo print. The remainder of the print business is expected to remain stable at best or to shrink even further.

## **Dr. Höhle**

At this year's Drupa, the Dr. Höhle group will be showing its broad product portfolio of drying solutions for the printing industry. The focus is on a range of LED products, which are increasingly gaining in importance based on specific advantages. For instance, LED based drying/curing systems come with low temperatures, which is beneficial for heat-sensitive materials, an immediate response time as a warm-up phase is not required, high energy efficiency and a typical service life of more than 20,000 hours.

### **LED Powerline products:**

As the irradiation intensity of LED-based products is still lagging behind the classic UV products, LED-based curing has mostly been in use in digital printing and other less demanding applications. Now, Dr. Höhle is introducing the LED Powerline focus for sheet-fed offset printing machines and LED Powerline Flexo curing system for flexo printing. This reflects that LEDs have just begun to enter the major parts of the printing industry. As with LED-based products for digital printing, this should be beneficial for Dr. Höhle as the technological lead in LEDs should lead to market share gains.

### **jetCURE series:**

These products have especially been developed for wide-format inkjet printing applications and facilitate improved printing quality with excellent curing results even at high speeds. The latest additions were LED and IR-based jetCURE products.

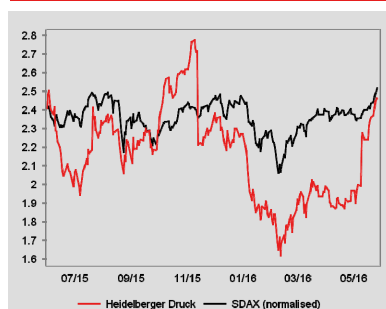
### **Hybrid system:**

The company is also demonstrating its new hybrid curing unit. This enables the printer to easily exchange the curing units cassette either equipped with a classic UV discharge lamp or with LEDs depending on the requirements of different print jobs.

<b>Buy</b> <b>EUR 3.55</b>  Price <b>EUR 2.46</b> Upside <b>44.3 %</b>	<b>Value Indicators:</b> EUR DCF: 3.72 FCF-Value Potential 16e: 3.37	<b>Share data:</b> Bloomberg: HDD GR Reuters: HDDG ISIN: DE0007314007	<b>Description:</b> Heidelberg is the world's leading producer of sheet-fed printing machinery
	<b>Market Snapshot:</b> EUR m Market cap: 633 No. of shares (m): 257 EV: 1,341 Freefloat MC: 576 Ø Trad. Vol. (30d): 3.66 m	<b>Shareholders:</b> Freefloat 91.0 % Ferdinand Rüesch 9.0 %	<b>Risk Profile (WRe):</b> 2015/16e Beta: 1.4 Price / Book: 1.8 x Equity Ratio: 16 % Net Fin. Debt / EBITDA: 1.7 x Net Debt / EBITDA: 4.4 x

## Turnaround successfully achieved, further improvement on the cards

- We recommend Heidelberg shares as a Buy. Our price target of EUR 3.55 is derived from DCF and FCF value.
- Heidelberg is the world's largest manufacturer of printing presses and the clear world market leader for sheet-fed printing presses with a global market share of around 40%.
- Following heavy restructuring, the realignment of the heavily loss-making post-press portfolio and the strengthening of the profitable and growing businesses, Heidelberg released clear black figures in fiscal 2015/16 for the first time since 2007/08 (so far only preliminary figures are out).
- Heidelberg's strategy to return to growth is based on a rising share of the profitable Services business and to expand its business with digital printing and packaging presses. Following cooperation agreements with Ricoh and Fuji, Heidelberg took over the remaining 70% of Gallus AG in 2014. Meanwhile, Heidelberg launched a new digital printing press with Gallus and Fuji technologies for the digitally printed labels market. The first digital commercial and packaging machine developed with Fuji will be shown at the Drupa fair in 2016.
- We estimate that Heidelberg is currently generating some EUR 100m in its digital printing activities, about half of which is related to its print room software Prinect and probably one quarter to consumables. The machine turnover so far is related to Ricoh-machines. Heidelberg is on the way to developing its own portfolio of digital printing presses. Target is to raise turnover with its digital activities to around EUR 250–300m within the next five years. This would also significantly boost its business with consumables for digital machines which are included in this figure.
- Part of Heidelberg's strategy to return to growth is to increase the profitable Heidelberg Services to some 50% of total turnover, predominantly by substantially increasing the business with consumables from some EUR 450m currently to EUR 700–800m.
- Some 30% of Heidelberg's turnover is related to growing packaging markets, which are expected to grow by some 4% p.a. going forward.
- While the balance sheet looks poor at a first glance, sufficient liquid funds allow for early redemption of the expensive high yield bond and the reorganisation of pension schemes has lowered pension provisions. Debt maturity has been extended. In our view, the company is back in relatively comfortable territory financially. The financial result will strongly benefit from the early redemption of the high yield bond.
- The company has not yet released guidance for fiscal 2016/17. We are expecting the company to guide for slight top-line growth and a further improvement in the result.
- FCF should turn to positive in new financial year based on a higher result and lower redundancy payments.
- Valuation looks attractive with PER of 9.1 based on 2017/18 estimates and further upside in the years thereafter. Net result will benefit from the low tax rate for many years due to more than EUR 1bn tax losses carried forward. Our assumptions are slightly ahead of consensus.



Rel. Performance vs SDAX:	
1 month:	19.3 %
6 months:	2.3 %
Year to date:	6.7 %
Trailing 12 months:	-3.7 %

Company events:	
08.06.16	FY 2015/16
28.07.16	AGM

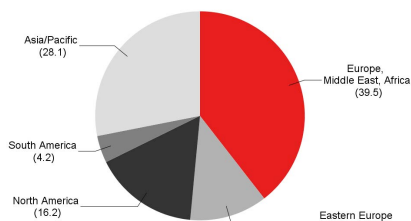
FY End: 31.3. in EUR m	CAGR (14/15-17/18e)	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e	2017/18e
<b>Sales</b>	3.7 %	2,596	2,735	2,434	2,334	2,512	2,556	2,605
Change Sales yoy		-1.3 %	5.4 %	-11.0 %	-4.1 %	7.6 %	1.8 %	1.9 %
Gross profit margin		53.6 %	51.6 %	53.8 %	53.3 %	52.2 %	52.8 %	52.9 %
<b>EBITDA</b>	32.7 %	-53	46	153	89	168	186	208
Margin		-2.0 %	1.7 %	6.3 %	3.8 %	6.7 %	7.3 %	8.0 %
<b>EBIT</b>	91.2 %	-140	-37	62	20	96	115	138
Margin		-5.4 %	-1.3 %	2.6 %	0.8 %	3.8 %	4.5 %	5.3 %
<b>Net income</b>	-	-230	-110	4	-72	28	49	69
<b>EPS</b>	-	-0.98	-0.47	0.02	-0.30	0.11	0.19	0.27
<b>EPS adj.</b>	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>DPS</b>	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividend Yield		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>FCFPS</b>		0.04	-0.08	0.09	-0.07	-0.12	0.17	0.36
<b>FCF / Market cap</b>		-2.3 %	-15.5 %	1.7 %	-6.6 %	-5.1 %	6.8 %	14.8 %
<b>EV / Sales</b>		0.4 x	0.4 x	0.5 x	0.6 x	0.5 x	0.5 x	0.5 x
<b>EV / EBITDA</b>		n.a.	21.2 x	7.9 x	15.9 x	8.2 x	7.2 x	6.1 x
<b>EV / EBIT</b>		n.a.	n.a.	19.4 x	71.9 x	14.3 x	11.6 x	9.1 x
<b>P / E</b>		n.a.	n.a.	143.5 x	n.a.	22.7 x	13.0 x	9.1 x
<b>P / E adj.</b>		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>FCF Yield Potential</b>		-8.3 %	-1.8 %	9.0 %	3.1 %	8.4 %	9.5 %	11.6 %
<b>Net Debt</b>		569	677	689	861	741	708	623
<b>ROCE (NOPAT)</b>		n.a.	n.a.	12.1 %	1.8 %	8.1 %	8.9 %	10.6 %
<b>Guidance:</b>	Sales up 2-4%, EBITDA-margin at least 8%							

**Sales development**  
in EUR m



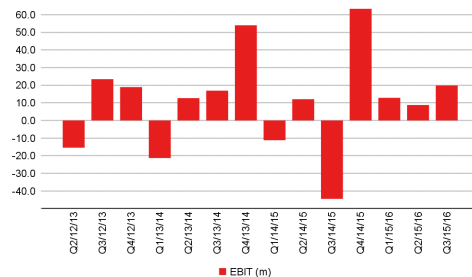
Source: Warburg Research

**Sales by regions**  
2014; in %



Source: Warburg Research

**EBIT development**  
in EUR m



Source: Warburg Research

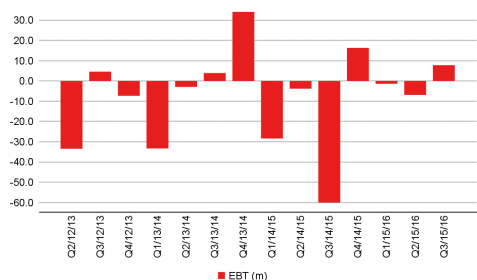
**Company Background**

- Heidelberg is the world’s leading manufacturer of sheet-fed printing presses with a market share of more than 40%. The company is known for products with superior quality and commands premium prices.
- The company survived the 2009 financial crisis only with state aid. The loan has meanwhile been repaid with the proceeds of a capital increase at the end of 2010.
- Under ist new CEO, Heidelberg successfully achieved the turnaround and is financially in the more comfortable situation to buy-back old and expensive financial liabilities

**Competitive Quality**

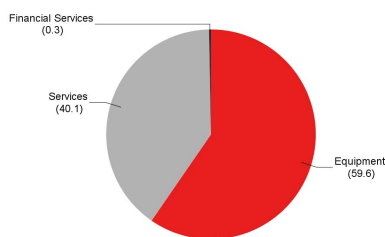
- The printing press market is highly consolidated with six major players worldwide (3 in Germany, 3 in Japan). The German producers (Heidelberg, Koenig & Bauer, manroland) account for some two-thirds of the world market.
- Heidelberg is by far the biggest single player with a world market share of more than 40% in the sheet-fed business. In contrast, Heidelberg is not active in the field of web-fed machines.
- The market lost roughly half of its volume during the 2009 financial crisis. Massive restructuring and recently recovered order intake have made overcapacities to a wide extent disappear.
- The market for printing presses is expected to be more or less stable in the future. Growth opportunities are seen pre-dominantly in digital and packaging.

**EBT development**  
in EUR m



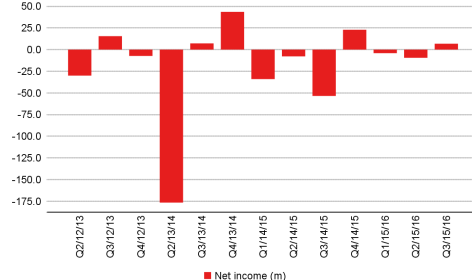
Source: Warburg Research

**Sales by segments**  
2014; in %



Source: Warburg Research

**Net income development**  
in EUR m



Source: Warburg Research

## Turnaround successfully achieved in fiscal 2015/16

### Clear world market leader in sheet-fed printing press manufacturing

Heidelberg is the world's largest manufacturer of printing presses and the clear world market leader for sheet-fed printing presses with a world market share of around 40%. We estimate Heidelberg generates some one-third of its turnover with the packaging industry. The remainder is related to media and commercial printing.

### Clear black figures in fiscal 2015/16 for the first time since 2007/08

CEO Dr. Linzbach joined the company three and a half years ago and, after several years of heavy losses, managed to generate a black zero in the first full fiscal year, driven by restructuring. The second phase of streamlining started during fiscal 2014/15 and mainly comprises the realignment of the heavily loss-making post-press portfolio and the strengthening of the profitable and growing business. As a result, in fiscal 2015/16 (30.3.), Heidelberg released clear black figures for the first time since 2007/08.

### Growth strategy includes rising share of profitable Services and digital printing presses

Sales and earnings breakdown by division				
Sales in EUR m	2014/15	2015/16	2016/17	2017/18
Equipment	1251	1315	1331	1348
Services	1076	1190	1219	1250
<b>Group</b>	<b>2334</b>	<b>2512</b>	<b>2556</b>	<b>2605</b>
EBITDA in EUR m				
Equipment	81	64	58	69
<i>Margin</i>	6.5%	4.9%	4.4%	5.1%
Services	102	120	126	132
<i>Margin</i>	9.5%	10.1%	10.3%	10.6%
Special items	-99	-21	-4	0
<b>Group EBITDA (IFRS)</b>	<b>89</b>	<b>168</b>	<b>186</b>	<b>208</b>
<i>Margin</i>	<b>3.8%</b>	<b>6.7%</b>	<b>7.3%</b>	<b>8.0%</b>
<b>"Adjusted" EBITDA</b>	<b>188</b>	<b>189</b>	<b>190</b>	<b>208</b>
One-offs*	50	19	0	0
<b>"Operating" EBITDA**</b>	<b>138</b>	<b>170</b>	<b>190</b>	<b>208</b>
<i>Margin</i>	<b>5.9%</b>	<b>6.8%</b>	<b>7.5%</b>	<b>8.0%</b>
*one-off items not included in Special items				
**EBITDA generated from operating activities acc. to Warburg Research assumptions				

Source: Warburg Research

One part of Heidelberg's strategy to return to growth is to boost the profitable Heidelberg Services to some 50% of total turnover. The acquisition of PSG (inks, chemicals, printing equipment) has already raised the Services share to an estimated 47%. In the Heidelberg Equipment division, which formerly accounted for roughly 60% of turnover, the company is aiming to expand its business with digital printing presses. Following cooperation agreements with Ricoh and Fuji, Heidelberg took over the remaining 70% of Gallus AG in 2014. Meanwhile, Heidelberg launched a new digital printing press with Gallus and Fuji technologies for the digitally-printed labels market. The first digital commercial and packaging machine developed with Fuji will be shown at the Drupa fair in 2016. In total, the stronger focus on growth areas shall lead to 2-4% top-line growth at group level including acquisitions, although there is no growth in sight for the main activity, sheet-fed printing presses.

### Digital sales could triple within five years

We estimate that Heidelberg is currently generating some EUR 100m in its digital printing activities. However, around half of that is related to its print room software Prinect and some one quarter to consumables. The machine turnover so far is related to Ricoh-machines, distributed by Heidelberg. Apart from Ricoh, Heidelberg is also working

in cooperation with Fuji. Heidelberg is on its way to developing its own portfolio of digital printing presses together with its cooperation partners. Following an increase in the installed base, turnover with consumables will also grow. Within two to three years in production, digital printing presses consume ink worth the price of the machine. Hence, growth arising from its digital activities is expected to become to an increasing extent visible within the next 3 years. Heidelberg's target is to raise turnover with its digital activities to around EUR 250–300m within the next five years. Some one third of this figure will be related to machines, consumables and software each, according to our calculation.

**Balance sheet looks poor at first glance but sufficient liquid funds allow for early redemption of expensive high yield bond**

Balance sheet ratios are poor at a first glance with an equity ratio of 15.4% as of December 2015. However, this is mainly due to higher pension provisions as a result of lower interest rates. Debt maturity was extended during 2015. In 2015, Heidelberg negotiated an agreement with employees to reorganise pension schemes, meaning that defined benefit plans will be replaced by a contribution-based capital commitment for all employees. This has lowered pension provisions by some EUR 100m (pension provisions as of the end of December 2015 amounted to EUR 452m). Steadily decreasing interest rates meant that pension provisions more or less doubled within three years. Nevertheless, this does not change the cash outflow going forward which should even slightly decrease from the current level of around EUR 10m p.a. Net financial debt amounted to EUR 282m as of the end of December 2015 and liquidity stood at EUR 205m. Having already bought back nominal volume of EUR 64.5m of its high yield bond in April 2016, Heidelberg announced that it would also buy back the remainder of nominal EUR 50m in June. Based on an annual coupon of 9.25%, this will save interest expenses of c. EUR 10.6m on a full-year basis per annum in future. In addition, the ability to do so underpins our opinion that the company is back in relatively comfortable territory financially.

## Back to the black in fiscal 2015/16

### EBITDA guidance miss mainly due to lower than expected sales in Q4

<b>Preliminary 2015/16 figures already reported</b>							
<i>in EUR m</i>	Q4 15/16 prel. fig.	Q4 14/15	+/- in %	FY 15/16 prel. fig.	FY 14/15	+/- in %	
Order Intake	588.0	654.0	-10.1%	2,492.0	2,434.0	2.4%	
Sales	709.9	781.2	-9.1%	2,512.0	2,333.7	7.6%	
EBITDA before exceptionals	46.1	35.7	29.2%	189.0	188.0	0.5%	
EBIT	54.5	63.3	-13.8%	96.0	19.7	387.5%	
PBT	31.5	16.3	92.9%	31.0	-75.9	n.a.	
Net Profit	34.7	22.9	51.2%	27.9	-72.4	n.a.	
EPS (€)	0.13	0.09	53.9%	0.11	-0.30	n.a.	

Source: Warburg Research

Heidelberg has guided for 2-4% higher revenues and an EBITDA margin of at least 8% in fiscal 2015/16, ending March 30. Heidelberg so far reported only preliminary FY 2015/16 figures. The company successfully achieved the desired turnaround. The net result improved by some EUR 100m and amounted to EUR 28m and EPS to EUR 0.11. The adjusted EBITDA margin came in at 7.5%. The guidance miss on EBITDA level was mainly a result of lower revenues in the final quarter of EUR 710m and hence lower fixed cost coverage. This is explained by high quarterly volatility in our view. Adjusted EBITDA came in at EUR 189m (incl. EUR 19m from release of PSG badwill). This compares to EUR 188m in fiscal 2014/15 (incl. EUR 50m positive impact from change in pension schemes). Hence, EBITDA from operating activity improved some 23% from EUR 138m to EUR 170m (margin 6.8%, up 90bps yoy).

### Redundancy payments explain negative 2015/16 FCF, positive figure expected for 2016/17

Liquidity as of the end of Q3 stood at EUR 205m. We estimate the company needs liquid funds of around EUR 100m to operate its business. Excess cash seems to have been used for early redemption of its high yield bond, saving a significant amount of interest going forward. FCF in fiscal 2015/16 came in at around EUR -30m including redundancy payments of around EUR 50m (inflow of around EUR 20m from the sale of the old headquarters in Heidelberg was more or less offset by the acquisition of PSG and cash outflow to lower financial liabilities). In fiscal 2016/17 we are expecting the remaining cash outflow for redundancy payments of up to EUR 40m in connection with staff lay-offs. In our view, FCF should turn positive in fiscal 2016/17 based on the lower redundancy payments and the expected higher result.

### Positive earnings outlook expected for fiscal 2016/17

For fiscal 2016/17 the company has not yet released guidance. We are expecting the company to guide for slight top-line growth and a further improvement in the result and believe such a statement is also widely expected by the market. Drupa costs will probably amount to around EUR 10m and will be booked in Q1 2016/17.

### Following successful turnaround, further earnings improvement on the cards

Heidelberg has set targets of 4-6% EBITDA margin for its Equipment division and 9-11% for Services. We estimate that in fiscal 2015/16 the company generated more than 52% of group sales in Equipment and more than 47% in Services. In the medium term Heidelberg is aiming to raise the share of Services to 50% which we believe is only possible via further acquisitions. We estimate the margin in Equipment to have been around 5% and ca. 10% in Services. After deducting EUR 21m in special items, this translates into a group margin of 6.7% based on EUR 168m EBITDA (IFRS). This is close to our calculation for the operating result of EUR 170m. Here, we have deducted EUR 19m from the release of PSG's badwill from Heidelberg's adjusted EBITDA of EUR 189m.

### Only slow growth for Equipment expected driven by digital and packaging

Future equipment growth is expected to come solely from digital and packaging printing.



Going forward, we have calculated 1.2% growth in Equipment in fiscal 2016/17 and 1.3% and 1.4% in the years thereafter, driven by packaging and digital (higher digital share will probably at least partly lead to cannibalization of analog business). Packaging is estimated to account for some 30% of Heidelberg's business or around EUR 750m including service. Hence, business with packaging machines should account for some EUR 400m and is expected to grow by some 4% p.a. driven mainly by Asian markets. Digital activities are currently expected to generate some EUR 100m turnover p.a. and should increase revenues to ca. EUR 250–300m by the end of this decade when new machines have reached a sufficient installed base.

#### **Services division requires further acquisitions to generate 50% of group revenues**

The Services segment is expected to grow by 2.4% and 2.6% in 2016/17 and 2017/18 as the business in service & spare parts and consumables increases. In fiscal 2018/19 and 2019/20, growth of 3.5% and 5.0% is expected, driven by higher consumables sales based on a rising installed base of digital equipment. Our calculation does not include M&A. Indeed, we are expecting the Services share to advance on an organic basis to 49% of the total considering additional consumables business from higher installed base in digital equipment in fiscal 2019/20. The current sales split in Heidelberg Services is estimated at ca. EUR 450m service (incl. spare parts), ca. EUR 470m consumables, some EUR 150m business with used machines and ca. EUR 120m remaining post-press activities. Heidelberg is aiming for ca. EUR 700-800m consumables turnover medium term including acquisitions.

#### **Service share of some 18%, clearly below the level of KBA**

Service (incl. spare parts) is estimated to account for some 18% of the total and is hence clearly below Koenig & Bauer's 25%. Here, we see room for organic improvement as Heidelberg is aiming for a higher share of service on its installed base. In addition, machines which are serviced by so-called "freelancers" could be supplied to a greater extent with original Heidelberg spare parts. An increase in the share of service and spare parts business should allow Heidelberg to come closer to the upper end of the guided margin range of 9-11% despite an increase in the share of consumables, which are estimated to generate below-average margins compared to the Heidelberg Services division.

#### **Mid-term scenario allows for 8.6% group EBITDA margin and EPS of 0.37**

In the following scenario we have included the upper end of the guided margin ranges of 11% for Services and 6% for Equipment for the same year (2019/20). This would translate into a group EBITDA margin of 8.6% (Heidelberg is targeting an EBITDA margin of >8%) and would allow for 6.0% EBIT margin based on depreciation cost ratio of 2.6%. Here, we do not see much room for improvement.

<b>Earnings scenario Heidelberg</b>						
<b>Turnover</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>	<b>2018/19</b>	<b>2019/20</b>
Equipment	1251	1315	1331	1348	1367	1409
Services	1076	1190	1219	1250	1294	1359
<b>Group</b>	<b>2334</b>	<b>2512</b>	<b>2556</b>	<b>2605</b>	<b>2669</b>	<b>2776</b>
Growth	-4.13%	7.64%	1.75%	1.92%	2.5%	4.0%
<b>EBITDA</b>						
Equipment	81	64	59	70	76	85
Margin	6.5%	4.9%	4.4%	5.2%	5.6%	6.0%
Services	102	120	126	133	140	150
Margin	9.5%	10.1%	10.3%	10.6%	10.8%	11.0%
Financial Services	5	5	5	5	5	5
Special items	-99	-21	-4	0	0	0
<b>Group</b>	<b>89</b>	<b>168</b>	<b>186</b>	<b>208</b>	<b>221</b>	<b>240</b>
Margin	3.8%	6.7%	7.3%	8.0%	8.3%	8.6%
Depreciation	-69	-72	-71	-70	-72	-74
EBIT	20	96	115	138	149	166
Financial result	-96	-65	-58	-56	-55	-54
PBT	-76	31	57	82	94	112
Taxes	4	-3	-9	-12	-14	-17
<b>Net result</b>	<b>-72</b>	<b>28</b>	<b>49</b>	<b>69</b>	<b>80</b>	<b>95</b>
<b>EPS</b>	<b>-0.31</b>	<b>0.11</b>	<b>0.19</b>	<b>0.27</b>	<b>0.31</b>	<b>0.37</b>

Source: Warburg Research

### Financial result will strongly benefit from early redemption of high yield bond

In contrast, there is plenty of room for improvement on the financial result line. Heidelberg already made a good step forward in fiscal 2015/16 when financial result/turnover ratio improved from -4.1% in the preceding year to -2.6% driven by the absence of one-off expenses in connection with early redemption of debt and the interest impact from the partial buy-back of parts of the old high yield bond. Our calculation of a further improvement to -2.1% is based on Heidelberg's announcements that it will completely buy back the remainder of the old high yield (coupon 9.25%) in April (EUR 64.5m) and June (EUR 50m) 2016.

### Significant potential for even greater improvement in financial result

In our view, Heidelberg's financing structure would allow for even greater improvement in future. We are expecting the company to generate positive FCF in the current financial year 2016/17 despite the cash-out for the remaining EUR 40m arising from restructuring. Ongoing cash generation in the years thereafter could allow for at least the partial buy-back of the second high yield bond (volume EUR 205m, maturity 2022, coupon 8.0%). The following chart shows the impact of the conversion of the two convertible bonds as well as the buy-back of EUR 205m, 8% bond maturing 2022, on share capital and EPS.

<b>Possible impact of convertibles and bond on EPS</b>				
	Current financial structure	Conversion Conv. 60m July 2017	Conversion Conv. 58.6m March 2022	Buy-back of 205m, 8% bond May 2022
Maturity		July 2017	March 2022	May 2022
Net result*	95.0	100.1	103.2	119.6
Nr. of shares	257.4	280.3	299.2	299.2
EPS	0.37	0.36	0.34	0.40
Dilution of share capital in %		8.9%	6.7%	
Dilution of EPS in %		3.2%	3.4%	

\*Based on our 2019/20 projections

Source: Warburg Research

### Conversion of convertibles has limited dilution impact but strongly improves net financial debt/EBITDA ratio

As Heidelberg's tax losses carried forward should amount to more than EUR 1bn (mainly related to Germany and the US), interest savings would translate 1:1 into net earnings. Hence, the conversion of the convertibles would have a rather limited dilution impact on net earnings per share. The buy-back of the EUR 205m, 8% bond from liquid funds

would boost the net result by 16% based on our 2019/20 calculation. In addition, the conversion of the two convertibles would raise equity by around one-third, leading to an equity ratio of more than 20% while net financial debt (excl. pensions) would be cut almost to half, reducing net financial debt/EBITDA to below 1. This should additionally pay off in better refinancing terms thereafter. The company is currently rated B by Standard & Poor's and B3 by Moody's (both agencies with outlook stable).

**Current portfolio of financial debt and credit lines:**

- EUR 60m convertible bond, coupon 8.5%, conversion price EUR 2.62, maturity July 2017 (in case of conversion 22.9m new shares, equivalent to 8.9% of existing share capital)
- EUR 245m revolving credit facility, maturity June 2019
- EUR 58.6m convertible bond, coupon 5.25%, conversion price EUR 3.1104 per share, maturity March 2022 (in case of conversion 18.84m new shares, equivalent to 7.3% of existing share capital)
- EUR 205.4m bond, coupon 8.0%, maturity May 2022
- EUR 100m EIB credit, interest 3%, maturity 2024
- EUR 35m other financial instruments

DCF model

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	15/16e	16/17e	17/18e	18/19e	19/20e	20/21e	21/22e	22/23e	23/24e	24/25e	25/26e	26/27e	27/28e	
Sales	2,512	2,556	2,605	2,669	2,776	2,832	2,888	2,946	3,005	3,065	3,111	3,158	3,205	
Sales change	7.6 %	1.8 %	1.9 %	2.5 %	4.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	1.5 %	1.5 %	1.5 %	0.5 %
EBIT	96	115	138	149	166	156	159	162	165	169	171	174	176	
EBIT-margin	3.8 %	4.5 %	5.3 %	5.6 %	6.0 %	5.5 %	5.5 %	5.5 %	5.5 %	5.5 %	5.5 %	5.5 %	5.5 %	
Tax rate (EBT)	10.0 %	15.0 %	15.0 %	15.0 %	15.0 %	15.0 %	15.0 %	15.0 %	15.0 %	15.0 %	15.0 %	20.0 %	25.0 %	
NOPAT	81	100	123	127	141	132	135	138	140	143	145	139	132	
Depreciation	78	79	81	80	81	79	78	77	75	74	72	69	71	
in % of Sales	3.1 %	3.1 %	3.1 %	3.0 %	2.9 %	2.8 %	2.7 %	2.6 %	2.5 %	2.4 %	2.3 %	2.2 %	2.2 %	
Changes in provisions	8	3	2	19	35	18	18	19	19	20	15	15	15	
Change in Liquidity from														
- Working Capital	-17	-33	-22	25	27	14	14	14	15	15	11	12	12	
- Capex	58	58	58	67	69	71	72	74	75	77	78	79	80	
Capex in % of Sales	2.3 %	2.3 %	2.2 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	
Other	36	0	0	0	0	0	0	0	0	0	0	0	0	
Free Cash Flow (WACC Model)	89	158	169	134	160	145	145	145	145	145	143	133	126	114
PV of FCF	91	149	148	108	119	100	93	86	79	73	67	57	50	598
share of PVs	21.31 %			45.79 %										32.90 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	35.00 %	Financial Strength	1.50
Cost of debt (after tax)	6.3 %	Liquidity (share)	1.20
Market return	7.00 %	Cyclicality	1.40
Risk free rate	1.50 %	Transparency	1.40
		Others	1.40
<b>WACC</b>	<b>8.11 %</b>	<b>Beta</b>	<b>1.38</b>

Valuation (m)

Present values 2027/28e	1,220		
Terminal Value	598		
Financial liabilities	542		
Pension liabilities	605		
Hybrid capital	0		
Minority interest	0		
Market val. of investments	0		
Liquidity	286	No. of shares (m)	257.4
<b>Equity Value</b>	<b>957</b>	<b>Value per share (EUR)</b>	<b>3.72</b>

Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth							Beta	WACC	Delta EBIT-margin						
		-0.25 %	0.00 %	0.25 %	0.50 %	0.75 %	1.00 %	1.25 %			-1.5 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+1.5 pp
1.66	9.1 %	2.89	2.94	2.99	3.04	3.09	3.15	3.21	1.66	9.1 %	1.34	1.90	2.47	3.03	3.60	4.16	4.73
1.52	8.6 %	3.18	3.24	3.30	3.36	3.42	3.49	3.57	1.52	8.6 %	1.57	2.16	2.76	3.35	3.95	4.54	5.14
1.45	8.4 %	3.34	3.40	3.47	3.53	3.60	3.68	3.76	1.45	8.4 %	1.69	2.30	2.91	3.53	4.14	4.75	5.36
1.38	8.1 %	3.51	3.58	3.64	3.72	3.80	3.88	3.97	1.38	8.1 %	1.82	2.45	3.08	3.71	4.34	4.97	5.60
1.31	7.9 %	3.69	3.76	3.84	3.92	4.00	4.10	4.20	1.31	7.9 %	1.96	2.61	3.26	3.91	4.56	5.21	5.86
1.24	7.6 %	3.88	3.95	4.04	4.13	4.22	4.33	4.44	1.24	7.6 %	2.11	2.78	3.45	4.12	4.79	5.46	6.13
1.10	7.1 %	4.29	4.39	4.49	4.60	4.71	4.84	4.98	1.10	7.1 %	2.45	3.16	3.87	4.59	5.30	6.02	6.73

- We expect the market for sheetfed printing machinery to be stable going forward.
- Based on portfolio measures we are expecting EBIT-margins of 6% in the future

**Free Cash Flow Value Potential**

Warburg Research's valuation tool "FCF Value Potential" reflects the ability of the company to generate sustainable free cash flows. It is based on the "FCF potential" - a FCF "ex growth" figure - which assumes unchanged working capital and pure maintenance capex. A value indication is derived via the perpetuity of a given year's "FCF potential" with consideration of the weighted costs of capital. The fluctuating value indications over time add a timing element to the DCF model (our preferred valuation tool).

in EUR m	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e	2017/18e	
Net Income before minorities	-230	-110	4	-72	28	49	69	
+ Depreciation + Amortisation	87	83	91	69	72	71	70	
- Net Interest Income	-90	-82	-60	-96	-65	-58	-56	
- Maintenance Capex	31	72	47	48	50	50	50	
+ Other	0	0	0	0	0	0	0	
<b>= Free Cash Flow Potential</b>	<b>-84</b>	<b>-17</b>	<b>108</b>	<b>44</b>	<b>115</b>	<b>128</b>	<b>145</b>	
Free Cash Flow Yield Potential	-8.3 %	-1.8 %	9.0 %	3.1 %	8.4 %	9.5 %	11.6 %	
WACC	8.11 %	8.11 %	8.11 %	8.11 %	8.11 %	8.11 %	8.11 %	
<b>= Enterprise Value (EV)</b>	<b>1,011</b>	<b>980</b>	<b>1,208</b>	<b>1,416</b>	<b>1,375</b>	<b>1,341</b>	<b>1,257</b>	
<b>= Fair Enterprise Value</b>	<b>n.a.</b>	<b>n.a.</b>	<b>1,333</b>	<b>541</b>	<b>1,416</b>	<b>1,576</b>	<b>1,791</b>	
- Net Debt (Cash)	256	256	256	256	286	244	150	
- Pension Liabilities	605	605	605	605	455	464	473	
- Other	0	0	0	0	0	0	0	
- Market value of minorities	0	0	0	0	0	0	0	
+ Market value of investments	0	0	0	0	0	0	0	
<b>= Fair Market Capitalisation</b>	<b>n.a.</b>	<b>n.a.</b>	<b>471</b>	<b>n.a.</b>	<b>675</b>	<b>868</b>	<b>1,168</b>	
No. of shares (total) (m)	257	257	234	257	257	257	257	
<b>= Fair value per share (EUR)</b>	<b>n.a.</b>	<b>n.a.</b>	<b>2.01</b>	<b>n.a.</b>	<b>2.62</b>	<b>3.37</b>	<b>4.54</b>	
premium (-) / discount (+) in %					6.5 %	37.1 %	84.4 %	
<b>Sensitivity Fair value per Share (EUR)</b>								
	11.11 %	n.a.	n.a.	0.48	n.a.	1.14	1.72	2.66
	10.11 %	n.a.	n.a.	0.89	n.a.	1.53	2.16	3.16
	9.11 %	n.a.	n.a.	1.39	n.a.	2.02	2.70	3.77
WACC	<b>8.11 %</b>	<b>n.a.</b>	<b>n.a.</b>	<b>2.01</b>	<b>n.a.</b>	<b>2.62</b>	<b>3.37</b>	<b>4.54</b>
	7.11 %	n.a.	n.a.	2.81	n.a.	3.39	4.23	5.51
	6.11 %	n.a.	n.a.	3.87	n.a.	4.42	5.37	6.81
	5.11 %	n.a.	n.a.	5.35	n.a.	5.85	6.96	8.62

- Before 2013/14 the fair value was negative due to high losses
- The expected improvements in earnings lead to significantly higher fair values

Peer Group										
Company	Price	EV / Sales		EV / EBITDA		EV / EBIT		P / E		EPS CAGR (14/15-17/18e)
		15/16e	16/17e	15/16e	16/17e	15/16e	16/17e	15/16e	16/17e	
Prices in local currency										
Bobst Group	52.85	0.7	-	7.5	-	10.7	13.8	14.1	9.0 %	
Koenig & Bauer	44.16	0.6	-	6.9	-	10.0	27.2	17.3	368.7 %	
Komori	1,321.00	-	-	-	-	-	12.5	-	-	
Mitsubishi Heavy Ind.	431.50	0.5	-	4.1	-	6.2	22.7	10.5	12.5 %	
Ryobi	445.00	0.4	-	4.9	-	11.2	7.7	9.5	29.4 %	
technotrans	16.54	0.8	-	7.1	-	9.1	17.2	14.8	24.8 %	
Average		0.6	-	6.1	-	9.5	16.9	13.2	88.9 %	
Median		0.6	-	6.9	-	10.0	15.5	14.1	24.8 %	
<b>Heidelberger Druck</b>	<b>2.46</b>	<b>0.5</b>	<b>8.2</b>	<b>7.2</b>	<b>14.3</b>	<b>11.6</b>	<b>22.7</b>	<b>13.0</b>	-	
Valuation difference to median		-8.6 %	-	3.7 %	-	16.5 %	46.2 %	-8.3 %	-	

■ ...

Valuation								
	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e	2017/18e	
Price / Book	0.8 x	0.8 x	1.4 x	3.0 x	1.8 x	1.6 x	1.3 x	
Book value per share ex intangibles	1.41	0.70	0.59	-0.11	0.57	0.76	1.03	
EV / Sales	0.4 x	0.4 x	0.5 x	0.6 x	0.5 x	0.5 x	0.5 x	
EV / EBITDA	n.a.	21.2 x	7.9 x	15.9 x	8.2 x	7.2 x	6.1 x	
EV / EBIT	n.a.	n.a.	19.4 x	71.9 x	14.3 x	11.6 x	9.1 x	
EV / EBIT adj.*	402.2 x	35.1 x	16.7 x	11.9 x	11.8 x	11.2 x	9.1 x	
P / FCF	n.a.	n.a.	60.3 x	n.a.	n.a.	14.8 x	6.8 x	
P / E	n.a.	n.a.	143.5 x	n.a.	22.7 x	13.0 x	9.1 x	
P / E adj.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Dividend Yield	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Free Cash Flow Yield Potential	-8.3 %	-1.8 %	9.0 %	3.1 %	8.4 %	9.5 %	11.6 %	

\*Adjustments made for: -

## Consolidated profit & loss

In EUR m	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e	2017/18e
<b>Sales</b>	<b>2,596</b>	<b>2,735</b>	<b>2,434</b>	<b>2,334</b>	<b>2,512</b>	<b>2,556</b>	<b>2,605</b>
Change Sales yoy	-1.3 %	5.4 %	-11.0 %	-4.1 %	7.6 %	1.8 %	1.9 %
Increase / decrease in inventory	16	-72	-29	6	-20	-8	-10
Own work capitalised	11	27	15	17	20	20	20
<b>Total Sales</b>	<b>2,622</b>	<b>2,690</b>	<b>2,419</b>	<b>2,356</b>	<b>2,512</b>	<b>2,568</b>	<b>2,615</b>
Material Expenses	1,232	1,278	1,110	1,113	1,200	1,218	1,238
<b>Gross profit</b>	<b>1,391</b>	<b>1,411</b>	<b>1,309</b>	<b>1,243</b>	<b>1,312</b>	<b>1,350</b>	<b>1,377</b>
<i>Gross profit margin</i>	<i>53.6 %</i>	<i>51.6 %</i>	<i>53.8 %</i>	<i>53.3 %</i>	<i>52.2 %</i>	<i>52.8 %</i>	<i>52.9 %</i>
Personnel expenses	905	901	857	731	812	817	825
Other operating income	123	106	106	121	142	126	126
Other operating expenses	520	569	415	445	453	469	471
Unfrequent items	-142	-65	-10	-99	-21	-4	0
<b>EBITDA</b>	<b>-53</b>	<b>46</b>	<b>153</b>	<b>89</b>	<b>168</b>	<b>186</b>	<b>208</b>
<i>Margin</i>	<i>-2.0 %</i>	<i>1.7 %</i>	<i>6.3 %</i>	<i>3.8 %</i>	<i>6.7 %</i>	<i>7.3 %</i>	<i>8.0 %</i>
Depreciation of fixed assets	61	62	71	69	72	71	70
<b>EBITA</b>	<b>-114</b>	<b>-37</b>	<b>62</b>	<b>20</b>	<b>96</b>	<b>115</b>	<b>138</b>
Amortisation of intangible assets	26	21	18	19	18	18	18
Goodwill amortization	0	0	0	0	0	0	0
<b>EBIT</b>	<b>-140</b>	<b>-37</b>	<b>62</b>	<b>20</b>	<b>96</b>	<b>115</b>	<b>138</b>
<i>Margin</i>	<i>-5.4 %</i>	<i>-1.3 %</i>	<i>2.6 %</i>	<i>0.8 %</i>	<i>3.8 %</i>	<i>4.5 %</i>	<i>5.3 %</i>
<b>EBIT adj.</b>	<b>3</b>	<b>28</b>	<b>72</b>	<b>119</b>	<b>117</b>	<b>119</b>	<b>138</b>
Interest income	15	11	13	10	10	10	10
Interest expenses	106	91	73	105	75	68	66
Other financial income (loss)	2	-2	0	0	0	0	0
<b>EBT</b>	<b>-229</b>	<b>-118</b>	<b>2</b>	<b>-76</b>	<b>31</b>	<b>57</b>	<b>82</b>
<i>Margin</i>	<i>-8.8 %</i>	<i>-4.3 %</i>	<i>0.1 %</i>	<i>-3.3 %</i>	<i>1.2 %</i>	<i>2.2 %</i>	<i>3.1 %</i>
Total taxes	1	-9	-2	-4	3	9	12
<b>Net income from continuing operations</b>	<b>-230</b>	<b>-110</b>	<b>4</b>	<b>-72</b>	<b>28</b>	<b>49</b>	<b>69</b>
Income from discontinued operations (net of tax)	0	0	0	0	0	0	0
<b>Net income before minorities</b>	<b>-230</b>	<b>-110</b>	<b>4</b>	<b>-72</b>	<b>28</b>	<b>49</b>	<b>69</b>
Minority interest	0	0	0	0	0	0	0
<b>Net income</b>	<b>-230</b>	<b>-110</b>	<b>4</b>	<b>-72</b>	<b>28</b>	<b>49</b>	<b>69</b>
<i>Margin</i>	<i>-8.9 %</i>	<i>-4.0 %</i>	<i>0.1 %</i>	<i>-3.1 %</i>	<i>1.1 %</i>	<i>1.9 %</i>	<i>2.7 %</i>
Number of shares, average	234	234	234	243	257	257	257
<b>EPS</b>	<b>-0.98</b>	<b>-0.47</b>	<b>0.02</b>	<b>-0.30</b>	<b>0.11</b>	<b>0.19</b>	<b>0.27</b>
EPS adj.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

\*Adjustments made for:

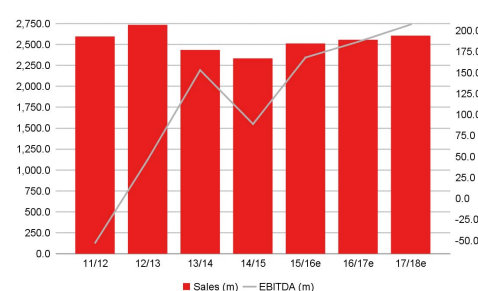
**Guidance: Sales up 2-4%, EBITDA-margin at least 8%**

## Financial Ratios

	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e	2017/18e
Total Operating Costs / Sales	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Operating Leverage	n.a.	-13.8 x	n.a.	16.5 x	50.7 x	11.6 x	10.0 x
EBITDA / Interest expenses	n.m.	0.5 x	2.1 x	0.8 x	2.2 x	2.7 x	3.1 x
Tax rate (EBT)	-0.3 %	7.3 %	-107.3 %	4.6 %	10.0 %	15.0 %	15.0 %
Dividend Payout Ratio	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Sales per Employee	165,911	199,697	194,134	195,271	211,092	214,788	218,913

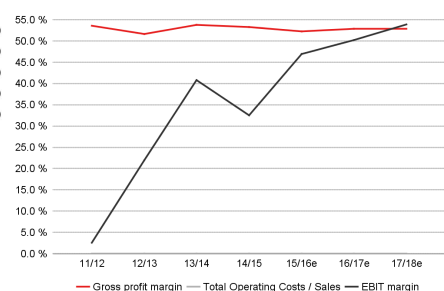
### Sales, EBITDA

in EUR m

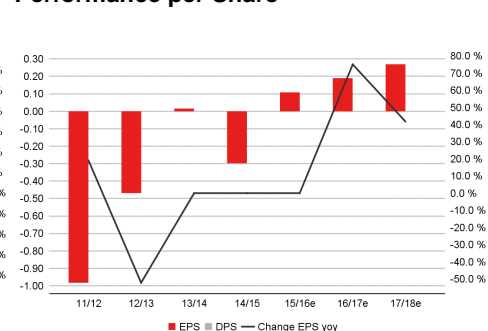


### Operating Performance

in %



### Performance per Share



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

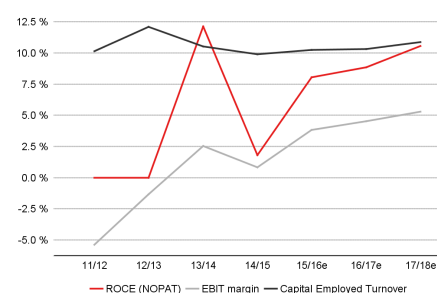
**Consolidated balance sheet**

In EUR m	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e	2017/18e
<b>Assets</b>							
Goodwill and other intangible assets	246	235	221	210	210	210	210
thereof other intangible assets	27	28	28	25	21	21	21
thereof Goodwill	123	124	124	125	125	125	125
Property, plant and equipment	555	538	512	496	489	484	479
Financial assets	27	24	18	29	30	31	32
Other long-term assets	141	119	120	126	126	126	126
<b>Fixed assets</b>	<b>970</b>	<b>915</b>	<b>870</b>	<b>862</b>	<b>855</b>	<b>851</b>	<b>847</b>
Inventories	786	700	623	637	617	609	599
Accounts receivable	361	382	328	335	344	325	320
Liquid assets	195	157	243	286	216	144	238
Other short-term assets	207	184	180	173	171	172	175
<b>Current assets</b>	<b>1,548</b>	<b>1,424</b>	<b>1,374</b>	<b>1,431</b>	<b>1,348</b>	<b>1,250</b>	<b>1,332</b>
<b>Total Assets</b>	<b>2,518</b>	<b>2,338</b>	<b>2,244</b>	<b>2,293</b>	<b>2,193</b>	<b>2,139</b>	<b>2,222</b>
<b>Liabilities and shareholders' equity</b>							
Subscribed capital	599	599	600	659	659	659	659
Capital reserve	27	0	0	0	0	0	0
Retained earnings	-51	-200	-241	-475	-300	-251	-182
Other equity components	0	0	0	0	0	0	0
Shareholders' equity	576	400	359	183	358	407	477
Minority interest	0	0	0	0	0	0	0
<b>Total equity</b>	<b>576</b>	<b>400</b>	<b>359</b>	<b>183</b>	<b>358</b>	<b>407</b>	<b>477</b>
Provisions	933	1,000	879	1,055	822	835	848
thereof provisions for pensions and similar obligations	326	416	450	605	455	464	473
Financial liabilities (total)	438	419	481	542	502	388	388
thereof short-term financial liabilities	15	15	0	0	0	0	0
Accounts payable	165	139	148	171	174	178	183
Other liabilities	399	372	369	331	326	321	316
<b>Liabilities</b>	<b>1,934</b>	<b>1,930</b>	<b>1,878</b>	<b>2,099</b>	<b>1,825</b>	<b>1,722</b>	<b>1,735</b>
<b>Total liabilities and shareholders' equity</b>	<b>2,518</b>	<b>2,338</b>	<b>2,244</b>	<b>2,293</b>	<b>2,193</b>	<b>2,139</b>	<b>2,222</b>

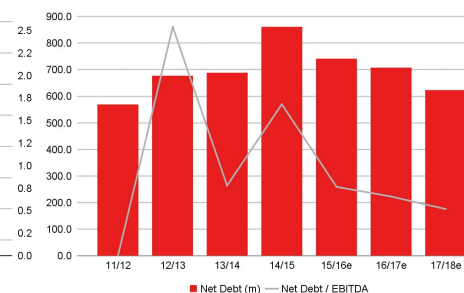
**Financial Ratios**

	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e	2017/18e
<b>Efficiency of Capital Employment</b>							
Operating Assets Turnover	1.8 x	1.9 x	2.0 x	1.9 x	2.1 x	2.2 x	2.3 x
Capital Employed Turnover	2.3 x	2.5 x	2.3 x	2.2 x	2.3 x	2.3 x	2.4 x
ROA	-23.7 %	-12.0 %	0.4 %	-8.4 %	3.3 %	5.7 %	8.2 %
<b>Return on Capital</b>							
ROCE (NOPAT)	n.a.	n.a.	12.1 %	1.8 %	8.1 %	8.9 %	10.6 %
ROE	-31.9 %	-22.5 %	1.0 %	-26.7 %	10.3 %	12.8 %	15.7 %
Adj. ROE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Balance sheet quality</b>							
Net Debt	569	677	689	861	741	708	623
Net Financial Debt	243	261	238	256	286	244	150
Net Gearing	98.9 %	169.5 %	191.9 %	469.5 %	206.9 %	173.8 %	130.8 %
Net Fin. Debt / EBITDA	n.a.	566.2 %	155.7 %	288.5 %	170.5 %	130.7 %	72.3 %
Book Value / Share	2.5	1.7	1.5	0.8	1.4	1.6	1.9
Book value per share ex intangibles	1.4	0.7	0.6	-0.1	0.6	0.8	1.0

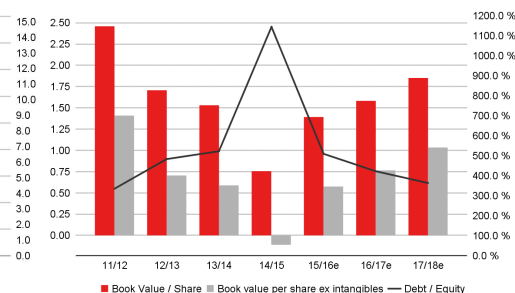
**ROCE Development**



**Net debt in EUR m**



**Book Value per Share in EUR**



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research



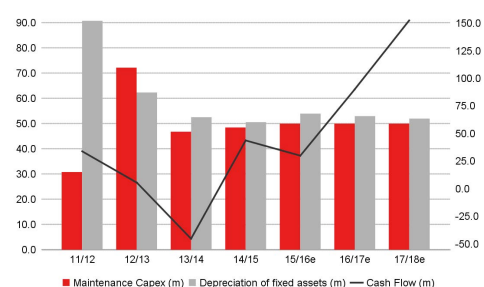
Consolidated cash flow statement

In EUR m	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e	2017/18e
Net income	-230	-110	4	-72	28	49	69
Depreciation of fixed assets	91	62	53	51	54	53	52
Amortisation of goodwill	0	0	0	0	0	0	0
Amortisation of intangible assets	26	21	18	19	18	18	18
Increase/decrease in long-term provisions	14	7	21	-94	-70	-30	13
Other non-cash income and expenses	133	26	-141	141	0	0	0
<b>Cash Flow</b>	<b>34</b>	<b>6</b>	<b>-45</b>	<b>44</b>	<b>30</b>	<b>90</b>	<b>153</b>
Increase / decrease in inventory	-25	95	61	27	20	8	10
Increase / decrease in accounts receivable	16	-21	54	-7	-9	19	5
Increase / decrease in accounts payable	57	-26	9	-23	3	4	5
Increase / decrease in other working capital positions	138	25	-132	129	0	-2	-3
Increase / decrease in working capital (total)	186	73	-8	126	14	29	17
<b>Net cash provided by operating activities</b>	<b>56</b>	<b>33</b>	<b>60</b>	<b>22</b>	<b>26</b>	<b>101</b>	<b>152</b>
Investments in intangible assets	4	8	5	10	8	8	8
Investments in property, plant and equipment	62	72	47	48	50	50	50
Payments for acquisitions	7	2	1	13	18	0	0
Financial investments	2	0	11	-10	0	0	0
Income from asset disposals	29	31	25	22	20	0	0
<b>Net cash provided by investing activities</b>	<b>46</b>	<b>51</b>	<b>38</b>	<b>39</b>	<b>56</b>	<b>58</b>	<b>58</b>
Change in financial liabilities	29	0	0	0	-40	0	0
Dividends paid	0	0	0	0	0	0	0
Purchase of own shares	0	0	0	0	0	0	0
Capital measures	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
<b>Net cash provided by financing activities</b>	<b>29</b>	<b>-25</b>	<b>62</b>	<b>46</b>	<b>-40</b>	<b>-115</b>	<b>0</b>
Change in liquid funds	39	-42	83	28	-70	-72	94
Effects of exchange-rate changes on cash	8	5	-8	25	0	0	0
<b>Cash and cash equivalent at end of period</b>	<b>195</b>	<b>157</b>	<b>233</b>	<b>286</b>	<b>216</b>	<b>144</b>	<b>238</b>

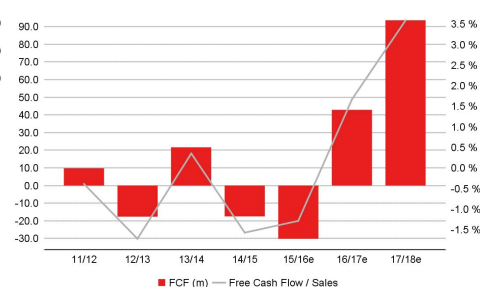
Financial Ratios

	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e	2017/18e
<b>Cash Flow</b>							
FCF	10	-18	22	-17	-30	43	94
Free Cash Flow / Sales	-0.4 %	-1.7 %	0.4 %	-1.6 %	-1.3 %	1.7 %	3.6 %
Free Cash Flow Potential	-84	-17	108	44	115	128	145
Free Cash Flow / Net Profit	4.3 %	42.8 %	238.0 %	50.8 %	-115.3 %	87.7 %	135.0 %
Interest Received / Avg. Cash	8.7 %	6.1 %	6.3 %	3.6 %	4.0 %	5.6 %	5.2 %
Interest Paid / Avg. Debt	25.6 %	21.2 %	16.2 %	20.5 %	14.4 %	15.3 %	17.0 %
<b>Management of Funds</b>							
Investment ratio	2.5 %	2.9 %	2.1 %	2.5 %	2.3 %	2.3 %	2.2 %
Maint. Capex / Sales	1.2 %	2.6 %	1.9 %	2.1 %	2.0 %	2.0 %	1.9 %
Capex / Dep	75.7 %	96.9 %	56.5 %	66.3 %	64.4 %	65.2 %	65.9 %
Avg. Working Capital / Sales	36.8 %	32.7 %	32.8 %	30.9 %	28.1 %	26.6 %	25.1 %
Trade Debtors / Trade Creditors	218.7 %	274.4 %	221.6 %	196.2 %	197.7 %	182.6 %	174.9 %
Inventory Turnover	1.6 x	1.8 x	1.8 x	1.7 x	1.9 x	2.0 x	2.1 x
Receivables collection period (days)	51	51	49	52	50	46	45
Payables payment period (days)	49	40	49	56	53	53	54
Cash conversion cycle (Days)	197	168	159	154	133	125	117

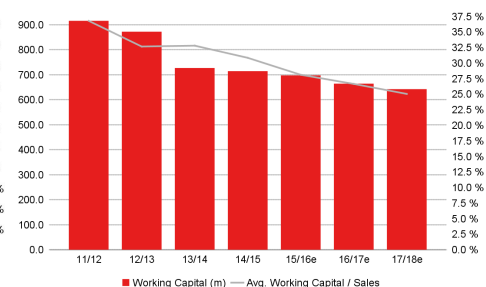
CAPEX and Cash Flow in EUR m



Free Cash Flow Generation



Working Capital



Source: Warburg Research

Source: Warburg Research

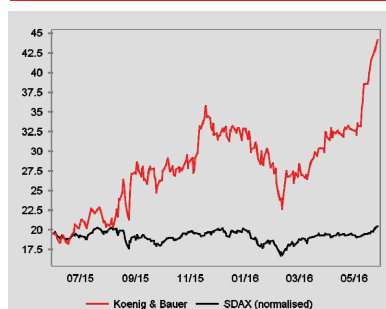
Source: Warburg Research

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<b>Buy</b> <b>EUR 50.80</b> (EUR 47.20) Price EUR 44.16 <b>Upside 15.0 %</b>	<b>Value Indicators:</b> EUR DCF: 49.78 FCF-Value Potential 17e: 51.88	<b>Share data:</b> Bloomberg: SKB GR Reuters: SKBG ISIN: DE0007193500	<b>Description:</b> Koenig & Bauer is the second-largest manufacturer of printing machinery worldwide
	<b>Market Snapshot:</b> EUR m Market cap: 730 No. of shares (m): 17 EV: 704 Freefloat MC: 609 Ø Trad. Vol. (30d): 1.49 m	<b>Shareholders:</b> Freefloat: 83.4 % MKB Holding: 10.3 % HBS Holding: 6.3 %	<b>Risk Profile (WRe):</b> 2016e Beta: 1.3 Price / Book: 2.5 x Equity Ratio: 29 %

## 2016 guidance probably too low, mid-term targets could be raised next year

- Even after the recent strong upward move in the share price we see further upside potential of around 15% for the stock based on DCF and FCF value potential tools. 2018 EV/EBIT looks quite cheap at 6.6x. However deducting down-payments, this ratio would increase to 8.2x which also offers additional upside in our view.
- Koenig & Bauer is the world's second-largest manufacturer of printing presses. The company is by far the world-market leader for banknote and security printing with a market share of between 80–90%. The company also holds a leading position in the growing packaging printing sector and is active in niches such as glass and metal decorating and flexible packaging printing. In digital printing, the company is cooperating with Hewlett-Packard.
- The company has completed a comprehensive restructuring programme, which started at the end of 2013 with the goal of reducing the number of employees by up to a quarter. One-off expenses in 2013 amounted to more than EUR 150m and are expected to lead to cost savings of around EUR 100m or almost 10% of turnover annually from 2016 onwards. This is mainly a result of the restructuring of the web business which collapsed dramatically during the financial crisis and has not really recovered since. Capacity in web has come down to zero.
- Transparency has significantly improved since 2015 as Koenig & Bauer is now reporting figures for the divisions a) Sheet-fed, b) Web-fed and Digital and c) Special machines. In the past, the heavily loss-making web-fed business was reported together with profitable special machines. Management has now implemented a zero tolerance policy for loss-makers and no longer accepts cross-subsidisation
- For 2016, the company has guided for turnover of around EUR 1.1bn and a PBT margin of 3-4%. Going forward, Koenig & Bauer sees potential to grow in packaging printing, digital printing and world-wide service. Mid term, Koenig & Bauer is targeting a 4-6% PBT margin. We regard both targets as rather conservative. We believe the mid-term target could already be reached this year and new mid-term targets could be released early next year. Our EPS estimates are 20% higher than consensus for both 2017 and 2018 and 7% higher for the current year.
- 2016 earnings could strongly benefit from a turnaround in the Digital & Web division following low double-digit million EUR losses last year. Management was indicating that there would be no more losses in 2016 based on the positive development of its RotaJet digital family and the successful launch of a new digital machine for corrugated board developed together with Hewlett Packard.
- KBA plans to take over die-cutter manufacturer Iberica in order to strengthen its portfolio in the growth market of packaging. As KBA is already selling some 70% of its equipment to the packaging industry, the acquisition makes sense strategically.
- KBA and Xerox announced a partnership to develop an industrial digital sheetfed press for the folding carton market which will compete with Heidelberg's Primfire 106. To date, wide format cartons, for items like cosmetics, food and pharmaceutical products, have relied on traditional analog offset production printing.

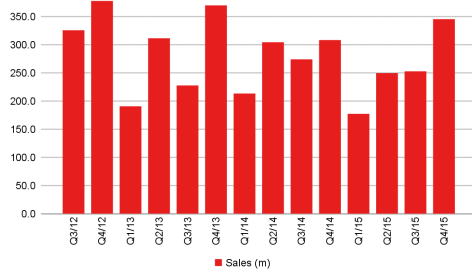


Rel. Performance vs SDAX:	
1 month:	29.4 %
6 months:	34.5 %
Year to date:	32.5 %
Trailing 12 months:	121.6 %

Company events:	
11.08.16	Q2
10.11.16	Q3

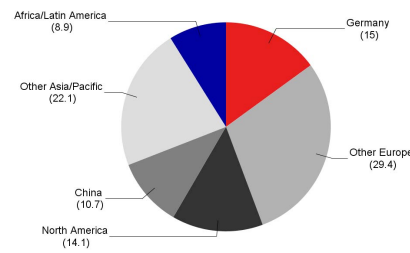
FY End: 31.12. in EUR m	CAGR (15-18e)	2012	2013	2014	2015	2016e	2017e	2018e
<b>Sales</b>	3.3 %	1,294	1,100	1,100	1,025	1,095	1,117	1,131
Change Sales yoy		10.9 %	-15.0 %	0.0 %	-6.8 %	6.8 %	2.0 %	1.3 %
Gross profit margin		25.2 %	14.4 %	27.0 %	26.8 %	31.1 %	32.2 %	32.4 %
<b>EBITDA</b>	21.8 %	79	-71	43	61	85	106	111
Margin		6.1 %	-6.5 %	3.9 %	6.0 %	7.8 %	9.4 %	9.8 %
<b>EBT</b>	39.7 %	4	-138	5	30	55	75	81
Margin		0.3 %	-12.6 %	0.5 %	2.9 %	5.0 %	6.8 %	7.2 %
<b>Net income</b>	34.1 %	0	-154	0	27	44	60	65
<b>EPS</b>	34.2 %	0.03	-9.31	0.03	1.62	2.65	3.65	3.92
<b>EPS adj.</b>	34.2 %	n.a.	n.a.	0.03	1.62	2.65	3.65	3.92
<b>DPS</b>	-	0.40	0.00	0.00	0.00	0.50	0.75	1.00
Dividend Yield		3.1 %	n.a.	n.a.	n.a.	1.1 %	1.7 %	2.3 %
<b>FCFPS</b>		3.73	0.19	1.75	-1.44	3.00	4.50	4.70
<b>FCF / Market cap</b>		28.9 %	4.1 %	13.2 %	-10.4 %	6.8 %	10.1 %	10.7 %
<b>EV / Sales</b>		0.1 x	0.2 x	0.2 x	0.4 x	0.6 x	0.6 x	0.5 x
<b>EV / EBITDA</b>		2.3 x	n.a.	4.2 x	6.0 x	8.3 x	6.1 x	5.1 x
<b>EV / EBIT</b>		13.2 x	n.a.	12.8 x	10.2 x	11.7 x	8.0 x	6.6 x
<b>P / E</b>		426.3 x	n.a.	374.7 x	13.5 x	16.7 x	12.1 x	11.1 x
<b>P / E adj.</b>		n.a.	n.a.	374.7 x	13.5 x	16.7 x	12.1 x	11.1 x
<b>FCF Yield Potential</b>		22.8 %	-50.8 %	5.8 %	8.9 %	7.4 %	10.6 %	12.7 %
<b>Net Debt</b>		-30	-22	-7	8	-26	-89	-152
<b>ROCE (NOPAT)</b>		0.3 %	n.a.	0.3 %	13.5 %	18.2 %	25.2 %	28.0 %
<b>Guidance:</b>	Sales around EUR 1.1 bn, PBT-margin 3-4%							

**Sales development**  
in EUR m



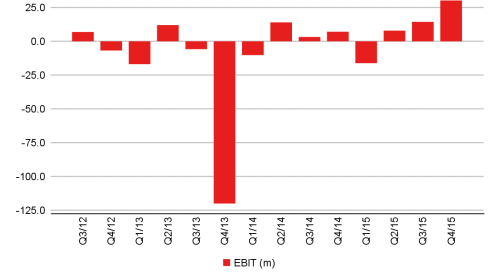
Source: Warburg Research

**Sales by regions**  
2015; in %



Source: Warburg Research

**EBIT development**  
in EUR m



Source: Warburg Research

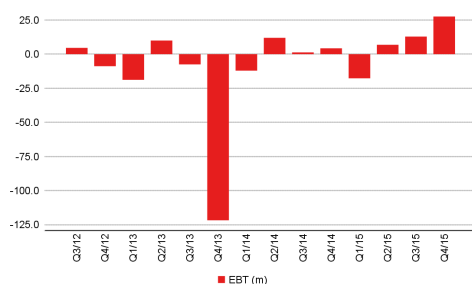
**Company Background**

- Koenig & Bauer is the second-largest printing press manufacturer worldwide after Heidelberg. The company's product range is much broader though and it is partially active in lucrative niches.
- After high restructuring charges in 2013 Koenig & Bauer returned to profitability in 2014. With a net cash position of roughly EUR 200m the company has a solid balance sheet.
- In the light of the massive decline of demand in Web-fed, the company has reduced its production capacities in this field to zero and will in future concentrate on profitable service business
- Like other printing press manufacturers the Würzburg-based company has strong vertical integration.

**Competitive Quality**

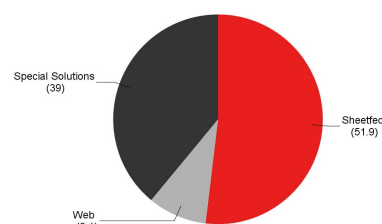
- The German manufacturers, Heidelberg, Koenig & Bauer, account for roughly two-thirds of the global printing press market.
- Heavy restructuring, started in 2013, led to EUR 100m annual savings from 2016 onwards
- With a world market share of some 20% Koenig & Bauer is the global No. 2 in sheet-fed machines after Heidelberg. Komori is Nr.3
- Furthermore, Koenig & Bauer has strong market positions in lucrative niches such as banknote, metal and tin printing as well as label printing.

**EBT development**  
in EUR m



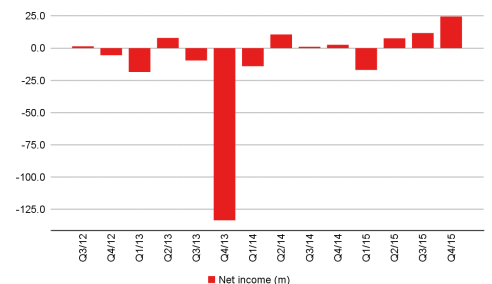
Source: Warburg Research

**Sales by segments**  
2015; in %



Source: Warburg Research

**Net income development**  
in EUR m



Source: Warburg Research

**Restructuring complete, further strong earnings improvement on the cards****2016 earnings should strongly benefit from turnaround in Digital & Web division**

Even after the recent strong upward move in the share price we see further upside potential of around 15% for the stock based on DCF and FCF value potential tools. 2016 earnings could strongly benefit from a turnaround in the Digital & Web division. Here, the company reported an EBIT loss of EUR 10.9m for 2015 but Q4 was profitable. Management was indicating there would be no more losses for 2016 based on the positive development of its RotaJet digital family (decor print, laminates) and the successful launch of a new digital machine for corrugated board developed together with Hewlett Packard. In contrast, Drupa is expected to pose a burden of EUR 6.5m.

**Nr.2 printing press producer in the world with strong footprint in growing packaging markets and leading position in securities printing**

Koenig & Bauer is the world's second-largest manufacturer of printing presses. The company is by far the world market leader for banknote and security printing with a market share of 80–90%. Estimated average annual turnover of this business is around EUR 250m. The company also holds a leading position in packaging printing, which is growing, and is active in niches such as glass decorating and flexible packaging printing. In digital printing, the company is cooperating with Hewlett-Packard. Koenig & Bauer's group structure measured by customer industries has changed dramatically in the last 11 years. Security and Banknote Printing now accounts for some 20% (2004: 10%) of turnover; Packaging ca. 70% (2004: 25%) and Media around 10% (2004: 65%) of new equipment business. Banknote Printing is expected to be more or less flat going forward while Packaging is expected to grow by 4-6% annually over the next years and Media to shrink 3-5% per annum. This scenario would allow for organic annual growth of between 2.0-3.5% on group level following more than a decade of declining top line (turnover 2015/2006: -44%).

**New segment reporting raises transparency; zero tolerance policy for loss-makers**

Transparency has significantly improved since 2015 as Koenig & Bauer is now reporting figures for the divisions a) Sheet-fed, b) Web-fed and Digital and c) Special machines. In the past, heavily loss-making web-fed business was reported together with profitable special machines. Management has now implemented a zero tolerance policy for loss-makers and no longer accepts cross-subsidisation.

**Heavy restructuring reduced staff by one quarter and capacity in web-fed to zero**

The company has meanwhile completed a comprehensive restructuring programme, which started at the end of 2013 with the goal of reducing the number of employees by up to one-quarter. One-off expenses booked in 2013 amounted to more than EUR 150m and are expected to lead to cost savings of around EUR 100m or almost 10% of turnover annually from 2016 onwards, mainly as a result of the restructuring of the web business which collapsed dramatically during the financial crisis and has not really recovered since. Capacity in web has come down to zero and Koenig & Bauer in future will only build new machines on customer request and at satisfying prices. Nevertheless, the company will service the installed base of web-fed machines, which is a profitable business. The medium-term target is to raise the share of service business (incl. spare parts) from some 25% in 2013 to 30%. Consumables play a minor role and the business with used machines is not included here.

**New digital machines could boost turnover of Digital & Web division**

In Digital, KBA did not generate noteworthy turnover in 2015 with the HP machine, built by Koenig & Bauer and distributed by HP. This machine addresses the packaging markets and is the first digital machine based on web-fed technology for corrugated board. Based on orders for 4-5 of these machines, revenues could amount to around EUR 15m in 2016. Medium term, HP is expecting to sell some 12 HP machines p.a. which would account for EUR 40m turnover per year for KBA. The positive development

of its RotaJet digital machines for decor print and laminates could generate up to EUR 20m in additional sales (following an estimated low single-digit million EUR figure last year). Furthermore, new digital printing press in cooperation with Xerox (industrial digital sheet-fed press for the folding carton market) could also contribute to the division's growth. Together, digital machines could generate up to EUR 100m longer term. The division's turnover additionally consists of some EUR 20-25m (profitable) web business and some EUR 60m service which we believe is targeted to grow to up to EUR 70m medium term.

#### **2016 and mid-term targets look rather conservative**

For 2016, the company has guided for turnover of around EUR 1.1bn and a PBT margin of 3-4%. Going forward, Koenig & Bauer sees the potential to grow in packaging printing, digital printing and world-wide service. Mid term, Koenig & Bauer is targeting a 4-6% PBT margin. We regard both targets as rather conservative. We believe the mid-term target could already be reached this year and new mid-term targets could be released early next year. As tax losses carried forward amount to almost EUR 300m and only a limited amount of deferred taxes has been capitalised, the effective tax rate for several years will be low (expectation 2016 to 2018: 20%). While the equity ratio suffered massively from 2013 losses and lower discount rates for pension provisions, net liquidity (before pension provisions) improved to EUR 183.8m (when incl. EUR 13.3m securities) as of the end of 2015 despite EUR 40m cash-out for redundancy payments. Net liquidity was equivalent to EUR 11.12 per share. Free Cash Flow this year should turn significantly positive from EUR -23.7m in 2015 to an expected EUR 49.4m driven by a higher result and only EUR 10m in remaining redundancy payments.

#### **Takeover of Iberica to strengthen packaging portfolio**

The high net cash position allows Koenig & Bauer to actively supplement its product portfolio via M&A. According to the most recent ad-hoc release, KBA plans to take over die-cutter manufacturer Iberica in order to strengthen its portfolio in the growth market packaging. As KBA is already selling some 70% of its equipment to the packaging industry, the acquisition makes strategic sense in our view. Iberica with some 60 staff produces medium and large-format flatbed die-cutters for cardboard and corrugated packaging without its own manufacturing facilities and, until now, has mainly been active in Europe and in some overseas markets. Core competencies are assembly, development and distribution. Integration to the global KBA sales and service network would improve Iberica's growth prospects. Cerruti is selling Iberica as the company is no longer fits its strategy. We estimate Iberica's annual turnover in the low double-digit million EUR region. Koenig & Bauer seems to believe that selling these die-cutters via KBA's worldwide network could more or less triple Iberica's revenues medium term. Even now Iberica is profitable. Takeover price on an EV-basis is estimated to be in the mid single-digit million EUR area. Financing is not an issue as KBA had roughly EUR 211m cash and securities as of the end of March 2016.

#### **New partnership in digital printing with Xerox...**

KBA and Xerox announced a partnership to develop an industrial digital sheetfed press for the folding carton market which will compete with Heidelberg's Primfire 106. Until now, wide format cartons, for items like cosmetics, food and pharmaceutical products, have relied on traditional analog offset production printing. The KBA VariJET 106 integrates Xerox's inkjet technology into the KBA Rapida 106 press platform. According to KBA's release, digitally-printed packaging worldwide will grow at a compound annual growth rate (CAGR) of roughly 16% between 2015 and 2020. Within that, digitally printed folding cartons will experience a CAGR of 40%. The KBA VariJET 106 press offers the benefits of digital printing, such as running multiple versions of the same carton as well as customized cartons, opening up new business opportunities for industrial production printers. KBA and Xerox will share additional details about the new press concept during presentations at their respective stands at Drupa.

#### **...complement existing cooperations with HP and Kyocera**

KBA, is cooperating with HP, Kyocera and Xerox in its digital printing business. In the case of HP, KBA is supplying the printing press to HP (five machines already sold, will lead to some EUR 15m revenues for KBA this year). This machine is distributed by HP. In the case of Kyocera and Xerox, these companies supply the inkjet technology (accounts for some 40-50% of the total value of a digital press). These machines are distributed by KBA. We estimate KBA will generate first turnover of some EUR 35m revenues with digital presses this year.

### Lower order intake in pre-Drupa quarter Q1 2016, but massive improvement in profit

#### Strong Q1 2016 figures released

<i>in EUR m</i>	Q1 2016	Q1 2015	+/- in %
Order Intake	266.3	306.7	-13.2%
Sales	258.8	177.3	46.0%
EBITDA	9.0	-9.1	n.a.
EBIT	2.1	-16.2	n.a.
PBT	0.6	-17.7	n.a.
Net Profit	1.6	-16.9	n.a.
EPS (€)	0.11	-1.01	n.a.

Source: Warburg Research

#### Sheet-fed orders suffered from long lead times

Q1 order intake was down 13.2% yoy in the pre-Drupa quarter and missed our expectation by some 5%. Sheet-fed reported 22% lower intake which was due to the rather strong comparable base in Q1 2015 and meanwhile long lead times as the company is fully booked in this division.

#### Strong increase in orders for Digital, improved quality of order backlog

Digital & Web orders were up 22.6% driven by digital web-fed machines. New orders in Special Solutions were down 2% yoy with better development in packaging. The pipeline for banknote printing is strong, according to the management. Hence, the situation in this field should improve later this year. Group order backlog amounted to EUR 582.4m, up 6.5% yoy. According to the company, the quality of the order backlog has improved owing to better pricing.

#### Massive increase in Q1 turnover compared to last year's rather weak basis

At +46%, there was a massive improvement in turnover in Q1 compared to last year's rather poor level. Sheet-fed revenues were up 40.8%, sales at Digital & Web (+109.8%) more than doubled and Special solutions sales were up 40.2%. Despite revenues that were some 11% higher than expected, Koenig & Bauer merely equalled our EBIT expectation of EUR 2m in Q1.

#### Postponed shipment of a banknote printing order and Drupa-related expenses prevented an even stronger improvement in profit

While Sheet-fed (EUR 5.7m, up from EUR -2.7m in Q1 15) and Digital & Web (EUR -1.8m, up from EUR -8.7m in Q1 15) performed very well, Special Solutions reported an EBIT of just EUR 0.2m, a further decline from EUR 1.2m in Q1 15 despite 40% higher revenues. Here, shipment of a banknote printing order was postponed from Q1 to Q2. While the company booked part of the revenues according to the percentage of completion method, no profit was booked in Q1 (will follow in Q2). As banknote printing orders are usually highly profitable, we estimate Q1 earnings would have been significantly better if this order had been completed. Furthermore, the Q1 result already included some EUR 2m expenses in connection with the Drupa fair (total estimated costs EUR 6.5m). Without these effects, EBIT could have easily come close to a double-digit million figure in our view. FCF was strong in Q1 at EUR 11.3m, up EUR 42.4m on Q1 2015. This figure includes some EUR 2.5m cash-out from restructuring (remaining total

amount EUR 10m to be paid this year following EUR 40m in 2015).

### **Management declares restructuring process complete, new focus is on growth**

Management stated that restructuring is now complete and first benefits are already visible. Having reduced capacities significantly, the focus is now on growth. KBA sees potential in packaging printing, digital printing and world-wide service. The guidance (turnover ca. EUR 1.1bn, PBT-margin 3-4%) might be under review after Q2. In our view, the outlook looks pretty cautious and we see a good chance that company will raise its guidance later this year. The current guidance includes a decreasing result for the period Q2–Q4 which is unlikely in our view, given that the margin quality in order backlog has improved owing to better pricing. Hence, we continue to expect 5% PBT margin this year.

### **PBT-margin could reach 7-9% longer term and even more in peak years**

Mid term, KBA is aiming for group sales of around EUR 1.15bn and PBT margin of 4-6%. This is based on the following assumption for the divisions: 1) Sheet-fed ca. EUR 550m sales, 3-4% margin, Digital & Web EUR 125m sales, 3-4% margin, Special Solutions EUR 475m sales, margin 5-6%. We believe that the mid-term margin target will already be achieved comfortably this year. Hence, the company could define new targets with the release of FY 2016 figures in March next year.

In the following table we have included our estimates for the divisions and the group based on our detailed assumptions up to 2018. Scenario for 2020 should be seen as the peak scenario. Here, we have assumed that all three divisions will reach their estimated peak margin level.

The main trigger to raise group PBT to EUR 100m, or even more, in a single year is a strong securities printing press business which peaked at around EUR 300m p.a. at the beginning of this decade. Margins at that time came in at an estimated level of some 20%. However, due to an increasing level of tender business with lower prices we have assumed 15% margin only in our 2020 peak scenario. Nevertheless, we believe that KBA is on the right path to generating EPS of around EUR 5.00 per share in single years even without margins seen half a decade ago in the securities business. If this happened in a single year, the PBT margin could even reach 10%.



## Earnings scenario Koenig &amp; Bauer

	2015	2016	2017	2018	2019	2020
<b>Turnover</b>						
Sheetfed	562	560	565	567	573	578
Digital & Web	98	128	145	157	173	187
Special Solutions	423	455	456	456	465	474
Consolidation	-58	-48	-49	-49	-50	-51
<b>Group</b>	<b>1025</b>	<b>1095</b>	<b>1117</b>	<b>1131</b>	<b>1161</b>	<b>1189</b>
Growth	-6.82%	6.82%	2.01%	1.25%	2.63%	2.41%
<b>EBIT</b>						
Sheetfed	25.5	25.0	30.5	31.0	32.8	34.8
Margin	4.5%	4.5%	5.4%	5.5%	5.7%	6.0%
Digital & Web	-10.9	0.0	2.5	5.0	7.0	9.3
Margin	-11.1%	0.0%	1.7%	3.2%	4.0%	5.0%
Special Solutions	27.7	38.0	48.5	50.0	56.0	64.0
Margin	6.6%	8.4%	10.6%	11.0%	12.0%	13.5%
Consolidation	-6.0	-3.0	-1.0	0.0	0.0	0.0
<b>Group</b>	<b>36.3</b>	<b>60.0</b>	<b>80.5</b>	<b>86.0</b>	<b>95.8</b>	<b>108.1</b>
Margin	3.5%	5.5%	7.2%	7.6%	8.3%	9.1%
Financial result	-6.6	-5.3	-5.1	-5.0	-5.0	-5.0
<b>PBT</b>	<b>29.7</b>	<b>54.7</b>	<b>75.4</b>	<b>81.0</b>	<b>90.8</b>	<b>103.1</b>
Margin	2.9%	5.0%	6.8%	7.2%	7.8%	8.7%
Taxes	2.8	10.9	15.1	16.2	18.2	20.6
<b>Net result</b>	<b>26.8</b>	<b>43.8</b>	<b>60.3</b>	<b>64.8</b>	<b>72.6</b>	<b>82.5</b>
<b>EPS</b>	<b>1.62</b>	<b>2.65</b>	<b>3.65</b>	<b>3.92</b>	<b>4.40</b>	<b>4.99</b>

Source: Warburg Research

**DCF model**

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	
Sales	1,095	1,117	1,131	1,161	1,189	1,217	1,247	1,277	1,302	1,328	1,355	1,382	1,410	
Sales change	6.8 %	2.0 %	1.3 %	2.6 %	2.4 %	2.4 %	2.4 %	2.4 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	0.5 %
EBIT	60	81	86	96	108	85	87	89	91	93	95	97	99	
EBIT-margin	5.5 %	7.2 %	7.6 %	8.3 %	9.1 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	7.0 %	
Tax rate (EBT)	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	20.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	
NOPAT	48	64	69	77	87	68	70	63	64	65	66	68	69	
Depreciation	25	25	25	23	24	24	25	26	26	27	27	28	28	
in % of Sales	2.3 %	2.2 %	2.2 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	
Changes in provisions	2	2	2	11	5	5	5	5	5	5	5	5	5	
Change in Liquidity from														
- Working Capital	-1	-7	-6	2	6	6	6	7	6	6	6	6	6	
- Capex	22	23	23	23	24	24	25	26	26	27	27	28	28	
Capex in % of Sales	2.0 %	2.1 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	
Other	39	6	0	0	0	0	0	0	0	0	0	0	0	
Free Cash Flow (WACC Model)	16	69	79	86	85	67	69	61	63	64	65	67	68	59
PV of FCF	15	61	65	65	60	43	41	34	32	30	28	27	25	288
share of PVs	17.29 %			47.37 %										35.34 %

**Model parameter**

Derivation of WACC:		Derivation of Beta:	
Debt ratio	5.00 %	Financial Strength	1.00
Cost of debt (after tax)	3.2 %	Liquidity (share)	1.40
Market return	7.00 %	Cyclicality	1.30
Risk free rate	1.50 %	Transparency	1.30
		Others	1.30
<b>WACC</b>	<b>8.17 %</b>	<b>Beta</b>	<b>1.26</b>

**Valuation (m)**

Present values 2028e	526		
Terminal Value	288		
Financial liabilities	16		
Pension liabilities	192		
Hybrid capital	0		
Minority interest	1		
Market val. of investments	0		
Liquidity	217	No. of shares (m)	16.5
<b>Equity Value</b>	<b>823</b>	<b>Value per share (EUR)</b>	<b>49.78</b>

**Sensitivity Value per Share (EUR)**

Beta	WACC	Terminal Growth							Beta	WACC	Delta EBIT-margin						
		-0.25 %	0.00 %	0.25 %	0.50 %	0.75 %	1.00 %	1.25 %			-1.5 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+1.5 pp
1.45	9.2 %	43.37	43.71	44.07	44.46	44.86	45.30	45.76	1.45	9.2 %	34.51	37.83	41.14	44.46	47.77	51.09	54.40
1.36	8.7 %	45.67	46.07	46.50	46.96	47.45	47.97	48.52	1.36	8.7 %	36.42	39.93	43.45	46.96	50.48	53.99	57.50
1.31	8.4 %	46.91	47.36	47.83	48.33	48.86	49.43	50.04	1.31	8.4 %	37.46	41.08	44.71	48.33	51.95	55.57	59.20
1.26	8.2 %	48.23	48.72	49.23	49.78	50.37	51.00	51.67	1.26	8.2 %	38.57	42.30	46.04	49.78	53.52	57.26	61.00
1.21	7.9 %	49.63	50.16	50.73	51.33	51.98	52.67	53.41	1.21	7.9 %	39.74	43.60	47.47	51.33	55.19	59.05	62.92
1.16	7.7 %	51.11	51.69	52.32	52.98	53.69	54.46	55.29	1.16	7.7 %	41.00	44.99	48.99	52.98	56.98	60.97	64.97
1.07	7.2 %	54.37	55.08	55.83	56.65	57.52	58.47	59.50	1.07	7.2 %	43.78	48.07	52.36	56.65	60.93	65.22	69.51

- Growth in Packaging and Digital printing could at least compensate for declining Media printing going forward
- Following heavy restructuring we expect Koenig & Bauer to generate an EBIT-margin of around 7% over the cycle.

### Free Cash Flow Value Potential

Warburg Research's valuation tool "FCF Value Potential" reflects the ability of the company to generate sustainable free cash flows. It is based on the "FCF potential" - a FCF "ex growth" figure - which assumes unchanged working capital and pure maintenance capex. A value indication is derived via the perpetuity of a given year's "FCF potential" with consideration of the weighted costs of capital. The fluctuating value indications over time add a timing element to the DCF model (our preferred valuation tool).

in EUR m	2012	2013	2014	2015	2016e	2017e	2018e	
Net Income before minorities	0	-154	0	27	44	60	65	
+ Depreciation + Amortisation	65	60	29	25	25	25	25	
- Net Interest Income	-8	-7	-9	-7	-5	-5	-5	
- Maintenance Capex	32	27	28	26	22	22	23	
+ Other	0	0	0	0	0	0	0	
<b>= Free Cash Flow Potential</b>	<b>41</b>	<b>-114</b>	<b>10</b>	<b>33</b>	<b>52</b>	<b>68</b>	<b>72</b>	
Free Cash Flow Yield Potential	22.8 %	-50.8 %	5.8 %	8.9 %	7.4 %	10.6 %	12.7 %	
WACC	8.17 %	8.17 %	8.17 %	8.17 %	8.17 %	8.17 %	8.17 %	
<b>= Enterprise Value (EV)</b>	<b>181</b>	<b>225</b>	<b>180</b>	<b>371</b>	<b>704</b>	<b>640</b>	<b>570</b>	
<b>= Fair Enterprise Value</b>	<b>505</b>	<b>n.a.</b>	<b>129</b>	<b>405</b>	<b>639</b>	<b>833</b>	<b>884</b>	
- Net Debt (Cash)	-202	-202	-202	-202	-184	-220	-285	
- Pension Liabilities	192	192	192	192	194	196	198	
- Other	0	0	0	0	0	0	0	
- Market value of minorities	0	0	0	0	0	0	0	
+ Market value of investments	0	0	0	0	0	0	0	
<b>= Fair Market Capitalisation</b>	<b>515</b>	<b>n.a.</b>	<b>139</b>	<b>415</b>	<b>628</b>	<b>857</b>	<b>971</b>	
No. of shares (total) (m)	16	17	17	17	17	17	17	
<b>= Fair value per share (EUR)</b>	<b>31.37</b>	<b>n.a.</b>	<b>8.39</b>	<b>25.12</b>	<b>38.02</b>	<b>51.88</b>	<b>58.77</b>	
premium (-) / discount (+) in %					-13.9 %	17.5 %	34.5 %	
<b>Sensitivity Fair value per Share (EUR)</b>								
	11.17 %	22.97	n.a.	6.31	18.54	27.65	38.33	44.40
	10.17 %	25.17	n.a.	6.86	20.30	30.42	41.96	48.25
	9.17 %	27.85	n.a.	7.55	22.45	33.81	46.38	52.93
WACC	<b>8.17 %</b>	<b>31.18</b>	<b>n.a.</b>	<b>8.39</b>	<b>25.12</b>	<b>38.02</b>	<b>51.88</b>	<b>58.77</b>
	7.17 %	35.44	n.a.	9.48	28.54	43.42	58.92	66.23
	6.17 %	41.09	n.a.	10.92	33.06	50.55	68.23	76.10
	5.17 %	48.92	n.a.	12.91	39.34	60.45	81.15	89.80

▪ FCF value potential is indicating further share price potential due to temporarily low tax rate

Valuation	2012	2013	2014	2015	2016e	2017e	2018e
Price / Book	0.5 x	0.9 x	0.8 x	1.4 x	2.5 x	2.2 x	1.8 x
Book value per share ex intangibles	25.45	14.40	11.43	13.33	15.07	18.25	21.47
EV / Sales	0.1 x	0.2 x	0.2 x	0.4 x	0.6 x	0.6 x	0.5 x
EV / EBITDA	2.3 x	n.a.	4.2 x	6.0 x	8.3 x	6.1 x	5.1 x
EV / EBIT	13.2 x	n.a.	12.8 x	10.2 x	11.7 x	8.0 x	6.6 x
EV / EBIT adj.*	13.2 x	n.a.	12.8 x	10.2 x	11.7 x	8.0 x	6.6 x
P / FCF	3.5 x	24.5 x	7.6 x	n.a.	n.a.	n.a.	n.a.
P / E	426.3 x	n.a.	374.7 x	13.5 x	16.7 x	12.1 x	11.1 x
P / E adj.*	n.a.	n.a.	374.7 x	13.5 x	16.7 x	12.1 x	11.1 x
Dividend Yield	3.1 %	n.a.	n.a.	n.a.	1.1 %	1.7 %	2.3 %
Free Cash Flow Yield Potential	22.8 %	-50.8 %	5.8 %	8.9 %	7.4 %	10.6 %	12.7 %

\*Adjustments made for: -

**Consolidated profit and loss**

In EUR m	2012	2013	2014	2015	2016e	2017e	2018e
<b>Sales</b>	<b>1,294</b>	<b>1,100</b>	<b>1,100</b>	<b>1,025</b>	<b>1,095</b>	<b>1,117</b>	<b>1,131</b>
Change Sales yoy	10.9 %	-15.0 %	0.0 %	-6.8 %	6.8 %	2.0 %	1.3 %
COGS	968	941	803	751	755	758	764
<b>Gross profit</b>	<b>326</b>	<b>159</b>	<b>297</b>	<b>275</b>	<b>340</b>	<b>360</b>	<b>367</b>
<i>Gross margin</i>	<i>25.2 %</i>	<i>14.4 %</i>	<i>27.0 %</i>	<i>26.8 %</i>	<i>31.1 %</i>	<i>32.2 %</i>	<i>32.4 %</i>
Research and development	59	64	55	57	55	56	56
Sales and marketing	157	134	135	123	127	129	130
Administration expenses	76	79	81	78	78	79	80
Other operating expenses	56	42	45	69	50	45	45
Other operating income	36	30	32	89	30	30	30
Unfrequent items	0	0	0	0	0	0	0
<b>EBITDA</b>	<b>79</b>	<b>-71</b>	<b>43</b>	<b>61</b>	<b>85</b>	<b>106</b>	<b>111</b>
<i>Margin</i>	<i>6.1 %</i>	<i>-6.5 %</i>	<i>3.9 %</i>	<i>6.0 %</i>	<i>7.8 %</i>	<i>9.4 %</i>	<i>9.8 %</i>
Depreciation of fixed assets	63	59	28	24	24	24	24
<b>EBITA</b>	<b>15</b>	<b>-130</b>	<b>15</b>	<b>37</b>	<b>61</b>	<b>82</b>	<b>87</b>
Amortisation of intangible fixed assets	2	1	1	1	1	1	1
Goodwill amortization	0	0	0	0	0	0	0
<b>EBIT</b>	<b>14</b>	<b>-131</b>	<b>14</b>	<b>36</b>	<b>60</b>	<b>81</b>	<b>86</b>
<i>Margin</i>	<i>1.1 %</i>	<i>-11.9 %</i>	<i>1.3 %</i>	<i>3.5 %</i>	<i>5.5 %</i>	<i>7.2 %</i>	<i>7.6 %</i>
<b>EBIT adj.</b>	<b>14</b>	<b>-131</b>	<b>14</b>	<b>36</b>	<b>60</b>	<b>81</b>	<b>86</b>
Interest income	4	5	4	7	8	8	8
Interest expenses	12	13	13	13	13	13	13
Other financial income (loss)	-2	0	-1	0	0	0	0
<b>EBT</b>	<b>4</b>	<b>-138</b>	<b>5</b>	<b>30</b>	<b>55</b>	<b>75</b>	<b>81</b>
<i>Margin</i>	<i>0.3 %</i>	<i>-12.6 %</i>	<i>0.5 %</i>	<i>2.9 %</i>	<i>5.0 %</i>	<i>6.8 %</i>	<i>7.2 %</i>
Total taxes	3	16	5	3	11	15	16
<b>Net income from continuing operations</b>	<b>0</b>	<b>-154</b>	<b>0</b>	<b>27</b>	<b>44</b>	<b>60</b>	<b>65</b>
Income from discontinued operations (net of tax)	0	0	0	0	0	0	0
<b>Net income before minorities</b>	<b>0</b>	<b>-154</b>	<b>0</b>	<b>27</b>	<b>44</b>	<b>60</b>	<b>65</b>
Minority interest	0	0	0	0	0	0	0
<b>Net income</b>	<b>0</b>	<b>-154</b>	<b>0</b>	<b>27</b>	<b>44</b>	<b>60</b>	<b>65</b>
<i>Margin</i>	<i>0.0 %</i>	<i>-14.0 %</i>	<i>0.0 %</i>	<i>2.6 %</i>	<i>4.0 %</i>	<i>5.4 %</i>	<i>5.7 %</i>
Number of shares, average	16	17	17	17	17	17	17
<b>EPS</b>	<b>0.03</b>	<b>-9.31</b>	<b>0.03</b>	<b>1.62</b>	<b>2.65</b>	<b>3.65</b>	<b>3.92</b>
EPS adj.	n.a.	n.a.	0.03	1.62	2.65	3.65	3.92

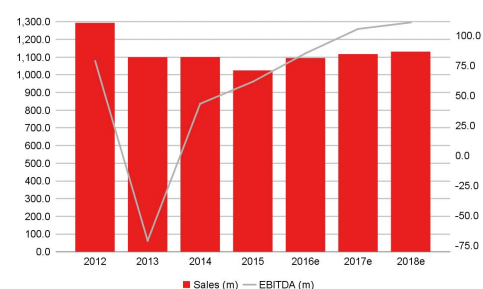
\*Adjustments made for:

**Guidance: Sales around EUR 1.1 bn, PBT-margin 3-4%**

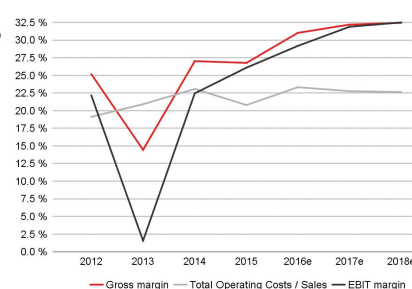
**Financial Ratios**

	2012	2013	2014	2015	2016e	2017e	2018e
Total Operating Costs / Sales	19.1 %	20.9 %	23.1 %	20.8 %	23.3 %	22.7 %	22.6 %
Operating Leverage	3.5 x	n.a.	n.a.	-23.1 x	9.6 x	17.0 x	5.5 x
EBITDA / Interest expenses	6.6 x	n.m.	3.4 x	4.7 x	6.5 x	8.1 x	8.5 x
Tax rate (EBT)	89.2 %	-11.3 %	94.5 %	9.4 %	20.0 %	20.0 %	20.0 %
Dividend Payout Ratio	1642.6 %	0.0 %	0.0 %	0.0 %	18.9 %	20.5 %	25.5 %
Sales per Employee	206,298	175,755	181,595	193,927	232,979	237,660	240,638

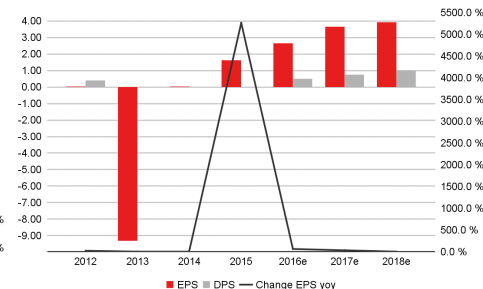
**Sales, EBITDA**  
in EUR m



**Operating Performance**  
in %



**Performance per Share**



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

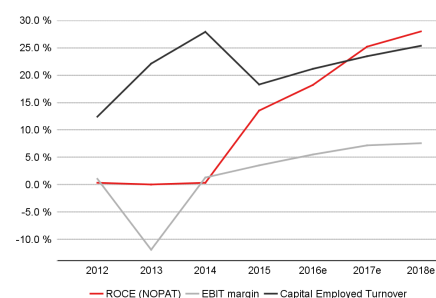
**Consolidated balance sheet**

In EUR m	2012	2013	2014	2015	2016e	2017e	2018e
<b>Assets</b>							
Goodwill and other intangible assets	23	39	38	38	38	38	38
thereof other intangible assets	2	11	10	10	10	10	10
thereof Goodwill	22	28	28	28	28	28	28
Property, plant and equipment	220	188	191	187	185	183	182
Financial assets	16	17	15	16	16	16	16
Other long-term assets	53	28	35	31	30	30	30
<b>Fixed assets</b>	<b>312</b>	<b>272</b>	<b>279</b>	<b>271</b>	<b>268</b>	<b>266</b>	<b>265</b>
Inventories	331	357	279	259	254	249	244
Accounts receivable	255	228	199	194	190	188	186
Liquid assets	206	186	217	200	236	301	366
Other short-term assets	47	52	40	54	55	55	55
<b>Current assets</b>	<b>839</b>	<b>824</b>	<b>735</b>	<b>706</b>	<b>733</b>	<b>792</b>	<b>850</b>
<b>Total Assets</b>	<b>1,152</b>	<b>1,098</b>	<b>1,015</b>	<b>977</b>	<b>1,001</b>	<b>1,058</b>	<b>1,115</b>
<b>Liabilities and shareholders' equity</b>							
Subscribed capital	43	43	43	43	43	43	43
Capital reserve	87	88	88	88	88	88	88
Retained earnings	311	147	96	127	156	209	262
Other equity components	0	0	0	0	0	0	0
Shareholders' equity	441	277	227	258	287	339	392
Minority interest	0	1	1	1	1	1	1
<b>Total equity</b>	<b>441</b>	<b>278</b>	<b>227</b>	<b>258</b>	<b>287</b>	<b>340</b>	<b>393</b>
Provisions	322	439	454	409	403	408	412
thereof provisions for pensions and similar obligations	145	143	195	192	194	196	198
Financial liabilities (total)	32	22	15	16	16	16	16
thereof short-term financial liabilities	32	22	15	16	16	16	16
Accounts payable	66	72	57	43	42	41	41
Other liabilities	291	287	261	251	254	254	254
<b>Liabilities</b>	<b>711</b>	<b>820</b>	<b>788</b>	<b>719</b>	<b>714</b>	<b>719</b>	<b>722</b>
<b>Total liabilities and shareholders' equity</b>	<b>1,152</b>	<b>1,098</b>	<b>1,015</b>	<b>977</b>	<b>1,001</b>	<b>1,058</b>	<b>1,115</b>

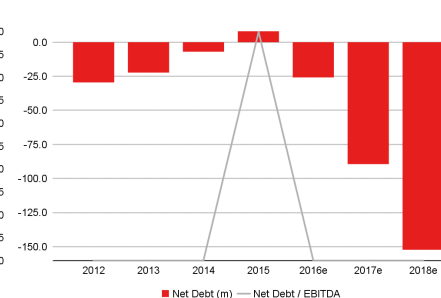
**Financial Ratios**

	2012	2013	2014	2015	2016e	2017e	2018e
<b>Efficiency of Capital Employment</b>							
Operating Assets Turnover	2.2 x	2.1 x	2.3 x	2.3 x	2.4 x	2.5 x	2.6 x
Capital Employed Turnover	3.1 x	4.3 x	5.0 x	3.8 x	4.2 x	4.5 x	4.7 x
ROA	0.1 %	-56.5 %	0.1 %	9.9 %	16.3 %	22.6 %	24.4 %
<b>Return on Capital</b>							
ROCE (NOPAT)	0.3 %	n.a.	0.3 %	13.5 %	18.2 %	25.2 %	28.0 %
ROE	0.1 %	-42.8 %	0.1 %	11.1 %	16.1 %	19.3 %	17.7 %
Adj. ROE	0.1 %	-42.8 %	0.1 %	11.1 %	16.1 %	19.3 %	17.7 %
<b>Balance sheet quality</b>							
Net Debt	-30	-22	-7	8	-26	-89	-152
Net Financial Debt	-175	-165	-202	-184	-220	-285	-350
Net Gearing	-6.7 %	-8.0 %	-3.1 %	3.1 %	-9.0 %	-26.3 %	-38.7 %
Net Fin. Debt / EBITDA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Book Value / Share	26.9	16.8	13.7	15.6	17.3	20.5	23.7
Book value per share ex intangibles	25.5	14.4	11.4	13.3	15.1	18.2	21.5

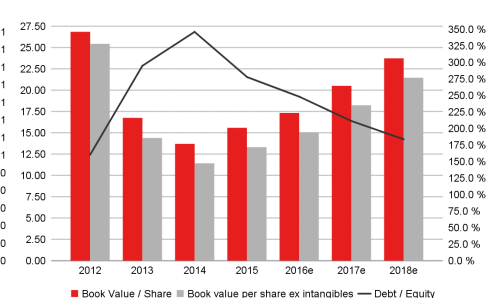
**ROCE Development**



**Net debt in EUR m**



**Book Value per Share in EUR**



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

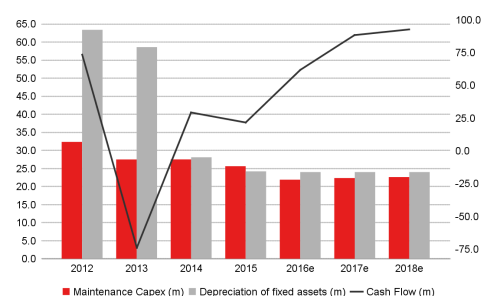
**Consolidated cash flow statement**

In EUR m	2012	2013	2014	2015	2016e	2017e	2018e
Net income	0	-154	0	27	44	60	65
Depreciation of fixed assets	63	59	28	24	24	24	24
Amortisation of goodwill	0	0	0	0	0	0	0
Amortisation of intangible assets	2	1	1	1	1	1	1
Increase/decrease in long-term provisions	29	-3	0	-31	-7	3	3
Other non-cash income and expenses	-21	23	0	0	0	0	0
<b>Cash Flow</b>	<b>74</b>	<b>-74</b>	<b>29</b>	<b>21</b>	<b>62</b>	<b>88</b>	<b>93</b>
Increase / decrease in inventory	5	-10	78	21	5	5	5
Increase / decrease in accounts receivable	76	32	29	5	4	2	2
Increase / decrease in accounts payable	-73	-32	-15	-15	-1	0	0
Increase / decrease in other working capital positions	4	119	-12	-31	2	2	1
Increase / decrease in working capital (total)	11	109	80	-19	10	9	7
<b>Net cash provided by operating activities</b>	<b>83</b>	<b>34</b>	<b>43</b>	<b>-15</b>	<b>71</b>	<b>97</b>	<b>100</b>
Investments in intangible assets	1	6	0	1	1	1	1
Investments in property, plant and equipment	22	18	18	22	21	22	22
Payments for acquisitions	0	9	0	0	0	0	0
Financial investments	1	1	2	2	0	0	0
Income from asset disposals	2	3	4	16	0	0	0
<b>Net cash provided by investing activities</b>	<b>22</b>	<b>31</b>	<b>15</b>	<b>8</b>	<b>22</b>	<b>23</b>	<b>23</b>
Change in financial liabilities	-4	-16	-6	1	0	0	0
Dividends paid	0	-7	0	0	0	-8	-12
Purchase of own shares	0	0	0	0	0	0	0
Capital measures	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
<b>Net cash provided by financing activities</b>	<b>-4</b>	<b>-22</b>	<b>-7</b>	<b>1</b>	<b>0</b>	<b>-8</b>	<b>-12</b>
Change in liquid funds	57	-19	22	-23	49	66	65
Effects of exchange-rate changes on cash	4	-2	0	2	0	0	0
<b>Cash and cash equivalent at end of period</b>	<b>206</b>	<b>185</b>	<b>208</b>	<b>186</b>	<b>236</b>	<b>301</b>	<b>366</b>

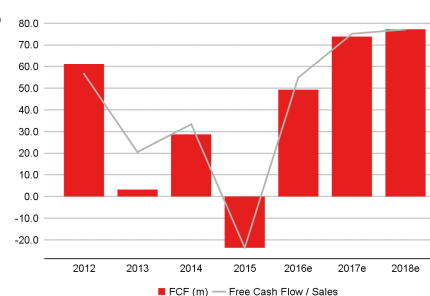
**Financial Ratios**

	2012	2013	2014	2015	2016e	2017e	2018e
<b>Cash Flow</b>							
FCF	61	3	29	-24	49	74	77
Free Cash Flow / Sales	4.7 %	0.9 %	2.3 %	-3.7 %	4.5 %	6.6 %	6.8 %
Free Cash Flow Potential	41	-114	10	33	52	68	72
Free Cash Flow / Net Profit	15175.0 %	-6.6 %	8266.7 %	-140.5 %	112.8 %	122.5 %	119.2 %
Interest Received / Avg. Cash	1.9 %	2.6 %	2.1 %	3.1 %	3.6 %	3.0 %	2.4 %
Interest Paid / Avg. Debt	35.3 %	47.1 %	69.8 %	84.5 %	82.9 %	82.9 %	82.9 %
<b>Management of Funds</b>							
Investment ratio	1.7 %	2.2 %	1.7 %	2.2 %	2.0 %	2.1 %	2.0 %
Maint. Capex / Sales	2.5 %	2.5 %	2.5 %	2.5 %	2.0 %	2.0 %	2.0 %
Capex / Dep	34.8 %	40.3 %	63.2 %	89.3 %	88.0 %	92.0 %	92.0 %
Avg. Working Capital / Sales	28.3 %	31.6 %	28.6 %	27.3 %	24.4 %	23.6 %	22.7 %
Trade Debtors / Trade Creditors	388.3 %	316.1 %	348.2 %	454.2 %	454.2 %	454.2 %	454.2 %
Inventory Turnover	2.9 x	2.6 x	2.9 x	2.9 x	3.0 x	3.0 x	3.1 x
Receivables collection period (days)	72	76	66	69	63	61	60
Payables payment period (days)	25	28	26	21	20	20	20
Cash conversion cycle (Days)	63	71	65	60	58	55	51

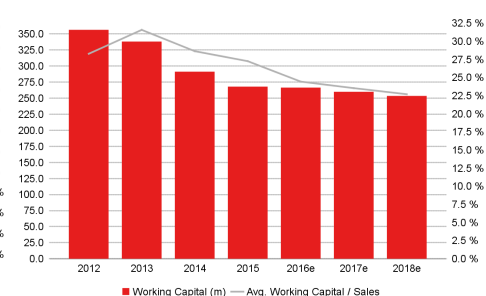
**CAPEX and Cash Flow**  
in EUR m



**Free Cash Flow Generation**



**Working Capital**



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

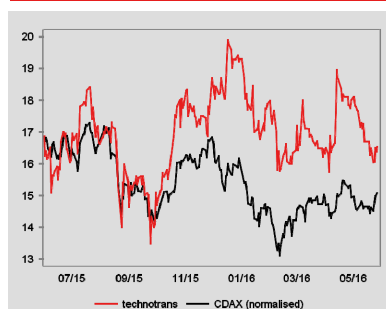
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<b>Buy</b>  <b>EUR 23.10</b> (EUR 22.60)  Price EUR 16.54 <b>Upside 39.7 %</b>	<b>Value Indicators:</b> EUR DCF: 22.97 FCF-Value Potential 17e: 23.21	<b>Share data:</b> Bloomberg: TTR1 GR Reuters: TTRGn ISIN: DE000A0XYGA7	<b>Description:</b> technotrans is a leading supplier of periphery devices for mechanical engineering
	<b>Market Snapshot:</b> EUR m Market cap: 108 No. of shares (m): 7 EV: 92 Freefloat MC: 100 Ø Trad. Vol. (30d): 193.93 th	<b>Shareholders:</b> Freefloat 92.5 % Management 7.5 %	<b>Risk Profile (WRe):</b> 2016e Beta: 1.3 Price / Book: 2.0 x Equity Ratio: 69 %

## Print business expected to grow again in 2016

- Even after outperforming the German market over the last 12 months, we see further upside potential of almost 40% for the stock based on DCF and FCF value potential.
- technotrans is a leading supplier of periphery devices for printing presses. Over the last couple of years, the company has successfully shifted its sophisticated technological know-how to related industries. Meanwhile non-print business accounts for roughly one-third of revenues (print business around two-thirds) and is expected to grow organically to up to 50% of total business medium term.
- In the business with periphery devices for printing presses, technotrans faced declining business for many years. However, 2015 showed an increase of 6.8% and the positive development continued in Q1 2016 with a further increase of around 2%. Drupa fair in Q2 could give this business, including new flexo-graphic projects, another boost at least for the remainder of 2016 or even beyond. technotrans management recently stated that it was expecting an "extremely strong print year" due to product launches at the Drupa fair.
- technotrans is aiming for EUR 150m turnover within the next two years. Management is expecting the EBIT margin to rise to around 10% of sales on turnover of between EUR 140m and 150m due to better economies of scale. Additionally, technotrans is still seeking acquisition targets, mainly in the areas of cooling and filtration.
- We are expecting further growth beyond 2018 driven by the ramp-up of several projects. This includes temperature control and ink supply for a new flexographic machine (presented at Drupa), increasing laser business with customers like Trumpf, Coherent, Bystronic or Rofin-Sinar, rising business with machine tool manufacturers like Gildemeister and Schuler, the ramp-up of high performance airport baggage scanner for Rapiscan and Smith Heymann as well as energy storage, reactive power compensation systems and battery cooling for Siemens.
- The balance sheet is rather strong with an equity ratio exceeding 60% and net cash.
- There start to 2016 was mixed with lower business with the laser industry and decreasing EBIT due to FX losses. However, the overall situation seems to be changing for the better as order intake has meanwhile improved. A positive impact for "non-print" business is expected from strong business with the 3-D industry and a product launch from Trumpf for semi application. Furthermore, airport scanners are developing better than expected due to new regulations while battery cooling is also doing well. Hence, news-flow should improve going forward.
- Valuation looks quite cheap given EV/EBIT of 4.7 and PER of 9.8 based on our 2018 estimates. Hence, the sharp share price correction after release of Q1 figures offers a rather interesting buying opportunity.

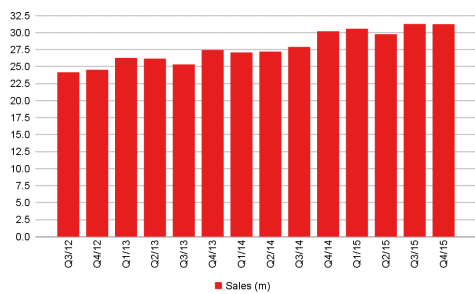


<b>Rel. Performance vs CDAX:</b>	
1 month:	-9.1 %
6 months:	-1.1 %
Year to date:	-8.4 %
Trailing 12 months:	8.2 %

<b>Company events:</b>	
05.08.16	Q2
04.11.16	Q3

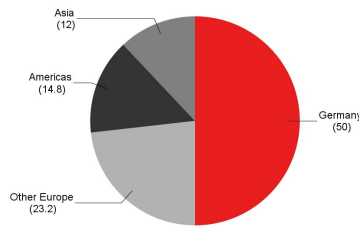
FY End: 31.12. in EUR m	CAGR (15-18e)	2012	2013	2014	2015	2016e	2017e	2018e
<b>Sales</b>	7.8 %	91	105	112	123	132	143	154
Change Sales yoy		-6.8 %	16.0 %	6.8 %	9.3 %	7.3 %	8.7 %	7.4 %
Gross profit margin		34.9 %	31.5 %	33.3 %	33.7 %	34.1 %	33.8 %	34.3 %
<b>EBITDA</b>	15.5 %	8	8	10	12	14	16	19
Margin		9.2 %	7.4 %	8.8 %	9.9 %	10.5 %	11.2 %	12.2 %
<b>EBIT</b>	20.3 %	5	5	7	9	11	13	16
Margin		5.9 %	4.4 %	6.1 %	7.3 %	8.0 %	8.9 %	10.1 %
<b>Net income</b>	19.3 %	3	3	4	6	7	9	11
<b>EPS</b>	19.3 %	0.48	0.46	0.67	0.96	1.09	1.34	1.63
EPS adj.	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>DPS</b>	-	0.12	0.20	0.33	n.a.	0.54	0.67	0.81
Dividend Yield		2.2 %	2.3 %	4.0 %	n.a.	3.3 %	4.1 %	5.0 %
<b>FCFPS</b>		2.02	-0.53	0.74	1.31	1.43	1.65	1.97
<b>FCF / Market cap</b>		26.8 %	0.6 %	10.5 %	8.7 %	8.6 %	10.0 %	12.3 %
<b>EV / Sales</b>		0.3 x	0.5 x	0.4 x	0.7 x	0.7 x	0.6 x	0.5 x
<b>EV / EBITDA</b>		3.2 x	6.9 x	5.0 x	7.1 x	6.6 x	5.3 x	3.9 x
<b>EV / EBIT</b>		4.9 x	11.7 x	7.2 x	9.6 x	8.7 x	6.6 x	4.7 x
<b>P / E</b>		11.5 x	18.5 x	12.4 x	15.6 x	15.1 x	12.4 x	9.8 x
<b>P / E adj.</b>		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>FCF Yield Potential</b>		22.0 %	11.0 %	14.1 %	9.8 %	10.2 %	12.8 %	17.1 %
<b>Net Debt</b>		-9	-2	-5	-12	-18	-25	-33
<b>ROCE (NOPAT)</b>		9.7 %	9.9 %	11.4 %	15.6 %	18.9 %	24.1 %	30.9 %
<b>Guidance:</b>		Turnover EUR 126 - 132m, EBIT margin 7.5 - 8.0%						

**Sales development**  
in EUR m



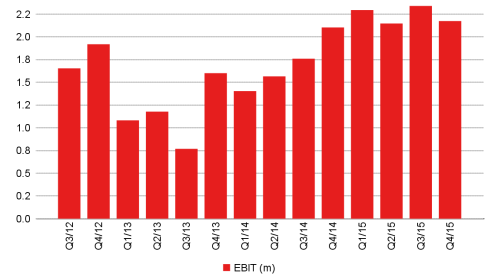
Source: Warburg Research

**Sales by regions**  
2015; in %



Source: Warburg Research

**EBIT development**  
in EUR m



Source: Warburg Research

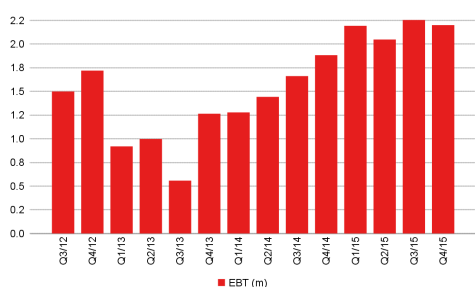
## Company Background

- technotrans, the printing press supplier listed since 1998, is a technology and service company with liquid technology as its core competence.
- Far more than half of revenues are generated in the Technology segment which delivers periphery devices for printing machines and newly addressed markets. The Services segment accounts for the remainder.
- In addition to product-related services for periphery devices, this segment includes the business with documentation and software. Production is located in Germany, The U.S. and China.
- technotrans mainly confines its value creation to development and assembly, thus keeping capital commitment and vertical integration (10-20%, depending on product) low.

## Competitive Quality

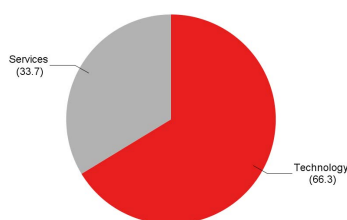
- In the stagnating printing press market which is dominated by a few players, technotrans is pursuing the strategy of gradually expanding the share of technotrans products per printing press.
- The company aims to become market leader for every product and generally strives for a market share of at least 50%. Thus technotrans is able to set standards both technically and in terms of prices.
- In view of the limited growth opportunities in the business with printing press manufacturers, the business with other investment goods manufacturers is to be expanded.
- With the acquisition of Termotek, technotrans gained access to the cooling systems business for high-performance lasers. Business outside the printing press industry should increase to 50% of sales mid term.

**EBT development**  
in EUR m



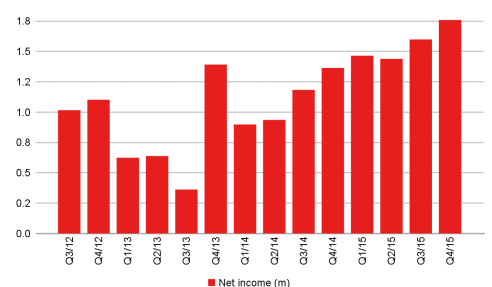
Source: Warburg Research

**Sales by segments**  
2015; in %



Source: Warburg Research

**Net income development**  
in EUR m



Source: Warburg Research

**Back to growth with successful transferral of know-how to new markets****Upside of 40% on a 12-month horizon**

Even after outperforming the German market over the last 12 months, we see further upside potential of some 40% for the stock based on DCF and FCF value potential.

**Sophisticated know-how shifted to “new markets”**

technotrans is a leading supplier of periphery devices for printing presses. Due to limited growth prospects in the printing press business, the company has over the last couple of years shifted its sophisticated technological know-how for temperature control, filtration, cooling lubricant preparation and spray lubrication to so called “new markets”, such as industrial laser, machine tool etc.

**Non-print business already accounts for roughly one-third of revenues**

Meanwhile non-print business accounts for roughly one-third of revenues and is expected to grow organically to up to 50% of total business medium term. This impressive development is mainly driven by business with the laser and machine tool industries. In addition, new products for temperature control, filtration, cooling lubricant preparation and spray lubrication seem to be attracting more and more attention from customers in the areas of medical technology, transportation or security devices. Major projects which could translate into new business relate to flexo-printing, scanners for airports, battery cooling for electricity-driven vehicles, and industrial lasers. In addition to this, there are several minor projects with potential customers. Hence, technotrans' future growth is expected to be mainly generated outside the print business. Success factors include technological know-how, price competitiveness due to economies of scale and a world-wide network.

**Print business started to pick up in 2015 after several years of weakness**

In the business with periphery devices for printing presses, technotrans has faced declining offset business for many years. However, 2015 showed an increase of 6.8% (incl. service) and the positive development continued in Q1 2016 with a further increase of around 2%. The Drupa fair in Q2 could give this business, which includes new flexographic projects, another boost at least for the remainder of 2016 or even beyond. technotrans recently gained market share in the offset and flexographic areas due to a single source contract with Koenig & Bauer. Overall, business with periphery devices for printing presses is expected to remain at least stable medium term.

**Medium-term targets: sales of EUR 150m and 10% EBIT margin**

technotrans is aiming for EUR 150m turnover within the next two years. Management is expecting the EBIT margin to rise to around 10% of sales on turnover of between EUR 140m and 150m due to better economies of scale. In addition to this, technotrans is still seeking acquisition targets (mainly in the areas of cooling and filtration). In the case of a larger acquisition (EV >30-40m) we would not rule out the possibility of the company raising its share capital or placing treasury stock despite a rather strong balance sheet with equity ratio exceeding 60% and net cash.

**2016 estimates in line with guidance**

Our 2016 estimates are in line with the company's guidance. We are expecting the Drupa fair to have a positive impact and a further improvement in business with the laser and machine tool industries.

### Weak start to 2016 due to lower laser business as expected

<i>in € m</i>	Q1 2016	Q1 2015	+/- in %
<b>Turnover</b>			
Technology	20.0	20.7	-3.5%
Service	10.5	9.9	5.7%
<b>Group</b>	<b>30.4</b>	<b>30.6</b>	<b>-0.5%</b>
<b>EBIT</b>			
Technology	0.4	0.6	-33.3%
Margin	1.8%	3.0%	
Service	1.7	1.7	0.0%
Margin	16.3%	16.9%	
<b>Group</b>	<b>2.1</b>	<b>2.3</b>	<b>-10.2%</b>
Margin	6.8%	7.5%	
Net profit	1.5	1.5	-7.8%
EPS (€)	0.22	0.22	-0.6%

technotrans reported somewhat weaker Q1 2016 figures, which was in line with our forecast. Slightly lower Q1 turnover (-0.5%) was due to a decrease in Segment Technology (-3.5%). Here, Print was up by 1.9% driven by a higher market share in sheet-fed and a growing demand for flexo and digital printing while non-print decreased by 10.4% (mainly due to weaker laser business). The Services segment posted growth of 5.7%. EBIT declined by 10.2% compared to Q1 15 mainly due to unrealised FX losses on balance sheet items of EUR 0.2m (FX gains in Q1 15).

#### Again, strong print business expected for 2016

technotrans is expecting an “extremely strong print year” due to product launches at the Drupa fair. Drupa will probably give an extra boost to print sales at least in Q4 (maybe also in Q3) and the beginning of 2017.

#### Development of non-print expected to improve in Q2

There was restrained development in cyclical customer industries due to weaker laser and machine tool in Q1. But the overall situation seems to be changing for the better as order intake has meanwhile improved. A positive impact for “non-print” business is expected from strong business with the 3-D industry and the Trumpf product launch for semi application. Furthermore, airport scanners are developing better than expected due to new regulations and battery cooling is also doing well.

#### Planned Rofin-Sinar takeover could offer opportunities

In the laser business, management sees opportunities in the planned takeover of Rofin-Sinar by Coherent. technotrans is the most important supplier for Coherent while Rofin, as a customer, is only in the ramp-up phase in Europe. technotrans is hoping to gain more Rofin business in the US in future.

#### Management reiterated guidance after Q1, upper end still within reach

technotrans reiterated its FY guidance of sales of EUR 126–132m (WRe 132m) and EBIT margin of 7.5–8.0% (WRe 8.0%). Management stated in the recent conference call that Q2 will definitely be better than Q1. Hence, the higher end of the guidance is still within reach, in our view. However, visibility is somewhat limited this year due to the impact of the Drupa trade fair.

#### Mid-term target of EUR 150m revenues and 10% EBIT margin expected in 2018

We are expecting technotrans to reach its mid-term targets in 2018. The top line will be driven by the expected ramp-up of several projects with (potential) customers. This includes temperature control and ink supply for a new flexographic machine, presented at Drupa, increasing laser business with customers like Trumpf, Coherent, Bystronic or Rofin-Sinar, rising business with machine tool manufacturers like Gildemeister and

Schuler, the ramp-up of high performance airport baggage scanner for Rapiscan and Smith Heymann as well as energy storage, reactive power compensation systems and battery cooling for Siemens.

### Margin improvement expected solely from the Technology division

For Services we have included 6% annual growth until 2018 and 5% and 4% in the subsequent years. The margin in this division is expected to remain more or less stable at around 16.5%. In the Technology division, growth is crucial for margin development due to economies of scale. This division was positive for the first time after the financial crisis in 2014 (turnover EUR 74m, EBIT EUR 0.4m, margin 0.5%) and the margin improved to 2.6% in 2015 on 10.4% higher revenues. When accounting for an average some 22% incremental margin on additional sales for the period 2016 to 2018 and some 15% for the period thereafter, we arrive at a 7.1% margin for the Technology division in 2018 and 8.0% in 2020.

### EPS expected to double by 2020

Based on the expected EBIT development, almost unchanged financial result and tax rate of 30% EPS should double between 2015 and 2020. As the company has defined a pay-out ratio of 50%, this would translate into a dividend of EUR 0.96 for fiscal 2020.

<b>Earnings scenario 2015 - 2020</b>						
<b>Turnover</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Technology	81	88	97	105	112	119
Services	41	44	46	49	52	54
<b>Group</b>	<b>123</b>	<b>132</b>	<b>143</b>	<b>154</b>	<b>164</b>	<b>172</b>
Growth	9.31%	7.33%	8.67%	7.35%	6.36%	5.37%
<b>EBIT</b>						
Technology	2.1	3.2	5.1	7.4	8.4	9.5
Margin	2.6%	3.7%	5.3%	7.1%	7.5%	8.0%
Services	6.9	7.3	7.7	8.2	8.6	8.9
Margin	16.7%	16.6%	16.6%	16.6%	16.6%	16.5%
<b>Group</b>	<b>9.0</b>	<b>10.5</b>	<b>12.8</b>	<b>15.6</b>	<b>17.0</b>	<b>18.4</b>
Margin	7.3%	8.0%	8.9%	10.1%	10.4%	10.7%
Financial result	-0.3	-0.2	-0.1	-0.1	0.0	0.0
<b>PBT</b>	<b>8.7</b>	<b>10.4</b>	<b>12.7</b>	<b>15.5</b>	<b>17.0</b>	<b>18.4</b>
Margin	7.1%	7.9%	8.9%	10.1%	10.4%	10.7%
Taxes	2.5	3.1	3.8	4.7	5.1	5.5
<b>Net result after minorities</b>	<b>6.3</b>	<b>7.1</b>	<b>8.7</b>	<b>10.6</b>	<b>11.6</b>	<b>12.6</b>
<b>EPS</b>	<b>0.96</b>	<b>1.09</b>	<b>1.34</b>	<b>1.63</b>	<b>1.78</b>	<b>1.93</b>

Source: Warburg Research

DCF model

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	
Sales	132	143	154	164	172	179	185	190	196	202	208	214	220	
Sales change	7.3 %	8.7 %	7.4 %	6.4 %	5.4 %	4.0 %	3.0 %	3.0 %	3.0 %	3.0 %	3.0 %	3.0 %	3.0 %	0.5 %
EBIT	11	13	16	17	18	18	18	19	20	20	21	21	22	
EBIT-margin	8.0 %	8.9 %	10.1 %	10.4 %	10.7 %	10.0 %	10.0 %	10.0 %	10.0 %	10.0 %	10.0 %	10.0 %	10.0 %	
Tax rate (EBT)	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	
NOPAT	7	9	11	12	13	13	13	13	14	14	15	15	15	
Depreciation	3	3	3	4	4	4	4	4	5	5	5	5	5	
in % of Sales	2.5 %	2.3 %	2.1 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	
Changes in provisions	0	0	0	0	0	0	0	0	0	0	0	0	0	
Change in Liquidity from														
- Working Capital	2	2	1	3	2	1	1	1	1	1	1	1	1	
- Capex	2	2	2	4	4	4	4	4	5	5	5	5	5	
Capex in % of Sales	1.7 %	1.6 %	1.6 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	2.3 %	
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	
Free Cash Flow (WACC Model)	7	8	10	9	11	11	12	12	13	13	13	14	14	12
PV of FCF	7	7	8	7	8	7	7	7	6	6	6	5	5	53
share of PVs	16.00 %			45.76 %										38.24 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	5.00 %	Financial Strength	1.00
Cost of debt (after tax)	2.8 %	Liquidity (share)	1.50
Market return	7.00 %	Cyclicality	1.50
Risk free rate	1.50 %	Transparency	1.30
		Others	1.30
<b>WACC</b>	<b>8.46 %</b>	<b>Beta</b>	<b>1.32</b>

Valuation (m)

Present values 2028e	86		
Terminal Value	53		
Financial liabilities	8		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	1		
Market val. of investments	0		
Liquidity	20	No. of shares (m)	6.5
<b>Equity Value</b>	<b>150</b>	<b>Value per share (EUR)</b>	<b>22.97</b>

Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth							Beta	WACC	Delta EBIT-margin						
		-0.25 %	0.00 %	0.25 %	0.50 %	0.75 %	1.00 %	1.25 %			-1.5 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+1.5 pp
1.51	9.5 %	20.05	20.21	20.37	20.55	20.73	20.93	21.14	1.51	9.5 %	17.16	18.29	19.42	20.55	21.68	22.81	23.94
1.42	9.0 %	21.10	21.28	21.48	21.69	21.91	22.14	22.39	1.42	9.0 %	18.09	19.29	20.49	21.69	22.89	24.09	25.29
1.37	8.7 %	21.67	21.87	22.08	22.31	22.55	22.81	23.08	1.37	8.7 %	18.59	19.83	21.07	22.31	23.55	24.79	26.03
1.32	8.5 %	22.27	22.49	22.72	22.97	23.23	23.52	23.82	1.32	8.5 %	19.13	20.41	21.69	22.97	24.25	25.53	26.81
1.27	8.2 %	22.90	23.14	23.40	23.67	23.96	24.27	24.60	1.27	8.2 %	19.70	21.02	22.35	23.67	25.00	26.32	27.65
1.22	8.0 %	23.58	23.84	24.12	24.42	24.74	25.08	25.45	1.22	8.0 %	20.30	21.68	23.05	24.42	25.79	27.16	28.54
1.13	7.5 %	25.06	25.37	25.71	26.08	26.47	26.89	27.34	1.13	7.5 %	21.65	23.12	24.60	26.08	27.55	29.03	30.51

- Growth going forward is expected to be generated in new markets such as laser and machine tools
- Improved fix cost coverage could allow for up to 10% operating margin medium term
- The former core business Print should shrink further longer term

**Free Cash Flow Value Potential**

Warburg Research's valuation tool "FCF Value Potential" reflects the ability of the company to generate sustainable free cash flows. It is based on the "FCF potential" - a FCF "ex growth" figure - which assumes unchanged working capital and pure maintenance capex. A value indication is derived via the perpetuity of a given year's "FCF potential" with consideration of the weighted costs of capital. The fluctuating value indications over time add a timing element to the DCF model (our preferred valuation tool).

in EUR m	2012	2013	2014	2015	2016e	2017e	2018e	
Net Income before minorities	3	3	4	6	7	9	11	
+ Depreciation + Amortisation	3	3	3	3	3	3	3	
- Net Interest Income	-1	-1	-1	0	0	0	0	
- Maintenance Capex	1	1	1	1	1	1	2	
+ Other	0	0	0	0	0	0	0	
<b>= Free Cash Flow Potential</b>	<b>6</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>11</b>	<b>13</b>	
Free Cash Flow Yield Potential	22.0 %	11.0 %	14.1 %	9.8 %	10.2 %	12.8 %	17.1 %	
WACC	8.46 %	8.46 %	8.46 %	8.46 %	8.46 %	8.46 %	8.46 %	
<b>= Enterprise Value (EV)</b>	<b>26</b>	<b>54</b>	<b>49</b>	<b>86</b>	<b>92</b>	<b>85</b>	<b>74</b>	
<b>= Fair Enterprise Value</b>	<b>69</b>	<b>71</b>	<b>82</b>	<b>100</b>	<b>111</b>	<b>128</b>	<b>149</b>	
- Net Debt (Cash)	-12	-12	-12	-12	-18	-25	-34	
- Pension Liabilities	0	0	0	0	0	0	0	
- Other	0	0	0	0	0	0	0	
- Market value of minorities	0	0	0	0	2	2	2	
+ Market value of investments	0	0	0	0	0	0	0	
<b>= Fair Market Capitalisation</b>	<b>81</b>	<b>82</b>	<b>93</b>	<b>112</b>	<b>127</b>	<b>151</b>	<b>180</b>	
No. of shares (total) (m)	6	6	7	7	7	7	7	
<b>= Fair value per share (EUR)</b>	<b>12.47</b>	<b>12.67</b>	<b>14.30</b>	<b>17.17</b>	<b>19.48</b>	<b>23.22</b>	<b>27.61</b>	
premium (-) / discount (+) in %					17.8 %	40.4 %	72.0 %	
<b>Sensitivity Fair value per Share (EUR)</b>								
	11.46 %	9.59	9.79	11.03	13.15	15.02	18.05	21.63
	10.46 %	10.34	10.56	11.91	14.23	16.22	19.44	23.24
	9.46 %	11.24	11.48	12.98	15.55	17.68	21.13	25.19
WACC	<b>8.46 %</b>	<b>12.36</b>	<b>12.63</b>	<b>14.30</b>	<b>17.17</b>	<b>19.48</b>	<b>23.21</b>	<b>27.61</b>
	7.46 %	13.78	14.08	15.98	19.23	21.76	25.85	30.67
	6.46 %	15.63	15.98	18.17	21.93	24.75	29.31	34.68
	5.46 %	18.17	18.58	21.17	25.62	28.84	34.04	40.15

▪ We expect FCF value to be driven by higher results going forward

Peer Group										
Company	Price	EV / Sales		EV / EBITDA		EV / EBIT		P / E		EPS CAGR (15-18e)
		16e	17e	16e	17e	16e	17e	16e	17e	
Prices in local currency										
Bobst Group	52.85	0.6	7.5	6.6	10.7	9.3	14.1	12.5	6.6 %	
Heidelberger Druck	2.46	0.4	5.5	4.8	8.5	7.3	11.7	9.5	38.8 %	
Koenig & Bauer	44.16	0.5	6.9	5.6	10.0	7.8	17.3	14.2	26.4 %	
Komori	1,321.00	-	-	-	-	-	-	-	-	
Ryobi	445.00	0.6	4.9	4.7	11.2	10.5	9.5	8.7	-7.0 %	
Average		0.5	6.2	5.4	10.1	8.7	13.2	11.2	16.2 %	
Median		0.5	6.2	5.2	10.4	8.5	12.9	11.0		
<b>technotrans</b>	<b>16.54</b>	<b>0.7</b>	<b>6.6</b>	<b>5.3</b>	<b>8.7</b>	<b>6.6</b>	<b>15.1</b>	<b>12.4</b>		
Valuation difference to median		27.7 %	7.2 %	1.4 %	-15.8 %	-22.3 %	17.0 %	12.8 %		

■ ...

Valuation								
	2012	2013	2014	2015	2016e	2017e	2018e	
Price / Book	0.9 x	1.3 x	1.2 x	1.9 x	2.0 x	1.8 x	1.6 x	
Book value per share ex intangibles	5.58	5.77	6.37	7.11	7.80	8.69	9.75	
EV / Sales	0.3 x	0.5 x	0.4 x	0.7 x	0.7 x	0.6 x	0.5 x	
EV / EBITDA	3.2 x	6.9 x	5.0 x	7.1 x	6.6 x	5.3 x	3.9 x	
EV / EBIT	4.9 x	11.7 x	7.2 x	9.6 x	8.7 x	6.6 x	4.7 x	
EV / EBIT adj.*	4.9 x	11.7 x	7.2 x	9.6 x	8.7 x	6.6 x	4.7 x	
P / FCF	3.7 x	158.8 x	9.5 x	11.5 x	11.6 x	10.0 x	8.2 x	
P / E	11.5 x	18.5 x	12.4 x	15.6 x	15.1 x	12.4 x	9.8 x	
P / E adj.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Dividend Yield	2.2 %	2.3 %	4.0 %	n.a.	3.3 %	4.1 %	5.0 %	
Free Cash Flow Yield Potential	22.0 %	11.0 %	14.1 %	9.8 %	10.2 %	12.8 %	17.1 %	

\*Adjustments made for: -



**Consolidated profit and loss**

In EUR m	2012	2013	2014	2015	2016e	2017e	2018e
<b>Sales</b>	<b>91</b>	<b>105</b>	<b>112</b>	<b>123</b>	<b>132</b>	<b>143</b>	<b>154</b>
Change Sales yoy	-6.8 %	16.0 %	6.8 %	9.3 %	7.3 %	8.7 %	7.4 %
COGS	59	72	75	81	87	95	101
<b>Gross profit</b>	<b>32</b>	<b>33</b>	<b>37</b>	<b>41</b>	<b>45</b>	<b>48</b>	<b>53</b>
Gross margin	34.9 %	31.5 %	33.3 %	33.7 %	34.1 %	33.8 %	34.3 %
Research and development	2	3	3	4	4	4	5
Sales and marketing	13	15	16	17	19	19	20
Administration expenses	11	12	13	13	13	14	14
Other operating expenses	2	1	1	1	1	2	2
Other operating income	2	3	3	3	3	3	4
Unfrequent items	0	0	0	0	0	0	0
<b>EBITDA</b>	<b>8</b>	<b>8</b>	<b>10</b>	<b>12</b>	<b>14</b>	<b>16</b>	<b>19</b>
Margin	9.2 %	7.4 %	8.8 %	9.9 %	10.5 %	11.2 %	12.2 %
Depreciation of fixed assets	2	2	2	2	2	2	2
<b>EBITA</b>	<b>6</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>11</b>	<b>14</b>	<b>16</b>
Amortisation of intangible fixed assets	1	1	1	1	1	1	1
Goodwill amortization	0	0	0	0	0	0	0
<b>EBIT</b>	<b>5</b>	<b>5</b>	<b>7</b>	<b>9</b>	<b>11</b>	<b>13</b>	<b>16</b>
Margin	5.9 %	4.4 %	6.1 %	7.3 %	8.0 %	8.9 %	10.1 %
<b>EBIT adj.</b>	<b>5</b>	<b>5</b>	<b>7</b>	<b>9</b>	<b>11</b>	<b>13</b>	<b>16</b>
Interest income	0	0	0	0	0	0	0
Interest expenses	1	1	1	0	0	0	0
Other financial income (loss)	0	0	0	0	0	0	0
<b>EBT</b>	<b>5</b>	<b>4</b>	<b>6</b>	<b>9</b>	<b>10</b>	<b>13</b>	<b>16</b>
Margin	5.2 %	3.6 %	5.6 %	7.1 %	7.9 %	8.9 %	10.1 %
Total taxes	2	1	2	2	3	4	5
<b>Net income from continuing operations</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>7</b>	<b>9</b>	<b>11</b>
Income from discontinued operations (net of tax)	0	0	0	0	0	0	0
<b>Net income before minorities</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>7</b>	<b>9</b>	<b>11</b>
Minority interest	0	0	0	0	0	0	0
<b>Net income</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>7</b>	<b>9</b>	<b>11</b>
Margin	3.4 %	2.9 %	3.9 %	5.1 %	5.4 %	6.1 %	6.9 %
Number of shares, average	6	6	7	7	7	7	7
<b>EPS</b>	<b>0.48</b>	<b>0.46</b>	<b>0.67</b>	<b>0.96</b>	<b>1.09</b>	<b>1.34</b>	<b>1.63</b>
EPS adj.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

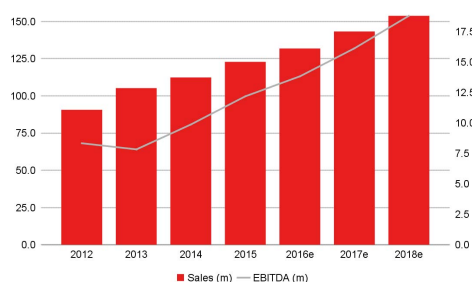
\*Adjustments made for:

**Guidance: Turnover EUR 126 - 132m, EBIT margin 7.5 - 8.0%**

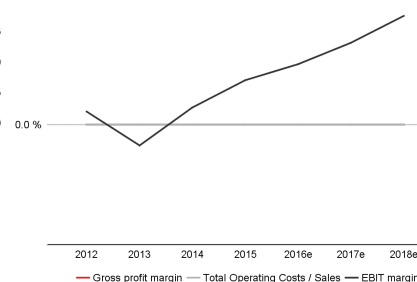
**Financial Ratios**

	2012	2013	2014	2015	2016e	2017e	2018e
Total Operating Costs / Sales	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Operating Leverage	-1.8 x	-0.9 x	7.0 x	3.3 x	2.4 x	2.5 x	3.0 x
EBITDA / Interest expenses	11.5 x	8.5 x	14.7 x	25.1 x	72.8 x	115.1 x	208.9 x
Tax rate (EBT)	33.8 %	21.0 %	29.5 %	28.5 %	30.0 %	30.0 %	30.0 %
Dividend Payout Ratio	25.1 %	44.0 %	48.7 %	n.a.	48.4 %	49.0 %	48.5 %
Sales per Employee	143,000	164,386	145,747	151,652	160,777	172,610	183,093

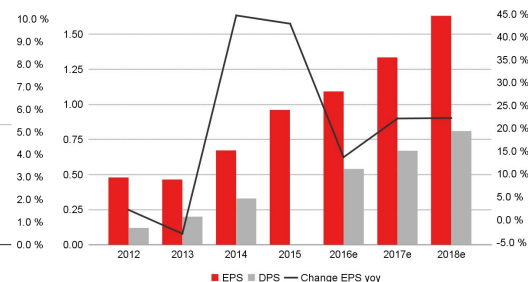
**Sales, EBITDA**  
in EUR m



**Operating Performance**  
in %



**Performance per Share**



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

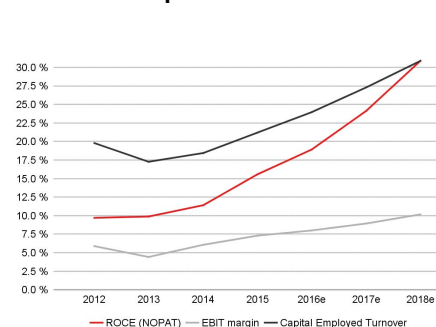
**Consolidated balance sheet**

In EUR m	2012	2013	2014	2015	2016e	2017e	2018e
<b>Assets</b>							
Goodwill and other intangible assets	5	5	5	4	4	4	3
thereof other intangible assets	2	5	4	3	3	2	1
thereof Goodwill	3	6	6	6	6	6	6
Property, plant and equipment	14	16	15	14	13	12	12
Financial assets	0	0	0	0	0	0	0
Other long-term assets	4	9	8	7	5	3	1
<b>Fixed assets</b>	<b>23</b>	<b>30</b>	<b>27</b>	<b>25</b>	<b>22</b>	<b>19</b>	<b>17</b>
Inventories	13	14	15	18	19	20	21
Accounts receivable	9	10	13	12	12	13	14
Liquid assets	19	17	17	20	26	33	42
Other short-term assets	1	1	2	2	2	2	2
<b>Current assets</b>	<b>42</b>	<b>43</b>	<b>47</b>	<b>51</b>	<b>59</b>	<b>69</b>	<b>79</b>
<b>Total Assets</b>	<b>65</b>	<b>73</b>	<b>75</b>	<b>76</b>	<b>81</b>	<b>88</b>	<b>95</b>
<b>Liabilities and shareholders' equity</b>							
Subscribed capital	7	7	7	7	7	7	7
Capital reserve	43	45	47	49	49	49	49
Retained earnings	-9	-9	-7	-5	-1	4	11
Other equity components	0	0	0	0	0	0	0
Shareholders' equity	41	43	46	51	55	60	67
Minority interest	0	1	1	1	1	1	1
<b>Total equity</b>	<b>41</b>	<b>44</b>	<b>47</b>	<b>52</b>	<b>56</b>	<b>61</b>	<b>68</b>
Provisions	6	5	6	7	7	8	8
thereof provisions for pensions and similar obligations	0	0	0	0	0	0	0
Financial liabilities (total)	9	15	12	8	8	8	8
thereof short-term financial liabilities	3	3	3	3	3	3	3
Accounts payable	2	3	3	2	3	3	3
Other liabilities	7	6	6	7	8	8	9
<b>Liabilities</b>	<b>24</b>	<b>29</b>	<b>27</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>
<b>Total liabilities and shareholders' equity</b>	<b>65</b>	<b>73</b>	<b>75</b>	<b>76</b>	<b>81</b>	<b>88</b>	<b>95</b>

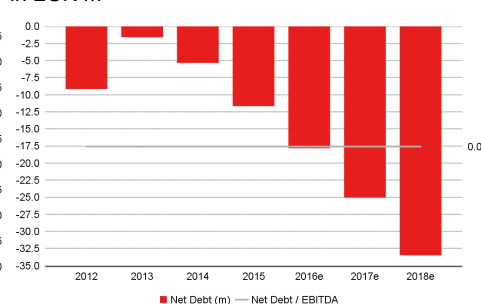
**Financial Ratios**

	2012	2013	2014	2015	2016e	2017e	2018e
<b>Efficiency of Capital Employment</b>							
Operating Assets Turnover	2.8 x	2.9 x	2.9 x	3.3 x	3.5 x	3.7 x	3.8 x
Capital Employed Turnover	2.9 x	2.5 x	2.7 x	3.1 x	3.5 x	3.9 x	4.5 x
ROA	13.6 %	9.9 %	16.0 %	24.6 %	32.0 %	45.1 %	64.1 %
<b>Return on Capital</b>							
ROCE (NOPAT)	9.7 %	9.9 %	11.4 %	15.6 %	18.9 %	24.1 %	30.9 %
ROE	7.9 %	7.2 %	9.8 %	12.9 %	13.5 %	15.1 %	16.7 %
Adj. ROE	7.9 %	7.2 %	9.8 %	12.9 %	13.5 %	15.1 %	16.7 %
<b>Balance sheet quality</b>							
Net Debt	-9	-2	-5	-12	-18	-25	-33
Net Financial Debt	-9	-2	-6	-12	-18	-25	-34
Net Gearing	-22.4 %	-3.6 %	-11.3 %	-22.6 %	-31.9 %	-40.8 %	-49.3 %
Net Fin. Debt / EBITDA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Book Value / Share	6.3	6.6	7.1	7.8	8.4	9.3	10.3
Book value per share ex intangibles	5.6	5.8	6.4	7.1	7.8	8.7	9.8

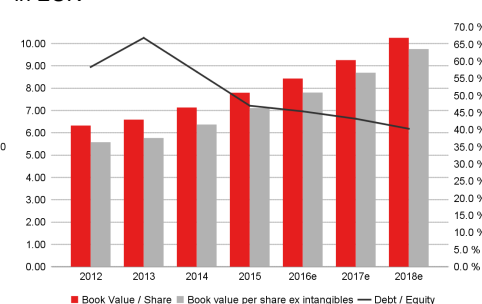
**ROCE Development**



**Net debt in EUR m**



**Book Value per Share in EUR**



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

**Consolidated cash flow statement**

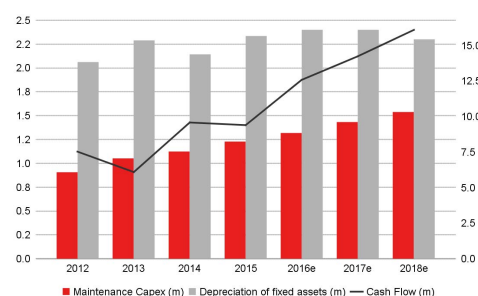
In EUR m	2012	2013	2014	2015	2016e	2017e	2018e
Net income	3	3	4	6	7	9	11
Depreciation of fixed assets	2	2	2	2	2	2	2
Amortisation of goodwill	0	0	0	0	0	0	0
Amortisation of intangible assets	1	1	1	1	1	1	1
Increase/decrease in long-term provisions	0	0	0	0	0	0	0
Other non-cash income and expenses	1	0	2	0	2	2	2
<b>Cash Flow</b>	<b>8</b>	<b>6</b>	<b>10</b>	<b>9</b>	<b>13</b>	<b>14</b>	<b>16</b>
Increase / decrease in inventory	1	1	-1	-2	-1	-1	-1
Increase / decrease in accounts receivable	2	0	-3	2	-1	-1	-1
Increase / decrease in accounts payable	0	-4	0	1	0	0	0
Increase / decrease in other working capital positions	1	-1	1	0	1	1	0
Increase / decrease in working capital (total)	3	-3	-2	1	-1	-1	-1
<b>Net cash provided by operating activities</b>	<b>11</b>	<b>3</b>	<b>7</b>	<b>10</b>	<b>12</b>	<b>13</b>	<b>15</b>
Investments in intangible assets	1	1	1	0	1	1	1
Investments in property, plant and equipment	1	1	1	1	2	2	2
Payments for acquisitions	1	4	1	0	0	0	0
Financial investments	0	0	0	0	0	0	0
Income from asset disposals	4	0	0	0	0	0	0
<b>Net cash provided by investing activities</b>	<b>-2</b>	<b>6</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
Change in financial liabilities	-7	2	-3	-4	0	0	0
Dividends paid	0	1	1	2	3	4	4
Purchase of own shares	0	0	0	0	0	0	0
Capital measures	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
<b>Net cash provided by financing activities</b>	<b>-7</b>	<b>2</b>	<b>-5</b>	<b>-6</b>	<b>-3</b>	<b>-4</b>	<b>-4</b>
Change in liquid funds	6	-2	0	2	6	7	8
Effects of exchange-rate changes on cash	0	0	0	0	0	0	0
<b>Cash and cash equivalent at end of period</b>	<b>19</b>	<b>17</b>	<b>17</b>	<b>20</b>	<b>26</b>	<b>33</b>	<b>42</b>

**Financial Ratios**

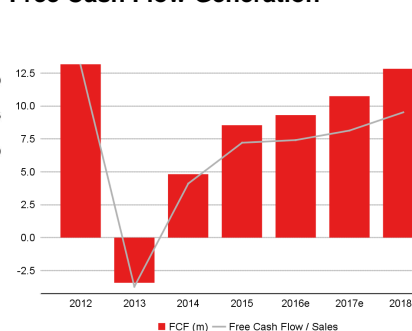
	2012	2013	2014	2015	2016e	2017e	2018e
<b>Cash Flow</b>							
FCF	13	-3	5	9	9	11	13
Free Cash Flow / Sales	10.5 %	0.3 %	5.1 %	7.0 %	7.1 %	7.5 %	8.3 %
Free Cash Flow Potential	6	6	7	8	9	11	13
Free Cash Flow / Net Profit	308.7 %	11.6 %	129.8 %	136.4 %	130.8 %	123.5 %	120.7 %
Interest Received / Avg. Cash	0.3 %	0.2 %	0.6 %	1.2 %	0.2 %	0.1 %	0.1 %
Interest Paid / Avg. Debt	5.6 %	7.6 %	5.0 %	4.9 %	2.4 %	1.7 %	1.1 %
<b>Management of Funds</b>							
Investment ratio	1.6 %	2.2 %	1.3 %	1.4 %	1.7 %	1.6 %	1.6 %
Maint. Capex / Sales	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %
Capex / Dep	48.2 %	73.4 %	47.2 %	52.1 %	66.7 %	69.7 %	75.0 %
Avg. Working Capital / Sales	20.7 %	18.2 %	19.7 %	19.1 %	18.3 %	18.0 %	17.8 %
Trade Debtors / Trade Creditors	403.9 %	384.9 %	490.7 %	474.8 %	474.8 %	474.8 %	474.8 %
Inventory Turnover	4.4 x	5.0 x	4.9 x	4.6 x	4.6 x	4.7 x	4.8 x
Receivables collection period (days)	35	35	42	34	34	34	33
Payables payment period (days)	13	13	13	11	11	11	11
Cash conversion cycle (Days)	64	60	61	60	60	59	58

**CAPEX and Cash Flow**

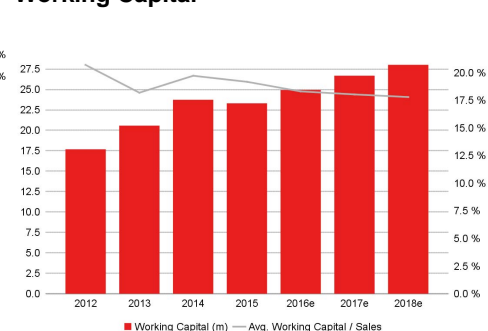
in EUR m



**Free Cash Flow Generation**



**Working Capital**



Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

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<b>Buy</b>  <b>EUR 30.00</b>  Price <b>EUR 22.92</b> <b>Upside 30.9 %</b>	<b>Value Indicators:</b> EUR DCF: 30.10 FCF-Value Potential 17e: 29.00	<b>Share data:</b> Bloomberg: HNL GR Reuters: HNLG ISIN: DE0005157101	<b>Description:</b> Leading supplier of UV and IR radiation systems, quartz glass and adhesives.
	<b>Market Snapshot:</b> EUR m Market cap: 126.3 No. of shares (m): 5.5 EV: 131.1 Freefloat MC: 112.9 Ø Trad. Vol. (30d): 76.44 th	<b>Shareholders:</b> Freefloat 89.4 % J. Vits 6.6 % Prof. Höhle 4.0 % <i>Monolith</i> 8.3 % LOYS AG 6.6 %	<b>Risk Profile (WRe):</b> 2015/16e Beta: 1.3 Price / Book: 2.0 x Equity Ratio: 65 % Net Debt / EBITDA: 0.2 x

## On track to return to >15% EBIT margins

Dr. Höhle has 40 years of experience in its core business, the development and manufacturing of UV-based equipment for mostly industrial applications. Over the years, it has become **one of the world's leading suppliers of industrial UV technology**. Target markets include printing, automotive, aerospace, medicine, electronics and other industries. Besides its growth in the UV business, the company has expanded in adjacent areas via acquisitions. Today, about two-thirds of sales are generated by companies acquired in the past decade.

Today, the **company has three pillars. The systems and equipment business represents the largest part** with a revenue share of ~ 55%. In this area, the main application is UV curing in a variety of applications. The printing industry is an important target market. Dr. Höhle supplies drying systems e.g. for offset, flexo and inkjet applications. Both UV technologies and inkjet are gaining market share. This is why Dr. Höhle is still increasing its revenues in an otherwise stagnant market. This is supported by the introduction of new products, e.g. LED-based UV technologies, which helps the company gain market share as it was a first mover in introducing LED-based products and still has a lead here.

The **Glass + Lamps division** (~ 20% of group sales), where Höhle produces UV + IR lamps and quartz glass for internal and external use, was the problem child of the past years, as an acquired company (Raesch) was losing revenue and experienced technical issues which burdened profitability. Thankfully, the issues have finally been resolved and this area should contribute positively to group earnings again in future. In fact, the turnaround is imminent as losses in H1 should turn into positive earnings contributions in H2. Here, the company's growth opportunities lie in gaining market share as a small player in an oligopolistic quartz glass market and in new applications such as the UV-based disinfection of ballast water, where the company cooperates with more than one global customer and the IMO ballast water convention is close to ratification.

In contrast, Dr. Höhle's **adhesives business** (20-25% of group sales) has shown a stellar performance since the acquisition in FY 2007/08. Sales increased by ~10% p.a. organically on average, mostly driven by new customers / applications, and EBIT margins doubled to an impressive ~25% in the last FY. With weakness in smartphone applications making its mark in the current FY, this business is expected to return to growth in the next FY. Generally, new applications (e.g. medical) remain a growth driver in addition to entering new regional markets (e.g. a Korean joint venture with SKC has just been established, which should contribute to future growth).

Established customer relationships represent a barrier to entry. The company's products seldom account for more than 5% of a customer's bill of materials, which lowers the motivation to switch suppliers. The competitive structure is characterised by a high number of smaller, mainly regionally active suppliers and just a handful of larger companies, which results in moderate competitive intensity within the individual segments. The customer structure is largely fragmented with the exception of two larger printing accounts. Hence, customers' negotiating power is rather limited.

Higher growth in high-margin segments, the implementation of improvements at Raesch and better cost leverage should **support the return to ~15% EBIT margins**, which have not been reached in recent years. The **PT of EUR 30** is based on a DCF model.

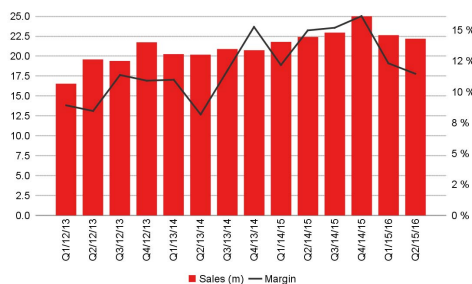


<b>Rel. Performance vs CDAX:</b>	
1 month:	-1.3 %
6 months:	-6.8 %
Year to date:	-4.3 %
Trailing 12 months:	9.0 %

<b>Company events:</b>	
19.08.16	Q3

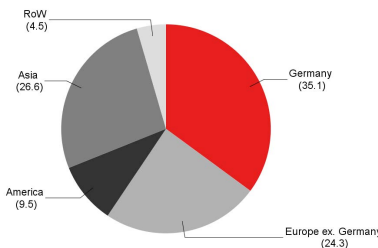
FY End: 30.9. in EUR m	CAGR (14/15-16/17e)	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e
<b>Sales</b>	5.6 %	67.9	72.1	77.3	82.1	92.2	95.0	102.8
Change Sales yoy		24.3 %	6.2 %	7.2 %	6.2 %	12.3 %	3.0 %	8.2 %
Gross profit margin		59.7 %	63.2 %	62.7 %	64.0 %	64.0 %	64.0 %	64.2 %
<b>EBITDA</b>	8.9 %	12.8	10.7	10.2	12.0	16.2	16.1	19.2
Margin		18.8 %	14.8 %	13.2 %	14.7 %	17.5 %	16.9 %	18.7 %
<b>EBIT</b>	10.1 %	11.3	8.3	7.7	9.5	13.5	13.5	16.4
Margin		16.6 %	11.5 %	10.0 %	11.6 %	14.7 %	14.2 %	16.0 %
<b>Net income</b>	4.6 %	6.9	5.0	6.6	6.3	10.1	9.0	11.1
<b>EPS</b>	4.5 %	1.30	0.93	1.20	1.13	1.84	1.63	2.01
<b>EPS adj.</b>	9.1 %	1.30	0.93	0.93	1.13	1.69	1.63	2.01
<b>DPS</b>	8.7 %	0.50	0.50	0.50	0.50	0.55	0.60	0.65
Dividend Yield		4.9 %	5.0 %	4.2 %	3.5 %	2.7 %	2.6 %	2.8 %
<b>FCFPS</b>		1.63	0.27	0.50	0.99	1.24	1.55	1.63
<b>FCF / Market cap</b>		16.0 %	2.7 %	4.2 %	6.9 %	6.0 %	6.8 %	7.1 %
<b>EV / Sales</b>		n.a.	0.8 x	1.0 x	1.1 x	1.4 x	1.4 x	1.2 x
<b>EV / EBITDA</b>		n.a.	5.2 x	7.3 x	7.7 x	7.8 x	8.1 x	6.5 x
<b>EV / EBIT</b>		n.a.	6.7 x	9.8 x	9.8 x	9.3 x	9.7 x	7.6 x
<b>P / E</b>		7.8 x	10.8 x	9.8 x	12.6 x	11.2 x	14.1 x	11.4 x
<b>P / E adj.</b>		7.8 x	10.8 x	12.7 x	12.6 x	12.2 x	14.1 x	11.4 x
<b>FCF Yield Potential</b>		n.a.	13.8 %	8.3 %	8.2 %	8.3 %	8.1 %	10.3 %
<b>Net Debt</b>		-9.3	-1.9	6.8	11.6	8.2	2.7	-3.0
<b>ROCE (NOPAT)</b>		28.2 %	16.7 %	12.4 %	11.9 %	15.7 %	14.6 %	17.5 %
<b>Guidance:</b>	2015/16: Revenues + EBIT at last year's level							

**Sales development**  
in EUR m



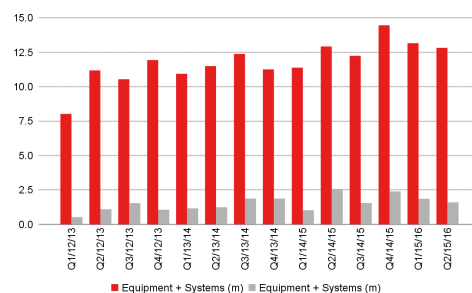
Source: Warburg Research

**Sales by regions**  
2015; in %



Source: Warburg Research

**Development Equipment + Systems**  
in EUR m



Source: Warburg Research

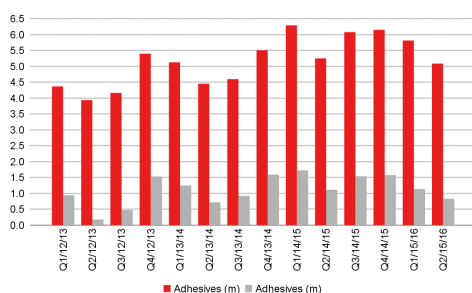
**Company Background**

- Despite annual revenues of just EUR 90m, Dr. Hönle is among the world's largest and leading suppliers of UV technology, which is a fragmented market. Dr. Hönle currently employs about 500 people.
- In the recent past, the company has greatly expanded its business activity through acquisitions. As well as the core business, it has strengthened non-core areas like UV-adhesives or quartz glass.
- UV technology is used in a wide number of industrial applications. The most important areas of application are paint and lacquer drying, adhesives, and coating and laminating procedures.
- As the important customers from the printing industry are located in Germany, a significant share of revenues is generated here.
- The customer structure is largely fragmented with the exception of the largest customer manroland, an important consumer of drying systems for sheetfed offset printing machines.

**Competitive Quality**

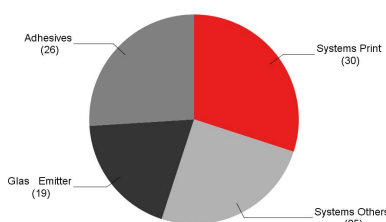
- The competitive structure is characterised by a high number of smaller mainly regionally-active suppliers and just a handful of larger companies.
- Competitors of a comparable size normally serve only part of the market segments, resulting in a comparatively moderate competitive intensity within the individual segments.
- Established customer relationships present a significant barrier to market entry. UV components seldom account for more than 5-10% of the material costs, which lowers customers' motivation to switch supplier.
- With high vertical integration, Dr. Hönle generates a large part of the value creation in the company.
- This allows the company to achieve higher margins and higher cash flows. The strong competitive quality is expressed in an ROCE of >15%.

**Development Adhesives**  
in EUR m



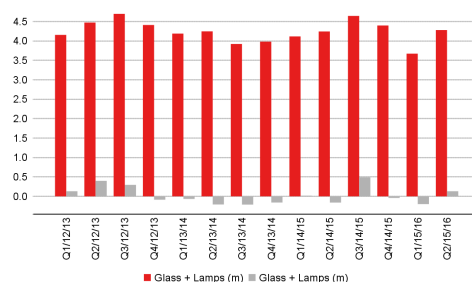
Source: Warburg Research

**Sales by segments**  
2015; in %



Source: Warburg Research

**Development Glass + Lamps**  
in EUR m



Source: Warburg Research

### Recent developments

In Q2, profitability declined as expected yoy as the company benefitted from some positive one-off effects in Q2 last year. More importantly, the reporting confirmed that the quality problems at Raesch have finally been resolved. This should not only lead to a remarkable improvement in profitability from H2 onwards but also enables the company to generate stronger sales contributions with higher-margin products in future, which underpins the expectation of a return to a >15% EBIT margin.

**DCF model**

Figures in EUR m	Detailed forecast period			Transitional period										Term. Value
	15/16e	16/17e	17/18e	18/19e	19/20e	20/21e	21/22e	22/23e	23/24e	24/25e	25/26e	26/27e	27/28e	
Sales	95.0	102.8	109.2	114.6	119.2	122.8	125.2	127.7	130.3	132.9	135.5	138.3	140.3	
Sales change	3.0 %	8.2 %	6.2 %	5.0 %	4.0 %	3.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	1.5 %	1.5 %
EBIT	13.5	16.4	18.0	18.3	19.1	19.6	20.0	20.4	20.8	21.3	21.7	22.1	22.5	
EBIT-margin	14.2 %	16.0 %	16.5 %	16.0 %	16.0 %	16.0 %	16.0 %	16.0 %	16.0 %	16.0 %	16.0 %	16.0 %	16.0 %	
Tax rate (EBT)	28.5 %	28.5 %	28.5 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	30.0 %	
NOPAT	9.6	11.7	12.9	12.8	13.3	13.7	14.0	14.3	14.6	14.9	15.2	15.5	15.7	
Depreciation	2.6	2.8	2.8	3.0	3.0	3.1	3.1	3.2	3.3	3.3	3.4	3.5	3.5	
in % of Sales	2.8 %	2.7 %	2.6 %	2.6 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	2.5 %	
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	0.3	2.0	1.6	0.9	0.9	0.5	0.8	0.8	0.8	0.8	0.9	0.9	0.7	
- Capex	2.8	2.9	2.9	3.5	3.4	3.4	3.3	3.4	3.5	3.5	3.6	3.7	3.7	
Capex in % of Sales	2.9 %	2.8 %	2.6 %	3.0 %	2.8 %	2.8 %	2.7 %	2.7 %	2.7 %	2.7 %	2.7 %	2.7 %	2.6 %	
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)	9.2	9.7	11.3	11.4	12.0	12.9	13.0	13.3	13.6	13.8	14.1	14.4	14.9	15
PV of FCF	8.6	8.4	9.0	8.4	8.2	8.2	7.6	7.2	6.8	6.4	6.0	5.7	5.5	83
share of PVs	14.47 %			39.05 %										46.48 %

**Model parameter**

Derivation of WACC:		Derivation of Beta:	
Debt ratio	10.00 %	Financial Strength	1.25
Cost of debt (after tax)	3.5 %	Liquidity (share)	1.50
Market return	7.00 %	Cyclicality	1.35
Risk free rate	1.50 %	Transparency	1.20
		Others	1.20
<b>WACC</b>	<b>8.14 %</b>	<b>Beta</b>	<b>1.30</b>

**Valuation (m)**

Present values 2027/28e	96		
Terminal Value	83		
Financial liabilities	11		
Pension liabilities	5		
Hybrid capital	0		
Minority interest	3		
Market val. of investments	-2		
Liquidity	7	No. of shares (m)	5.5
<b>Equity Value</b>	<b>166</b>	<b>Value per share (EUR)</b>	<b>30.12</b>

**Sensitivity Value per Share (EUR)**

Beta	WACC	Terminal Growth							Beta	WACC	Delta EBIT-margin						
		0.75 %	1.00 %	1.25 %	1.50 %	1.75 %	2.00 %	2.25 %			-1.5 pp	-1.0 pp	-0.5 pp	+0.0 pp	+0.5 pp	+1.0 pp	+1.5 pp
1.50	9.1 %	24.66	24.99	25.33	25.70	26.10	26.52	26.98	1.50	9.1 %	22.84	23.79	24.75	25.70	26.66	27.61	28.57
1.40	8.6 %	26.49	26.89	27.31	27.76	28.24	28.76	29.31	1.40	8.6 %	24.68	25.71	26.73	27.76	28.78	29.80	30.83
1.35	8.4 %	27.50	27.94	28.40	28.89	29.43	30.00	30.63	1.35	8.4 %	25.71	26.77	27.83	28.89	29.96	31.02	32.08
1.30	8.1 %	28.58	29.06	29.57	30.12	30.71	31.35	32.05	1.30	8.1 %	26.81	27.92	29.02	30.12	31.22	32.32	33.43
1.25	7.9 %	29.74	30.27	30.83	31.44	32.10	32.82	33.60	1.25	7.9 %	28.00	29.15	30.30	31.44	32.59	33.73	34.88
1.20	7.6 %	30.98	31.56	32.19	32.87	33.61	34.42	35.29	1.20	7.6 %	29.29	30.49	31.68	32.87	34.07	35.26	36.45
1.10	7.1 %	33.76	34.48	35.27	36.12	37.05	38.08	39.20	1.10	7.1 %	32.22	33.52	34.82	36.12	37.42	38.72	40.02

- Turn around of Raesch triggers rising EBIT margins from 14/15 onwards
- Sustainable EBIT margin of 16% anticipated



### Free Cash Flow Value Potential

Warburg Research's valuation tool "FCF Value Potential" reflects the ability of the company to generate sustainable free cash flows. It is based on the "FCF potential" - a FCF "ex growth" figure - which assumes unchanged working capital and pure maintenance capex. A value indication is derived via the perpetuity of a given year's "FCF potential" with consideration of the weighted costs of capital. The fluctuating value indications over time add a timing element to the DCF model (our preferred valuation tool).

in EUR m	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e	
Net Income before minorities	n.a.	5.5	6.7	6.5	10.3	9.2	11.3	
+ Depreciation + Amortisation	n.a.	2.4	2.5	2.6	2.6	2.6	2.8	
- Net Interest Income	n.a.	-0.6	0.9	-0.5	0.5	-0.6	-0.6	
- Maintenance Capex	n.a.	1.1	1.5	1.6	1.7	1.8	1.9	
+ Other	n.a.	0.3	-0.6	-0.4	-0.4	0.0	0.0	
<b>= Free Cash Flow Potential</b>	<b>n.a.</b>	<b>7.6</b>	<b>6.2</b>	<b>7.6</b>	<b>10.4</b>	<b>10.6</b>	<b>12.8</b>	
Free Cash Flow Yield Potential	n/a	13.8 %	8.3 %	8.2 %	8.3 %	8.1 %	10.3 %	
WACC	8.14 %	8.14 %	8.14 %	8.14 %	8.14 %	8.14 %	8.14 %	
<b>= Enterprise Value (EV)</b>	<b>n.a.</b>	<b>55.4</b>	<b>75.1</b>	<b>93.2</b>	<b>125.3</b>	<b>131.1</b>	<b>124.2</b>	
<b>= Fair Enterprise Value</b>	<b>n.a.</b>	<b>93.9</b>	<b>76.3</b>	<b>93.4</b>	<b>128.0</b>	<b>130.4</b>	<b>157.4</b>	
- Net Debt (Cash)	n.a.	3.6	3.6	3.6	3.6	-1.9	-7.6	
- Pension Liabilities	n.a.	4.6	4.6	4.6	4.6	4.6	4.6	
- Other	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	
- Market value of minorities	n.a.	3.3	3.3	3.3	3.3	2.1	0.9	
+ Market value of investments	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	
<b>= Fair Market Capitalisation</b>	<b>n.a.</b>	<b>82.5</b>	<b>64.9</b>	<b>82.0</b>	<b>116.5</b>	<b>125.6</b>	<b>159.6</b>	
No. of shares (total) (m)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
<b>= Fair value per share (EUR)</b>	<b>n.a.</b>	<b>14.96</b>	<b>11.77</b>	<b>14.87</b>	<b>21.13</b>	<b>22.79</b>	<b>28.95</b>	
premium (-) / discount (+) in %						-0.6 %	26.3 %	
<b>Sensitivity Fair value per Share (EUR)</b>								
	11.14 %	n.a.	10.37	8.04	10.31	14.88	16.41	21.25
	10.14 %	n.a.	11.60	9.04	11.53	16.55	18.12	23.31
	9.14 %	n.a.	13.10	10.25	13.02	18.59	20.20	25.82
WACC	<b>8.14 %</b>	<b>n.a.</b>	<b>14.96</b>	<b>11.77</b>	<b>14.87</b>	<b>21.13</b>	<b>22.79</b>	<b>28.95</b>
	7.14 %	n.a.	17.35	13.71	17.25	24.39	26.10	32.95
	6.14 %	n.a.	20.52	16.28	20.40	28.70	30.49	38.26
	5.14 %	n.a.	24.92	19.86	24.78	34.69	36.60	45.63

▪ Rising value indication triggered by margin expansion

<b>Valuation</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16e</b>	<b>2016/17e</b>
Price / Book	1.5 x	1.3 x	1.4 x	1.6 x	2.0 x	2.0 x	1.8 x
Book value per share ex intangibles	5.07	3.82	4.21	4.62	6.16	7.44	9.05
EV / Sales	n.a.	0.8 x	1.0 x	1.1 x	1.4 x	1.4 x	1.2 x
EV / EBITDA	n.a.	5.2 x	7.3 x	7.7 x	7.8 x	8.1 x	6.5 x
EV / EBIT	n.a.	6.7 x	9.8 x	9.8 x	9.3 x	9.7 x	7.6 x
EV / EBIT adj.*	n.a.	6.7 x	9.8 x	9.8 x	9.5 x	9.7 x	7.6 x
P / FCF	6.3 x	37.7 x	23.5 x	14.4 x	16.6 x	14.8 x	14.0 x
P / E	7.8 x	10.8 x	9.8 x	12.6 x	11.2 x	14.1 x	11.4 x
P / E adj.*	7.8 x	10.8 x	12.7 x	12.6 x	12.2 x	14.1 x	11.4 x
Dividend Yield	4.9 %	5.0 %	4.2 %	3.5 %	2.7 %	2.6 %	2.8 %
Free Cash Flow Yield Potential	n.a.	13.8 %	8.3 %	8.2 %	8.3 %	8.1 %	10.3 %
*Adjustments made for: -							

**Consolidated profit & loss**

In EUR m	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e
<b>Sales</b>	<b>67.9</b>	<b>72.1</b>	<b>77.3</b>	<b>82.1</b>	<b>92.2</b>	<b>95.0</b>	<b>102.8</b>
Change Sales yoy	24.3 %	6.2 %	7.2 %	6.2 %	12.3 %	3.0 %	8.2 %
Increase / decrease in inventory	0.7	0.2	1.4	1.6	0.1	0.0	0.0
Own work capitalised	0.0	0.0	0.0	0.1	0.3	0.1	0.1
<b>Total Sales</b>	<b>68.5</b>	<b>72.3</b>	<b>78.6</b>	<b>83.8</b>	<b>92.5</b>	<b>95.1</b>	<b>102.9</b>
Material Expenses	28.0	26.8	30.2	31.3	33.5	34.3	36.9
<b>Gross profit</b>	<b>40.6</b>	<b>45.5</b>	<b>48.4</b>	<b>52.6</b>	<b>59.0</b>	<b>60.8</b>	<b>66.0</b>
<i>Gross profit margin</i>	<i>59.7 %</i>	<i>63.2 %</i>	<i>62.7 %</i>	<i>64.0 %</i>	<i>64.0 %</i>	<i>64.0 %</i>	<i>64.2 %</i>
Personnel expenses	20.3	22.8	25.9	27.9	29.4	31.1	32.3
Other operating income	4.8	2.7	2.7	1.6	1.7	1.1	1.3
Other operating expenses	12.2	14.9	15.0	14.2	15.1	14.6	15.8
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBITDA</b>	<b>12.8</b>	<b>10.7</b>	<b>10.2</b>	<b>12.0</b>	<b>16.2</b>	<b>16.1</b>	<b>19.2</b>
<i>Margin</i>	<i>18.8 %</i>	<i>14.8 %</i>	<i>13.2 %</i>	<i>14.7 %</i>	<i>17.5 %</i>	<i>16.9 %</i>	<i>18.7 %</i>
Depreciation of fixed assets	0.9	1.7	1.8	1.9	2.0	1.9	2.0
<b>EBITA</b>	<b>11.8</b>	<b>9.0</b>	<b>8.4</b>	<b>10.1</b>	<b>14.1</b>	<b>14.2</b>	<b>17.2</b>
Amortisation of intangible assets	0.5	0.7	0.7	0.7	0.6	0.7	0.8
Goodwill amortization	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>EBIT</b>	<b>11.3</b>	<b>8.3</b>	<b>7.7</b>	<b>9.5</b>	<b>13.5</b>	<b>13.5</b>	<b>16.4</b>
<i>Margin</i>	<i>16.6 %</i>	<i>11.5 %</i>	<i>10.0 %</i>	<i>11.6 %</i>	<i>14.7 %</i>	<i>14.2 %</i>	<i>16.0 %</i>
<b>EBIT adj.</b>	<b>11.3</b>	<b>8.3</b>	<b>7.7</b>	<b>9.5</b>	<b>13.2</b>	<b>13.5</b>	<b>16.4</b>
Interest income	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Interest expenses	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Other financial income (loss)	0.0	0.0	1.5	0.0	1.1	0.0	0.0
<b>EBT</b>	<b>10.8</b>	<b>7.7</b>	<b>8.6</b>	<b>9.0</b>	<b>14.0</b>	<b>12.9</b>	<b>15.9</b>
<i>Margin</i>	<i>15.9 %</i>	<i>10.7 %</i>	<i>11.2 %</i>	<i>10.9 %</i>	<i>15.2 %</i>	<i>13.6 %</i>	<i>15.4 %</i>
Total taxes	3.3	2.2	1.9	2.5	3.7	3.7	4.5
<b>Net income from continuing operations</b>	<b>7.5</b>	<b>5.5</b>	<b>6.7</b>	<b>6.5</b>	<b>10.3</b>	<b>9.2</b>	<b>11.3</b>
Income from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net income before minorities</b>	<b>7.5</b>	<b>5.5</b>	<b>6.7</b>	<b>6.5</b>	<b>10.3</b>	<b>9.2</b>	<b>11.3</b>
Minority interest	0.6	0.5	0.1	0.2	0.2	0.3	0.3
<b>Net income</b>	<b>6.9</b>	<b>5.0</b>	<b>6.6</b>	<b>6.3</b>	<b>10.1</b>	<b>9.0</b>	<b>11.1</b>
<i>Margin</i>	<i>10.1 %</i>	<i>7.0 %</i>	<i>8.6 %</i>	<i>7.6 %</i>	<i>11.0 %</i>	<i>9.5 %</i>	<i>10.8 %</i>
Number of shares, average	5.3	5.4	5.5	5.5	5.5	5.5	5.5
<b>EPS</b>	<b>1.30</b>	<b>0.93</b>	<b>1.20</b>	<b>1.13</b>	<b>1.84</b>	<b>1.63</b>	<b>2.01</b>
EPS diluted	1.25	0.91	1.20	1.13	1.84	1.63	2.01

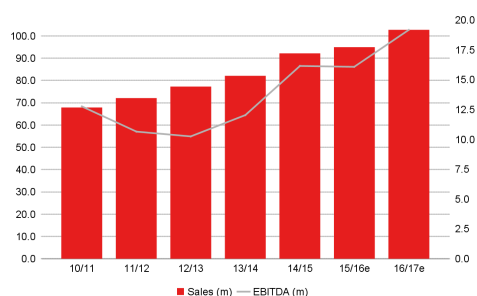
\*Adjustments made for:

**Guidance: 2015/16: Revenues + EBIT at last year's level**
**Financial Ratios**

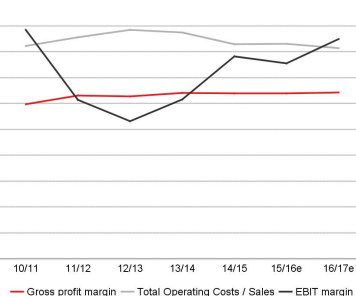
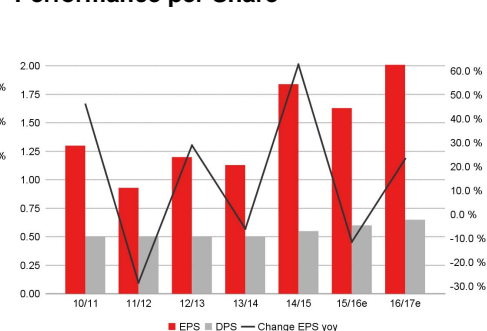
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e
Total Operating Costs / Sales	82.2 %	85.5 %	88.5 %	87.4 %	82.8 %	83.2 %	81.4 %
Operating Leverage	4.3 x	-4.2 x	-1.0 x	3.7 x	3.5 x	-0.1 x	2.6 x
EBITDA / Interest expenses	22.1 x	16.6 x	16.1 x	20.8 x	27.7 x	29.3 x	34.9 x
Tax rate (EBT)	30.4 %	28.8 %	22.3 %	27.6 %	26.4 %	28.5 %	28.5 %
Dividend Payout Ratio	35.2 %	49.2 %	41.1 %	42.4 %	29.4 %	35.8 %	31.6 %
Sales per Employee	205,069	163,104	151,219	159,398	173,911	175,833	185,135

**Sales, EBITDA**

in EUR m


**Operating Performance**

in %


**Performance per Share**


Source: Warburg Research

Source: Warburg Research

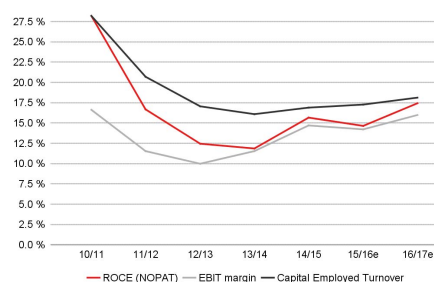
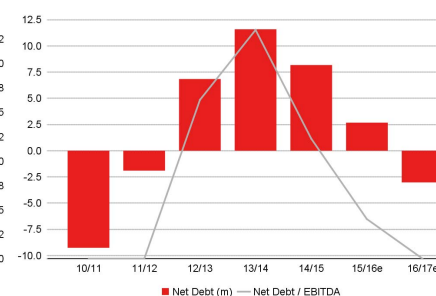
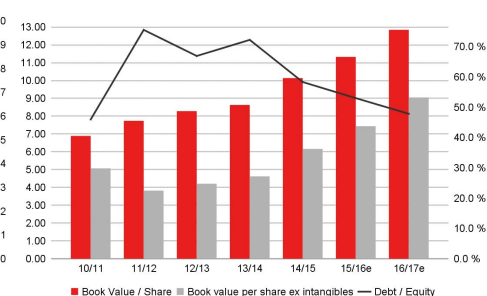
Source: Warburg Research

**Consolidated balance sheet**

In EUR m	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e
<b>Assets</b>							
Goodwill and other intangible assets	9.6	21.2	22.4	22.1	21.9	21.4	20.9
thereof other intangible assets	1.9	3.1	3.6	3.2	3.1	2.6	2.1
thereof Goodwill	7.7	18.1	18.8	18.8	18.8	18.8	18.8
Property, plant and equipment	7.0	13.1	15.2	15.0	16.2	16.8	17.4
Financial assets	0.3	0.2	0.2	1.7	0.0	0.0	0.0
Other long-term assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Fixed assets</b>	<b>17.0</b>	<b>34.5</b>	<b>37.9</b>	<b>38.8</b>	<b>38.1</b>	<b>38.2</b>	<b>38.3</b>
Inventories	12.7	16.6	19.4	22.4	25.1	25.0	26.3
Accounts receivable	10.4	12.1	12.0	12.2	13.5	14.0	15.2
Liquid assets	12.9	9.3	4.4	5.7	7.5	13.0	18.7
Other short-term assets	2.8	4.5	5.9	6.5	6.9	6.9	6.9
<b>Current assets</b>	<b>38.8</b>	<b>42.4</b>	<b>41.6</b>	<b>46.8</b>	<b>52.9</b>	<b>58.9</b>	<b>67.1</b>
<b>Total Assets</b>	<b>55.8</b>	<b>76.9</b>	<b>79.5</b>	<b>85.6</b>	<b>91.0</b>	<b>97.1</b>	<b>105.4</b>
<b>Liabilities and shareholders' equity</b>							
Subscribed capital	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Capital reserve	16.2	16.6	16.6	16.6	16.6	16.6	16.6
Retained earnings	0.0	19.7	23.5	25.5	33.8	39.7	47.5
Other equity components	14.6	0.0	0.0	0.0	0.0	0.6	1.2
Shareholders' equity	36.4	41.8	45.6	47.6	55.9	62.4	70.8
Minority interest	1.8	2.0	2.0	2.1	1.6	1.0	0.4
<b>Total equity</b>	<b>38.2</b>	<b>43.8</b>	<b>47.6</b>	<b>49.7</b>	<b>57.5</b>	<b>63.5</b>	<b>71.3</b>
Provisions	5.4	2.4	2.7	5.0	5.1	5.1	5.1
thereof provisions for pensions and similar obligations	1.8	1.9	2.2	4.5	4.6	4.6	4.6
Financial liabilities (total)	1.8	5.5	9.0	12.8	11.1	11.1	11.1
thereof short-term financial liabilities	0.2	1.8	2.7	3.2	3.0	3.0	3.0
Accounts payable	3.3	4.7	4.8	4.8	5.0	5.1	5.6
Other liabilities	7.2	20.4	15.4	13.3	12.4	12.4	12.4
<b>Liabilities</b>	<b>17.5</b>	<b>33.1</b>	<b>31.9</b>	<b>35.9</b>	<b>33.5</b>	<b>33.6</b>	<b>34.1</b>
<b>Total liabilities and shareholders' equity</b>	<b>55.8</b>	<b>76.9</b>	<b>79.5</b>	<b>85.6</b>	<b>91.0</b>	<b>97.1</b>	<b>105.4</b>

**Financial Ratios**

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e
<b>Efficiency of Capital Employment</b>							
Operating Assets Turnover	2.6 x	2.0 x	1.9 x	1.9 x	1.9 x	1.9 x	2.0 x
Capital Employed Turnover	2.3 x	1.7 x	1.4 x	1.3 x	1.4 x	1.4 x	1.5 x
ROA	40.5 %	14.6 %	17.5 %	16.1 %	26.6 %	23.5 %	29.0 %
<b>Return on Capital</b>							
ROCE (NOPAT)	28.2 %	16.7 %	12.4 %	11.9 %	15.7 %	14.6 %	17.5 %
ROE	20.8 %	12.9 %	15.1 %	13.4 %	19.6 %	15.2 %	16.6 %
Adj. ROE	20.8 %	12.9 %	11.7 %	13.4 %	18.0 %	15.2 %	16.6 %
<b>Balance sheet quality</b>							
Net Debt	-9.3	-1.9	6.8	11.6	8.2	2.7	-3.0
Net Financial Debt	-11.1	-3.8	4.6	7.1	3.6	-1.9	-7.6
Net Gearing	-24.3 %	-4.3 %	14.4 %	23.3 %	14.2 %	4.2 %	-4.2 %
Net Fin. Debt / EBITDA	n.a.	n.a.	45.2 %	58.9 %	22.3 %	n.a.	n.a.
Book Value / Share	6.9	7.7	8.3	8.6	10.1	11.3	12.8
Book value per share ex intangibles	5.1	3.8	4.2	4.6	6.2	7.4	9.1

**ROCE Development**

**Net debt**  
in EUR m

**Book Value per Share**  
in EUR


Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

**Consolidated cash flow statement**

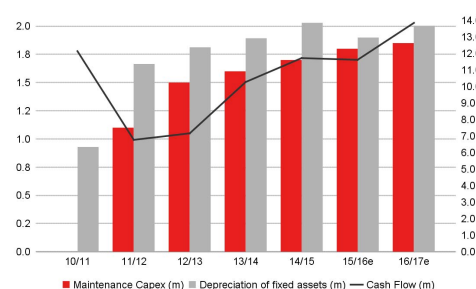
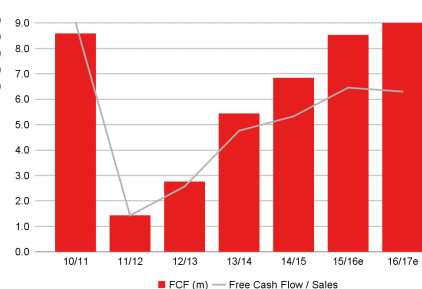
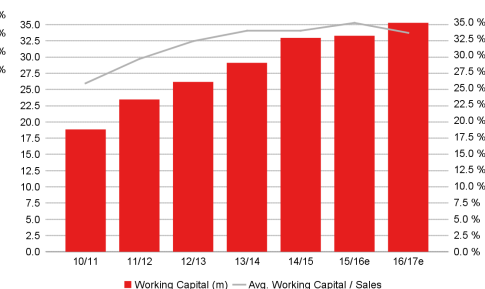
In EUR m	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e
Net income	8.6	4.6	6.6	6.3	10.1	9.0	11.1
Depreciation of fixed assets	0.9	1.7	1.8	1.9	2.0	1.9	2.0
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.5	0.7	0.7	0.7	0.6	0.7	0.8
Increase/decrease in long-term provisions	-0.1	-0.1	0.2	0.1	0.1	0.0	0.0
Other non-cash income and expenses	2.2	0.0	-2.1	1.3	-1.1	0.0	0.0
<b>Cash Flow</b>	<b>12.2</b>	<b>6.8</b>	<b>7.2</b>	<b>10.3</b>	<b>11.7</b>	<b>11.6</b>	<b>13.9</b>
Increase / decrease in inventory	-1.0	-1.4	-2.0	-3.0	-1.8	0.1	-1.3
Increase / decrease in accounts receivable	-1.4	2.3	0.0	-0.3	-0.9	-0.5	-1.2
Increase / decrease in accounts payable	0.6	-4.0	0.2	0.5	-0.1	0.1	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)	-1.9	-3.1	-1.7	-2.8	-2.7	-0.3	-2.0
<b>Net cash provided by operating activities</b>	<b>10.3</b>	<b>3.7</b>	<b>5.4</b>	<b>7.5</b>	<b>9.0</b>	<b>11.3</b>	<b>11.9</b>
Investments in intangible assets	-0.3	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3
Investments in property, plant and equipment	-1.5	-2.0	-2.5	-1.7	-1.8	-2.5	-2.6
Payments for acquisitions	-0.5	-3.8	-7.9	-3.8	-0.8	0.0	0.0
Financial investments	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	0.1	0.0	0.1	-1.0	0.5	0.0	0.0
<b>Net cash provided by investing activities</b>	<b>-2.2</b>	<b>-5.8</b>	<b>-10.5</b>	<b>-6.8</b>	<b>-2.4</b>	<b>-2.8</b>	<b>-2.9</b>
Change in financial liabilities	-0.8	1.3	3.0	3.8	-2.2	0.0	0.0
Dividends paid	-1.6	-2.8	-2.9	-2.8	-2.9	-3.0	-3.3
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	-0.4	-0.1	0.0	0.0
<b>Net cash provided by financing activities</b>	<b>-2.4</b>	<b>-1.5</b>	<b>0.1</b>	<b>0.5</b>	<b>-5.1</b>	<b>-3.0</b>	<b>-3.3</b>
Change in liquid funds	5.8	-3.6	-4.9	1.2	1.4	5.5	5.7
Effects of exchange-rate changes on cash	0.4	0.1	0.0	0.1	0.2	0.0	0.0
<b>Cash and cash equivalent at end of period</b>	<b>12.9</b>	<b>9.3</b>	<b>4.4</b>	<b>5.7</b>	<b>7.3</b>	<b>13.0</b>	<b>18.7</b>

**Financial Ratios**

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16e	2016/17e
<b>Cash Flow</b>							
FCF	8.6	1.4	2.8	5.4	6.8	8.5	9.0
Free Cash Flow / Sales	12.5 %	2.0 %	3.6 %	6.6 %	7.4 %	9.0 %	8.8 %
Free Cash Flow Potential	n.a.	7.6	6.2	7.6	10.4	10.6	12.8
Free Cash Flow / Net Profit	123.8 %	28.5 %	41.7 %	87.0 %	67.6 %	94.9 %	81.3 %
Interest Received / Avg. Cash	0.6 %	0.6 %	1.0 %	0.7 %	0.0 %	0.0 %	0.0 %
Interest Paid / Avg. Debt	43.8 %	17.7 %	8.8 %	5.3 %	4.9 %	5.0 %	5.0 %
<b>Management of Funds</b>							
Investment ratio	2.6 %	3.1 %	3.4 %	2.5 %	2.3 %	2.9 %	2.8 %
Maint. Capex / Sales	n.a.	1.5 %	1.9 %	1.9 %	1.8 %	1.9 %	1.8 %
Capex / Dep	120.7 %	94.8 %	105.1 %	80.3 %	81.0 %	105.3 %	102.7 %
Avg. Working Capital / Sales	25.6 %	29.3 %	32.1 %	33.7 %	33.7 %	34.9 %	33.4 %
Trade Debtors / Trade Creditors	318.9 %	254.6 %	251.9 %	252.6 %	270.8 %	274.5 %	271.4 %
Inventory Turnover	2.2 x	1.6 x	1.6 x	1.4 x	1.3 x	1.4 x	1.4 x
Receivables collection period (days)	56	61	57	54	54	54	54
Payables payment period (days)	43	64	57	57	54	54	55
Cash conversion cycle (Days)	136	193	208	236	252	245	237

**CAPEX and Cash Flow**

in EUR m


**Free Cash Flow Generation**

**Working Capital**


Source: Warburg Research

Source: Warburg Research

Source: Warburg Research

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Heidelberger Druck	6	<a href="http://www.mmwarburg.com/disclaimer/disclaimer_en/DE0007314007.htm">http://www.mmwarburg.com/disclaimer/disclaimer_en/DE0007314007.htm</a>
Koenig & Bauer	3, 6	<a href="http://www.mmwarburg.com/disclaimer/disclaimer_en/DE0007193500.htm">http://www.mmwarburg.com/disclaimer/disclaimer_en/DE0007193500.htm</a>
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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-	<b>Buy:</b>	The price of the analysed financial instrument is expected to rise over the next 12 months.
-H-	<b>Hold:</b>	The price of the analysed financial instrument is expected to remain mostly flat over the next 12 months.
-S-	<b>Sell:</b>	The price of the analysed financial instrument is expected to fall over the next 12 months.
“-“	<b>Rating suspended:</b>	The available information currently does not permit an evaluation of the company.

**WARBURG RESEARCH GMBH – RESEARCH UNIVERSE BY RATING**

Rating	Number of stocks	% of Universe
Buy	120	65
Hold	61	33
Sell	3	2
Rating suspended	1	1
<b>Total</b>	<b>185</b>	<b>100</b>

**WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING ...**

... taking into account only those companies which were provided with major investment banking services in the last twelve months.

Rating	Number of stocks	% of Universe
Buy	23	77
Hold	7	23
Sell	0	0
Rating suspended	0	0
<b>Total</b>	<b>30</b>	<b>100</b>



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