BAUER
(CDAX, Construction & Materials)

WARBURG RESEARCH

Buy	(Hold)
EUR 29.10	(EUR 28.00)
Price	EUR 18.30
Upside	**59.0 %**

Value Indicators:	EUR
DCF:	29.06
SotP:	28.49

Share data:	
Bloomberg:	B5A GR
Reuters:	B5AG.DE
ISIN:	DE0005168108

Description:
Supplier of specialist foundation engineering services and construction equipment

Market Snapshot:	EUR m
Market cap:	313
No. of shares (m):	17
EV:	1,053
Freefloat MC:	162
Ø Trad. Vol. (30d):	934.75 th

Shareholders:	
Freefloat	51.8 %
Bauer Family	48.2 %

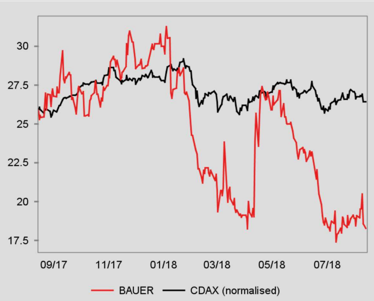
Risk Profile (WRe):	2018e
Beta:	1.6
Price / Book:	0.7 x
Equity Ratio:	27 %
Net Fin. Debt / EBITDA:	3.3 x
Net Debt / EBITDA:	4.0 x

Sales miss priced in but valuation & rising profitability make this a Buy

BAUER is a globally active provider of construction engineering equipment and services, specialising in large-scale foundation and excavation work. With a global market share of approx. 20%, it is the world market leader for specialist foundation engineering equipment (Equipment segment: 40% of group sales in FY 2017) and a services provider in the field of specialist foundation engineering worldwide (Construction segment 47% of group sales in FY 2017). The company offers environmental technology for water treatment, and provides services such as deep drilling and well construction for the mining sector and raw materials exploration (Resources segment 13% of group sales in FY 2017).

With a company history going back more than 200 years and a vast portfolio of successfully completed projects, many of which are world-famous landmarks such as the Burj Khalifa in Dubai, BAUER boasts an impressive track record and benefits from an established reputation, which is an important asset in gaining new business.

- **By no means a defensive play …** So far, BAUER's share price has been volatile in 2018. The reasons are clear: an unfavourable arbitration procedure in Hong Kong, a stated flat guidance for the FY 2018, and a mixed H1 in which higher yoy profitability was offset by weaker sales development. This caused investors to shy away from ownership of the stock, in our view. Further, the project-based nature of BAUER's business leads to an inherent lack of visibility in sales and earnings development.
- **… but underlying market development and valuation speak for themselves.** We believe that the favourable market situation, especially the ongoing construction boom and the normalisation of the equipment market, should put BAUER in an excellent position as the market leader in the equipment segment and should strengthen its profitability. BAUER's geographical diversification and its hub strategy allow the company to reallocate staff and equipment from less active (e.g. Russia, Qatar) to more promising markets (e.g. Far East, Europe). For H1, BAUER reported a significant decline in sales while profitability increased yoy. Considering the company's strong FY 2017 basis, the typically weak H1 results, and its flat sales and moderate EBIT guidance for FY 2018, we are confident in the company's operative ability to meet its stated profitability guidance despite a potential sales miss. The improving business conditions and increasing profitability do not seem to be fully reflected in the market valuation.
- **Valuation:** In the course of a change of analysts covering BAUER, we revised our valuation model and recommendation for the stock. Our new DCF-based price target indicates a fair value per share of **EUR 29.10**. This takes into consideration the high indebtedness of BAUER and the cyclical nature of its business. The increased price target results from the sole consideration of the DCF valuation which is a more suitable method to assess BAUER's unique financial position and increased profitability outlook. Nevertheless, a peer-group based Sum-of-the-Parts valuation utilising P/E and EV/sales multiples, shows fair value indications which support our determined fundamental value. Given the significant upside potential to our price target, we resume coverage with **Buy**.



Rel. Performance vs CDAX:	
1 month:	2.2 %
6 months:	-16.0 %
Year to date:	-34.2 %
Trailing 12 months:	-27.4 %

Company events:	
24.10.18	RS ZRH
13.11.18	Q3

FY End: 31.12. in EUR m	CAGR (17-20e)	2014	2015	2016	2017	2018e	2019e	2020e
Sales	1.1 %	1,376	1,379	1,397	1,668	1,631	1,675	1,725
Change Sales yoy		-1.9 %	0.2 %	1.3 %	19.4 %	-2.2 %	2.7 %	3.0 %
Gross profit margin		*48.5 %*	*49.2 %*	*50.7 %*	*44.7 %*	*45.4 %*	*45.9 %*	*46.1 %*
EBITDA	3.2 %	171	185	158	183	183	195	200
Margin		*12.4 %*	*13.4 %*	*11.3 %*	*10.9 %*	*11.2 %*	*11.7 %*	*11.6 %*
EBIT	4.8 %	76	91	68	90	90	99	103
Margin		*5.6 %*	*6.6 %*	*4.9 %*	*5.4 %*	*5.5 %*	*5.9 %*	*6.0 %*
Net income	141.0 %	14	30	11	3	23	32	38
EPS	141.0 %	0.85	1.73	0.66	0.16	1.33	1.89	2.24
DPS	26.0 %	0.00	0.15	0.10	0.10	0.10	0.15	0.20
Dividend Yield		n.a.	0.9 %	0.8 %	0.5 %	0.5 %	0.8 %	1.1 %
FCFPS		2.08	-1.78	1.54	5.26	-1.95	0.77	0.81
EV / Sales		0.7 x	0.8 x	0.7 x	0.6 x	0.6 x	0.6 x	0.6 x
EV / EBITDA		5.9 x	5.7 x	6.4 x	5.9 x	5.8 x	5.3 x	5.1 x
EV / EBIT		13.3 x	11.6 x	14.8 x	12.0 x	11.8 x	10.5 x	10.0 x
P / E		19.6 x	9.8 x	19.9 x	134.5 x	13.8 x	9.7 x	8.2 x
Net Debt		728	763	782	702	737	725	714
ROE		3.6 %	7.1 %	2.6 %	0.6 %	5.3 %	7.2 %	7.9 %
ROCE (NOPAT)		2.8 %	4.0 %	3.4 %	0.8 %	4.7 %	5.2 %	5.5 %
Guidance:	Total Group revenues EUR 1.8bn. (flat yoy); EBIT EUR 90m; sign. higher Net Inc.							

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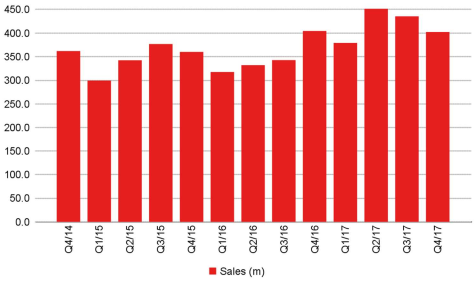
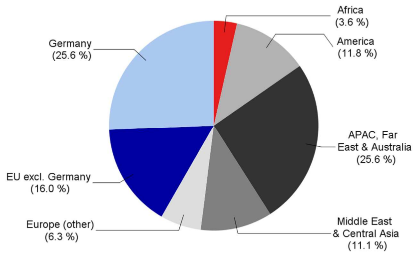
Sales development
in EUR m



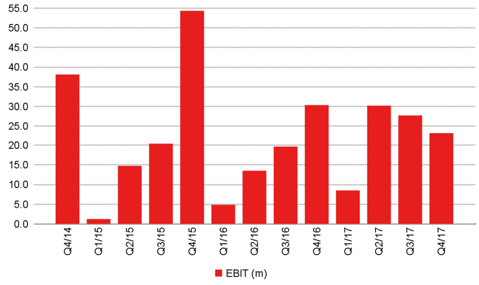
Source: Warburg Research

Sales by regions
2017; in %



Source: Warburg Research

EBIT development
in EUR m



Source: Warburg Research

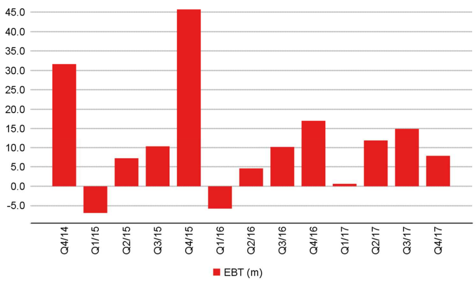
Company Background

- BAUER is a provider of specialist foundation engineering services and construction equipment. It is also active in the areas of environmental technology, water treatment and natural resources
- Construction: specialist foundation engineering services for major infrastructure and building projects, installation of cut-off walls, ground improvement works and related project development services
- Equipment: specialist foundation engineering equipment and equipment for related underground drilling operations (mining, oil and gas extraction)
- Resources: bundles the group's activities in the area of water, mineral resources and environmental technology

Competitive Quality

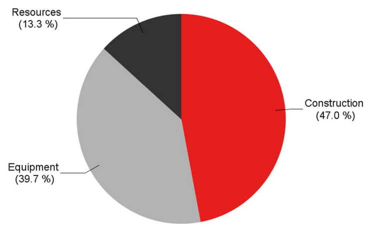
- BAUER is one of the global market leaders for special foundation engineering equipment, specialist foundation engineering services and has a significant footprint across the globe
- BAUER is a best-in-class provider of specialist foundation engineering services with strong reputation in the industry
- A global approach combined with a hub strategy allows staff and equipment to be relocated as required, which lowers the cluster and concentration risks related to project-driven business
- Availability of services and spare parts worldwide and around the clock gives customers crucial planning security.

EBT development
in EUR m



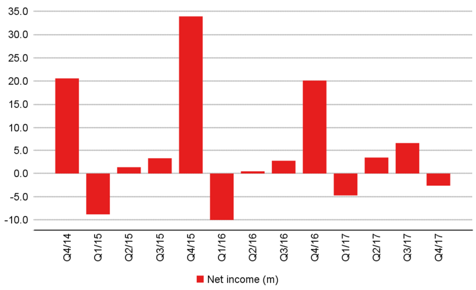
Source: Warburg Research

Sales by segments
2017; in %



Source: Warburg Research

Net income development
in EUR m



Source: Warburg Research

Summary of Investment Case

Investment triggers

- Repeated shortfalls to the guidance combined with covenant breaches are among the main reasons for the share price decline. Weak H1 sales figures have given rise to fresh fears of another guidance miss in FY 2018. We believe the current lack of investor confidence will persist for the foreseeable future. However, if management successfully restores investor confidence, we see potential for share price appreciation simply from an improvement in sentiment towards the stock.
- The current positive outlook for the global construction market (Source: IHS Markit) combined with a normalisation of the market for construction equipment, due to a reduction in competitors and overcapacities, puts BAUER in a comfortable position as the market leader in this segment. We expect profitability to increase while sales should return to the long-term growth level of about 3.0%. Nevertheless, sales in FY 2018 are expected to decline as a result of the strong FY 2017 figures which were driven by catch-up effects of construction projects received in FY 2016.
- Considering Volvo's very favourable outlook for global construction equipment markets in 2018, demand for this equipment should remain at a very strong level, which should translate into sales and margins in BAUER's Equipment segment at a similar level to FY 2017.
- We expect the market to welcome the upcoming appointment of a new external CEO.

Valuation

- We derive a DCF-based price target of EUR 29.10 per share.
- A Sum-of-the-Parts valuation, in which we separately value BAUER's construction & resources business and its equipment business, is based on a set of traded peer companies from the construction services and construction equipment sectors. The SotP valuation confirms our DCF-based price target based on P/E and EV/sales multiples.

Growth

- Historical growth:
  - 2009-2016: +3.5% CAGR
  - 2009-2017: +5.4% CAGR
- We forecast a sales CAGR of 1.1% p.a. over the period 2018-2020 (CAGR of 2.8% p.a. from 2019-2020):
  - Sales growth in 2018 should be restrained by a strong comparable base and a weaker order backlog in the construction business. In the following years, however, ongoing strong demand for construction equipment as well as the positive environment for the construction market should bolster growth.
  - Long-term sector growth is driven by structural megatrends like global population growth and urbanisation.
  - The project-based nature of BAUER's business results in low visibility for sales and earnings.

Competitive quality

- Leading provider of specialist foundation engineering services and construction equipment (global market share of approx. 20%). Availability of services and spare parts worldwide and around the clock gives customers crucial planning security.
- Established reputation with a history stretching back more than 200 years and hundreds of successfully completed projects under its belt including prestige projects such as the Burj Khalifa in Dubai. Such references are very supportive in acquiring new business.
- Technological leadership in the area of specialist foundation engineering equipment as a result of hands-on experience in the construction sector and expertise arising from extensive R&D. Multi-branding strategy increases the reach of BAUER products and services while a hub strategy provides for efficient relocation of staff and equipment from weaker to more active markets.

Warburg vs. consensus

- There is no reliable consensus data

Company Overview

	Construction	Equipment	Resources	Group
Products	 The construction segment concentrates on specialist foundation engineering to realize projects all over the world such as the excavation pit for the Iris Crystal Tower in Dubai.	 The equipment segment develops and produces construction machinery, tools and equipment for specialist foundation and mining activities distributed through a global network.	 The resources segment focuses on the areas of materials, exploration and mining services, and environment by offering qualitative products and services as needed.	
Revenues 2017 (EURm)	783,8	660,9	221,5	1.667,9
% of total revenue	47,0%	39,6%	13,3%	100,0%
EBIT 2017 (EURm)	19,6	80,6	-10,0	89,6
Margin	2,5%	12,2%	-4,5%	5,4%
% of total EBIT	21,9%	89,9%	-11,2%	100,0%

Guidance (current)

Total Group revenues c. EUR 1.8bn.; EBIT c. EUR 90m; Net income significantly above EUR 4m

Market Position (global

World market leader in the development and manufacturing of specialist foundation engineering and mining equipment
Leader in the execution of complex excavation pits, foundations and vertical seals
Expertise in the exploration, mining and safeguarding of valuable natural resources

Currency Exposure

Bauer is exposed to several different currencies given the international nature of the business. Mostly local financing provides natural hedge, USD business is hedged; e.g. via swaps. Production expansion to US, China and other countries counteract currency risk EUR/USD/RMB

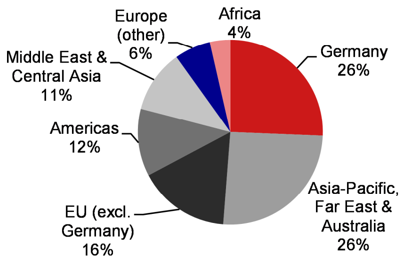
Customers

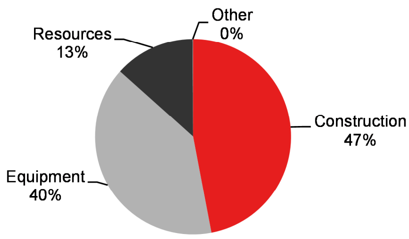
Governmental institutions, organizations across industry sectors such as construction, energy and resources

Competitors

Trevi Group, Keller UK, Sany and many small and local competitors

Revenue split by regions and segments (2017)





Source: Warburg Research

Competitive Quality

- Leading provider of specialist foundation engineering services with established reputation and company history of more than 200 years
- Global leader for specialist foundation engineering equipment
- Hub strategy moderates cluster and concentration risk associated with project-driven construction business

World leader for the complete range of equipment for specialist foundation engineering

With a global market share of approx. 20%, BAUER is one of the global market leaders for specialist foundation engineering equipment (Equipment segment accounted for 40% of group sales in FY 2017). The group is also a globally active services provider in the area of specialist foundation engineering (Construction segment 47% of group sales in FY 2017). BAUER offers environmental technology for water treatment and provides services to the raw materials exploration and mining sector such as deep drilling and well construction (segment Resources 13% of group sales in FY 2017).

Reputation and project management are key

Laying the foundations for large building structures such as skyscrapers, shopping malls or infrastructure projects requires specialist foundation engineering services, such as soil improvements. Structural failure at this stage of a construction process can have fatal consequences. Apart from competitive pricing, key to attracting new business in this area is a good reputation and a successful track record of similar projects.

BAUER offers its construction services primarily for large-scale projects, which naturally reduces the pool of relevant competitors. Machinery worth about EUR 3-4m (WRe) is deployed at the average construction site and, besides the necessary technological and geological expertise, the safety requirements, project execution capability, accident monitoring and general documentation for such large projects can only be carried out by large companies with sizeable back-office capacity, which precludes smaller competitors.

With a company history of more than 200 years and a vast portfolio of successfully completed projects, including world-famous landmarks such as the Burj Khalifa in Dubai, BAUER boasts an impressive track record. On average, BAUER executes about 400-500 projects globally per year with an average project duration of six to eight weeks.

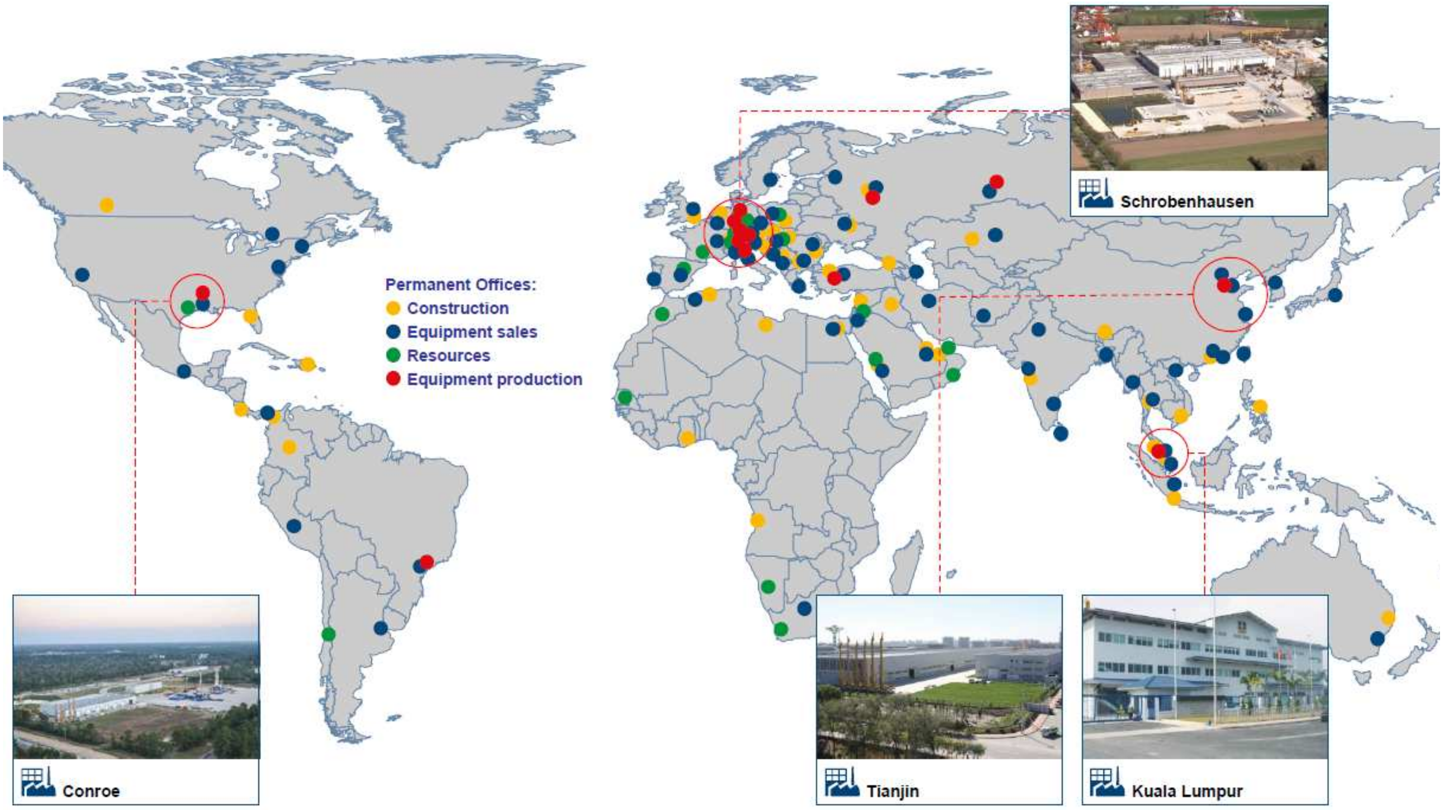
Price is the other major factor. Since foundation engineering services are usually provided to large private or public infrastructure projects, the planning is frequently not conducted by the service provider, leaving little scope for differentiation. Accordingly, construction companies primarily compete on the basis of price, which has led to strong consolidation with only a moderate number of global players capable of handling projects of relevant size. BAUER's closest competitor is the Italian Trevi Group, which is also active in the field of specialist foundation engineering services. It completes its product portfolio with own construction equipment offered under the brand soilmec.

Worldwide network with more than 110 subsidiaries in 70 countries

Global approach is essential. Since construction markets experience strong cyclicality, including periods of almost idle local markets, a global and geographically-diversified approach is essential. BAUER operates in 70 countries globally and has more than 110 subsidiaries. The company's hub strategy allows for the relocation of staff and equipment within a defined geographical area ("hub") as market demand requires.

For BAUER's Resources business, competitive characteristics are broadly similar to the Construction business. However the geographical focus is still mostly on Germany where 71% (EUR 176m) of total revenues in the resources segment in FY 2017 were generated.

Global network – more than 110 subsidiaries in about 70 countries



Source: BAUER

Technological leadership through extensive experience and R&D

Global leader for specialist foundation engineering equipment

BAUER is the worldwide market leader for specialist foundation engineering equipment with a global market share of approx. 20%. In general, the company's focus in this area is on the upper end of the market with higher requirements in terms of quality, reliability and operating performance. The strong reputation of its highly specialized equipment is based on the company's profound knowledge of the technical challenges and requirements, gained in its many years of hands-on experience as a specialist foundation engineering services provider.

Technology leader with a comprehensive service offering BAUER's long track record of providing specialist foundation engineering equipment to customers worldwide combined with the significant R&D investment (3.0% of sales in the Equipment segment in FY 2017) in this mature industry made the company technology leader in this segment. The worldwide service offering including spare parts provided by BAUER offers customers crucial planning security. BAUER's multi-branding strategy helps to increase the reach of the company's products.

Originally, BAUER produced its equipment for proprietary use only and to provide construction services to customers. The equipment is very specialized and lot sizes accordingly low, but research and development needs are significant. Thus BAUER eventually decided to offer its equipment to other construction companies too, both for sale and to rent. However, BAUER generally focuses on selling its products and favours rental-purchase agreements.

In recent years, the market environment for special foundation engineering equipment has been characterised by large overcapacities on the side of equipment manufacturers and, as a result, heavy price pressure in the industry that has also burdened BAUER (see below on the margin development). New competitors from China such as Sany, in particular, have entered the market and are increasingly pushing into the established markets like Europe.

However, there are positive signs indicating a normalisation of the global construction equipment market with fewer (Chinese) players, reduced overcapacities, and consequently margin potential for the remaining well-positioned providers.

Guidance accuracy has been misleading in the past

Earnings volatility continues but is guidance back on track?

High reliance on project business is a strain on visibility. Due to the project-based nature of its business and the permanent threat of cost overruns, BAUER suffers from an inherent lack of visibility regarding its sales and earnings development and has repeatedly fallen short of market expectations and its own stated guidance in recent years. Other reasons that led to an inaccurate guidance comprise the fierce competition in the construction sector, the adverse development of BAUER's Resources segment, and an unfavourable arbitration process.

As a result of the recent reclassification of profit and losses resulting from foreign exchange effects in the financial segment in the FY 2017, the reported EBIT in this period is not comparable to former figures which have not been altered to maintain visibility of the guidance track record.

Guidance accuracy back on track in FY 2017

Note:
Bauer does not release a sales guidance.
EBIT in FY 2015 is adjusted to one-off gains related to the joint venture with Schlumberger.
Reclassification of fx-effects in 2017 (now: financial income/expenses)

Source: BAUER, Warburg Research

The unfavourable guidance track record and the corresponding damage to investor trust has clearly played a major role in the sharp share price decline. However, BAUER managed to outperform its EBIT guidance in FY 2017 which could be a first step towards restoring investor confidence.

Waiting for earnings to catch up with positive sales development

The share price has come under pressure in recent years as the result of the aforementioned negative events and less than optimal communication with the capital market. A subsequent recovery of BAUER's share price was a result of the company's improved sales growth although operating performance was blurred by an arbitration process in Hong Kong with a negative impact of more than EUR 20m. As of the end of FY 2017, BAUER exceeded the covenant (EBITDA / net interest coverage) for primary loans. The company, however, managed to agree on an amicable solution with its financial partners and to maintain the financing relationships. Consequently, the improved order situation in the construction sector, the normalization of the construction equipment market as several Chinese competitors have exited the market, and the ongoing restructuring efforts in the Resources segment should pave the way for increased profitability. Additional potential for sales and margin improvement is provided by strong market demand for construction equipment, which appears to be accelerating faster than expected in all continents except Europe, according to a market outlook published by Volvo. Moreover, BAUER reported an improved EBIT result in Q1 2018, even though the sales figures declined compared to the strong year-earlier period, which should strengthen confidence in the company's operative ability to meet its stated profitability guidance for FY 2018.

We resume coverage with a Buy rating. Investing in BAUER is a cyclical play on demand acceleration in the construction equipment business combined with the expectation that the company will meet its guidance and regain trust, which should improve market sentiment towards the stock. With the current pressure on the BAUER share price, we see a potential opportunity if the company manages to maintain its sales growth while increasing profitability. The stock is now trading significantly below our DCF-based price target and the fair value indications we derive from a peer-group based Sum-of-the-Parts valuation model. Given the significant upside to our price target, we resume coverage with **Buy**.

Analysis of Return on Capital

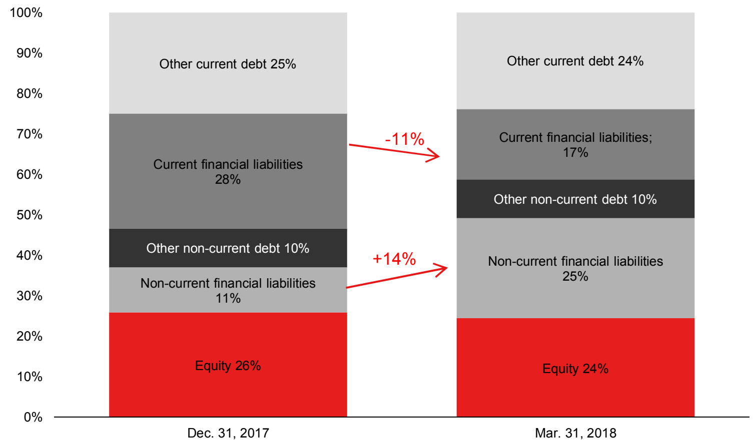
- High capital intensity due to substantial investment requirement and working capital lock-up
- Financial position characterised by high indebtedness
- Trigger event could pave the way for a more healthy balance sheet

Liabilities structure has been restored after covenants breach

Liabilities

With an equity ratio of 26% in FY 2017, BAUER's business is heavily reliant on debt financing. As of the end of 2017, the company exceeded its covenant (EBITDA / net interest coverage) for primary loans which resulted in a reclassification of financial liabilities from long-term to short-term debt in accordance with IFRS. However, as early as in Q1 2018, an amicable solution was reached with all relevant financial lenders for all affected loans, which resulted in the restoration of the status quo.

Reclassification of financial liabilities

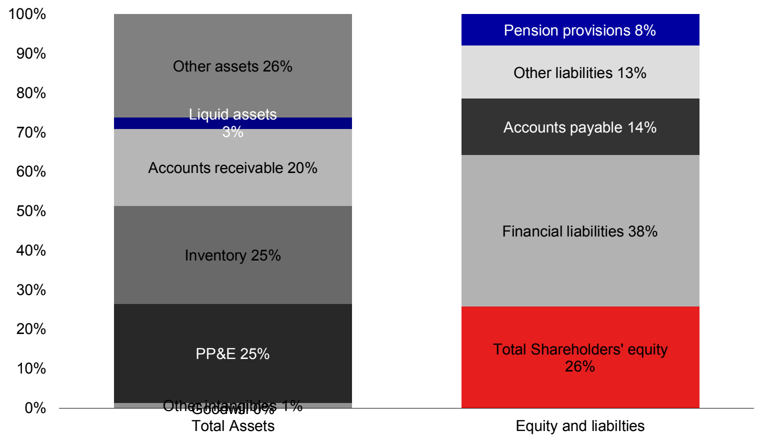


Source: BAUER, Warburg Research

Capital employed

In general, BAUER's business is highly capital intensive. The total asset turnover therefore was only 1.03x in FY 2017. While intangibles account for only 1% of total assets, land and buildings as well as technical equipment and machinery play major roles for the company's activities with net balance sheet values of EUR 174m and EUR 188m, respectively. Note that the subsequent analysis is based on the financial statements of FY 2017 to avoid any misleading influence resulting from the cyclicality of the business. Further, BAUER decided to move payments on orders from the equity and liabilities side to the asset side under openly deducted inventories. Consequently, down-payments received from customers, which were previously part of prepayments and deferred charges on the equity and liabilities side, will from now on offset receivables from construction contracts and reduce working capital.

Working capital is a necessity for BAUER's operations



Source: BAUER, Warburg Research

Considering that the average value of construction equipment used at a representative construction site is in the range of EUR 3-4m (WRe) and the company carries out 400-500 projects per year, the high capital lock-up in machinery is not surprising. In recent years, infrastructure projects have constantly increased in size and complexity and related specialty foundation engineering services can only be offered with ever larger and more efficient machinery. This requires constant investment in R&D and equipment. Capital expenditure as a percentage of sales ranges from 5% to almost 12% while in the last four years the expenditure was constantly below 6%. Even though no major investment in production capacity is necessary for now, sustaining the ability to offer competitive services and products will require continuous investment in equipment and R&D. Going forward, we expect capital expenditure to be 5.0-5.5% of sales.

Investment requirements are considerable

in EUR m	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018e	2019e	2020e
Group sales	**1096.5**	**1131.7**	**1219.6**	**1344.4**	**1402.2**	**1375.7**	**1379.0**	**1396.9**	**1667.9**	**1631.2**	**1674.6**	**1725.0**
Capex	**128.3**	**94.9**	**102.3**	**100.9**	**89.2**	**69.1**	**82.0**	**79.1**	**88.2**	**88.0**	**92.0**	**92.0**
in % of sales	*11.7%*	*8.4%*	*8.4%*	*7.5%*	*6.4%*	*5.0%*	*5.9%*	*5.7%*	*5.3%*	*5.4%*	*5.5%*	*5.3%*
Depreciation & Amortisation	**73.0**	**77.2**	**82.2**	**91.8**	**93.9**	**94.6**	**94.3**	**90.0**	**93.0**	**93.1**	**95.7**	**97.3**
in % of sales	*6.7%*	*6.8%*	*6.7%*	*6.8%*	*6.7%*	*6.9%*	*6.8%*	*6.4%*	*5.6%*	*5.7%*	*5.7%*	*5.6%*

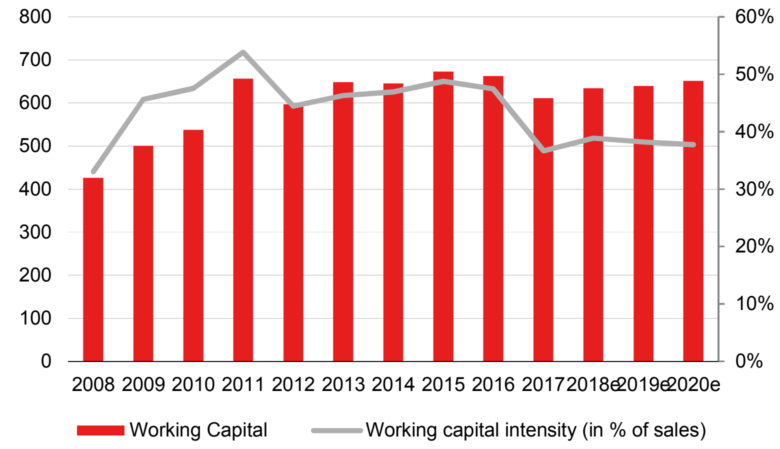
Source: BAUER, Warburg Research

Working capital is crucial for BAUER's business

Working capital requirements are significant

Working capital constitutes the largest position on BAUER's balance sheet and is also the predominant reason for the comparatively low capital turnover. Net working capital as a percentage of sales has ranged from 46% to 49% in recent years (except for 2008 and 2017), with receivables accounting for 20% of total assets and inventory for 25% of total assets in FY 2017. The settlement of an arbitration process for a project completed in Hong Kong in January 2018 led to a reduction in receivables outstanding of EUR 30-40m (about 6-8% of receivables in FY 2016) according to the company. In addition, the decline in working capital in FY 2017 (minus EUR 50.7m) is a result of the increased demand for BAUER's equipment products which led to decreased inventory. Further, shortened payment terms following lower sales in Middle East and strategic procurement measures improved the working capital situation.

Working capital requirements are substantial



Source: BAUER, Warburg Research

There are two reasons for BAUER's high level of working capital:

Firstly, the relatively high receivables position is linked to the nature of BAUER's traditional construction business in which the company usually pre-finances projects since customers only pay upon completion of contractually agreed services and payment periods vary across different geographic regions. Even though aggregate receivables make up a large position on BAUER's balance sheet, they are diversified across a huge number of debtors, which therefore limits credit risk.

Secondly, the high inventory levels are linked to BAUER's equipment business. High competitive pressure in the industry forces all market participants – including BAUER – to produce equipment on stock. This is because there is little tolerance for long waiting periods for new projects once customers have ordered new equipment and spare parts generally have to be available within 24 hours. Meeting this requirement is complicated by the substantial lead times faced by BAUER of up to 12 months in its equipment production and substantial delivery times for certain components used in its equipment. Consequently, the company holds equipment on stock in several key regions.

As a result, working capital requirements, particularly for inventory, are considerable and represent a constant drain on cash flow generation.

An analysis of other manufacturers of construction equipment shows that net working capital to sales of more than 30% tends to be the rule rather than the exception. Trevi Group, which is the closest comparable to BAUER, also has the highest net working capital ratios of the companies shown below.

High net working capital is a common burden for CE manufacturers

High net working capital for CE manufacturers

Net working capital in % of sales	2012	2013	2014	2015	2016	2017
Trevi Finanziaria Industriale S.p.A.	52.6%	45.6%	40.0%	52.3%	41.0%	49.8%
Terex Corporation	29.4%	29.7%	24.8%	31.6%	19.0%	21.9%
Wacker Neuson SE	42.5%	39.1%	41.4%	41.8%	41.8%	35.1%
Manitou BF SA	30.9%	32.7%	38.5%	36.0%	36.0%	32.4%
Komatsu Ltd.	53.8%	51.6%	51.4%	49.5%	50.6%	48.8%
PALFINGER AG	29.5%	30.7%	30.1%	27.8%	30.6%	28.5%
Haulotte Group SA	49.1%	38.5%	42.6%	40.3%	37.6%	31.7%

Source: FactSet, Warburg Research

In 2017, BAUER's working capital need was reduced by the sale of equipment of the inventory as well as the completed arbitration process for a Hong Kong project finalised in 2012. We expect the 2017 working capital trend to continue in the coming years.

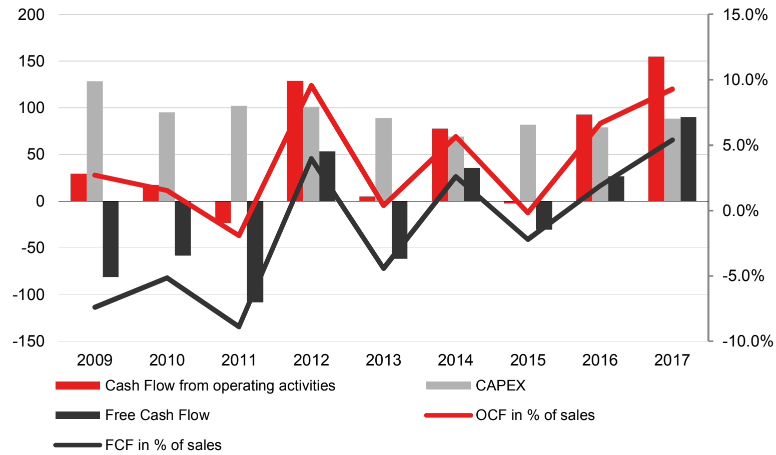
Given that working capital intensity has constantly ranged between 46-49% of sales in recent years (before the change in accounting), we expect working capital intensity to remain at a level of 38-40% for the foreseeable future.

Highly volatile cash flows due to the nature of BAUER's business

Cash flows are subject to significant fluctuation

The limited visibility of sales and earnings arising from the project-based nature of BAUER's business combined with volatility in working capital intensity over the last years and substantial capex requirements make Free Cash Flow subject to high fluctuation and repeatedly led to negative FCF results. Indeed, FCF has been negative in five of the last nine business years (2009-2017) with a cumulative FCF of EUR -135m over the same time horizon. The sharp increase in Cash Flow from Operations in FY 2017 resulted from a positive contribution from other non-cash transactions and results of de-consolidations of EUR 38m (negative contribution of EUR 24m in FY 2016). The negative result of this position in FY 2016 was mainly driven by two special events – a reclassification of a subsidiary to fixed assets, which the company had planned to sell, and the sale of shares of Wöhr + Bauer GmbH.

Free Cash Flow variability remains high



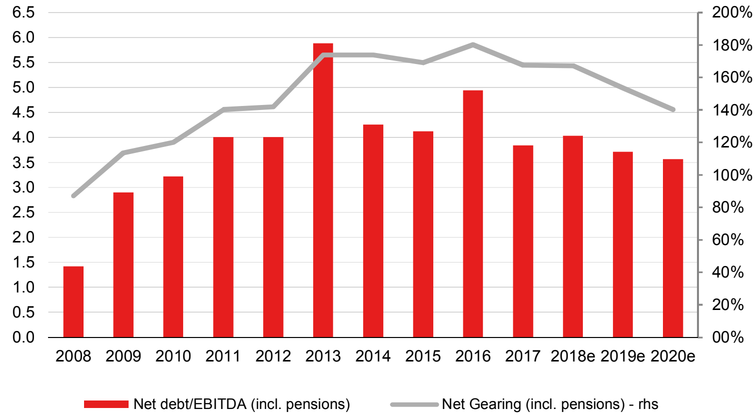
Source: BAUER, Warburg Research

Improved financial situation in FY 2018

Financial situation set to normalise

As a consequence of the vast fluctuations in cash generation from its business activities in recent years, BAUER has increasingly had to rely on debt financing, which led to a significant increase in leverage and net debt until FY 2016. The high net debt/EBITDA ratio in recent years was to some extent also a result of BAUER's relatively weak EBITDA results.

Net debt and leverage declined in 2017



Source: BAUER, Warburg Research

As of the end of FY 2017 (Q1 2018), current liabilities to banks amounted to EUR 429.6m (EUR 288.0m), liabilities to banks with terms of one to five years amounted to EUR 151.1m (EUR 409.5m, no duration specified) and liabilities with maturities of more than five years amounted to EUR 4.6m. In addition, BAUER carried pension liabilities of EUR 128.9m and finance lease liabilities of EUR 34.7m on its balance sheet. Note that the significant position in current liabilities is attributable to covenant breaches in FY 2016, which made the reclassification of long-term debt to current debt necessary. However, BAUER managed to reach agreements with all creditors and the level of current debt was already significantly lower with the release of Q1 results.

With total net debt of EUR 701.6m and a net debt/EBITDA ratio (incl. pensions and finance lease liabilities) of 3.8x in FY 2017, BAUER's indebtedness has improved but is still significant. Even though the company is aware of the need to reduce its net debt position, we believe this will only be possible to a limited extent and will take considerable time, since a significant portion of debt capital is related to the financing of working capital and the company sees only limited potential for improvement in this area. As a consequence, there is a certain risk that BAUER's financial position could deteriorate in the event of unexpected business interruption whether company-specific or market-related. The possibility of increasing interest rates also exposes earnings and cash flow to a certain level of risk, as this may impact the company's ability to refinance at economically favourable conditions.

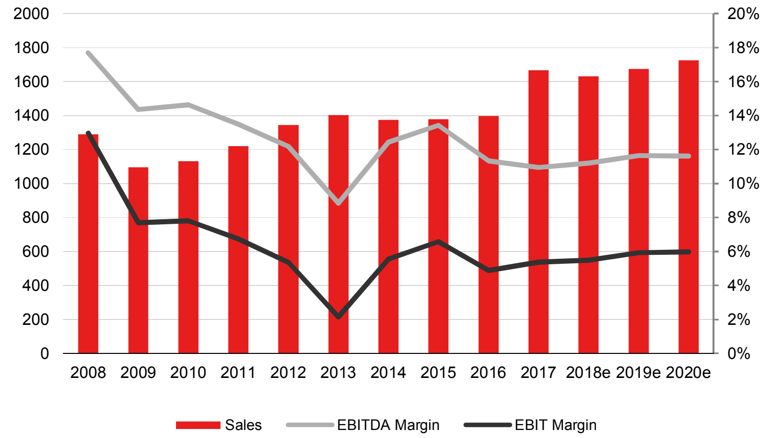
Finally, the company's balance sheet would look much better if hidden reserves in land & buildings – which the company deems substantial – were taken into consideration.

Operating profitability expected to improve

Operating profitability

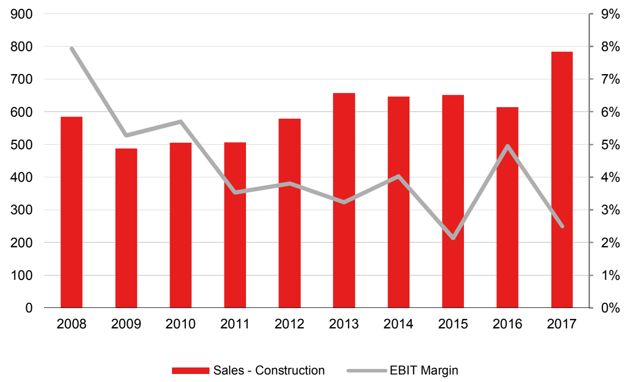
Despite rising or relatively stable sales, margins showed a clear downside trend until 2013, followed by a moderate recovery in more recent years. This trend equally applies to the two large business segments, Construction and Equipment. However since 2014 margins in Equipment and Construction seem to be developing in opposite directions.

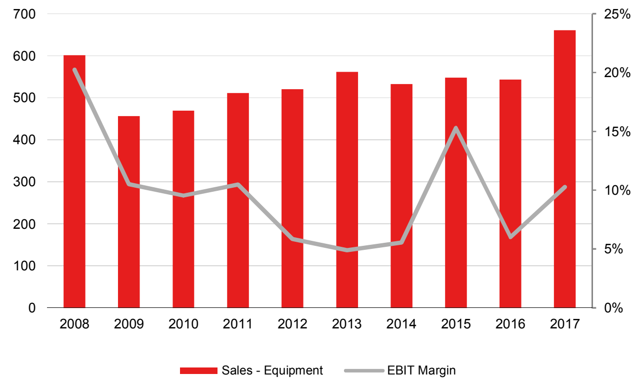
Negative profitability trend in recent years…



Source: BAUER, Warburg Research

…observable in the two major segments Construction and Equipment





Source: BAUER, Warburg Research

Equipment as the main earnings driver

Construction segment: In BAUER's Construction segment, EBIT margins have shown a persistent decline from a level of 7.9% in 2008 to only 2.1% in 2015 and 2.5% in 2017, despite an increase in segment sales of 3.3% CAGR over the same period. We expect segment sales to grow at a similar pace in the future as it benefits from ongoing megatrends like urbanisation and population growth. The negative EBIT margin development is in our view mainly a result of the difficult overall market environment and accordingly, lower capacity utilisation in some countries and higher costs to sustain capacity utilisation in others. Cost overruns related to the large-scale Center Hill dam project in North America burdened profitability in the years 2013 through 2015 and delays with project assignments in Hong Kong and Malaysia led to insufficient capacity utilisation in 2016. The peak in profitability in 2016 was a result of the sale of shares in Wöhr + Bauer. In 2017, currency effects and high tax expenses had a major impact while the unexpected outcome of the Hong Kong arbitration process reduced receivables in this segment by EUR 20m and consequently depressed sales. In addition, BAUER's US subsidiary is still in a process of reorganisation and therefore loss-making while projects in Australia and Germany had a negative earnings effect.

Going forward, we expect strong market demand to continue in most of BAUER's core markets as indicated by positive development of the company's order backlog and order intake in Q1 2018. Moreover, the negative one-offs in Asia in 2017 will not reoccur. The challenging market environment in the US is likely to persist for the foreseeable future. Consequently, we forecast EBIT margins of around 3-4%, which we generally deem to be sustainable in the construction business of BAUER.

Equipment segment: Development in the Equipment segment is clearly negative with the EBIT margin deteriorating from a level of 20.2% in 2008 to 10.3% in FY 2017. Note that the margin peak in FY 2015 was attributable to a one-off gain of EUR 77.8m from the sale and revaluation of BAUER's deep drilling equipment activities in the context of a joint venture with Schlumberger. The negative margin trend in the Equipment segment is driven by structural market issues. Over the last years, competitors, especially from China, entered the market for comparable equipment and built up huge overcapacities that burdened the entire industry in terms of capacity utilisation and profitability. Even though BAUER is still among the industry leaders in terms of quality and performance, greater competition has nevertheless led to significant price erosion and forced BAUER to purchase business at the cost of margins. Persistently low price levels in the oil & gas sector have also contributed to underutilisation in the production of non-construction equipment and burdened margins. Further, significant investments in 2008/09 into new production plants led to underutilisation of capacities and eroded margins.

In the recent past, many of the smaller Chinese competitors have ceased operations, which has led to corresponding capacity reductions and should reduce price pressure in the future. Used machinery stock has also declined, which should be conducive to new equipment demand. Sales growth of 21.8% yoy in FY 2017, ongoing strong demand in Q1 2018, and positive revision of the outlook for global construction equipment markets by Volvo support this perception. As a result of improved capacity utilisation and operating leverage in the production process, we forecast constant strong EBIT margins in the Equipment segment in the range of 10-12% in the period of 2018-2020.

Resources segment: EBIT margins in BAUER's Resources segment have been extremely volatile and negative in four of the last five years. In this segment, BAUER offers drilling services to the oil, gas and water industry, but demand has dwindled in recent years owing to low oil and gas prices. In 2016, BAUER decided to review its deep drilling service offering to the oil & gas sector making its Resources segment more independent of underlying commodity prices.

Headwinds persist in the market despite higher commodity prices as there is still excess capacity and only a small number of projects in the deep drilling sector as well as underutilisation in well drilling, especially in Jordan. On the bright side, BAUER managed to win the large-scale project for the expansion of the reed bed treatment plant in Oman which is worth approx. EUR 160m. Accordingly, the order backlog increased to EUR 335.8m in FY 2017. Based on steady activity in BAUER's core market Germany (71% of total group sales in FY 2017) and the company's ongoing restructuring efforts, we forecast negative EBIT of EUR 8-10m for the segment, corresponding to an EBIT margin range of negative 4% to negative 5% for FY 2018.

ROCE does not tell the full story

Return on capital employed

BAUER's Construction and Resources segments rely on heavy machinery and projects in these segments frequently require pre-financing, while in its Equipment business, BAUER needs to hold construction equipment on stock as customers expect delivery at short notice. Capital employed is therefore substantial with a correspondingly moderate capital turn of about 1.43x in FY 2017. Combined with poor profitability especially in FY 2017, this translates into returns on capital employed that have been insufficient to cover the cost of capital most of the time. (Note: BAUER carries significant stakes in at-equity investments (EUR 121.3m); at-equity income is considered below the EBIT line).

We forecast that BAUER's profitability will gradually improve while capital employed should remain at high levels owing to the nature of the business. However, we expect ROCEs to remain at low levels and not exceed the cost of capital in the short term.

Capital returns are not sufficient to cover the cost of capital

in EUR m	2012	2013	2014	2015	2016	2017	2018e	2019e	2020e
Average Capital Employed	**1,124.4**	**1,133.7**	**1,148.0**	**1,180.8**	**1,215.3**	**1,168.3**	**1,148.8**	**1,187.4**	**1,210.2**
thereof									
Equity	466.5	441.0	419.2	435.1	442.7	426.4	429.7	456.5	490.6
Net financial debt incl. pension provisions	657.9	692.8	728.8	745.7	772.6	741.9	719.1	730.9	719.6
NOPAT	**47.7**	**98.1**	**31.8**	**46.6**	**41.0**	**9.3**	**53.8**	**61.6**	**66.0**
EBIT Margin	5.4%	2.1%	5.6%	6.6%	4.9%	5.4%	5.5%	5.9%	6.0%
ROCE	**4.2%**	**8.7%**	**2.8%**	**4.0%**	**3.4%**	**0.8%**	**4.7%**	**5.2%**	**5.5%**
WACC	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%
Capital Employed Turnover	1.2x	1.24x	1.2x	1.17x	1.15x	1.43x	1.42x	1.41x	1.43x

Source: BAUER, Warburg Research

Growth / Financials

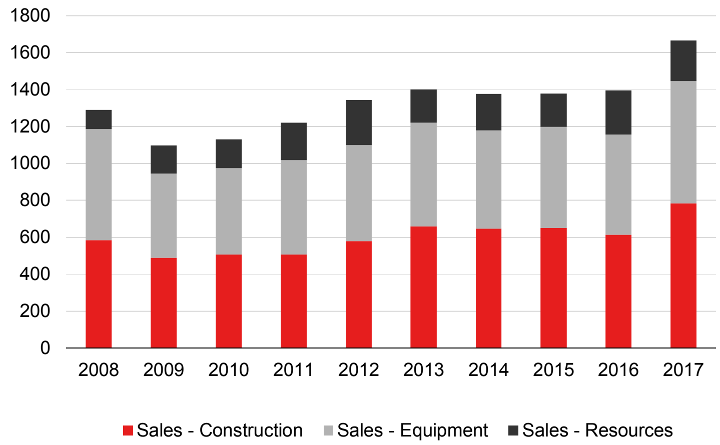
- Global footprint helps to alleviate regional downturns
- Megatrends of global population growth and urbanisation are the structural drivers of construction demand
- Positive short-term outlook for construction services and construction equipment demand

Above-average growth in FY 2017

Historical sales development

Following the global financial crisis and economic slowdown, BAUER's group revenues reached their trough in 2009 but recovered quickly since then. Group revenues grew at a CAGR of 5.3% over the period 2009-2017 while development was broadly flat in 2013-2016. However, sales in 2017 increased by 19.4% and were fueled by a strong construction and equipment business.

Sales development over time



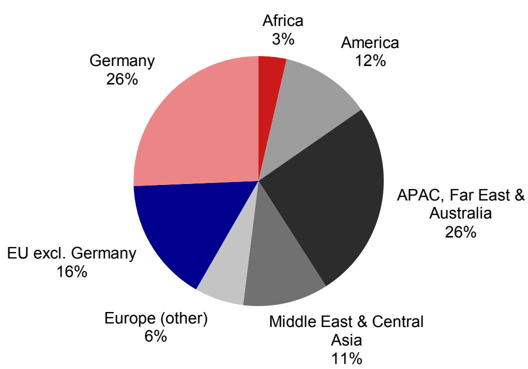
Source: BAUER, Warburg Research

Revenues are generated worldwide

Geographic diversification helps to alleviate regional slowdowns

BAUER is a global player and active in more than 70 countries worldwide with a significant footprint in Germany and Europe but also in Asia, the Far East and America.

Sales split by region – based on FY 2017 figures



Source: BAUER, Warburg Research

As the company is generating revenues in various regions of the world, temporary slowdowns in one region can often be offset by better performance in another. This became apparent with BAUER's quick return to revenue growth when construction markets in the US and Europe were still declining in the aftermath of the financial crisis. The current strong development of the Asian and Pacific region helped the group to overcome a weak development in Middle East.

On average, BAUER carries out approximately 400-500 projects per year with an average project duration of six to eight weeks.

Supportive global demographic trends

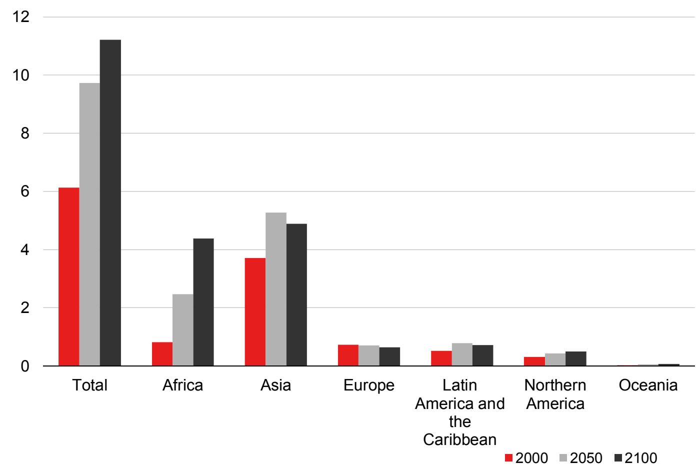
Long-term drivers: global population growth and urbanisation

As a globally active player in specialist foundation engineering and a leading manufacturer of specialist foundation engineering equipment, BAUER is in a position to benefit from major trends that will drive global housing and infrastructure spending over the next few years:

Population growth and urbanisation

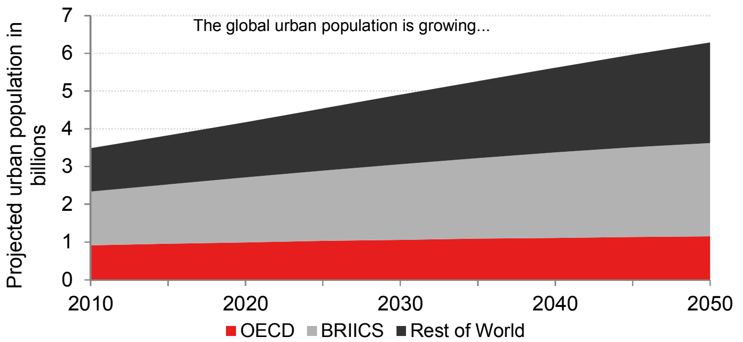
According to World Bank estimates, the world population is projected to grow to more than nine billion people by the year 2050. This is equivalent to an increase of approx. 60% compared to the year 2000, which suggests a significant increase in required housing and infrastructure demand and associated construction activity over that horizon.

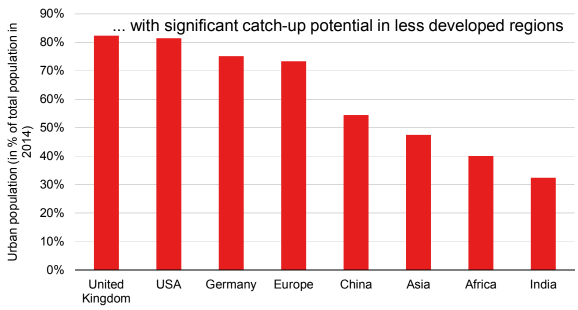
Projected world population in billions



Source: World Bank, Warburg Research

Growing population paves the way for ongoing urbanisation





Source: United Nations, Warburg Research

Global infrastructure investment gaps provide for future growth

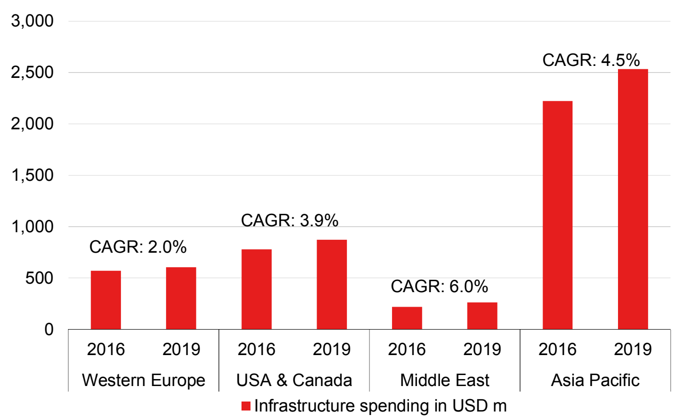
A significant portion of the projected population growth will occur in the already densely populated metropolises. In regions such as China and India, where the proportion of urban population is still markedly lower than in most developed countries, there is a significant catch-up potential in terms of urban population growth.

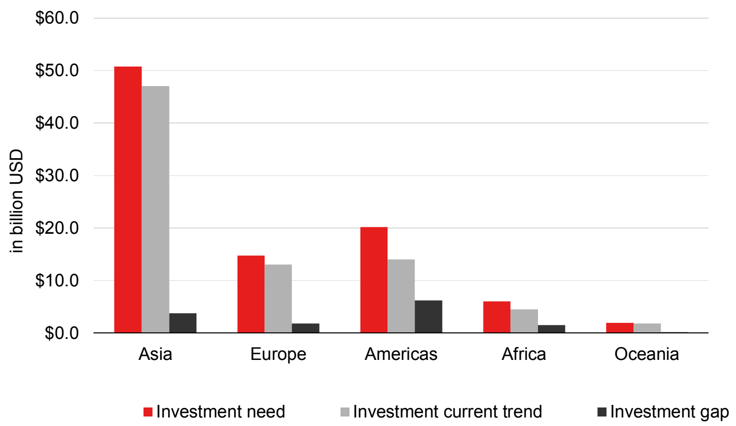
While population growth generally fuels demand for residential construction and corresponding infrastructural expansion for water supply, energy and transport, space constraints in densely populated areas lead to greater technical complexity and call for special equipment and specialist construction services providers like BAUER.

Driven by these trends, infrastructure spending is expected to grow in all major geographic regions, led by Asia Pacific and the Middle East.

According to Oxford Economics, global infrastructure investment needs will amount to USD 94 trillion between 2016 and 2040. This is 19 percent higher than would be delivered under current trends, and represents an average of USD 3.7 trillion per year. The most significant infrastructure investment gaps will be observed in the US, Russia, India, Turkey, Bangladesh, and Pakistan.

Outlook for global infrastructure investment spending





Source: Oxford Economics, Warburg Research

Healthy underlying markets

Sales development

The outlook for the global construction industry is positive. According to the market research institute IHS, the global construction market is expected to grow at a rate of 3.4% in 2018 exceeding the 2017 growth rate of 3.1%. Germany as the core market of BAUER is expected to grow at a rate of 4.7% which is, however, 2.2% lower than the actual growth observed in 2017. The generally positive outlook for the sector should translate into additional growth for BAUER's construction business. However, considering the strong FY 2017 comparable base, we forecast negative development of -9.9% yoy in FY 2018. The company's Q1 2018 figures showed a 27%-decline in revenues in the construction segment, more or less as expected, compared to the strong Q1 2017 but also owing to a slight decrease in large-scale projects and subdued growth in the Middle East.

Growth of regional construction markets – forecasts for 2018e

Region	Building construction (excl. residential construction)	Residential construction	Civil engineering (incl. transportation infrastructure)	Transportation infrastructure	Overall market
Germany	4.4%	4.8%	4.7%	5.4%	**4.7%**
UK	-0.6%	0.7%	0.0%	-0.9%	**0.0%**
Norway	0.4%	3.5%	4.3%	4.3%	**2.5%**
Austria	4.7%	3.3%	2.6%	0.8%	**3.6%**
Sweden	2.7%	4.9%	2.6%	2.5%	**3.8%**
Denmark	2.2%	2.7%	0.3%	-1.7%	**1.9%**
Netherlands	3.4%	3.2%	2.2%	3.2%	**3.0%**
Western Europe	**1.0%**	**2.9%**	**2.0%**	**1.5%**	**2.1%**
Poland	7.5%	6.0%	7.1%	6.8%	**7.0%**
Czech Republic	2.9%	2.3%	3.7%	4.4%	**3.1%**
Eastern Europe	**1.7%**	**-1.8%**	**1.0%**	**2.3%**	**0.6%**
Australia	19.3%	-0.6%	2.0%	24.6%	**4.7%**
Chile	2.1%	1.3%	2.7%	2.0%	**2.3%**
Canada	0.3%	2.0%	5.6%	8.5%	**2.4%**
Peru	1.8%	0.5%	7.3%	7.6%	**2.0%**
USA	-1.2%	0.9%	1.6%	1.9%	**0.2%**
World (74 countries)	**2.5%**	**2.4%**	**5.1%**	**7.0%**	**3.4%**

Source: IHS Markit, Global Construction Outlook 2018, Warburg Research

The positive outlook for construction activity is expected to lead to steady demand for construction equipment. The ongoing normalisation of competition following the market exit of several Chinese competitors and a reduction in overcapacities within this segment should further stabilize demand and increase margins. In the first months of 2018, BAUER managed to sustain the very good comparable base from Q1 2017 with an increase in equipment sales revenues of 1.5% yoy. For FY 2018, we forecast sales growth of 4.7% yoy in BAUER's Equipment business.

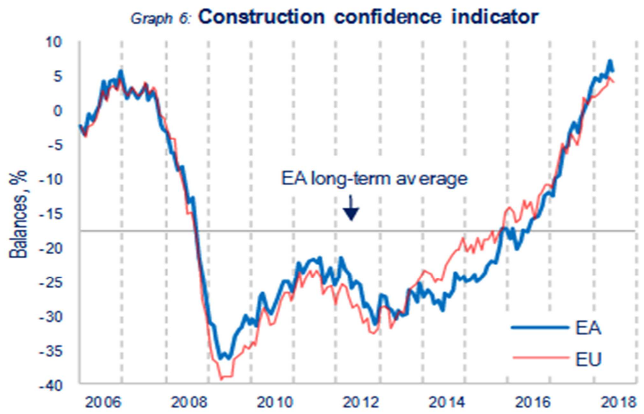
Growth of regional construction markets – forecasts for 2018e

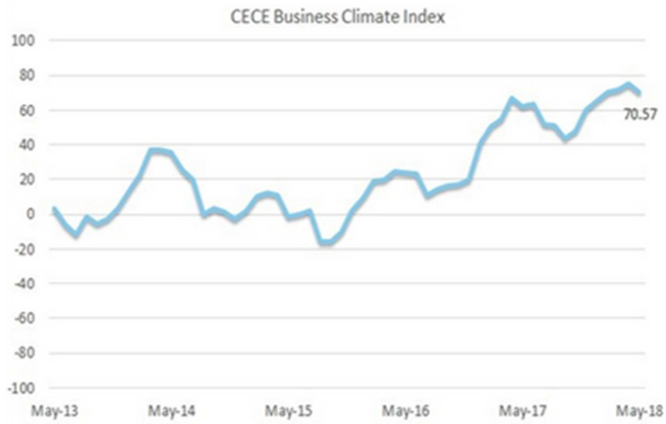
Total market development	Year-to-date Feb		
Change in % measured in units	2018	Forecast 2018	Previous forecast
Europe	10	0% to +10%	0% to +10%
North America	21	+10% to +20%	0% to +10%
South America	27	+10% to +20%	0% to +10%
Asia excl. China	21	+5% to +15%	0% to +10%
China	13	+20% to +30%	+10% to +20%

Source: Volvo Group outlook on global construction equipment markets; report on Q1/18

The consumer survey conducted by the European Commission and the CECE (Committee for European Construction Equipment) Business Barometer both indicate a very positive sector environment for construction equipment with historically high index levels reached in April/May 2018. The subsequent slight decline in confidence resulted from downward revisions of managers' employment expectations and their assessment of the level of order books.

Sentiment in the European construction segment reached new record levels



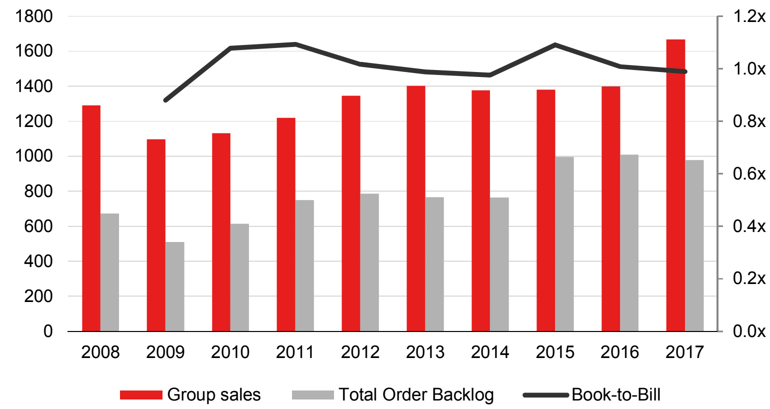


Source: European Commission Business and Consumer Survey, CECE Business Climate Index H1 2018

In the Resources segment, the large-scale project to expand the reed bed treatment plant in Oman worth about EUR 160m has bolstered BAUER's order backlog significantly. The operating period of about 20 years will provide steady earnings contributions. Owing to the at-equity recognition, the project will not result in additional sales for BAUER's Resources segment. We expect the Environment sub-segment, which generates approx. 90% of its revenues in Germany, to continue to have a positive earnings impact. Negative development is expected for the water business and brewery systems sub-segments in 2018 based on ongoing restructuring measures and a lack of investment from the Middle East and related write-downs. The well-drilling business and especially the related excess capacity of the subsidiary in Jordan are unlikely to improve in the short term. Overall, we expect negative yoy revenue development of around -4.8%.

As of the end of FY 2017, BAUER's order backlog stood at a level of EUR 978m with a book-to-bill ratio slightly below 1 (Note: BAUER reports order backlog and order intake based not only on its scope of consolidation but also based on orders received by associated companies and joint ventures. As a result, the book-to-bill ratio is not based on group sales but on total group revenues). Q1 2018 order backlog figures indicate continued strong demand totalling EUR 1,036m.

Order backlog at a constant high level



Note: Bauer reports order backlog, order intake and total group revenues not based on the consolidation scope but also includes orders received and revenues generated by associated companies and joint ventures. Accordingly, book-to-bill ratio is NOT based on consolidated sales.

Source: BAUER, Warburg Research

Higher profitability can be expected

Based on the positive outlook for the global construction and construction equipment industry paired with an improved order situation and implemented restructuring measures in BAUER's Resources segment, which should increase segment revenues and (still negative) profitability, we derive the following forecasts for FY 2018-2020. Our EBITDA and EBIT forecasts are based on our remarks in the section "Operating profitability" (p. 14).

Revenue, EBITDA, and EBIT forecasts

in EUR m	2014	2015	2016	2017	2018e	2019e	2020e
Group sales	**1375.7**	**1379.0**	**1396.9**	**1667.9**	**1631.2**	**1674.6**	**1725.0**
in % yoy	-	*0.2%*	*1.3%*	*19.4%*	*-2.2%*	*2.7%*	*3.0%*
thereof Construction	646.6	650.8	614.5	783.8	705.8	727.0	746.6
in % yoy	-	*0.6%*	*-5.6%*	*27.6%*	*-9.9%*	*3.0%*	*2.7%*
thereof Equipment	532.7	548.0	542.7	660.9	691.8	714.0	735.4
in % yoy	-	*2.9%*	*-1.0%*	*21.8%*	*4.7%*	*3.2%*	*3.0%*
thereof Resources	195.9	179.3	238.2	221.5	232.2	232.2	241.5
in % yoy	-	*-8.4%*	*32.8%*	*-7.0%*	*4.8%*	*0.0%*	*4.0%*
thereof consolidation and other	0.5	0.9	1.5	1.7	1.4	1.5	1.5
Group EBITDA	**171.0**	**185.1**	**158.4**	**182.6**	**182.7**	**195.1**	**200.4**
EBITDA Margin	*12.4%*	*13.4%*	*11.3%*	*10.9%*	*11.2%*	*11.7%*	*11.6%*
thereof Construction	72.1	62.3	72.7	62.3	72.0	72.7	74.7
EBITDA Margin	*11.2%*	*9.6%*	*11.8%*	*7.9%*	*10.2%*	*10.0%*	*10.0%*
thereof Equipment	71.0	131.4	71.2	114.6	119.7	118.5	120.6
EBITDA Margin	*13.3%*	*24.0%*	*13.1%*	*17.3%*	*17.3%*	*16.6%*	*16.4%*
thereof Resources	26.8	-8.2	7.8	1.3	1.2	11.6	16.9
EBITDA Margin	*13.7%*	*-4.6%*	*3.3%*	*0.6%*	*0.5%*	*5.0%*	*7.0%*
thereof consolidation and other	1.0	-0.4	6.6	4.4	-10.1	-7.7	-11.7
Group EBIT	**76.4**	**90.7**	**68.3**	**89.6**	**89.6**	**99.4**	**103.1**
EBIT Margin	*5.6%*	*6.6%*	*4.9%*	*5.4%*	*5.5%*	*5.9%*	*6.0%*
thereof Construction	26.0	13.9	30.4	19.6	26.8	27.6	28.4
EBIT Margin	*4.0%*	*2.1%*	*4.9%*	*2.5%*	*3.8%*	*3.8%*	*3.8%*
thereof Equipment	36.0	99.4	37.0	80.6	80.3	77.8	80.2
EBIT Margin	*6.7%*	*18.1%*	*6.8%*	*12.2%*	*11.6%*	*10.9%*	*10.9%*
thereof Resources	15.9	-19.8	-3.2	-10.0	-11.1	0.2	5.3
EBIT Margin	*8.1%*	*-11.0%*	*-1.4%*	*-4.5%*	*-4.8%*	*0.1%*	*2.2%*
thereof consolidation and other	-1.5	-2.8	4.2	-0.6	-6.3	-6.3	-10.7

Source: BAUER, Warburg Research

Profitability increases in H1 despite sales decline

H1 results reveal a mixed picture

BAUER released H1 figures on August 10 and reported a double-digit decline in sales of 13.6% yoy to EUR 717.1m. The decline in sales can be explained by the very strong comparable base H1 2017, the postponement of several projects in the Middle East, and lower capacity utilisation in the German construction market. The Resources segment showed a sharp decline owing to continuing restructuring efforts and weak capacity utilisation in Jordan. However, order backlog in this segment increased by 1.5% providing hope of a recovery in Resources sales. There was more positive development in the Equipment segment as sales decreased by only -3.2% yoy and EBIT was significantly higher at EUR 36.3m (H1 2017: EUR 23.9m).

In FY 2017, BAUER decided to reclassify its profits and losses from other operating income/expenses to financial income/expenses, based on its predominantly financial character. This change has a direct positive effect on BAUER's reported EBIT. In H1 2018, EBIT decreased from EUR 38.6m to EUR 34.1m while net income increased to EUR 1.6m, mainly as a result of less negative impact from foreign exchange.

Note that H1 is typically characterised by weak results, owing to the seasonal pattern of BAUER's business.

BAUER – H1 2018

Bauer - H1/18			
in EUR m	**H1/18 Reported**	**H1/17 Reported**	**yoy %**
Sales	**717.1**	**830.2**	***-13.6%***
Construction	307.4	403.0	*-23.7%*
Equipment	302.2	312.3	*-3.2%*
Resources	106.7	113.1	*-5.6%*
EBIT	**34.1**	**38.7**	***-11.9%***
Margin	*4.8%*	*4.7%*	
Construction	4.8	2.9	***63.4%***
Margin	*1.6%*	*0.7%*	
Equipment	36.3	22.3	***63.2%***
Margin	*12.0%*	*7.1%*	
Resources	-6.7	0.2	**-**
Margin	*-6.2%*	*0.2%*	
Net income	**-5.8**	**-3.9**	**-**
EPS in EUR	**0.04**	**-0.08**	**-**
Order intake	**814.8**	**938.9**	***-13.2%***
Construction	341.6	372.7	*-8.3%*
Equipment	396.7	429.7	*-7.7%*
Resources	104.9	165.6	*-36.6%*

Source: BAUER, Warburg Research

Change in estimates

With a change of analyst covering Bauer, we revised our valuation model and recommendation for the stock. The new estimates factor in slightly weaker sales development while gross margins remain on the same level. Margins for EBITDA and EBIT are slightly weaker as assumptions for BAUER's fixed-cost structure remain unchanged. The change in rating, however, is a result of the focus on the DCF valuation alone, which is a suitable method to appropriately assess the company's financial situation and the expected increase in profitability.

WRe - Change in estimates

FY End: 31.12.	**2018e**			**2019e**			**2020e**		
in EUR m	**WRe old**	**WRe new**	*Delta*	**WRe old**	**WRe new**	*Delta*	**WRe old**	**WRe new**	*Delta*
Sales	1668	1631.2	*-2.2%*	1746	1674.6	*-4.1%*	1828	1725.0	*-5.6%*
Change Sales yoy	0.0%	-2.4%		4.7%	2.7%		4.7%	3.0%	
Gross profit margin	45.60%	45.40%		45.60%	45.90%		45.60%	46.10%	
EBITDA	202	182.7	*-9.6%*	218	195.1	*-10.5%*	231	200.4	*-13.2%*
Margin	12.1%	11.2%		12.5%	11.7%		12.6%	11.6%	
EBIT	106	89.6	*-15.5%*	118	99.4	*-15.8%*	128	103.1	*-19.4%*
Margin	6.4%	5.5%		6.8%	5.9%		7.0%	6.0%	
Net Income	30	23	*-24.2%*	41	32	*-21.0%*	52	38	*-26.2%*
EPS	1.73	1.33	*-23.1%*	2.41	1.89	*-21.6%*	3.06	2.24	*-26.8%*
DPS	0.10	0.10	*0.0%*	0.10	0.15	*50.0%*	0.10	0.20	*100.0%*
Dividend Yield	0.40%	0.40%		0.40%	0.40%		0.40%	0.40%	
FCFPS	1.70	-1.95	*-214.7%*	0.27	0.77	*186.2%*	1.16	0.81	*-30.6%*
EV / Sales	0.7 x	0.7 x		0.6 x	0.6 x		0.6 x	0.6 x	
EV / EBITDA	5.5 x	5.8 x		5.1 x	5.4 x		4.7 x	5.2 x	
EV / EBIT	10.6 x	11.9 x		9.4 x	10.6 x		8.6 x	10.1 x	
P / E	14.9 x	14.3 x		10.7 x	10.1 x		8.4 x	8.5 x	
Net Debt	674	737	*9.3%*	671	725	*8.0%*	653	714	*9.3%*
ROE	6.9%	5.3%		8.9%	7.2%		10.3%	7.9%	
ROCE (NOPAT)	5.2%	4.7%		6.2%	5.2%		6.9%	5.5%	

Source: Warburg Research

Valuation

- DCF model indicates a fair value per share of EUR 29.10
- Peer group-based Sum-of-the-Parts valuation confirms the DCF-derived indication
- Significant upside to current share price level

Valuation reveals significant upside

We resume coverage of BAUER with a **Buy** rating and a price target of **EUR 29.10** per share. Our price target is based on a DCF model. An SotP valuation based on a set of publicly-traded peer companies yields fair value indications close to our derived price target.

DCF model indicates significant upside

We derive a price target of EUR 29.10 per share. This value is based on a detailed planning horizon until FY 2020, a transition period until 2030 and in perpetuity.

Sales: Following our detailed planning period until FY 2019, we assume a constant sales growth rate of 1.5% over the entire transition period and a terminal growth rate of 1.0% in perpetuity. This is due to the cyclical nature of BAUER's business and the maturity of the construction sector in general. Ignoring the exceptional sales growth in FY 2017, we derive our long-term sales growth from looking at the period 2008-2016 – including a sales decline of 15% in 2009 following the financial crisis – in which group sales grew at a CAGR of 1.0% (CAGR of 2.9% for the period 2008-2017). Thus, we consider a value in the range of 1-1.5% to be reasonable for a through-the-cycle sales growth rate.

Profitability development: Over the transition period, we assume a constant EBITDA margin of slightly below 12.0% (average over last five years). As already outlined, BAUER has experienced significant margin deterioration in recent years owing to increased competition in the construction equipment industry and cyclical issues in its Construction segment. For the time being, we expect a stabilisation of margins rather than further deterioration due to ongoing normalisation of the equipment market. The gradual improvement in the EBIT margin is merely the result of the assumed decline in D&A expenses, which currently exceed capital expenditure but should gradually approach this level.

Capital expenditure: Since 2009, CAPEX as a percentage of sales has ranged from 5% to almost 12%. To sustain its ability to offer competitive services and products, the company will need to invest further in the development of new equipment and in its machinery park. Over the transitional period and in perpetuity, we expect capital expenditure to remain at around 5-6% of sales.

Other core assumptions of the model are:

- A mid to long-term working capital intensity of c. 38 - 40% of sales. For an explanation of this exceptionally high value, please see the section “Capital Employed” (p. 11).
- A beta of 1.62 reflects the company's financial strength, the liquidity of its shares, cyclicality of the business, and transparency of communication. The high beta is a reflection of the company's significant net debt of EUR 701.58m and a net debt/EBITDA ratio (incl. pensions and finance lease liabilities) of 3.8x in FY 2017. This high degree of leverage already resulted in covenant breaches, most recently in 2016 when the company exhibited net debt of EUR 782.2m and a net debt/EBITDA ratio (incl. pensions and finance liabilities) of 4.9x.
- WACC of 6.6% that, despite a relatively high beta, is relatively low as a result of the high debt ratio of about 74% at market values.

- We value minorities at 15x forward earnings attributable to minority shareholders, which is in line with BAUER's own P/E multiples based on our forecasts.
- The price target reflects investments valued at EUR 133.1m, which make up approximately 25% of the derived equity value and reflect the book values of at-equity investments (EUR 121.3m) and participations (EUR 11.7m).

The greatest share of the book value of at-equity investments is related to BAUER Nimr LLC which is classified as an associated company despite BAUER's majority of voting rights due to a partnership agreement which restricts BAUER's ability to assert control over business and financial policy.

Other relevant at-equity investments are BAUER Manufacturing LLC and BAUER Deep Drilling GmbH. BAUER holds 51% in each and both are related to a joint venture with Schlumberger. These entities were revalued in 2017.

Overview: at-equity investments and participations

	Book values	Fair value	Company activities	Registered office	Share in Capital
At-equity investments	**121.315**				
thereof joint ventures	**81.008**	-	-	-	-
SPANTEC Spann- & Ankertechnik GmbH	10.719	18.6*	Production	Schrobenhausen, Germany	40.00%
BAUER Manufacturing LLC	35.247	53.8*	Production	Conroe, USA	51.00%
BAUER Deep Drilling GmbH	28.393	28.4*	Production	Schrobenhausen, Germany	51.00%
Others	6.649	.-	-	-	-
thereof associated companies	**40.307**				
TERRABAUER S.L.	-		Specialist foundation engineering	Madrid, Spain	30.00%
BAUER Nimr LLC	40.251		Water treatment and soil remediation	Maskat, Al Mina, Sultanate of Oman	52.50%
Others	0.056				
Participations	**11.733**				
Total	**133.048**				

* Based on figures for FY 2017

Source: BAUER, Warburg Research

DCF model

	Detailed forecast period			Transitional period										Term. Value
Figures in EUR m	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	
Sales	1,631	1,675	1,725	1,751	1,777	1,804	1,831	1,858	1,886	1,914	1,943	1,972	2,002	
Sales change	*-2.2 %*	*2.7 %*	*3.0 %*	*1.5 %*	*1.5 %*	*1.5 %*	*1.5 %*	*1.5 %*	*1.5 %*	*1.5 %*	*1.5 %*	*1.5 %*	*1.5 %*	*1.0 %*
EBIT	90	99	103	106	107	109	110	111	113	114	115	117	118	
EBIT-margin	*5.5 %*	*5.9 %*	*6.0 %*	*6.0 %*	*6.0 %*	*6.0 %*	*6.0 %*	*6.0 %*	*6.0 %*	*6.0 %*	*5.9 %*	*5.9 %*	*5.9 %*	
Tax rate (EBT)	*40.0 %*	*38.0 %*	*36.0 %*	*36.0 %*	*36.0 %*	*36.0 %*	*36.0 %*	*36.0 %*	*36.0 %*	*36.0 %*	*36.0 %*	*36.0 %*	*36.0 %*	
NOPAT	54	62	66	68	69	69	70	71	72	73	74	75	76	
Depreciation	93	96	97	99	101	103	104	106	108	110	112	114	116	
in % of Sales	*5.7 %*	*5.7 %*	*5.6 %*	*5.7 %*	*5.7 %*	*5.7 %*	*5.7 %*	*5.7 %*	*5.7 %*	*5.7 %*	*5.8 %*	*5.8 %*	*5.8 %*	
Changes in provisions	0	0	0	0	0	0	0	0	0	0	0	0	0	
Change in Liquidity from														
- Working Capital	23	5	12	10	10	10	11	11	11	11	11	12	12	
- Capex	88	92	92	94	96	98	101	103	105	108	110	113	115	
Capex in % of Sales	*5.4 %*	*5.5 %*	*5.3 %*	*5.4 %*	*5.4 %*	*5.5 %*	*5.5 %*	*5.5 %*	*5.6 %*	*5.6 %*	*5.7 %*	*5.7 %*	*5.8 %*	
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	
Free Cash Flow (WACC Model)	36	60	60	62	63	63	63	64	64	64	64	64	65	68
PV of FCF	36	55	51	50	48	45	42	40	37	35	33	31	29	547
share of PVs	13.15 %			36.24 %										50.61 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	59.46 %	Financial Strength	1.90
Cost of debt (after tax)	4.0 %	Liquidity (share)	1.70
Market return	7.00 %	Cyclicality	1.50
Risk free rate	1.50 %	Transparency	1.50
		Others	1.50
WACC	**6.61 %**	**Beta**	**1.62**

Valuation (m)

Present values 2030e	533		
Terminal Value	547		
Financial liabilities	620		
Pension liabilities	129		
Hybrid capital	0		
Minority interest	14		
Market val. of investments	133		
Liquidity	47	No. of shares (m)	17.1
Equity Value	**498**	**Value per share (EUR)**	**29.06**

Sensitivity Value per Share (EUR)

		Terminal Growth						
Beta	WACC	0.25 %	0.50 %	0.75 %	**1.00 %**	1.25 %	1.50 %	1.75 %
2.07	7.6 %	17.22	17.98	18.80	19.68	20.62	21.65	22.76
1.84	7.1 %	20.96	21.89	22.90	23.99	25.17	26.45	27.86
1.73	6.9 %	23.05	24.08	25.20	26.42	27.74	29.18	30.77
1.62	6.6 %	25.30	26.45	27.70	**29.06**	30.55	32.19	33.99
1.51	6.4 %	27.74	29.03	30.43	31.96	33.64	35.50	37.55
1.40	6.1 %	30.39	31.83	33.41	35.14	37.05	39.16	41.52
1.17	5.6 %	36.43	38.26	40.29	42.53	45.03	47.83	51.00

		Delta EBIT-margin						
Beta	WACC	-1.5 pp	-1.0 pp	-0.5 pp	**+0.0 pp**	+0.5 pp	+1.0 pp	+1.5 pp
2.07	7.6 %	4.27	9.41	14.54	19.68	24.81	29.94	35.08
1.84	7.1 %	7.35	12.89	18.44	23.99	29.53	35.08	40.62
1.73	6.9 %	9.08	14.86	20.64	26.42	32.20	37.97	43.75
1.62	6.6 %	10.97	17.00	23.03	**29.06**	35.10	41.13	47.16
1.51	6.4 %	13.03	19.34	25.65	31.96	38.27	44.58	50.88
1.40	6.1 %	15.30	21.91	28.53	35.14	41.75	48.36	54.98
1.17	5.6 %	20.57	27.89	35.21	42.53	49.85	57.17	64.49

- Beta value reflects the company's cyclical business exposure and high indebtedness
- Beyond the detailed planning period we assume constant sales growth of 1% p.a.
- We value minorities with 15x forward earnings attributable to minority shareholders (in line with Bauer's own multiple)

SOTP confirms the DCF price target

SotP valuation supports DCF indication

In addition to our DCF-based price indication, we also conduct a peer-group based Sum-of-the-Parts valuation in which we separate BAUER's Construction and Resources activities from its Equipment business. We then compare these activities with their relevant group of publicly-traded peer companies based on our sales and EBIT forecasts for the individual BAUER segments.

By taking the average of the fair value indications for the years 2018-2019 based on P/E and EV/sales, we derive fair values per share that confirm our DCF-based price target and suggest significant upside for the BAUER shares.

Peer group comparison

Company	LW	Price in LW	MC in Mio. LW	EV in Mio. LW	P/E 18e	P/E 19e	EV / Sales 18e	EV / Sales 19e	EV / EBIT 18e	EV / EBIT 19e
Construction Services										
Actividades de Construccion y Servicios SA	EUR	37.59	11,687.1	12,903.9	13.9 x	11.8 x	0.3 x	0.3 x	6.8 x	6.0 x
Eiffage SA	EUR	96.76	9,299.1	20,876.5	15.5 x	13.7 x	1.2 x	1.2 x	10.6 x	9.7 x
Hochtief AG	EUR	154.00	9,896.8	12,510.0	19.9 x	17.5 x	0.4 x	0.3 x	8.7 x	7.8 x
Implenia AG	CHF	78.40	1,431.7	1,150.9	15.8 x	15.2 x	0.2 x	0.2 x	6.8 x	5.7 x
Trevi Finanziaria Industriale S.p.A.	EUR	0.36	58.8	630.7	n.a.	n.a.	0.7 x	0.7 x	n.a.	202.1 x
VINCI SA	EUR	87.36	48,966.6	73,801.5	16.1 x	14.9 x	1.5 x	1.4 x	13.2 x	12.3 x
Mean					16.3 x	14.6 x	0.73 x	0.68 x	9.23 x	40.59 x
Median					15.8 x	14.9 x	0.54 x	0.50 x	8.74 x	8.78 x
Construction Equipment										
Haulotte Group SA	EUR	12.50	369.9	427.3	12.0 x	10.2 x	0.8 x	0.7 x	9.7 x	8.2 x
Komatsu Ltd.	JPY	3441.00	3,246,198.3	4,113,513.1	12.7 x	11.3 x	1.5 x	1.4 x	10.5 x	9.2 x
Manitou BF SA	EUR	29.85	1,140.5	1,205.2	14.1 x	12.7 x	0.7 x	0.6 x	10.1 x	8.8 x
PALFINGER AG	EUR	35.10	1,319.5	1,916.1	15.6 x	13.1 x	1.2 x	1.1 x	13.6 x	11.2 x
Terex Corporation	USD	43.93	3,338.7	4,224.7	15.2 x	11.7 x	0.8 x	0.7 x	11.1 x	8.9 x
Trevi Finanziaria Industriale S.p.A.	EUR	0.36	58.8	630.7	n.a.	n.a.	0.7 x	0.7 x	n.a.	202.1 x
Wacker Neuson SE	EUR	21.80	1,529.1	1,672.3	13.9 x	12.3 x	1.0 x	0.9 x	10.7 x	9.2 x
Mean					13.9 x	11.9 x	0.9 x	0.9 x	11.0 x	36.8 x
Median					14.0 x	12.0 x	0.8 x	0.7 x	10.6 x	9.2 x
BAUER AG	**EUR**	**18.90**	**323.8**	**1,001.3**	**10.0 x**	**7.8 x**	**0.60 x**	**0.57 x**	**9.5 x**	**8.5 x**
Sum-of-the-parts valuation based on median multiples										
Enterprise value Construction & Resources					-	-	526.8	511.8	228.8	281.7
Enterprise value Equipment					-	-	536.4	526.0	810.5	739.6
Total enterprise value					**-**	**-**	**1,063.2**	**1,037.8**	**1,039.3**	**1,021.3**
Financial liabilities				619.9						
Pension liabilities				129.0						
Minorities				13.5						
Market vaue of investments				133.0						
Liquid assets				47.3						
Equity value					-	-	**481.1**	**455.7**	**457.3**	**439.3**
No. of shares (in million)				17.1						
Fair value per share					**28.67 €**	**30.61 €**	**28.09 €**	**26.60 €**	**26.69 €**	**25.64 €**
Average 18e to 19e					**29.64 €**		**27.34 €**		**26.17 €**	

Source: FactSet, Warburg Research

Valuation

	2014	2015	2016	2017	2018e	2019e	2020e
Price / Book	0.7 x	0.7 x	0.5 x	0.9 x	0.7 x	0.7 x	0.6 x
Book value per share ex intangibles	21.30	24.01	23.60	23.03	24.27	26.08	28.21
EV / Sales	0.7 x	0.8 x	0.7 x	0.6 x	0.6 x	0.6 x	0.6 x
EV / EBITDA	5.9 x	5.7 x	6.4 x	5.9 x	5.8 x	5.3 x	5.1 x
EV / EBIT	13.3 x	11.6 x	14.8 x	12.0 x	11.8 x	10.5 x	10.0 x
EV / EBIT adj.*	13.3 x	11.6 x	14.8 x	12.0 x	11.8 x	10.5 x	10.0 x
P / FCF	32.4 x	n.a.	16.2 x	5.5 x	n.a.	23.7 x	22.7 x
P / E	19.6 x	9.8 x	19.9 x	134.5 x	13.8 x	9.7 x	8.2 x
P / E adj.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dividend Yield	n.a.	0.9 %	0.8 %	0.5 %	0.5 %	0.8 %	1.1 %
FCF Potential Yield (on market EV)	9.2 %	7.4 %	6.6 %	5.7 %	7.7 %	8.4 %	8.9 %

*Adjustments made for: -

Innovative, highly specialised supplier to foundation engineering market

Company & Products

Company overview

The BAUER Group is a leading supplier of services, equipment and products to the ground and groundwater industry employing some 10,700 full-time employees in more than 70 countries worldwide. Headquartered in Schrobenhausen, the company operates a worldwide network with over 110 subsidiaries across all continents. BAUER is the world market leader in the production of specialty foundation engineering equipment and a provider of specialist foundation engineering services in its construction segment.

The operations of the BAUER Group are divided into the three segments: Construction, Equipment and Resources.

BAUER – segment overview

Construction

- Growing construction markets worldwide.
- Huge pent-up demand in developed countries and in emerging markets.
- Specialist foundation growing somewhat stronger than construction markets.
- Construction segment with considerable number of major projects currently under construction and tendered for worldwide.

Equipment

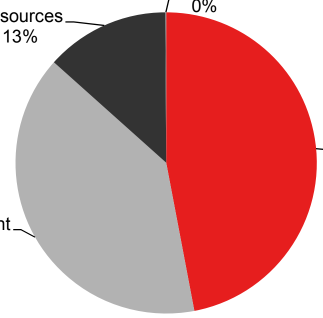
- Growth potential in new markets and with specialized machines.
- Strong position thanks to quality, efficiency and noise reduction efforts.
- Manufacture of customized deep drilling solutions in the joint venture with Schlumberger.
- Powerful duty-cycle crane series, which entered new markets.
- Innovative offshore foundation equipment for wind farms and tidal turbines.

Resources

- Full-service provider for water-related products and solutions.
- Ground-breaking projects in the field of water purification, e.g. a biological water treatment plant in Oman.
- Promising opportunities due to its focus on growth markets water, environmental and natural resources.
- High expertise in exploration and mining services for natural resources.

Source: BAUER, Warburg Research

Revenue split by segment in 2017 in EUR m

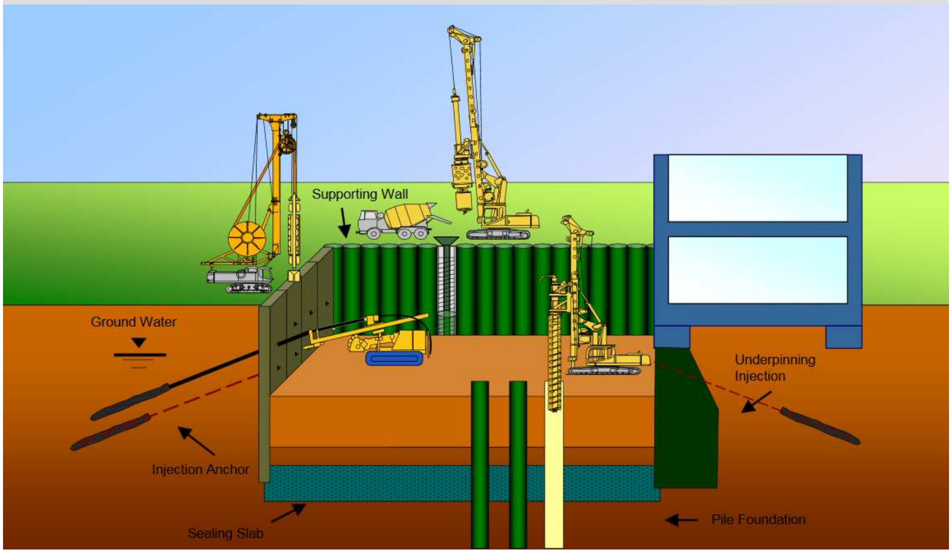


Source: Warburg Research

Construction

Within its **Construction** segment, the BAUER Group provides specialist foundation engineering services and focuses on complex, international projects. Main service offerings include foundation and excavation work, cut-off walls and ground improvements. The Construction segment accounted for EUR 784m (47% of total group revenues) in FY 2017 (EUR 615m / 44% in FY 2016). The company's target to reduce the share to about 40% to bolster the Resources division to about 20% of sales was therefore not met in the short term.

Specialist foundation engineering operation

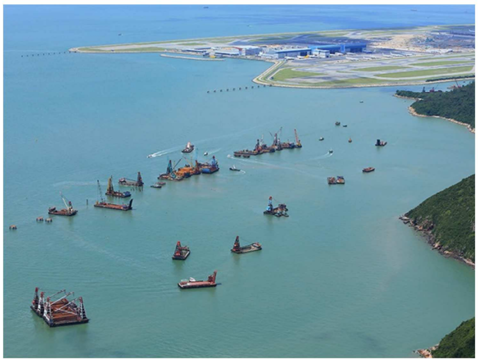


Source: BAUER, Warburg Research

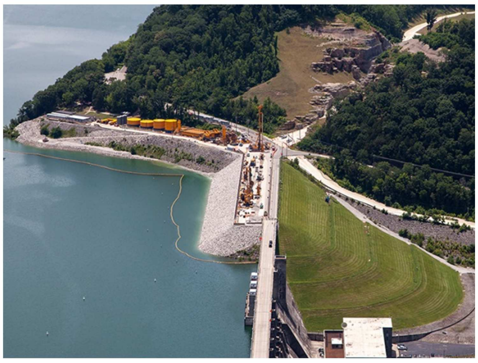
BAUER focuses on large-scale projects such as foundation work for dams, bridges and major buildings. Those projects are becoming more sophisticated and complex and require comprehensive project execution know-how and expertise.

BAUER executes mega projects all over the world

Hong Kong-Zhuhai-Macao Bridge, (HKG)



Center Hill Dam,Tennessee (USA)



Lakhta Tower, St. Petersburg (RUS)

Source: Warburg Research

Global market leader in specialist foundation engineering equipment

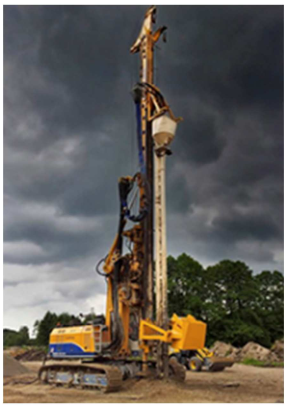
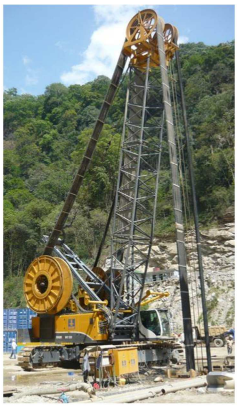
Equipment

In its Equipment segment, BAUER designs and manufactures the full range of products needed for specialist foundation engineering as well as for the exploration of raw materials, mining and safeguarding of valuable natural resources such as rotary drilling rigs, diaphragm wall equipment and other related machinery. BAUER also manufactures a range of other products (separation plants, drilling hammers etc.).

The equipment is assembled in manufacturing facilities around the world and sold as well as rented to construction companies. The company's extensive experience and the additional offer of spare parts provide customers with complete solutions from a single source.

The BAUER Group follows a multi-branding strategy and holds a leading position in this industry with a global market share of approx. 20% (excl. China). With sales of EUR 661m in FY 2017, the Equipment segment accounted for 40% of group revenues.

Typical products are depicted below:

Drilling rig	Trench cutter	Duty Cycle Crane	Diaphragm Wall
			

Source: BAUER, Warburg Research

Resources segment targets sustainable application fields

Resources

The Resources segment contributed EUR 222m to group sales in FY 2017. Germany is the key market for the products and services offered in this segment and accounted for about 71% of total group revenues generated in this segment in FY 2017. (Note: total group revenues differ from group sales since total group revenues also include revenues from associated companies and joint ventures).

The resources segment has three different operational branches: **Water**, **Environment**, and **Natural Resources**.

Operational entities within Resources

Water

- Industrial Waste Water
- Process & Produced Water
- NORM
- Constructed Wetlands
- Modelling & Well Design
- Construction Material for Wells and Geothermal
- Water Distribution Management
- Irrigation Systems

Environment

- Remediation
- Landfill Restoration
- Decommissioning
- Demolition
- Hazardous Waste Management
- Soil Treatment and Waste Management

Natural Resources

- Exploration Drilling
- Deep Geothermal Drilling
- Well Drilling
- Blast Hole Drilling

Source: BAUER

In its **Water** operations, BAUER provides solutions for the supply of drinking water and the treatment of wastewater. The trademarks, BAUER Water, Esau & Hueber, German Water and Energy Group, and Site Group are operated under the umbrella of this segment. BAUER Water covers the area of water treatment and purification, offering services for drinking water, process water, industrial waste water and produced water.

Esau & Hueber offers solutions in the area of process engineering for water plants and caters primarily to the brewery, food & beverage and biotechnology, pharma & cosmetics and automation industries. The German Water and Energy Group offers products and solutions for well installation and water distribution. Site Group provides services and well drilling for the water, oil, and mineral resources industries.

In **Environment**, BAUER offers a range of services related to the treatment of contaminated soil and ground water such as landfill restoration and demolition, decontamination and waste management.

In **Natural Resources**, BAUER provides a range of drilling and excavation services, including well drilling – which is the process of drilling a hole and injecting a fluid afterwards to extract natural resources – and blast hole drilling, which uses explosives to extract natural resources.

Management board

Prof. Dr. Thomas Bauer (CEO)

Prof. Thomas Bauer is the Chief Executive Officer of BAUER (CEO) and responsible for the areas of shareholdings in subsidiaries, IT, process management, HSE and Quality Management. He received his business diploma from the Ludwig-Maximilians-Universität in Munich, Germany. He was also appointed honorary professor by the technical university of Munich. In 1982 he started working for BAUER and became chairman of the board in 1994. For his exceptional contribution to the Bavarian economy, he was awarded the Order of Merit of the Federal Republic of Germany as well a state medal of outstanding services. Mr. Bauer holds multiple supervisory board mandates within the BAUER network.

Florian Bauer

Florian Bauer is member of the board and responsible for digitalization, development coordination, training, and corporate culture functions. Mr. Bauer holds a degree in civil engineering from the Munich University of Applied Sciences. He joined BAUER in 2011 and was responsible for a number of large construction projects worldwide before he became a member of both the management board of BAUER Spezialtiefbau GmbH in 2015 and the management board of BAUER AG in 2018. Mr. Bauer is the son of Prof. Thomas Bauer representing the eighth generation of the family.

Hartmut Beutler (CFO)

Mr. Beutler is member of the board and responsible for the areas of finance, law, insurance, communication, facility management and media design. He studied business administration at the university for applied sciences in Biberach. Mr. Beutler joined BAUER AG in 1983 and held various different positions before being appointed to the board in 2001.

Peter Hingott

Peter Hingott is member of the board and responsible for shareholdings in subsidiaries, accounting, human resources and purchasing functions. He studied construction management at BWI-Bau and business administration at Lahr University. From 1994 to 2002, he held numerous executive positions at an international construction company. In 2006, Mr. Hingott joined BAUER as a managing director in the Resources segment and in 2016, he was appointed member of the Management Board of BAUER AG.

Supervisory board

Dr. Klaus Reinhardt (Chairman)

Dr. Klaus Reinhardt has served as the chairman of the supervisory board since 2006 and has been a member of the supervisory board since 2001. Prior to joining BAUER, Dr. Reinhardt served for 41 years in the German armed forces and held several positions at the German Federal Ministry of Defense and the NATO. Dr. Reinhardt is now retired and has no other memberships in legally -andated supervisory boards or controlling bodies of commercial enterprises. He holds degrees in history and political science from the University of Freiburg.

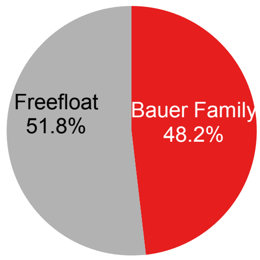
Upcoming personnel changes

In April 2018, the management announced that Prof. Thomas Bauer is to resign as CEO and will be replaced by an external manager. However, the company has not yet specified a date for the resignation or named the new CEO. Mr. Bauer is expected to replace Dr. Klaus Reinhardt as chairman of the supervisory board to support the subsequent management transition process. Dr. Reinhardt will no longer serve as chairman or member of the supervisory board.

Shareholder structure

The Bauer family holds a stake of 48.2%. The remainder of the shares are in freefloat. The largest non-family shareholders are Universal Investment (2.9%) and Dimensional Fund (2.6%).

Shareholder structure



Source: BAUER, Warburg Research

Global player with a long-standing family tradition

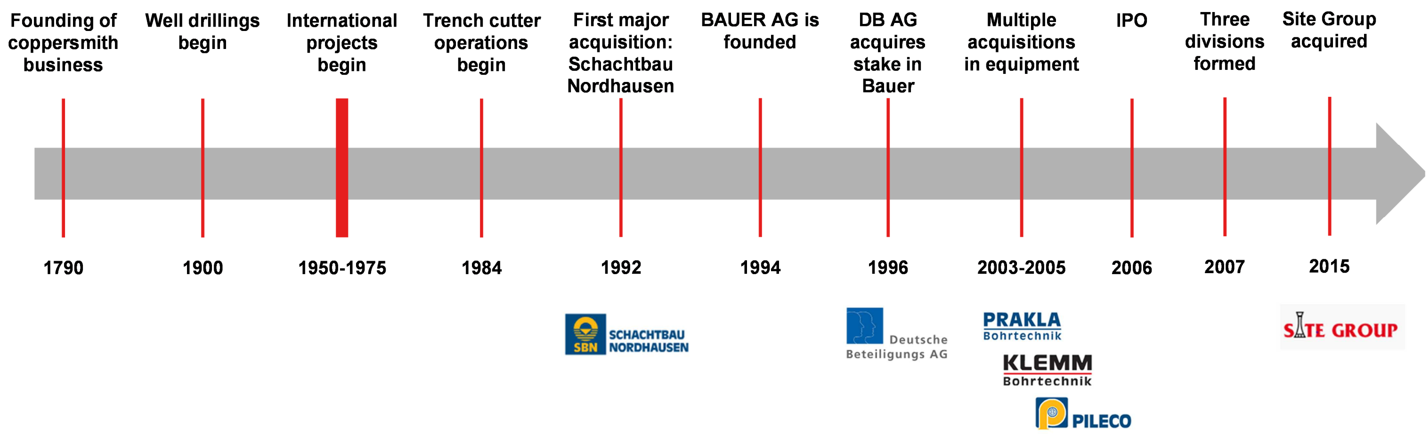
Company history and development

The BAUER Group, headquartered in Schrobenhausen in Upper Bavaria boasts a long-standing family tradition. Prof. Thomas Bauer, who runs the company, represents the seventh generation of the family and his son Florian was appointed a member of the management board in 2018.

Founded in 1790, the company has grown into an international construction and machinery manufacturing enterprise with a global footprint.

Today, BAUER serves its customers with core competence in three distinct business segments, Construction, Equipment and Resources.

History of BAUER AG



Source: BAUER, Warburg Research

Consolidated profit & loss

In EUR m	2014	2015	2016	2017	2018e	2019e	2020e
Sales	**1,376**	**1,379**	**1,397**	**1,668**	**1,631**	**1,675**	**1,725**
Change Sales yoy	-1.9 %	0.2 %	1.3 %	19.4 %	-2.2 %	2.7 %	3.0 %
Increase / decrease in inventory	27	29	15	-11	-11	-11	-11
Own work capitalised	15	23	13	9	8	9	9
Total Sales	**1,417**	**1,431**	**1,426**	**1,666**	**1,629**	**1,672**	**1,723**
Material expenses	749	753	718	920	889	904	928
Gross profit	**668**	**678**	**708**	**746**	**740**	**768**	**795**
Gross profit margin	*48.5 %*	*49.2 %*	*50.7 %*	*44.7 %*	*45.4 %*	*45.9 %*	*46.1 %*
Personnel expenses	355	376	370	384	391	405	419
Other operating income	89	157	63	23	24	25	26
Other operating expenses	231	274	242	202	190	193	201
Unfrequent items	0	0	0	0	0	0	0
EBITDA	**171**	**185**	**158**	**183**	**183**	**195**	**200**
Margin	*12.4 %*	*13.4 %*	*11.3 %*	*10.9 %*	*11.2 %*	*11.7 %*	*11.6 %*
Depreciation of fixed assets	85	84	82	84	84	86	87
EBITA	**86**	**101**	**77**	**98**	**99**	**109**	**113**
Amortisation of intangible assets	10	10	8	9	9	10	10
Goodwill amortisation	0	0	0	0	0	0	0
EBIT	**76**	**91**	**68**	**90**	**90**	**99**	**103**
Margin	*5.6 %*	*6.6 %*	*4.9 %*	*5.4 %*	*5.5 %*	*5.9 %*	*6.0 %*
EBIT adj.	**76**	**91**	**68**	**90**	**90**	**99**	**103**
Interest income	7	5	6	38	29	26	24
Interest expenses	45	42	47	33	32	31	31
Other financial income (loss)	-1	3	-3	-1	3	5	5
EBT	**38**	**56**	**24**	**35**	**39**	**54**	**61**
Margin	*2.7 %*	*4.1 %*	*1.7 %*	*2.1 %*	*2.4 %*	*3.2 %*	*3.6 %*
Total taxes	-22	-27	-10	-32	-16	-20	-22
Net income from continuing operations	**16**	**29**	**14**	**4**	**24**	**33**	**39**
Income from discontinued operations (net of tax)	0	0	0	0	0	0	0
Net income before minorities	**16**	**29**	**14**	**4**	**24**	**33**	**39**
Minority interest	1	-1	3	1	1	1	1
Net income	**14**	**30**	**11**	**3**	**23**	**32**	**38**
Margin	*1.1 %*	*2.2 %*	*0.8 %*	*0.2 %*	*1.4 %*	*1.9 %*	*2.2 %*
Number of shares, average	17	17	17	17	17	17	17
EPS	**0.85**	**1.73**	**0.66**	**0.16**	**1.33**	**1.89**	**2.24**

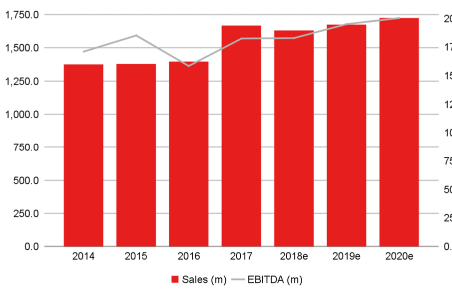
*Adjustments made for:

Guidance: Total Group revenues EUR 1.8bn. (flat yoy); EBIT EUR 90m; sign. higher Net Inc.

Financial Ratios

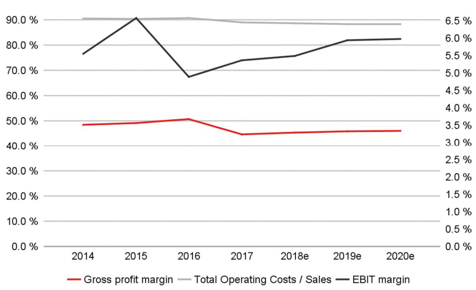
	2014	2015	2016	2017	2018e	2019e	2020e
Total Operating Costs / Sales	90.6 %	90.3 %	90.7 %	88.9 %	88.7 %	88.2 %	88.2 %
Operating Leverage	-81.5 x	77.7 x	-19.0 x	1.6 x	0.0 x	4.1 x	1.2 x
EBITDA / Interest expenses	3.8 x	4.4 x	3.4 x	5.6 x	5.7 x	6.2 x	6.5 x
Tax rate (EBT)	58.4 %	48.6 %	40.0 %	89.6 %	40.0 %	38.0 %	36.0 %
Dividend Payout Ratio	0.0 %	8.9 %	11.9 %	46.7 %	7.2 %	7.7 %	8.7 %
Sales per Employee	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Sales, EBITDA
in EUR m



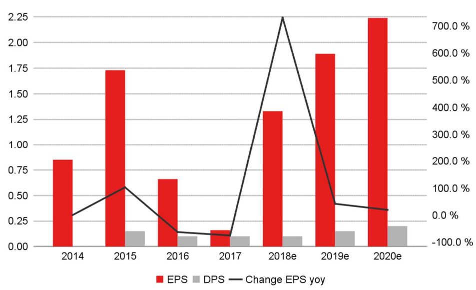
Source: Warburg Research

Operating Performance
in %



Source: Warburg Research

Performance per Share



Source: Warburg Research

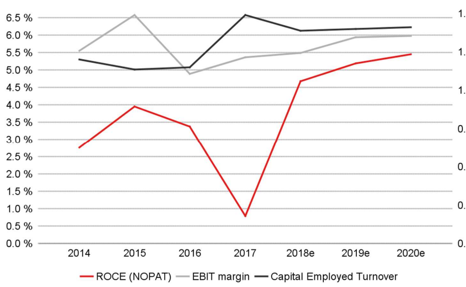
Consolidated balance sheet

In EUR m	2014	2015	2016	2017	2018e	2019e	2020e
Assets							
Goodwill and other intangible assets	34	27	26	21	21	20	20
thereof other intangible assets	34	27	26	21	21	20	20
thereof Goodwill	0	0	0	0	0	0	0
Property, plant and equipment	447	404	408	407	419	432	445
Financial assets	0	0	0	0	0	0	0
Other long-term assets	47	136	139	133	134	137	140
Fixed assets	**528**	**568**	**573**	**561**	**574**	**590**	**605**
Inventories	439	445	447	431	457	465	474
Accounts receivable	311	344	340	317	326	326	331
Liquid assets	42	47	33	47	2	4	5
Other short-term assets	188	203	219	193	210	214	218
Current assets	**980**	**1,039**	**1,040**	**989**	**996**	**1,009**	**1,028**
Total Assets	**1,575**	**1,657**	**1,701**	**1,618**	**1,638**	**1,666**	**1,701**
Liabilities and shareholders' equity							
Subscribed capital	73	73	73	73	73	73	73
Capital reserve	38	38	38	38	38	38	38
Retained earnings	288	327	318	304	325	356	392
Other equity components	0	0	0	0	0	0	0
Shareholders' equity	399	439	430	415	437	467	503
Minority interest	20	12	4	3	4	5	6
Total equity	**419**	**451**	**434**	**419**	**441**	**472**	**509**
Provisions	144	148	156	165	165	165	165
thereof provisions for pensions and similar obligations	119	115	130	129	129	129	129
Financial liabilities (total)	652	696	686	620	610	600	590
thereof short-term financial liabilities	267	298	480	430	430	430	430
Accounts payable	169	185	203	234	219	225	232
Other liabilities	192	177	222	180	203	204	205
Liabilities	**1,156**	**1,206**	**1,267**	**1,199**	**1,197**	**1,194**	**1,192**
Total liabilities and shareholders' equity	**1,575**	**1,657**	**1,701**	**1,618**	**1,638**	**1,666**	**1,701**

Financial Ratios

	2014	2015	2016	2017	2018e	2019e	2020e
Efficiency of Capital Employment							
Operating Assets Turnover	1.4 x	1.4 x	1.4 x	1.8 x	1.7 x	1.7 x	1.7 x
Capital Employed Turnover	1.2 x	1.1 x	1.1 x	1.5 x	1.4 x	1.4 x	1.4 x
ROA	2.7 %	5.2 %	2.0 %	0.5 %	4.0 %	5.5 %	6.3 %
Return on Capital							
ROCE (NOPAT)	2.8 %	4.0 %	3.4 %	0.8 %	4.7 %	5.2 %	5.5 %
ROE	3.6 %	7.1 %	2.6 %	0.6 %	5.3 %	7.2 %	7.9 %
Adj. ROE	3.6 %	7.1 %	2.6 %	0.6 %	5.3 %	7.2 %	7.9 %
Balance sheet quality							
Net Debt	728	763	782	702	737	725	714
Net Financial Debt	610	648	653	573	608	596	585
Net Gearing	173.9 %	169.1 %	180.2 %	167.5 %	167.2 %	153.6 %	140.3 %
Net Fin. Debt / EBITDA	356.7 %	350.4 %	412.0 %	313.7 %	332.7 %	305.5 %	291.9 %
Book Value / Share	23.3	25.6	25.1	24.3	25.5	27.3	29.4
Book value per share ex intangibles	21.3	24.0	23.6	23.0	24.3	26.1	28.2

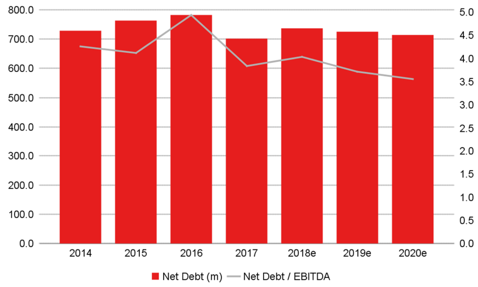
ROCE Development



Source: Warburg Research

Net debt

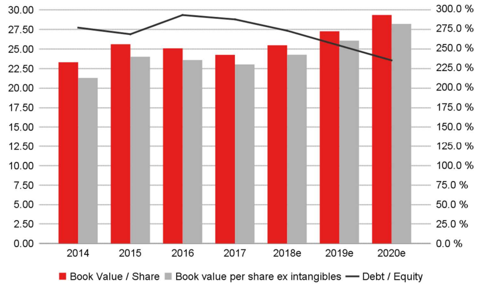
in EUR m



Source: Warburg Research

Book Value per Share

in EUR



Source: Warburg Research

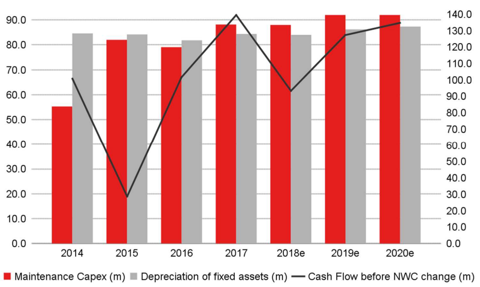
Consolidated cash flow statement

In EUR m	2014	2015	2016	2017	2018e	2019e	2020e
Net income	16	29	14	4	24	33	39
Depreciation of fixed assets	85	84	82	84	84	86	87
Amortisation of goodwill	0	0	0	0	0	0	0
Amortisation of intangible assets	10	10	8	9	9	10	10
Increase/decrease in long-term provisions	35	-4	15	-1	0	0	0
Other non-cash income and expenses	-44	-91	-18	43	-23	-2	-2
Cash Flow before NWC change	**101**	**29**	**102**	**140**	**93**	**127**	**135**
Increase / decrease in inventory	-36	-19	-18	-23	-43	-24	-26
Increase / decrease in accounts receivable	23	-30	-21	12	2	-2	-7
Increase / decrease in accounts payable	-10	17	31	26	2	4	4
Increase / decrease in other working capital positions	0	0	0	0	0	0	0
Increase / decrease in working capital (total)	-23	-31	-9	15	-39	-22	-29
Net cash provided by operating activities [1]	**78**	**-2**	**93**	**155**	**55**	**105**	**106**
Investments in intangible assets	0	0	0	0	0	0	0
Investments in property, plant and equipment	-69	-82	-79	-88	-88	-92	-92
Payments for acquisitions	0	0	0	0	0	0	0
Financial investments	-5	-9	0	0	0	0	0
Income from asset disposals	27	54	13	23	0	0	0
Net cash provided by investing activities [2]	**-47**	**-37**	**-67**	**-65**	**-88**	**-92**	**-92**
Change in financial liabilities	-51	44	-10	-72	-10	-10	-10
Dividends paid	-3	-3	-3	-2	-2	-2	-3
Purchase of own shares	0	0	0	0	0	0	0
Capital measures	0	0	0	0	0	0	0
Other	0	1	0	0	0	0	0
Net cash provided by financing activities [3]	**-54**	**42**	**-13**	**-74**	**-12**	**-12**	**-13**
Change in liquid funds [1]+[2]+[3]	**-19**	**4**	**-6**	**16**	**-45**	**2**	**1**
Effects of exchange-rate changes on cash	4	2	-8	-2	0	0	0
Cash and cash equivalent at end of period	42	47	33	47	2	4	5

Financial Ratios

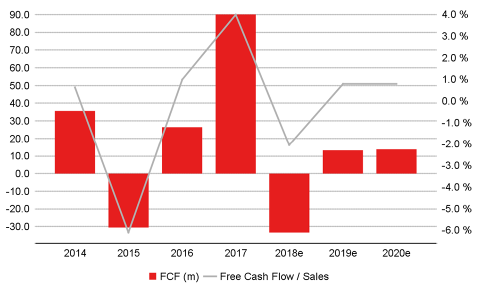
	2014	2015	2016	2017	2018e	2019e	2020e
Cash Flow							
FCF	36	-31	26	90	-33	13	14
Free Cash Flow / Sales	0.6 %	-6.1 %	1.0 %	4.0 %	-2.0 %	0.8 %	0.8 %
Free Cash Flow Potential	93	78	67	62	81	87	91
Free Cash Flow / Net Profit	60.7 %	-283.8 %	123.3 %	2433.9 %	-146.9 %	40.9 %	35.9 %
Interest Received / Avg. Cash	14.3 %	11.1 %	13.7 %	93.3 %	118.6 %	905.1 %	567.7 %
Interest Paid / Avg. Debt	6.7 %	6.2 %	6.8 %	5.0 %	5.2 %	5.2 %	5.2 %
Management of Funds							
Investment ratio	5.0 %	5.9 %	5.7 %	5.3 %	5.4 %	5.5 %	5.3 %
Maint. Capex / Sales	4.0 %	5.9 %	5.7 %	5.3 %	5.4 %	5.5 %	5.3 %
Capex / Dep	73.1 %	87.0 %	87.8 %	94.8 %	94.5 %	96.1 %	94.5 %
Avg. Working Capital / Sales	40.0 %	41.9 %	41.7 %	32.5 %	33.1 %	33.8 %	33.0 %
Trade Debtors / Trade Creditors	184.3 %	185.9 %	167.6 %	136.0 %	149.0 %	144.9 %	142.9 %
Inventory Turnover	1.7 x	1.7 x	1.6 x	2.1 x	1.9 x	1.9 x	2.0 x
Receivables collection period (days)	83	91	89	69	73	71	70
Payables payment period (days)	82	90	103	93	90	91	91
Cash conversion cycle (Days)	171	175	173	111	135	133	131

CAPEX and Cash Flow
in EUR m



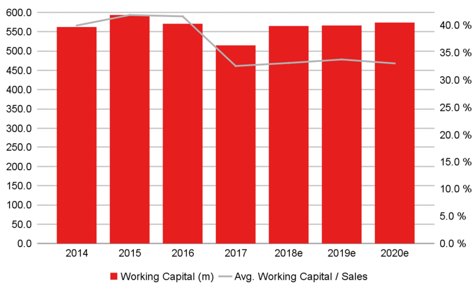
Source: Warburg Research

Free Cash Flow Generation



Source: Warburg Research

Working Capital



Source: Warburg Research

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Company	Disclosure	Link to the historical price targets and rating changes (last 12 months)
BAUER	3, 5	http://www.mmwarburg.com/disclaimer/disclaimer_en/DE0005168108.htm

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-H-	**Hold:**	The price of the analysed financial instrument is expected to remain mostly flat over the next 12 months.
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"-"	**Rating suspended:**	The available information currently does not permit an evaluation of the company.

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING

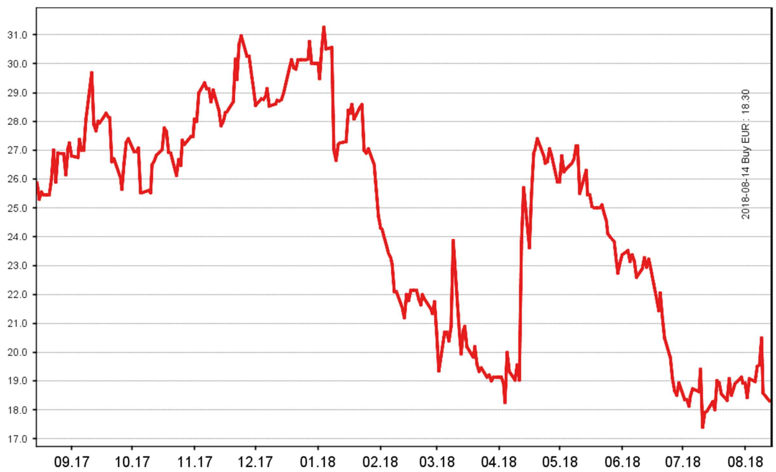
Rating	Number of stocks	% of Universe
Buy	109	53
Hold	92	45
Sell	4	2
Rating suspended	0	0
Total	**205**	**100**

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING …

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

Rating	Number of stocks	% of Universe
Buy	30	64
Hold	17	36
Sell	0	0
Rating suspended	0	0
Total	**47**	**100**

PRICE AND RATING HISTORY BAUER AS OF 14.08.2018



Markings in the chart show rating changes by Warburg Research GmbH in the last 12 months. Every marking details the date and closing price on the day of the rating change.

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