



Buy (old: Buy)

Price target: EUR 35.00 (old: EUR 30.00)

Price:	EUR 27.43	Next result:	Q3 28.11.17
Bloomberg:	NTG GR	Market cap:	EUR 241.4 m
Reuters:	NTGG.DE	Enterprise Value:	EUR 303.3 m

11-October-17

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Electric vehicle upside / capital increase / chg in est & PT

Nabaltec increased its share capital by 10% **collecting gross proceeds of € 18.4m** on Sept 14. While Nabaltec is expanding the capacity in the US for its core environmental friendly flame retardant mainly used in cables by 25% or c. 30k tpa, **management sees further growth opportunities and aimed for an increased financial flexibility** to be able to pursue further investments.

Opportunities are emerging with Lithium-ion batteries ("Li") for electric vehicles ("EV"), where Nabaltec has invented a special coating solution for poly-ethylene foils used as separator within the battery between anode and cathode. **Nabaltec's product aims to help to solve the conflict regarding the demand for faster charging & longer range** on the one side and safety & security on the other side.

Nabaltec's coating solution based on boehmite (a special aluminium oxide mineral), **prevents foils to shrink and ultimately a short circuit at high temperatures**. This is crucial for the stability of poly-ethylene foils, which allow for higher energy density in contrast to widely used poly-propylene foils but are less resistant to heat. Another option is an aluminium oxide, which Nabaltec also produces but sells at a lower price. Boehmite has a lower abrasiveness facilitating the production process and enhancing the safety of the battery as the foil is exposed to damages during production. We expect OEMs/producers to aim for a coating (50-50 split aluminium oxide/ boehmite).

Nabaltec has developed its boehmite over years and has been already **approved by major foil & battery producers such as Ube Maxell and Panasonic**. While demand has increased significantly over the last two years from 200 tonnes in 2015 to 1000 tonnes in 2017 (eH&A), the expected **exponential growth of EVs should become a major growth driver for Nabaltec which we had not accounted for** in the valuation.

A production forecasts for EVs of 13m units in 2020 (IHS), an adoption rate of boehmite of 50% and an avg of 2.75kg per battery imply a market of c. 18k tonnes in 2020. **Assuming a 33% market share and an avg price of 3.20 €/kg suggest a sales potential of c € 18-19m for Nabaltec at profit contribution margin > 25% in 2020.**

Our **DCF model for the EV related business yields an implied fair value of € 5 per share** (at a very conservative WACC of 13.0%; at a WACC of 10% € 8 and at a WACC of 8% € 12 respectively) - see next page - while the core business is valued at € 30 based on FCFY '19E. **NEW PT is hence set at € 35. continued...**

Y/E 31.12 (EUR m)	2013	2014	2015	2016	2017E	2018E	2019E
Sales	132.9	143.3	151.3	159.2	167.5	178.4	189.1
Sales growth	3 %	8 %	6 %	5 %	5 %	6 %	6 %
EBITDA	19.8	22.4	24.6	22.9	28.6	32.9	36.9
EBIT	10.5	12.7	14.5	12.2	16.8	20.3	24.3
Net income	2.6	5.5	6.7	5.3	9.9	12.5	15.5
Net debt	50.8	44.2	41.3	36.4	23.8	13.3	-1.5
Net gearing	99.4 %	83.9 %	71.7 %	63.6 %	28.5 %	14.3 %	-1.4 %
Net Debt/EBITDA	2.6	2.0	1.7	1.6	0.8	0.4	0.0
EPS pro forma	0.33	0.69	0.84	1.07	1.13	1.42	1.76
CPS	0.17	1.25	1.15	1.88	1.45	1.56	1.91
DPS	0.06	0.12	0.15	0.15	0.24	0.35	0.44
Dividend yield	0.2 %	0.4 %	0.5 %	0.5 %	0.9 %	1.3 %	1.6 %
Gross profit margin	48.7 %	47.4 %	48.2 %	49.3 %	50.0 %	50.2 %	50.7 %
EBITDA margin	14.9 %	15.6 %	16.3 %	14.4 %	17.1 %	18.5 %	19.5 %
EBIT margin	7.9 %	8.8 %	9.6 %	7.7 %	10.0 %	11.4 %	12.8 %
ROCE	7.3 %	8.4 %	8.9 %	7.1 %	9.4 %	11.1 %	12.3 %
EV/sales	2.2	2.0	1.9	1.8	1.8	1.6	1.5
EV/EBITDA	14.6	12.9	11.7	12.8	10.6	8.9	7.5
EV/EBIT	27.5	22.8	19.9	24.0	18.1	14.4	11.5
PER	82.9	39.9	32.7	25.7	24.3	19.4	15.6
Adjusted FCF yield	3.7 %	4.1 %	4.3 %	3.8 %	5.4 %	6.7 %	8.1 %

Source: Company data, Hauck & Aufhäuser Close price as of: 10.10.2017



Source: Company data, Hauck & Aufhäuser

High/low 52 weeks: 28.31 / 13.84
Price/Book Ratio: 2.9
Relative performance (SDAX):
 3 months 18.4 %
 6 months 63.5 %
 12 months 56.2 %

Changes in estimates

		Sales	EBIT	EPS
2017	old:	167.5	16.8	1.24
	Δ	-	-	-9.1%
2018	old:	178.4	20.3	1.56
	Δ	-	-	-9.0%
2019	old:	189.1	24.3	1.96
	Δ	-	-	-10.2%

Key share data:

Number of shares: (in m pcs) 8.8
 Authorised capital: (in € m) 4.0
 Book value per share: (in €) 9.5
 Ø trading volume: (12 months) 20,000

Major shareholders:

Free Float 44.0 %
 Family Heckmann 28.3 %
 Family Witzany 27.2 %

Company description:

Nabaltec is focused on the production of functional fillers for plastics such as non-hazardous and non-toxic flame retardants used in electrical and electronic equipment.

EV upside potential - DCF implies a value range of € 5-12 per share for this business opportunity

Nabaltec still has a **capacity of 4k tpa for Boehmite** at its main plant in Schwandorf and is expected to achieve a capacity utilisation of only 20% in 2017E (i.e. 1k tonnes). The **capacity could be doubled at moderate capex** of € 10m.

We had not factored in the EV potential in our estimates but especially not in the valuation, as the outlook for EVs was rather uncertain. Pressurised by Tesla, the Diesel Gate and governments (i.e. China), major OEMs have launched multibillion dollar investments and have defined targets for EV production. As a result, EV volumes are expected to grow significantly while strong absolute volume growth is seen to kick-in in 2020 at which point the EV production is seen to reach the inflection point due to a lower cost of ownership of EVs compared to combustion engine driven cars.

- § Bloomberg New Energy Finance expects an increase in the EV stock to 9-20m in 2020 from 2m in 2017 and an increase to **40-70m units by 2025 and 530m units by 2040**.
- § **IHS expects annual EV unit production to increase to 13m in 2020 and to 42m in 2027.**

Based on estimates and variables below we derive an **implied fair value range of € 5-12 per share** for Nabaltec's business opportunities in Li-batteries for EVs. Key assumptions are:

- § EV forecast from IHS (Information Handling Services Inc., US).
- § 50% share of boehmite by 2020 for coating separators in Li-batteries for EVs.
- § Market share for Nabaltec of 33% this niche market which even in 2025 looks too small (global market of € 120m in sales) for any large chemical company.
- § avg 2.75kg per battery.
- § avg price of € 3.500 per tonne or 3.50 €/kg declining by 3% p.a. due to automotive exposure.
- § Profit contribution margin (before internal cost allocation) > 25%.
- § WACC of conservatively 13.0% to reflect a high required return due to the early stage of the market. At a WACC of 8% the implied fair value would be € 12 per share.
- § LT growth of conservatively 2%.

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
EV production (m units) according to IHS	4.7	6.0	8.7	13.0	16.6	19.5	22.7	27.2	32.2	37.6	41.9
Share Boehmite (%)	25%	30%	40%	50%	50%	50%	50%	50%	50%	50%	50%
Avg kg per Li-battery	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Demand Boehmite (tpa)	3.2	5.0	9.6	17.9	22.8	26.8	31.2	37.4	44.3	51.7	57.6
Share Nabaltec (%)	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Demand Boehmite (tpa) Nabaltec	1.07	1.63	3.16	5.90	7.53	8.85	10.30	12.34	14.61	17.06	19.01
Price per tonne (€)	3500	3395	3293	3194	3099	3006	2915	2828	2743	2661	2581
Sales (€ m)	3.7	5.5	10.4	18.8	23.3	26.6	30.0	34.9	40.1	45.4	49.1
Profit contribution before internal cost allocation (€ m)	1.3	1.9	3.6	6.6	8.2	9.3	10.5	12.2	14.0	15.9	17.2
Net income contribution before internal cost allocation (€m)	0.9	1.4	2.5	4.6	5.7	6.5	7.4	8.6	9.8	11.1	12.0
EPS contribution before internal cost allocation (€)	0.10	0.15	0.29	0.52	0.65	0.74	0.84	0.97	1.12	1.26	1.37
Change in w/c (€m)		-0.4	-1.0	-1.7	-0.9	-0.7	-0.7	-1.0	-1.0	-1.1	-0.7
Capex (€m)			-5.0	-5.0			-5.0				
FCF (€m)	0.9	1.0	-3.4	-2.1	4.8	5.9	1.7	7.6	8.8	10.1	11.3
WACC (%)	13.0%										
LT growth (%)	2.0%										
Fair value (€m)	43.5										
Fair value per share (€)	4.94										

Source: Hauck&Aufhäuser, IHS

Background information separator foils

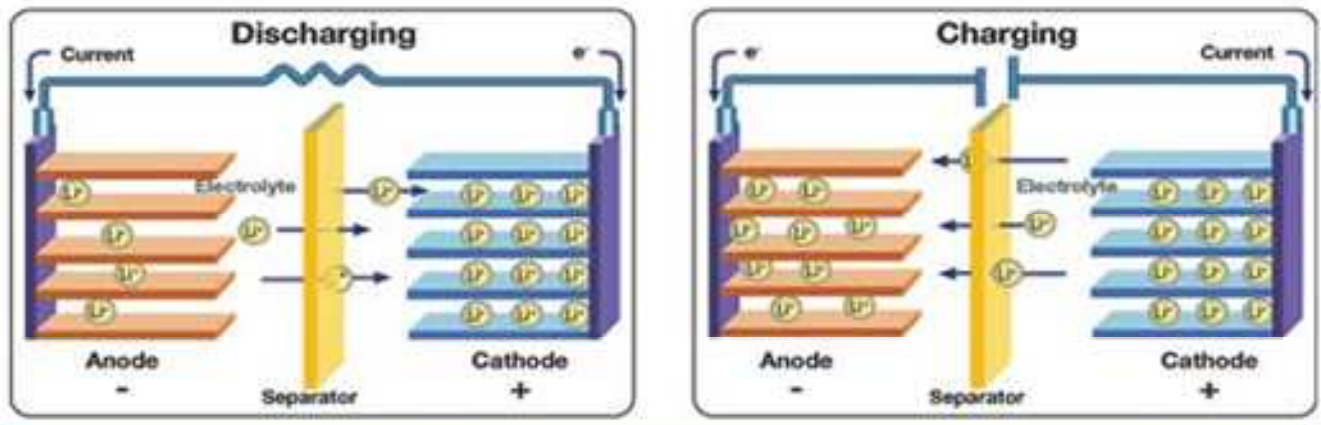
A separator is a permeable membrane placed between a battery's anode and cathode. The main function of a separator is to keep the two electrodes apart to prevent electrical short circuits while also allowing the transport of ionic charge carriers that are needed to close the circuit during the passage of current in an electrochemical cell. In fact, the **separator foil is the indispensable part for the mechanism that allows the Lithium battery cell to generate electricity.**

A separator generally consists of a polymeric membrane forming a microporous layer. It must be chemically and electrochemically stable with regard to the electrolyte and electrode materials and mechanically strong enough to withstand the high tension during battery construction. They are **highly important to batteries because their structure and properties considerably affect the battery performance, including the batteries energy and power densities, cycle life, and safety.**

Separators in most batteries are made of very simple plastic films that have the right pore size to allow ions to flow through while keeping the other components blocked. Battery separators need to have excellent porosity, lightness and durability. During the charging cycle, the positively charged lithium ions move from the cathode, through the separator, to the anode. During discharge, the positively-charged ions move from the anode, through the battery separators, to the cathode while the electrons move through the external load from the anode to the cathode, resulting in the current that provides power to the load. The lithium ions move through the separator material via an electrolyte solution.

The liquid swimming inside most Li batteries is highly flammable. If the battery short-circuits, i.e. by puncturing the incredibly thin sheet (2-4 µm in thickness) of plastic separating the positive and negative electrodes of the battery, the puncture point becomes the path of least resistance for electricity to flow. It heats up the flammable liquid electrolyte at that spot and if the liquid heats up quickly, the battery can explode.

Lithium-ion battery components



Source: Wikipedia

The next generation of lithium ion batteries for applications such as **e-mobility and energy storage is in the pipeline. These applications require batteries that demonstrate a high energy density and long lifecycle** as well as meeting superior safety standards. The higher the voltage is, the more likely the electrolytes are to combine in a way that makes them catch fire. In any case, even small faults on the separator causes lower battery performance, but most likely OEMs should be interested to prevent pictures in the press such as the following.



The solution are **flexible ceramic separators with excellent thermal and mechanical properties** improving the safety and reliability of devices at cell level, outclassing conventional battery separators. Coated foils allow battery manufacturers to **address an important problem: heat shrinkage of the battery's separator**, a problem that can seriously reduce battery life span and impact safety.

The incorporation of ceramic-coated polyethylene and polypropylene separators deliver better performance. If the separator is coated with ceramic particles, even if there is a substantial temperature increase, the **ceramic stays intact, and that keeps the anode and cathode from touching each other**. The technology works even up to temperatures as high as 140 °C and can help manufacturers improve the efficacy of their materials to make longer-lasting batteries without having to change other aspects of their production process.

These features are especially **crucial for EVs which have to overcome the range and charging issue and require higher battery performance without sacrificing safety and security**. The expanding market for electric and hybrid vehicles has created higher demand for safer and long-lasting batteries to expand the driving range.

Most polymers currently used in battery separators are polyolefin based materials, among them, polyethylene, polypropylene, and their blends such as polyethylene-polypropylene.

The Samsung issue



Everybody probably remembers the big financial and reputational disaster of the Samsung Galaxy 7 Smartphone. Samsung disclosed its findings as to what caused the device's batteries to overheat and catch fire. Based on the company's own investigation and independent scientific analysis of the issues by three consulting bodies, the overheating was caused by separate problems in batteries sourced from two different suppliers.

One general finding was that the **batteries had thin separators in general, which increased the risks of separator damage and short circuiting**. This is considered the worst possible failure because it will most certainly lead to fire and possibly even an explosion.

This suits the expectation of Prof. Dr. Bai-Xiang Xu from the Technical University Darmstadt, Germany, focusing on mechanics of functional materials including materials used in Li-batteries, who suspected the default happened due to a very thin separator. If the **separator is thinner, this results in higher energy density and faster charging**, because of the shorter diffusion path which however leads to a significant temperature increase in the battery.

One consequence is that an **uncoated separator will start to shrink** and thus no longer separate the cathode from the anode and as a second consequence the electrolyte will start to decompose in combustible gases catching fire at elevated temperatures. Finally the explosive burning due to short circuiting will take place and the battery catches fire.

Financials

Profit and loss (EUR m)	2013	2014	2015	2016	2017E	2018E	2019E
Net sales	132.9	143.3	151.3	159.2	167.5	178.4	189.1
<i>Sales growth</i>	2.9 %	7.8 %	5.6 %	5.2 %	5.2 %	6.5 %	6.0 %
Increase/decrease in finished goods and work-in-process	1.4	-0.3	1.9	0.4	0.0	0.0	0.0
Total sales	134.3	143.0	153.2	159.6	167.5	178.4	189.1
Other operating income	1.3	2.6	2.8	2.2	2.0	2.1	2.3
Material expenses	69.6	75.1	80.3	80.9	83.8	88.8	93.2
Personnel expenses	22.5	25.4	26.8	31.7	29.6	31.1	32.3
Other operating expenses	23.8	22.7	24.3	26.2	27.6	27.7	28.9
Total operating expenses	114.6	120.6	128.6	136.7	138.9	145.4	152.2
EBITDA	19.8	22.4	24.6	22.9	28.6	32.9	36.9
Depreciation	9.2	9.7	10.2	10.7	11.8	12.6	12.6
EBITA	10.5	12.7	14.5	12.2	16.8	20.3	24.3
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Impairment charges	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	10.5	12.7	14.5	12.2	16.8	20.3	24.3
Interest income	0.3	0.2	0.3	0.3	0.0	0.0	0.1
Interest expenses	6.2	4.3	3.9	3.3	2.6	2.6	2.2
Other financial result	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial result	-5.9	-4.2	-3.7	-3.1	-2.6	-2.6	-2.2
Recurring pretax income from continuing operations	4.7	8.5	10.8	9.2	14.2	17.8	22.1
Extraordinary income/loss	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Earnings before taxes	4.7	8.5	10.8	9.2	14.2	17.8	22.1
Taxes	0.9	2.5	3.4	3.9	4.3	5.3	6.6
Net income from continuing operations	3.7	6.1	7.4	5.3	9.9	12.5	15.5
Result from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income	3.7	6.1	7.4	5.3	9.9	12.5	15.5
Minority interest	1.1	0.6	0.7	-0.1	0.0	0.0	0.0
Net income (net of minority interest)	2.6	5.5	6.7	5.3	9.9	12.5	15.5
Average number of shares	8.0	8.0	8.0	8.0	8.2	8.8	8.8
EPS reported	0.33	0.69	0.84	0.67	1.21	1.42	1.76

Profit and loss (common size)	2013	2014	2015	2016	2017E	2018E	2019E
Net sales	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Increase/decrease in finished goods and work-in-process	1.0 %	-0.2 %	1.3 %	0.2 %	0.0 %	0.0 %	0.0 %
Total sales	101.0 %	99.8 %	101.3 %	100.2 %	100.0 %	100.0 %	100.0 %
Other operating income	1.0 %	1.8 %	1.9 %	1.4 %	1.2 %	1.2 %	1.2 %
Material expenses	52.4 %	52.4 %	53.1 %	50.8 %	50.0 %	49.8 %	49.3 %
Personnel expenses	16.9 %	17.7 %	17.7 %	19.9 %	17.7 %	17.4 %	17.1 %
Other operating expenses	17.9 %	15.8 %	16.1 %	16.5 %	16.5 %	15.5 %	15.3 %
Total operating expenses	86.2 %	84.2 %	85.0 %	85.8 %	82.9 %	81.5 %	80.5 %
EBITDA	14.9 %	15.6 %	16.3 %	14.4 %	17.1 %	18.5 %	19.5 %
Depreciation	6.9 %	6.8 %	6.7 %	6.7 %	7.0 %	7.1 %	6.7 %
EBITA	7.9 %	8.8 %	9.6 %	7.7 %	10.0 %	11.4 %	12.8 %
Amortisation of goodwill	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Amortisation of intangible assets	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Impairment charges	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
EBIT	7.9 %	8.8 %	9.6 %	7.7 %	10.0 %	11.4 %	12.8 %
Interest income	0.2 %	0.1 %	0.2 %	0.2 %	0.0 %	0.0 %	0.0 %
Interest expenses	4.6 %	3.0 %	2.6 %	2.1 %	1.6 %	1.5 %	1.2 %
Other financial result	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Financial result	-4.4 %	-2.9 %	-2.4 %	-1.9 %	-1.6 %	-1.4 %	-1.1 %
Recurring pretax income from continuing operations	3.5 %	5.9 %	7.1 %	5.8 %	8.5 %	10.0 %	11.7 %
Extraordinary income/loss	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Earnings before taxes	3.5 %	5.9 %	7.1 %	5.8 %	8.5 %	10.0 %	11.7 %
Tax rate	20.2 %	28.8 %	31.5 %	42.3 %	30.0 %	30.0 %	30.0 %
Net income from continuing operations	2.8 %	4.2 %	4.9 %	3.3 %	5.9 %	7.0 %	8.2 %
Income from discontinued operations (net of tax)	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Net income	2.8 %	4.2 %	4.9 %	3.3 %	5.9 %	7.0 %	8.2 %
Minority interest	0.8 %	0.4 %	0.5 %	0.0 %	0.0 %	0.0 %	0.0 %
Net income (net of minority interest)	2.0 %	3.8 %	4.4 %	3.4 %	5.9 %	7.0 %	8.2 %

Source: Company data, Hauck & Aufhäuser

Balance sheet (EUR m)	2013	2014	2015	2016	2017E	2018E	2019E
Intangible assets	0.2	0.4	0.5	0.5	0.5	0.5	0.5
Property, plant and equipment	111.8	112.0	116.6	125.3	138.5	135.9	131.3
Financial assets	0.0	0.0	0.0	0.1	0.1	0.1	0.1
FIXED ASSETS	112.0	112.4	117.1	125.9	139.1	136.5	131.9
Inventories	26.2	27.5	30.8	30.9	32.5	34.6	36.7
Accounts receivable	4.3	4.6	5.2	3.1	3.3	3.5	3.7
Other current assets	3.8	7.0	6.5	5.5	5.5	5.5	5.5
Liquid assets	29.7	27.2	42.3	36.2	38.4	47.7	62.5
Deferred taxes	0.3	0.1	0.0	1.1	0.0	0.0	0.0
Deferred charges and prepaid expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CURRENT ASSETS	64.2	66.4	84.8	76.8	79.7	91.3	108.4
TOTAL ASSETS	176.3	178.8	201.9	202.7	218.7	227.8	240.3
SHAREHOLDERS EQUITY	51.1	52.6	57.5	57.2	83.7	92.9	106.4
MINORITY INTEREST	-0.8	-0.2	0.6	0.6	0.0	0.0	0.0
Long-term debt	70.6	61.4	71.3	71.3	61.0	61.0	61.0
Provisions for pensions and similar obligations	18.9	25.3	28.0	38.1	38.1	38.1	38.1
Other provisions	1.6	2.4	2.6	2.4	2.1	2.1	2.1
Non-current liabilities	91.1	89.0	101.9	111.8	101.2	101.2	101.2
short-term liabilities to banks	9.9	10.0	12.2	1.2	1.2	0.0	0.0
Accounts payable	8.7	9.9	12.3	14.5	15.3	16.3	17.3
Advance payments received on orders	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other liabilities (incl. from lease and rental contracts)	13.3	15.9	15.9	16.4	16.4	16.4	14.4
Deferred taxes	2.9	1.5	1.5	1.0	1.0	1.0	1.0
Deferred income	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current liabilities	34.8	37.4	41.9	33.2	33.9	33.7	32.7
TOTAL LIABILITIES AND SHAREHOLDERS EQUITY	176.2	178.8	201.9	202.7	218.7	227.8	240.3

Balance sheet (common size)	2013	2014	2015	2016	2017E	2018E	2019E
Intangible assets	0.1 %	0.2 %	0.3 %	0.2 %	0.2 %	0.2 %	0.2 %
Property, plant and equipment	63.4 %	62.6 %	57.7 %	61.8 %	63.3 %	59.7 %	54.6 %
Financial assets	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
FIXED ASSETS	63.6 %	62.8 %	58.0 %	62.1 %	63.6 %	59.9 %	54.9 %
Inventories	14.9 %	15.4 %	15.2 %	15.2 %	14.9 %	15.2 %	15.3 %
Accounts receivable	2.4 %	2.5 %	2.6 %	1.5 %	1.5 %	1.5 %	1.5 %
Other current assets	2.1 %	3.9 %	3.2 %	2.7 %	2.5 %	2.4 %	2.3 %
Liquid assets	16.8 %	15.2 %	20.9 %	17.9 %	17.6 %	20.9 %	26.0 %
Deferred taxes	0.2 %	0.1 %	0.0 %	0.6 %	0.0 %	0.0 %	0.0 %
Deferred charges and prepaid expenses	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
CURRENT ASSETS	36.4 %	37.1 %	42.0 %	37.9 %	36.4 %	40.1 %	45.1 %
TOTAL ASSETS	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
SHAREHOLDERS EQUITY	29.0 %	29.4 %	28.5 %	28.2 %	38.2 %	40.8 %	44.3 %
MINORITY INTEREST	-0.4 %	-0.1 %	0.3 %	0.3 %	0.0 %	0.0 %	0.0 %
Long-term debt	40.0 %	34.3 %	35.3 %	35.2 %	27.9 %	26.8 %	25.4 %
Provisions for pensions and similar obligations	10.7 %	14.1 %	13.8 %	18.8 %	17.4 %	16.7 %	15.8 %
Other provisions	0.9 %	1.3 %	1.3 %	1.2 %	1.0 %	0.9 %	0.9 %
Non-current liabilities	51.7 %	49.8 %	50.5 %	55.1 %	46.3 %	44.4 %	42.1 %
short-term liabilities to banks	5.6 %	5.6 %	6.1 %	0.6 %	0.6 %	0.0 %	0.0 %
Accounts payable	4.9 %	5.5 %	6.1 %	7.2 %	7.0 %	7.1 %	7.2 %
Advance payments received on orders	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Other liabilities (incl. from lease and rental contracts)	7.5 %	8.9 %	7.9 %	8.1 %	7.5 %	7.2 %	6.0 %
Deferred taxes	1.6 %	0.8 %	0.7 %	0.5 %	0.5 %	0.4 %	0.4 %
Deferred income	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Current liabilities	19.7 %	20.9 %	20.8 %	16.4 %	15.5 %	14.8 %	13.6 %
TOTAL LIABILITIES AND SHAREHOLDERS EQUITY	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %

Source: Company data, Hauck & Aufhäuser

Cash flow statement (EUR m)	2013	2014	2015	2016	2017E	2018E	2019E
Net profit/loss	3.7	6.1	7.4	5.3	9.9	12.5	15.5
Depreciation of fixed assets (incl. leases)	9.2	9.7	10.2	10.7	11.8	12.6	12.6
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	2.2	2.1	2.7	2.8	0.0	0.0	0.0
Cash flow from operations before changes in w/c	15.1	17.9	20.2	18.8	21.7	25.1	28.1
Increase/decrease in inventory	-2.6	-1.3	-3.2	-0.1	-1.6	-2.1	-2.1
Increase/decrease in accounts receivable	-1.3	-0.3	-0.6	2.1	-0.2	-0.2	-0.2
Increase/decrease in accounts payable	-2.9	1.2	2.4	2.2	0.8	-1.0	-1.0
Increase/decrease in other working capital positions	0.0	0.0	-1.5	0.0	0.0	0.0	0.0
Increase/decrease in working capital	-6.8	-0.4	-3.0	4.3	-1.0	-3.3	-3.3
Cash flow from operating activities	8.3	17.5	17.2	23.0	20.7	21.7	24.8
CAPEX	2.6	10.0	13.1	17.0	24.4	10.0	8.0
Payments for acquisitions	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Financial investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from investing activities	-2.6	-10.0	-13.1	-17.0	-25.0	-10.0	-8.0
Cash flow before financing	5.8	7.5	4.2	6.0	-4.2	11.7	16.8
Increase/decrease in debt position	9.7	-10.0	12.2	-11.8	-10.3	-1.2	0.0
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	0.0	0.0	0.0	0.0	18.0	0.0	0.0
Dividends paid	0.0	0.5	1.0	1.2	1.2	1.2	2.0
Others	0.0	0.0	-0.6	0.6	0.0	0.0	0.0
Effects of exchange rate changes on cash	0.0	0.0	0.4	0.2	0.0	0.0	0.0
Cash flow from financing activities	9.7	-10.4	10.6	-12.4	6.5	-2.4	-2.0
Increase/decrease in liquid assets	15.5	-2.9	15.1	-6.1	2.2	9.3	14.8
Liquid assets at end of period	30.1	27.2	42.3	36.2	38.4	47.7	62.5

Source: Company data, Hauck & Aufhäuser

Key ratios (EUR m)	2013	2014	2015	2016	2017E	2018E	2019E
P&L growth analysis							
Sales growth	2.9 %	7.8 %	5.6 %	5.2 %	5.2 %	6.5 %	6.0 %
EBITDA growth	4.9 %	13.2 %	10.2 %	-7.0 %	24.8 %	43.8 %	28.9 %
EBIT growth	5.0 %	20.3 %	14.2 %	-15.5 %	37.2 %	66.2 %	44.5 %
EPS growth	28.5 %	107.6 %	22.3 %	-20.4 %	81.1 %	111.6 %	45.1 %
Efficiency							
Total operating costs / sales	86.2 %	84.2 %	85.0 %	85.8 %	82.9 %	81.5 %	80.5 %
Sales per employee	320.3	341.3	348.6	353.8	372.2	396.4	420.2
EBITDA per employee	47.6	53.3	56.8	50.9	63.5	73.2	81.9
Balance sheet analysis							
Avg. working capital / sales	14.4 %	15.3 %	15.2 %	13.6 %	11.9 %	11.6 %	11.5 %
Inventory turnover (sales/inventory)	5.1	5.2	4.9	5.2	5.2	5.2	5.2
Trade debtors in days of sales	11.8	11.6	12.5	7.1	7.1	7.1	7.1
A/P turnover [(A/P*365)/sales]	23.9	25.3	29.6	33.3	33.3	33.3	33.3
Cash conversion cycle (days)	103.6	97.2	96.7	80.8	82.1	82.4	83.1
Cash flow analysis							
Free cash flow	5.8	7.5	4.2	6.0	-3.7	11.7	16.8
Free cash flow/sales	4.4 %	5.2 %	2.7 %	3.8 %	-2.2 %	6.6 %	8.9 %
FCF / net profit	218.6 %	136.5 %	62.3 %	112.5 %	-37.1 %	94.2 %	108.7 %
Capex / depre	27.8 %	103.1 %	128.4 %	159.2 %	206.8 %	79.4 %	63.5 %
Capex / maintenance capex	81.4 %	133.3 %	163.3 %	212.6 %	275.0 %	125.0 %	100.0 %
Capex / sales	1.9 %	7.0 %	8.6 %	10.7 %	14.6 %	n/a	n/a
Security							
Net debt	50.8	44.2	41.3	36.4	23.8	13.3	-1.5
Net Debt/EBITDA	2.6	2.0	1.7	1.6	0.8	0.4	0.0
Net debt / equity	1.0	0.8	0.7	0.6	0.3	0.1	0.0
Interest cover	1.7	2.9	3.7	3.7	6.5	7.8	10.9
Dividend payout ratio	18.1 %	17.5 %	18.0 %	22.4 %	20.0 %	25.0 %	25.0 %
Asset utilisation							
Capital employed turnover	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Operating assets turnover	1.0	1.1	1.1	1.1	1.1	1.1	1.2
Plant turnover	1.2	1.3	1.3	1.3	1.2	1.3	1.4
Inventory turnover (sales/inventory)	5.1	5.2	4.9	5.2	5.2	5.2	5.2
Returns							
ROCE	7.3 %	8.4 %	8.9 %	7.1 %	9.4 %	11.1 %	12.3 %
ROE	5.2 %	10.4 %	11.6 %	9.4 %	11.9 %	13.4 %	14.5 %
Other							
Interest paid / avg. debt	8.2 %	5.7 %	5.1 %	4.3 %	3.9 %	3.9 %	3.6 %
No. employees (average)	415	420	434	450	450	450	450
Number of shares	8.0	8.0	8.0	8.0	8.2	8.8	8.8
DPS	0.1	0.1	0.2	0.2	0.2	0.4	0.4
EPS reported	0.33	0.69	0.84	0.67	1.21	1.42	1.76
Valuation ratios							
P/BV	4.3	4.2	3.8	3.8	2.9	2.6	2.3
EV/sales	2.2	2.0	1.9	1.8	1.8	1.6	1.5
EV/EBITDA	14.6	12.9	11.7	12.8	10.6	8.9	7.5
EV/EBITA	27.5	22.8	19.9	24.0	18.1	14.4	11.5
EV/EBIT	27.5	22.8	19.9	24.0	18.1	14.4	11.5
EV/FCF	50.0	38.5	69.5	48.8	-82.4	24.9	16.5
Adjusted FCF yield	3.7 %	4.1 %	4.3 %	3.8 %	5.4 %	6.7 %	8.1 %
Dividend yield	0.2 %	0.4 %	0.5 %	0.5 %	0.9 %	1.3 %	1.6 %

Source: Company data, Hauck & Aufhäuser

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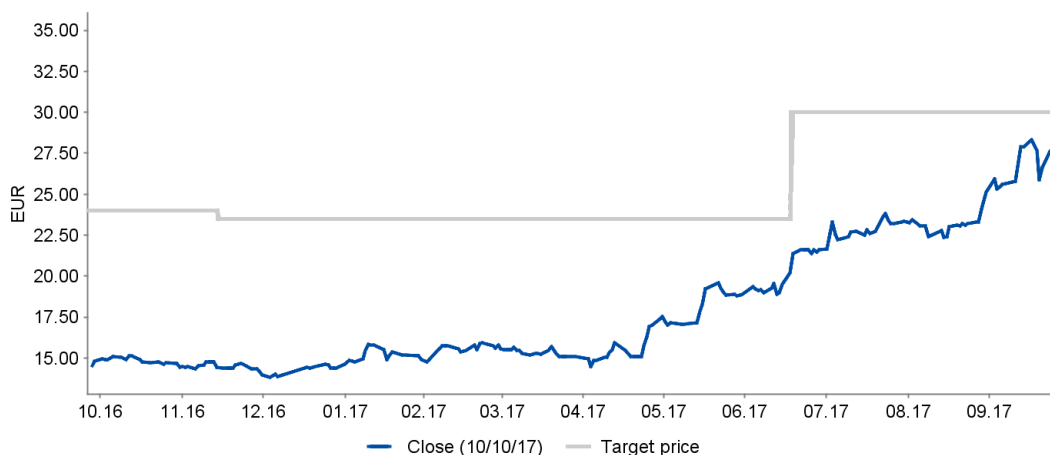
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Company	Disclosure
Nabaltec AG	2, 3,8

Historical target price and rating changes for Nabaltec AG in the last 12 months

**Price and Rating History
Nabaltec AG as of 11/10/17**

Initiation coverage
14-April-11



Company	Date	Analyst	Rating	Target price	Close
Nabaltec	30.08.2017	Berresch, CFA, Sascha	Buy	EUR 30,00	EUR 22,36
	04.07.2017	Berresch, CFA, Sascha	Buy	EUR 30,00	EUR 21,40
	31.05.2017	Berresch, CFA, Sascha	Buy	EUR 23,50	EUR 18,30
	04.05.2017	Berresch, CFA, Sascha	Buy	EUR 23,50	EUR 15,08
	22.03.2017	Berresch, CFA, Sascha	Buy	EUR 23,50	EUR 15,45
	20.03.2017	Berresch, CFA, Sascha	Buy	EUR 23,50	EUR 15,49

30.11.2016 Berresch, CFA, Sascha Buy EUR 23,50 EUR 14,45

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Date of publication creation: 11/10/2017 09:35 AM

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