

NanoFocus AG

Date: 05/17/2016

Recommendation		Buy	as of	-
before:		-		
Target price (EUR)		5.80		
Price (Xetra) (EUR)		3.10		
05/13/16 1:19 PM				
Share price potential		87%		

Company data	
Sector	Industrial measurement technology
Market segment	Entry Standard
ISIN	DE0005400667
Reuters	N2FGn.DE
Bloomberg	N2F

Share data	
Shares (m)	4.200
Freefloat	60.4%
Market cap. (EURm)	13.0
∅ Trading Volume	3,538
52W High	07/06/15 EUR4.57
52W Low	02/24/16 EUR2.75

Events	
Q4 figures	05/31/2016
Annual General Meeting	06/29/2016

Performance		
	absolut	related to:
		DAX
1 month	0.4%	1.1%
3 months	4.3%	-6.0%
6 months	2.6%	10.4%
12 months	-1.6%	12.2%

Index weighting	
Entry Standard All Share	0.6%

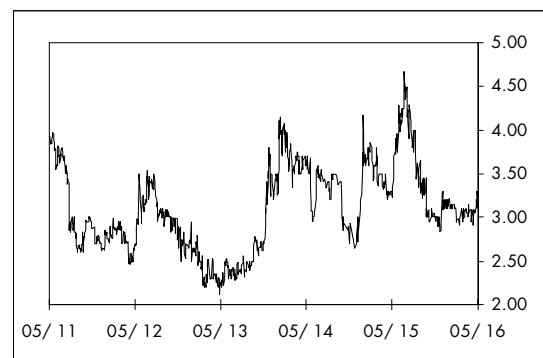
Important strategic order for fully automated µsurf cylinder - "backward integration" with BMT on the product side

- ⇒ The recently received order for delivering a pilot plant of the fully automated µsurf cylinder is a milestone for NanoFocus, in our opinion. With two serial productions in the semiconductor business and the serial production of the fully automated µsurf cylinder at the end of 2017 NanoFocus is increasingly reaching predictable serial demand and scaling.
- ⇒ The acquisition of Breitmeier Messtechnik (BMT) enables NanoFocus to develop the fully automated µsurf cylinder more quickly. NanoFocus has also the opportunity to enter the production line of automotive clients with tactile BMT systems.
- ⇒ The integration of BMT should burden EPS 2016E (EURO.07 (before: 0.25); 2017E: 0.23 (before: 0.37); dilution from capital increase accounted for). The EPS 2015E loss (EUR-0.38 (before: +0.07)) should not be overrated.
- ⇒ The BMT acquisition is value-increasing (Daimler as a new client, among others), in our opinion. We thus confirm our Buy recommendation for the share with a price target increased to EUR5.80 (before: 5.50).

	2012	2013	2014	2015E	2016E	2017E
Sales	8.9	8.2	11.2	11.0	15.2	18.2
Sales growth	8.7%	-8.5%	37.2%	-2.0%	38.2%	19.6%
EBIT	0.3	-1.2	0.4	-1.0	0.6	1.3
EBIT margin	3.0%	neg.	3.3%	neg.	4.2%	7.4%
Net income	0.1	-1.4	0.7	-1.3	0.3	1.0
Net margin	1.7%	neg.	6.1%	neg.	1.9%	5.4%
EPS	0.05	-0.47	0.23	-0.38	0.07	0.23
DPS	0.00	0.00	0.00	0.00	0.00	0.00
Net financial debt/EBITDA	-0.5	-	0.8	14.7	1.8	1.3
Net Gearing	-0.1	0.1	0.1	0.2	0.2	0.2
Free cash flow (FCF)	-0.4	-1.1	-0.6	-1.3	-0.4	-0.2
FCF per share	-0.14	-0.37	-0.19	-0.40	-0.10	-0.04
EV / sales	0.9	1.0	1.0	1.3	1.0	0.8
EV / EBITDA	8.5	neg.	10.5	121.3	11.3	7.2
EV / EBIT	30.1	neg.	31.5	neg.	23.8	11.4
EV / FCF	neg.	neg.	neg.	neg.	neg.	neg.
P/E ratio	57.4	neg.	15.2	neg.	44.6	13.2
P/B ratio	0.9	0.9	1.1	1.0	1.1	1.0
Dividend yield	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Figures in EURm except EPS, DPS and FCF per share (EUR), PERs based on average share prices

Source: Independent Research, NanoFocus AG



Source: NanoFocus AG, Bloomberg

Contact

 Independent Research GmbH

Friedrich-Ebert-Anlage 36
60325 Frankfurt am Main

Telephone: +49 (69) 971490-0
Telefax: +49 (69) 971490-90
Internet: www.irffm.de

Author: Stefan Röhle, CFA (analyst)

E-Mail: sroehle@irffm.de

Please take note of the information concerning the preparation of this document, the information concerning potential conflicts of interest, the compulsory information required by Section 34b WpHG (Wertpapierhandelsgesetz - German Securities Trading Act), and the liability statement at the end of this document. This financial analysis in the meaning of Section 34b WpHG shall only be distributed to professional clients or eligible counterparties according to Section 31a WpHG.

Table of contents

Investment Highlights	1
Table of contents	2
SWOT analysis	3
Valuation	4
Financial, balance sheet and income analysis	6
→ Income analysis	6
→ Financial analysis	9
Company overview	11
→ Company profile	11
→ Management	12
→ History	13
→ Company contact and shareholder structure	14
Business model and strategic perspectives	15
Market and competition	18
Appendix	22
Disclaimer	28

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

STRENGTHS and OPPORTUNITIES

- Transformation from a supplier of special equipment into a manufacturer of process tools for production
 - Higher quantities
 - Rising project volumes
 - Economies of scale (mass production; falling R&D costs compared to sales)
- The first two products that can be used in in-line production in the Semiconductor unit entered serial production (one more is about to enter serial production)
- Fully automated μ surf cylinder should follow as the third serial product in 2017 - order for serial development recently given
- Successful restructuring of the distribution of standard products
- Takeover of BMT allows accelerated development of the μ surf cylinder and access to client that use tactile systems
- High demand for more efficient machines and production techniques
- Global demand for user-friendly, efficient and fast high-level quality measurement devices

WEAKNESSES and THREATS

- Delays of projects for example the full automation of the μ surf cylinder
- Dependency on larger clients of important projects (μ surf cylinder, μ surf semicon)
- Refinancing and working capital management remain an important topic with regard to planned large projects and expected high-volume orders
- Optical and confocal measurement technology has not fully established itself especially in difficult production environments - tactile systems are still often used
- Possibility of market entry of competitors with new patents or superior technology

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Valuation

Three-stage DCF model

Rising EBIT margin reflects increasing scalability

In our three-stage discounted cash flow model (DCF model) we have employed our specific forecasts in our detailed planning period until and including 2017. As of 2018 we switch to a trend analysis. Until 2020 (before: 2018) we assume the sales growth to fall to 7.5%. The EBIT margin rises to 13.0% until 2020 (before: 2019). This reflects the fact that we expect NanoFocus to generate significant economies of scale with concrete projects in the Semiconductor and Automotive/Powertrain units thus changing from an R&D-driven towards a manufacturing company (in-line production). One product in the Semiconductor unit has entered serial production in 2015 and one is entering soon. NanoFocus has developed the pre-stage of the fully automated μ surf cylinder together with Breitmeier Messtechnik in 2015. In 2016, we expect the final development and acceptance of the serial model that should boost sales and earnings as of 2017. In phase III (terminal value) we expect the free cash flow to grow by 2.0% along with inflation.

DCF model										
EURm	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Sales	15.2	18.2	21.5	24.2	26.0	28.0	30.1	32.3	34.8	36.5
Growth y/y	38.2%	19.6%	18.1%	12.8%	7.5%	7.5%	7.5%	7.5%	7.5%	5.0%
EBIT margin	4.2%	7.4%	8.1%	10.5%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%
EBIT	0.6	1.3	1.7	2.6	3.4	3.6	3.9	4.2	4.5	4.7
- Income taxes	0.0	0.0	-0.1	-0.2	-0.6	-1.0	-1.1	-1.2	-1.3	-1.4
+ Amortisation and depreciation	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.4
+/- Change in long-term provisions	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4
+/- Others	-0.4	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Gross operating cash flow	1.0	1.9	2.4	3.4	4.2	4.1	4.4	4.7	5.0	5.3
-/+ Change in net working capital	-0.6	-1.2	-1.2	-1.0	-0.5	-0.5	-0.5	-0.6	-0.6	-0.6
-/+ Investments in fixed assets	-0.5	-0.7	-0.8	-1.0	-1.1	-1.2	-1.3	-1.4	-1.5	-1.4
Free cash flow	-0.2	0.1	0.4	1.4	2.6	2.4	2.6	2.8	3.0	3.3
Present values	-0.2	0.1	0.3	1.0	1.6	1.4	1.4	1.3	1.3	1.3
Total present values	9.5									
Terminal value	17.1									
Value of operating business	26.7									
+ Cash and cash equivalents	2.8									
- Financial debt	-5.1									
Fair market value of equity	24.4									
Number of shares outstanding (m)	4.200									
Fair value per share (EUR)	5.82									

in % of total value: 64%

Model parameters / entity DCF model					
Target capital structure:	Equity:	85%	Financial debt:	15%	
Risk-free rate:	3.0%	Beta:	1.5	Risk prem. debt:	4.0%
		Risk prem.:	5.0%	Tax shield:	30.0%
		Cost of equity:	10.5%	Cost of debt:	4.9%
Growth FCF:	2.0%	WACC:	9.7%	Date:	05/17/16

Source: Independent Research

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

		Discount rate (WACC)			
		9.2%	9.7%	10.2%	10.7%
Growth (TV)	2.0%	6.50	5.82	5.31	4.87
	2.5%	6.76	6.12	5.57	5.09
	3.0%	7.19	6.47	5.86	5.33
	3.5%	7.69	6.88	6.20	5.62

Source: Independent Research

WACC of 9.7%

We calculate a WACC of 9.7%. The relatively high figure is owed to the beta of 1.5 (risk-free interest rate of 3.0% assumed) that reflects the volatility and risk of the business model (small company; still R&D driven). On the other hand, we have assumed an equity ratio of 85% (at market value) in the long-term target capital structure as NanoFocus has relatively low financial debt. We have assumed a debt interest rate of 7.0% before tax and 4.9% after tax, based on the interest rates for the loans already granted (between 5.9% and 6.3%) and the approved credit line.

Fair value of EUR5.82 (before: 5.53) per share

Fair value increased due to takeover of Breitmeier Messtechnik

We have calculated a fair value of equity of EUR24.4m (before: 18.2). This is on the one hand owed to the latest capital increase in November 2015 (+0.900m shares at EUR3.00 per share; gross issuing proceeds: EUR2.7m). On the other hand, the takeover of Breitmeier Messtechnik provides additional value added. Based on 4.200m (before: 3.300) shares we have calculated a fair value per share of EUR5.82 (before: 5.53), now.

Share is currently valued only slightly above book value

Valuation multiples should further improve

Based on the fair value, the EV/EBIT ratio 2016E is 41.6 and the P/E ratio 2016E is 83.7. On the one hand, NanoFocus benefits from the first two serial productions in the Semiconductor unit. Also, the planned goodwill amortisation should decrease by a net EURO.2m approximately. On the other hand, there will be one-off expenses of about EURO.4m for moving into the new corporate building and integration expenses at the acquired Breitmeier Messtechnik. In 2017, there will be positive sales and earnings effects from the beginning serial production of the fully automated μ surf cylinder that will also affect the valuation (EV/EBIT 2017E: 19.9; P/E ratio 2017E: 24.8). It must also be considered that the share is currently valued with a price-to-book ratio 2016E of 1.1 and thus only slightly above its book value - and that even though NanoFocus' equity capital is lower anyhow due to the goodwill amortisation of EUR3.8m since 2004 according to the German Commercial Code compared to accounting under IFRS rules. This is rather unusual for a growth share like NanoFocus.

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Financial, balance sheet and income analysis

Income analysis

Project delays in the Automotive/Powertrain unit

NanoFocus returns to its usual seasonality in H1 2015

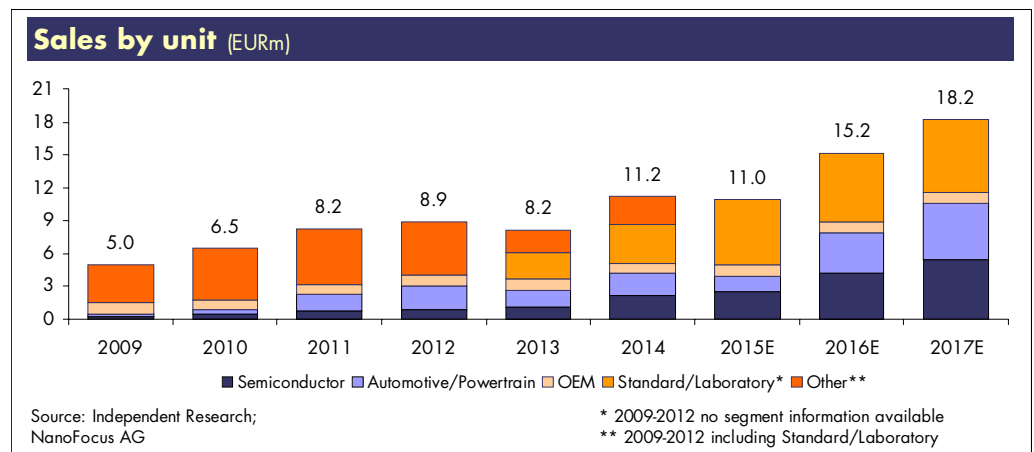
As we had expected, NanoFocus generated weaker sales of EUR3.7m (4.6; our forecast: 3.8) due to the Volkswagen issue in H1 2015. NanoFocus thus returned to its usual strong seasonality. In the previous year, the company had benefited from project delays. Projects from 2013 have been completed in H1 2014. According to CFO Sorg, there were also project delays in the Automotive/ Powertrain unit (sales reduced by about EUR750k).

Key figures of the income statement								
Unit: Financial year: Accounting standard:	EURm Dec. 31 *HGB		H1 2014	H1 2015	H1 2015E	H1 2015	H2 2015E	FY 2015E
	Reported	Reported	IR forecast	Reported	IR forecast	IR forecast		
Sales	4.6	3.7	3.8	3.7	7.3	11.0		
growth yoy	69.0%	-18.1%	-18.0%	-18.1%	9.1%	-2.0%		
Total operating performance	4.9	4.4	4.3	4.4	7.4	11.8		
EBIT	-0.6	-1.6	-1.3	-1.6	1.1	-0.5		
EBIT margin	neg.	neg.	neg.	neg.	15.8%	neg.		
Net income	-0.8	-1.8	-1.5	-1.8	1.0	-0.7		
as percentage of sales	neg.	neg.	neg.	neg.	14.2%	neg.		
Earnings per share (EUR)	-0.27	-0.57	-0.49	-0.57	0.29	-0.22		

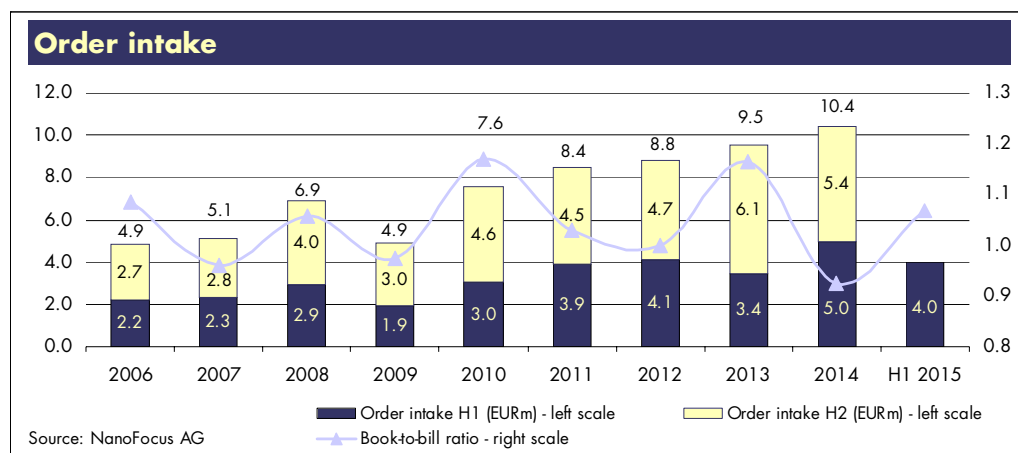
Source: Independent Research (IR); NanoFocus AG *HGB: German Commercial Code

Stable operating costs show scalability

The clearly evident cost discipline (operating costs: EUR3.9m (3.9; H2 2014: 3.8)) is noteworthy. In our opinion, it shows the beginning scalability of the business model. The EBIT loss that increased to EUR-1.6m (-0.6; our forecast: -1.3) thus is exclusively owed to the lower top line due to the usual seasonality.



Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document



EBIT loss expected for 2015

Delay of high-margin projects burdens 2015 earnings

NanoFocus has confirmed its sales forecast for 2015 (at the lower end of between EUR11m and EUR12m). The EBIT margin target was reduced to 1-2% (so far: 3-5%) at the beginning of the year. CFO Sorg pointed out project delays especially in the high-margin Automotive/Powertrain unit with a volume of EURO.75m due to the emissions scandal at Volkswagen, among others. In contrast, the business in the Standard/Laboratory unit clearly surpassed expectations. However, it has a weaker margin. Also, there were up-front costs for the acquisition of Breitmeier Messtechnik (BMT). We thus now assume an EBIT loss of EUR-1.0m (before: +0.4) at sales of EUR11.0m (before: 12.0) for 2015. EBITDA (our forecast: +EURO.1m) should be positive, however.

Two measurement systems in serial production

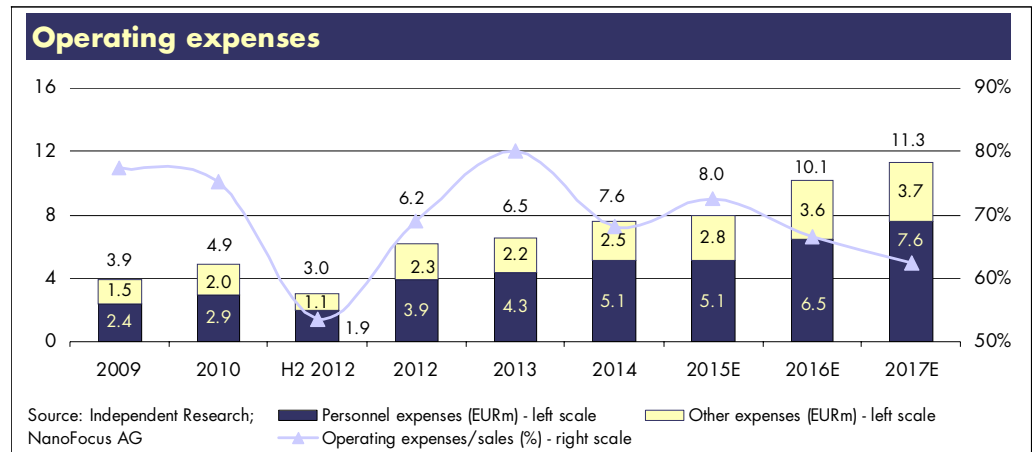
Growth trend should accelerate in 2016 and 2017

In 2016 and 2017, we expect a clear increase in growth - not least as NanoFocus should have generated a record order inflow and significant order backlog in 2015, in our opinion. Even though slightly delayed, the acceptance of a prototype by a major semiconductor group will follow shortly. NanoFocus then will have entered already two products in serial production in the Semiconductor unit. According to CFP Sorg, there already are at least two orders for each serial product in 2016 and thus sales of at least EUR2.0m. In our opinion, the takeover

Unit: EURm	2008	2009	2010	2011	2012	2013	2014	2015E
Financial year: Dec. 31	Reported	Reported	Reported	Reported	Reported	Reported	Reported	IR forecast
Accounting standard: HGB*								
Net income	0.0	-0.1	0.0	-0.1	0.0	0.3	0.1	0.3
Total non-current assets	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-
Total current assets	0.8	0.9	0.6	0.7	0.6	0.7	0.8	-
Total assets	0.9	1.0	0.6	0.8	0.7	0.8	1.0	-
Total equity	-0.2	-0.3	-0.2	-0.3	-0.2	0.1	0.2	-
Provisions	0.1	0.2	0.1	0.2	0.0	0.0	0.0	-
Total liabilities	0.9	1.1	0.7	0.9	1.0	0.7	0.7	-

Source: Independent Research; Federal Gazette *HGB: German Commercial Code

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document



Strategic order from Volkswagen for fully automated µsurf cylinder received

of Breitmeier Messtechnik (sales: EUR2.7m; EBIT: EURO.3m) carried out in November strengthens NanoFocus essentially in four important strategic and product aspects:

- BMT has two automated tactile measurement systems for measuring cylinder walls and roughness in the production line. The BMT system will be supplied with the µsurf cylinder sensor in the future. NanoFocus has recently received a strategic order for this fully automated µsurf cylinder (delivery of a pilot device still in 2016; series at the end of 2017).
- NanoFocus gains access to Daimler and its suppliers (BMT is listed there) via BMT. Also, it will be easier for NanoFocus to get first contact in future as the automotive industry is already using tactile systems as those provided by BMT.
- NanoFocus gains access to commercial vehicle manufacturers such as Scania and MAN.
- BMT is highly profitable and can support NanoFocus on the cash flow side.

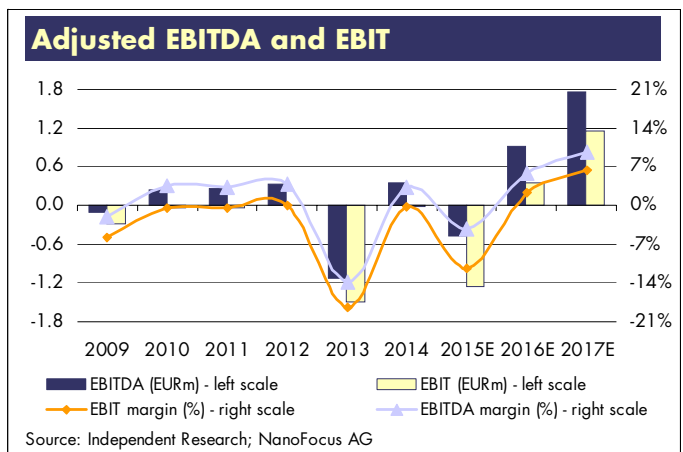
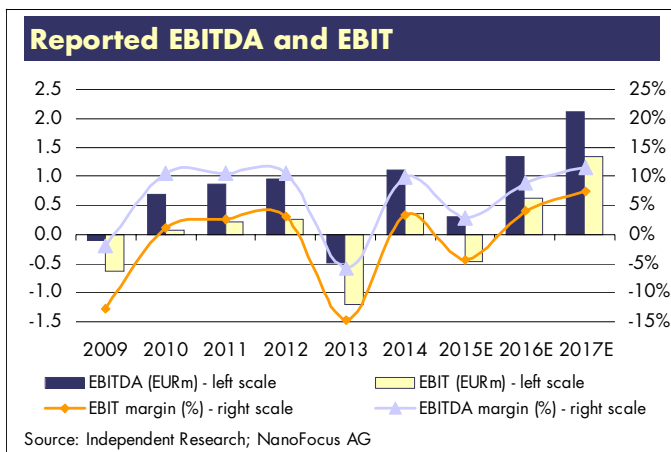
Organic sales expected to increase as of 2017

In 2016, sales of EUR15.2m (before: 15.4) should still be subject to integration effects at BMT. In contrast, we expect higher sales of EUR18.2m (before: 17.5) in 2017.

Clear earnings increase in 2016 despite relocation and integration costs

NanoFocus on its way to lasting profitability

We expect that the costs for moving into the new company headquarters (EURO.4m) and the integration of BMT will slightly burden EBIT in 2016. It is reflected by our EBIT forecast of EURO.6m (before: 1.0). In 2017, we expect a clear EBIT increase to EUR1.3m (before: 1.5) - including some ramp up costs for the fully automated µsurf cylinder.



Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Financial analysis

Still solid equity ratio

The low equity in H1 2015 that is owed to seasonality is built up again towards the end of the year

NanoFocus still gives an individual financial statement of the AG. The subsidiaries NanoFocus Inc. (US), NanoFocus Pte. Ltd. (Singapore) and mikroskin GmbH (Germany; to be divested) are not consolidated in that. This, however, is hardly relevant due to the limited contribution to earnings. Overall, NanoFocus (individual financial statement) still had a solid equity ratio of 65% as at June 30, 2015 (December 31, 2014: 65%). It is owed to usual seasonal half-year loss that the equity capital fell to EUR8.4m as at June 30, 2015 (December 31, 2014: 9.2) as is true for the balance sheet total that declined to EUR13.1m as at June 30, 2015 (December 31, 2014: 14.3). This effect evens out over the total year.

Capital increase to finance the BMT acquisition completely issued

Equity ratio of about 60% even after the BMT acquisition

NanoFocus will give a consolidated financial statement in future that will also include the lately acquired Breiteimer Messtechnik (BMT). As part of the consolidation we expect the balance sheet total to expand to EUR20.5m as at December 31, 2015 (December 31, 2014: 14.3). To finance the takeover of BMT, NanoFocus has successfully and fully sold a subscription rights capital increase with gross issuing proceeds of EUR2.7m (+0.900m new share at EUR3.00 per share) at the end of November 2015. We thus still expect a solid equity ratio of about 60%.

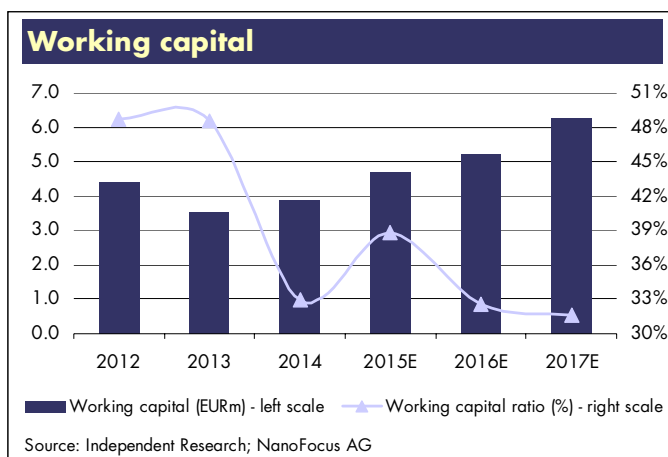
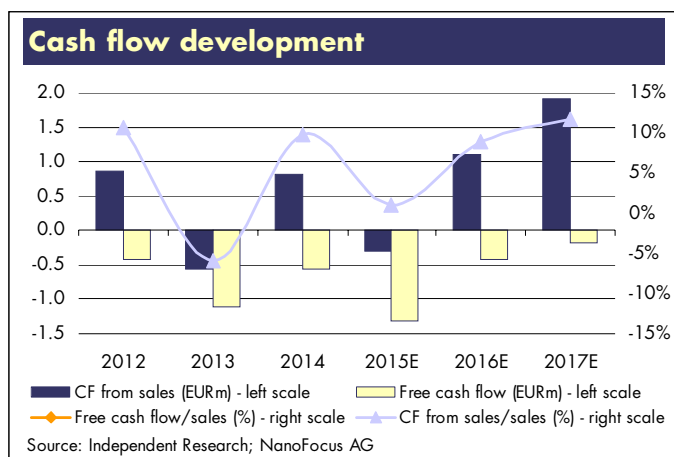
Structure of BMT transaction preserves liquidity

No information on the acquisition price for BMT was given. We assume that the proceeds from the capital increase almost cover the acquisition price. In our opinion, the structure of the transaction should be easy on NanoFocus' liquidity as one part of the price has to be paid in instalments and the price also includes an earn-out component, which is common practice. NanoFocus thus was able to strengthen its liquidity position through the capital increase.

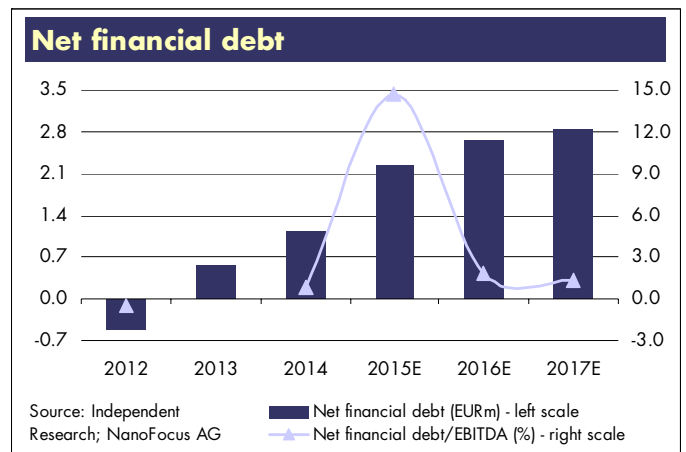
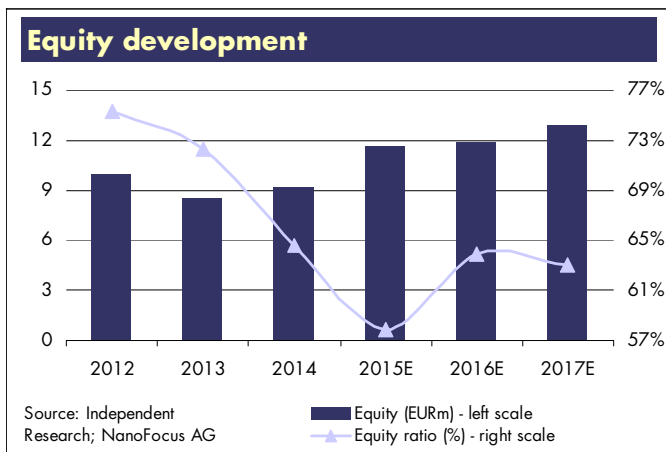
Working capital investment and seasonality remain on the agenda

Liquidity requirement: rising production volumes, prototype development, demonstration devices and seasonality

An improvement of the liquidity basis is essential mainly against the background of the still high investments in working capital, in our opinion. Between 2015 and 2017 we expect an expansion of the working capital by EUR2.4m. This is on the one hand owed to the expansion of the production volumes as part of the new serial productions where the sales per measurement system should clearly increase. On the other hand, the development of ever more complex prototypes ties up capital and it becomes necessary to increase the number



Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document



Financing of working capital of BMT

of demonstration devices. According to CFO Sorg, one-off investments in BMT's working capital must be expected as part of the takeover as the company was taken over without debt and working capital and some positions were financed outside the balance sheet, especially inventories.

NanoFocus raises cash flow power

Investments in serial production

Despite the high investments into working capital, prototypes and demonstration devices (accounted for as inventory) we expect a negative operating cash flow in 2015 (EUR-0.6m) and a positive operating cash flow again in 2016 and 2017 (EUR+0.5m and EUR+0.8m). NanoFocus thus raises its cash flow power.

Investments cause negative free cash flow

However, due to additional investments at the now two production sites Oberhausen (NanoFocus) and Ettlingen (BMT; expansion announced) especially as part of the expanded serial production we still expect negative free cash flows (without acquisition costs). Our forecasts for the free cash flow of EUR-1.3m (before: -0.5) in 2015 and EUR-0.2m in 2017 (before: 0.0) reflect the forced growth of the group now enlarged by BMT.

We expect further financing measures are likely due to the growth acceleration with BMT

Future financing with higher debt share possible

The expected development of the free cash flow, the payment of instalments for BMT, seasonality with its high demand for pre-financing towards the middle of the year (estimated: EUR>2m) and regular repayment of debt (about EURO.3m p.a.) show that growth financing remains on NanoFocus' agenda. The increase in net financial debt to EUR2.8m as at December 31, 2017 (December 31, 2014: 1.1) that we forecast - with an assumed liquidity of only EURO.3m on December 31, 2017 - clearly shows that further financing measures are necessary.

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Company overview

Company profile

3D surface analysis tool in the micro- and nanometre range

NanoFocus develops, manufactures and distributes 3D surface analysis tools. The USP is the in-house developed confocal technology (optical, contactless measuring) with a resolution into the nanometre range. In addition to micro geometrical survey (e.g. form, contour and evenness) and roughness analysis, the structural and topological characteristics of modern functional surfaces are evaluated. The takeover of the μ sprint technology from Siemens in October 2009 and of Breitmeier Messtechnik (BMT) in November 2015 were important milestones. With μ sprint, the foundation for the development of measurement systems capable of in-line use and the entry into the semiconductor market was laid. BMT strengthens the market position of the Automotive/Powertrain unit, especially with Daimler and its suppliers and in the commercial vehicles sector.

Transition of several products to serial production

In the past years, NanoFocus has developed from a supplier of standard products into a company focussed on client-specific solutions. NanoFocus' solutions portfolio includes the three product lines μ scan (used in process development and R&D), μ surf (process control) and μ sprint (production control in in-line manufacturing). This is complemented by tactile measurement systems and interferometry by BMT. The products are mostly used in the four strategic units Automotive/Powertrain, Semiconductor, OEM and Standard/Laboratory. NanoFocus is an important player especially in the Automotive/Powertrain unit with notable clients like the Volkswagen group, BMW or GM and, via BMT, also with Daimler, in the future. At the moment, the flagship product μ surf cylinder is further developed for the use in in-line manufacturing in cooperation with BMT. In the Semiconductor unit, NanoFocus already has transferred two measurement systems that can be used in in-line production into serial production for two semiconductor groups. Altogether, NanoFocus thus develops from an R&D-driven company into a company with products suitable for in-line manufacturing or from a mass supplier of special equipment to a producer of process tools for manufacturing.

Measurement of form, contour, surfaces and roughness

Strategic takeovers in 2009 and 2015

Product portfolio is completed by Breitmeier Messtechnik

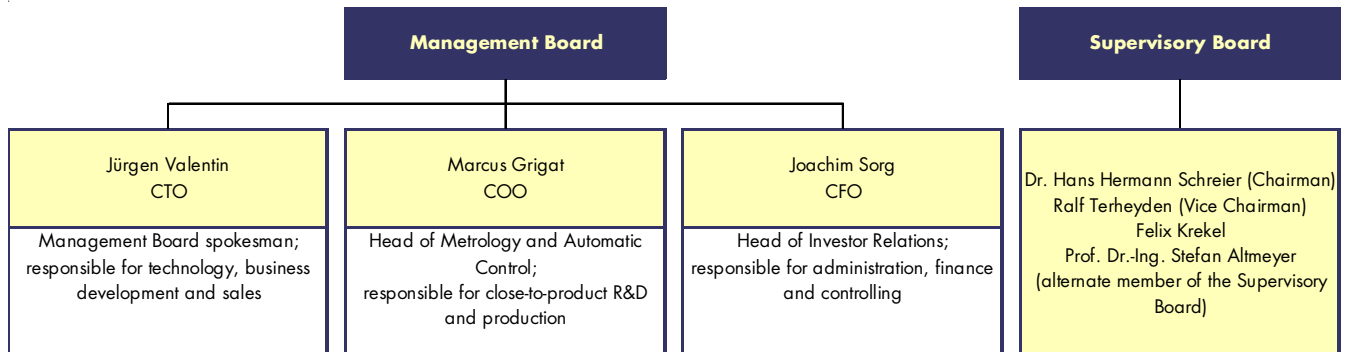
Development into a producer of process tools for manufacturing

Features of each product platform					
	Technological platforms				
	μ surf	μ scan	μ sprint	Interferometry	Tactile systems
Precision	Very precise, nanometre, up to 1nm	Precise, nano/micrometre, up to 100nm	Precise, nano/micrometre, up to 100nm		2D measurement
Speed and size of sample/surface area	Very slow, small samples	Relatively fast, larger samples	Very fast (on-site), medium size samples	Very fast (on-site)	Very fast (on-site)
Field of application	Measurement of small surfaces; R&D, process development	Measurement of larger surfaces; R&D, process development	Inspection on wafers and laser welds etc.; can be used in in-line production		Cylinders, pistons, roughness measurement; can be used in in-line production
Comments	Further development towards in-line production	-	Further development especially for semiconductors	Acquired with Breitmeier Messtechnik	Acquired with Breitmeier Messtechnik

Source: NanoFocus AG

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Management



Source: NanoFocus AG

Dipl.-Phys. Jürgen Valentin (born 1964) - CTO; appointed until Dec. 31, 2019

- Practical training as material tester at Siemens AG in Mühlheim/Ruhr
- Studies of physics and two-year activity as research assistant at Duisburg University
- As of 1995: Head of software and analytics at NanoFocus Messtechnik GmbH
- In charge of technology, business development and sales
- Management Board spokesman since January 1, 2010

Dipl.-Ing. Marcus Grigat (born 1970) - COO; appointed until Dec. 31, 2019

- Practical training as electrical systems installer and energy systems technician at Thyssen AG in Duisburg
- Studies of electrical engineering and one-year activity as research assistant at Duisburg University
- As of 1996: Head of Metrology and Automatic Control at NanoFocus Messtechnik GmbH
- Responsible for research & development and production

Joachim Sorg (born 1971) - CFO; appointed until Dec. 31, 2018

- Training as middle-level bank clerk in the savings bank sector
- As of 1999: work in the investor relations department of IntraWare AG
- Four-year activity in IR at syzygy AG
- Participation in the DVFAA CIAA course
- Project activity at F+P Multimedia AG
- Work in relationship management at AHBR AG
- As of 2006: Head of IR at NanoFocus
- Responsible for administration, finance and controlling

Dr. Hans Hermann Schreier (born 1946)

- Co-founder and long-year CEO of NanoFocus
- Following a two-year cooling-off period in compliance with the Corporate Government Code, Dr. Schreier was elected to the Supervisory Board at the AGM (on July 11, 2012)
- At its first meeting, the Supervisory Board appointed Dr. Schreier as Chairman

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

History

Milestones	
1994	<ul style="list-style-type: none"> • Foundation of NanoFocus Messtechnik GmbH in Duisburg
1997	<ul style="list-style-type: none"> • Foundation of OM Engineering Optoelektronische Messtechnik GmbH
1999	<ul style="list-style-type: none"> • Launch of NanoFocus µsurf and OM µscan
2001	<ul style="list-style-type: none"> • Integration of OM Engineering GmbH into NanoFocus GmbH and change of legal form into NanoFocus AG
2005	<ul style="list-style-type: none"> • Foundation of US distribution company NanoFocus Inc. • Listing in the Entry Standard of the Open Market at the Frankfurt Stock Exchange
2006	<ul style="list-style-type: none"> • Small capital increase for issuing the prospectus
2007	<ul style="list-style-type: none"> • Launch of the µsurf explorer standard product • Sales agreements with IMSTec GmbH (medical technology) and Heimann Graphische Technik und Handel Heimann GmbH (printing industry) • New standard automation software µsoft automation
2008	<ul style="list-style-type: none"> • Exclusive sales agreement with the specialist in coordinate metrology Werth Messtechnik GmbH and sales agreement with Olympus (Japan)
2009	<ul style="list-style-type: none"> • Capital increase (224,000 shares; EUR3.50 per share); proceeds of the issue: about EUR784,000 • Launch of high precision optic measurement solution µsurf solar • Acquisition of µsprint for application in in-line production
2010	<ul style="list-style-type: none"> • Launch of the 3D microscope for industrial laboratories µsurf basic • Rights issue (321,293 shares; EUR4.00 per share); gross proceeds of about EUR1.29m
2011	<ul style="list-style-type: none"> • New 3D measurement software µsoft metrology, compatible with Windows 7 • New generation of µsurf solar receives Intersolar Award in the category PV Production Technology • µsurf cylinder: development of the third generation
2012	<ul style="list-style-type: none"> • Capital increase (205.184 shares; EUR2.80 per share) in June; proceeds of the issue of about EUR575,000 • µsurf custom wins the MEDTC EMDT Innovations Award for contributions to progress in the medical technology sector
2013	<ul style="list-style-type: none"> • Successful trade fair Control: 230 contacts in 2013 (2012: 192) • Engines symposium at VW in Salzgitter has been successful
2014	<ul style="list-style-type: none"> • Issuance of a convertible bond; proceeds of the issue: about EUR1.35m
2015	<ul style="list-style-type: none"> • First two measuring systems reach serial production in the semiconductor business • Capital increase in May (300,000 shares; EUR3.20 per share; proceeds of the issue: close to EUR1 m) • Capital increase with subscription rights in October for acquisition financing (900,000 shares; EUR3.00 per share; proceeds of the issue: EUR2.7m) • Acquisition of Breitmeier Messtechnik: strengthening of the Automotive/Powertrain unit especially with regard to commercial vehicles and rounding off the product portfolio with interferometry and tactile measuring systems
2016E	<ul style="list-style-type: none"> • Moving to a new production site and administration building in autumn • Development of a prototype of the fully automatised µsurf cylinder will be completed

Source: NanoFocus AG

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Company contact and shareholder structure

Stock cooperation under German law

NanoFocus AG is a stock cooperation under German law. Its head office is in Oberhausen (North Rhine-Westphalia).

Company data

NanoFocus AG
Max-Planck-Ring 48
46049 Oberhausen, Germany
Internet: www.nanofocus.de

Contact Investor Relations

Joachim Sorg (CFO)	Kevin Strewginski
Telephone: +49 (208) 62000-54	Telephone: +49 (208) 62000-55
Telefax: +49 (208) 62000-99	Telefax: +49 (208) 62000-89
E-mail: ir@nanofocus.de	E-mail: ir@nanofocus.de

Alto Invest remains largest individual shareholder

After the capital increase (+0.900m new shares) carried out at the end of 2015 to finance the acquisition of Breitmeier Messtechnik there now are 4.200m shares in float. The largest individual shareholder remains Alto Invest with 429,000 shares or 10.2%. The French investment company has subscribed the largest part of the convertible bond issued in 2014. Management (5.2%) and the former founders including tbg (18.0%) together hold 23.2%. The free float is 60.4%.

Shareholder structure (after capital increase)	
	Share
Management Board	
Jürgen Valentin (CTO)	2.6%
Marcus Grigat (COO)	2.6%
Founding members	
Dr. Hans H. Schreier	4.5%
Family Eismann	3.7%
Dr. Christian Velzel	2.9%
Dr. Volker Bödecker	2.9%
tbg Technologie-Beteiligungs-Gesellschaft mbH	4.0%
Strategic investors	
Alto Invest	10.2%
Baden-Württembergische Versorgungsanstalt	4.3%
Hansa Invest	1.9%
Free float	60.4%

Source: NanoFocus AG

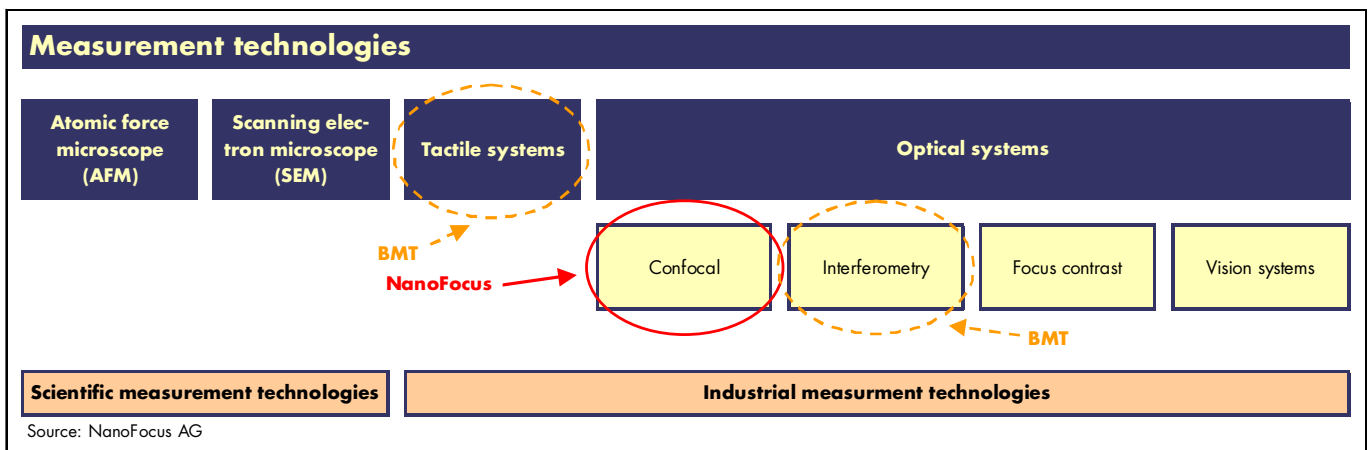
Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Business model and strategic perspectives

3D pin-hole technology with precision measuring into the nanometre range

In-house developed confocal technology...

NanoFocus, founded in 1994, is a pioneer for 3D surface measurement systems for surface control, efficiency enhancement in production and production control. NanoFocus so far has focussed on the in-house developed confocal technology - meaning two paths of rays (lighting and observation path of rays) that share a joint focus. Due to the very small lighting and observation field stops (pinholes) that are only a few micrometers in size, the lighted area on the surface to be measured is very small. Due to this point wise measurement, three-dimensional images with a micro- or nanometre resolution can be produced. Thus, NanoFocus' confocal technology differs from other (optical) measurement methods.



Source: NanoFocus AG

BMT offers synergies in product development and access to new clients

...is completed by tactile systems and interferometry by BMT

The takeover of Breitmeier Messtechnik (BMT) at the end of 2015 completes NanoFocus' product portfolio mainly with tactile measurement systems (physical contact of a surface with a sensor to measure the surface; partly destroying the product) and to a lower extent with interferometry (non-contact measuring with superimposed light waves). The company thus leaves its clear focus on the confocal technology to a certain extent. The underlying strategy should strongly advance NanoFocus especially in product development and distribution/winning of new clients, in our opinion.

BMT with tactile measurement system for in-line production

BMT's technology accelerates full automation of µsurf cylinder

One of NanoFocus' central projects is the full automation of the µsurf cylinder - the flagship product for cylinder inspection for the automotive industry. Among the clients are large automotive groups led by the Volkswagen group (NanoFocus as specialist for controlling coating processes) but also BMW, General Motors, Opel, Hyundai and Jaguar. The access to BMT's technology enables NanoFocus to accelerate the full automation of the µsurf cylinder. BMT has developed a measurement system with multiple contacts (tactile measurement system) that is installed directly behind the client's production line. In cylinders with larger diameters, several contacts can enter the cylinder and measure the cylinder running surface in several spots simultaneously. Quality control thus is possible in-line. The

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Breitmeier Messtechnik: products and distribution of sales

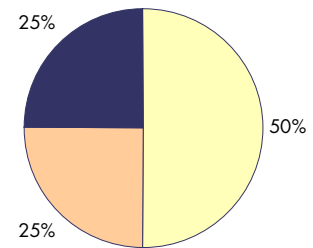
MiniProfiler: roughness measurement of brake discs



In-line measurement of cylinders



Distribution of sales at Breitmeier Messtechnik



□ Cylinder inspection device ■ MiniProfiler ■ Other products

Source: NanoFocus AG; Breitmeier Messtechnik GmbH

BMT automation technology as a basis for the fully automated μ surf cylinder

Third product in serial production in 2017

Entry with tactile measuring - then upgrade to confocal technology

success of the BMT measurement system (sales share: about 50%; price per unit: about EUR500,000) shows the potential, in our opinion.

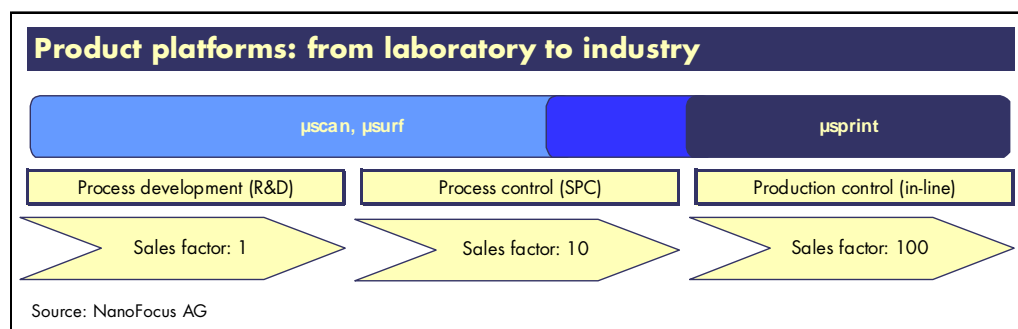
NanoFocus had modified the BMT measurement system in that the contacts are replaced by multiple μ surf sensors. The fully automated μ surf cylinder will be able to measure about every fiftieth component in-line. So far, about every hundredth cylinder was taken off the line and measured manually. With the fully automated μ surf cylinder, NanoFocus can further offer its clients the complete 3D measurement spectrum while the tactile BMT system is mainly set up for statistical and surface roughness measurement.

The concept and the prototype were implemented in Q4 2015. Recently NanoFocus was commissioned by VW to deliver a pilot device still in 2016 so that serial production should begin at the end of 2017. According to CFO Sorg, there were delays due to the emissions scandal at Volkswagen. With regard to the unit price of an estimated EUR750k, the sales potential of the fully automated μ surf cylinder is significant, in our opinion.

Tactile measurement systems as an entry to automotive clients

According to CFO Sorg, many standards are still adjusted to tactile processes in the automotive industry. Due to the demanding measurement environment (vibration, dirt) there is still a lot of reservation towards optical measurement processes. Via BMT, NanoFocus now gains access to automotive clients that use tactile measurement systems (especially BMT client Daimler and its suppliers). Also, we still see tactile systems as entry products which is reflected by the success of the portable BMT-MiniProfiler (price: about EUR30,000 per unit).

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document



Second serial client in the Semiconductor unit in 2016

Higher volumes and higher unit prices as growth drivers

Platform technology: scaling in serial development, sales and earnings

Products with technology for in-line use for industrial applications

NanoFocus has also made important improvements in its client-specific system solutions in the Semiconductor unit. Since 2015, Epcos uses a product based on the μsprint technology in its in-line manufacturing (quality control for an innovative semiconductor product) for the first time. Even though delayed, another international semiconductor group will shortly accept another prototype, according to CFO Sorg. NanoFocus thus has at least three products in serial production as of 2017 in the Semiconductor and Automotive/Powertrain units. We thus expect a clear increase in sales - not only due to the projectable volumes in serial demand (partly via framework contracts) but also due to the higher sales price per unit of EURO.5-0.75m for serial products in the Semiconductor unit and of EURO.75m in the Automotive/Powertrain unit.

The potential to start further serial production in the short to mid term is especially promising in the Semiconductor unit (detailed negotiations). NanoFocus meanwhile has developed the μsprint technology and business solution for the semiconductor industry into a modular platform technology. The hardware (sensors, robot technology) and software can quickly be adapted according to client specification for a low price. The scaling potential is high, also on the earnings side. Also, the demand for non-contact, quick and highly precise measurement systems for quality control in processes like flip chip (installing the chips directly with active contact facing down towards the interconnect device), 3D packaging (horizontal and vertical packaging of chips) and micro bumping is huge. New applications in the so-called middle-ware are also in the focus.

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Market and competition

Analysis of individual target markets

We find it more useful, to analyse the trends in the individual target industries of NanoFocus - especially in the Automotive and Semiconductor units. In our opinion, it is hardly constructive to analyse industrial measurement technology in general.

Pressure to enhance motor efficiency in the automotive industry increases

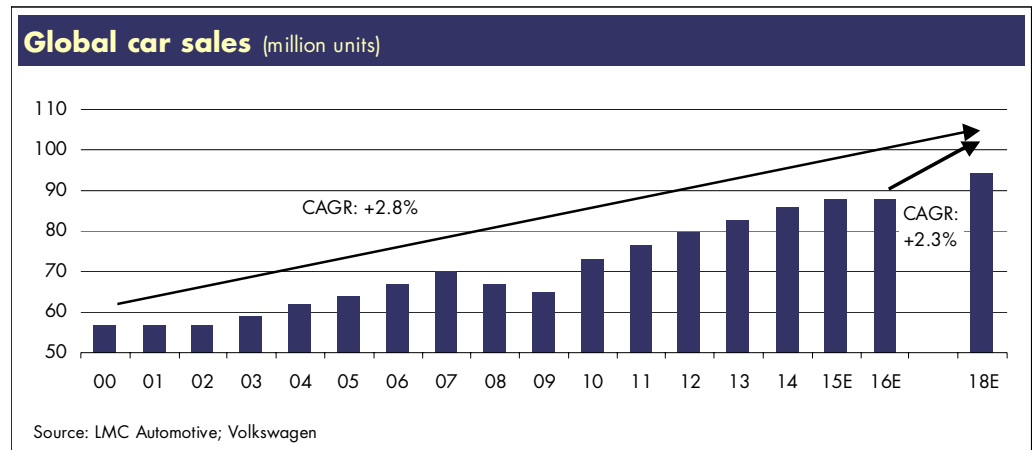
2015 was a record year for the automotive industry with 89.1m (87.3) vehicles sold worldwide (source: LMC Automotive). The Volkswagen group expects an annual growth of 2.3% on average to 94m units by 2018. A sales increase to 15.1m (2015: 14.8) units is also expected (CAGR: +0.7%) in the Western European market that is still dominating for NanoFocus.

Less decisive for our valuation of the further development of the market environment of NanoFocus are the sales figures. The increasing pressure on the car manufacturers to improve motor efficiency (fuel consumption) and reduce emissions (mainly carbon dioxide (CO₂) in petrol engines and nitrogen oxide (NO_x) in diesel engines) is far more relevant, in our opinion. We expect that this pressure will further increase with regard to the emissions scandal of VW group (brands affected: Volkswagen and Audi). In May 2015 already, the European Commission has decided that emissions of new car models bindingly have to be assessed under real measurement conditions in the street (so-called real drive emissions; RDE) as of September 2017 and no longer under laboratory conditions like so far. The motor technology thus has to be significantly improved especially for diesel motors as they have a nitrogen oxide output of up to seven-fold higher under real measurement conditions according to the International Council of Clean Technology (ICCT). The European Commission has lately decided to increase the threshold values for the nitrogen oxide output of diesel motors (for new models as of 2017 and 2020 they can be 2.1 and 1.5 times higher than was originally planned) but that does not alter the general tendency. According to European Directive EG no. 443/2009, for example CO₂ emissions of new cars have to be reduced to 95 g/100 km by 2020. With regard to the current CO₂ emissions of newly registered cars in Germany (2011: 146 g/100 km) and fuel consumption (2013: 7.3 litres/100 km; to reach the 2020 target 4.1 litres/100 km would be necessary) we find these targets very ambitious.

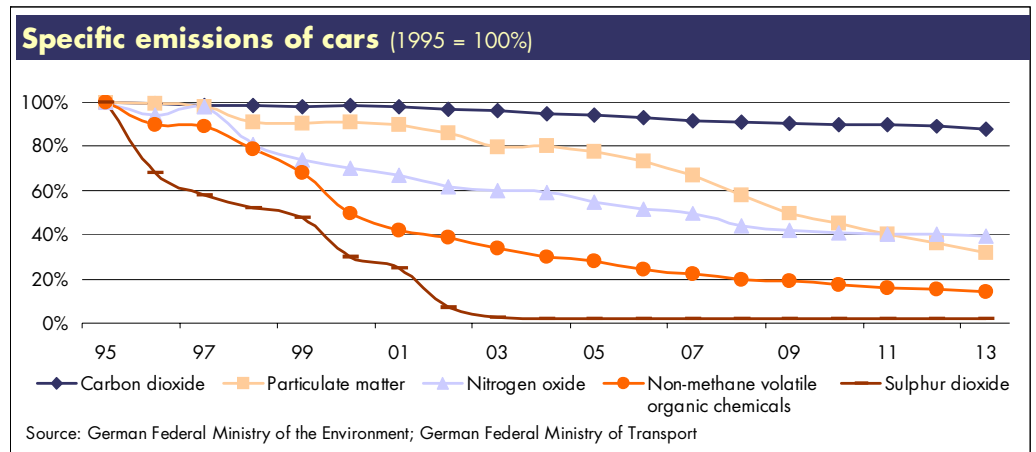
Positive sentiment on the automotive market

Tightening of regulations of emissions measurement

Pressure to improve motor technology further increases



Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document



µsurf cylinder to increase efficiency of cylinders

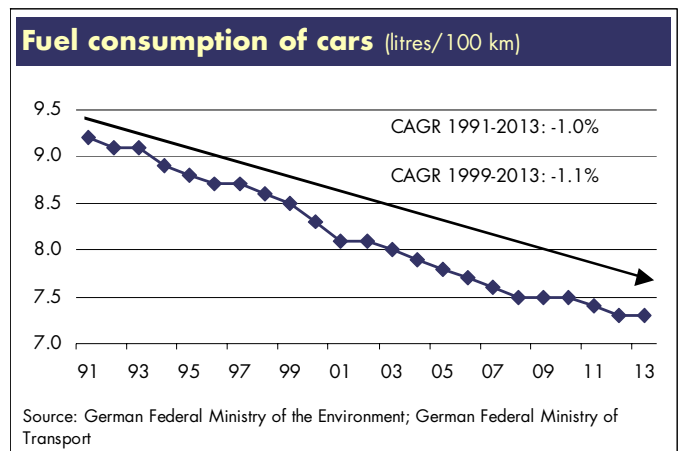
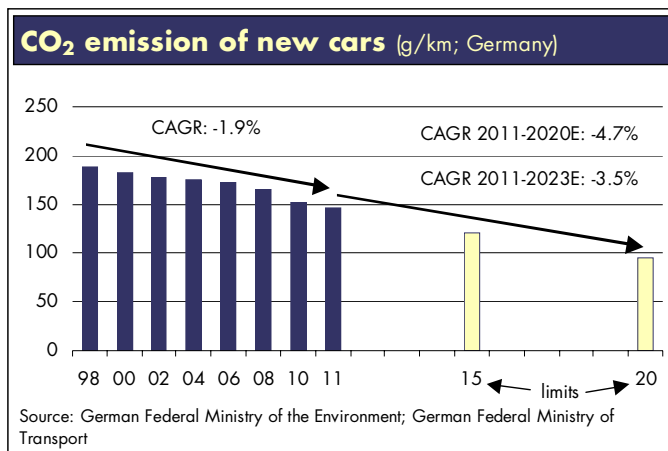
Further application in the motor segment from BMT

Relevant regions maintain their - even though weaker - growth trend

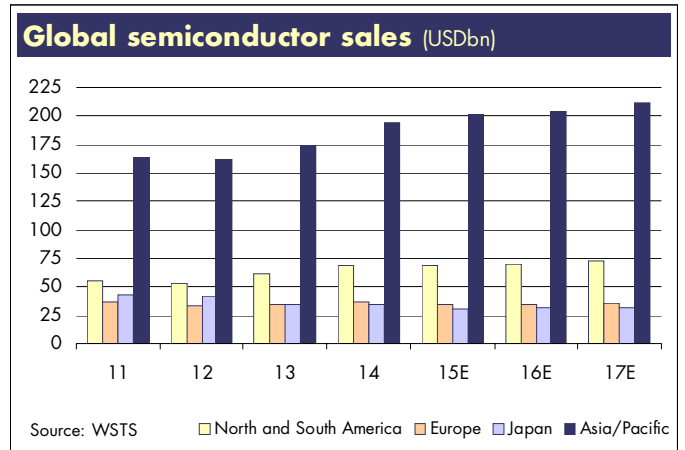
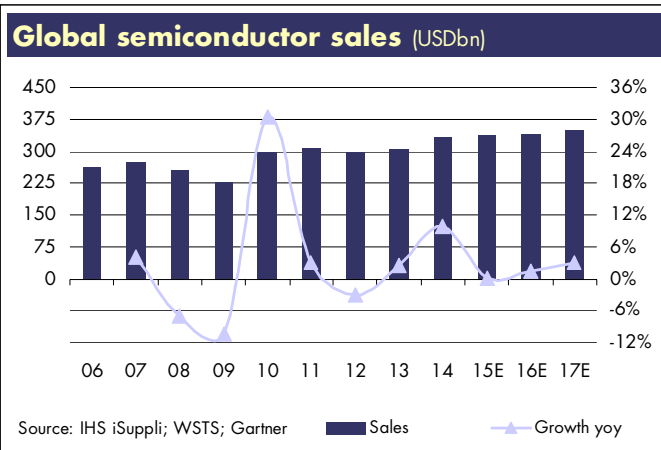
Motor manufacturers thus should invest ever more into their motor technology and quality control. Important parts are the cylinders, gaskets and liners. Bosch for example increases the injection pressure from 200 to 350 bar to reduce particles in petrol engines. NanoFocus' industry solution is the µsurf cylinder. NanoFocus will be able to perform the quality control directly in-line as of 2017 with the fully automated version that is currently being developed. NanoFocus has further expanded its product portfolio by tactile systems via the acquisition of BMT. They produce 2D measurements but are already the standard of many industry players. Also, BMT is established in-line with its products and has a broader product portfolio (head gaskets, cylinder walls, cocks, cog wheels etc.).

Semiconductor industry: trend towards innovative packaging solutions

After a phase of slight weakness (2015: +0.2%) worldwide semiconductor sales should increase in momentum again (market volume 2016E: +1.4%; 2017E: +3.1%), according to World Semiconductor Trade Statistics (WSTS). The market should mainly be driven by car electronics and mobile communication while the consumer electronics segment loses momentum. The Asia-Pacific region (2016E: +1.4%; 2017E: +3.1%) and Europe (2016E: -0.1%; 2017E: +2.8%) that are important for NanoFocus show a stronger upward momentum as of 2017.

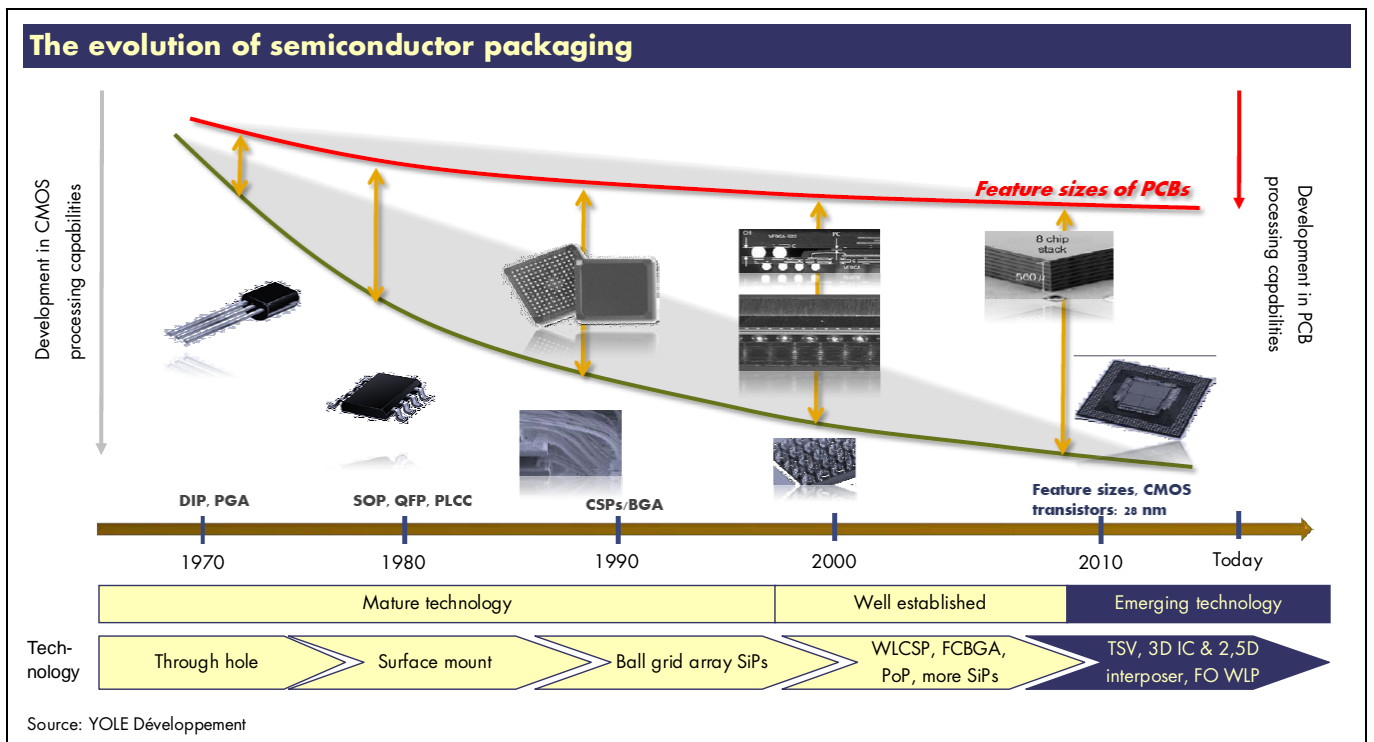


Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document



Innovative wafer packaging technologies gain in importance

There is still a trend towards ever thinner but more efficient components in the electronics industry. The chart below shows that packaging of wafers is thus becoming increasingly important for the semiconductor industry. This stage of the semiconductor production process thus should increase above proportion compared to the pure wafer production (front-end) and the wafer assembly (back-end) in the coming years, according to YOLE Développement. YOLE Développement expects a CAGR 2013-2019E of the packaging market of 23%. It should thus expand faster than so far expected (original CAGR expectation 2011-2017E: +18%). It must further be noted that the packaging technologies (flip chip, 3D IC) must produce ever thinner products. Flip chip and 3D IC packaging are of special importance for NanoFocus. The flip chip technology is specifically applicable for small spaces between wafers (<200µm) and is often



Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Wafer-Packaging: overview of technologies						
Flip chip				Wafer level packaging		
Flip Chip BGA	Flip Chip CSP	Chip on Board COF/COG	Silicon on Silicon Microbumping	FAN IN	FAN OUT	Chip Embedding
Bump characteristics Plating, screen printing Pitch: <180 µm	Bump characteristics Plating, screen printing, stud Pitch: <150 µm	Bump characteristics Plating Pitch: <150 µm	Bump characteristics Plating Pitch: <60 µm	Bump characteristics Ball dropping Pitch: 400-500 µm		

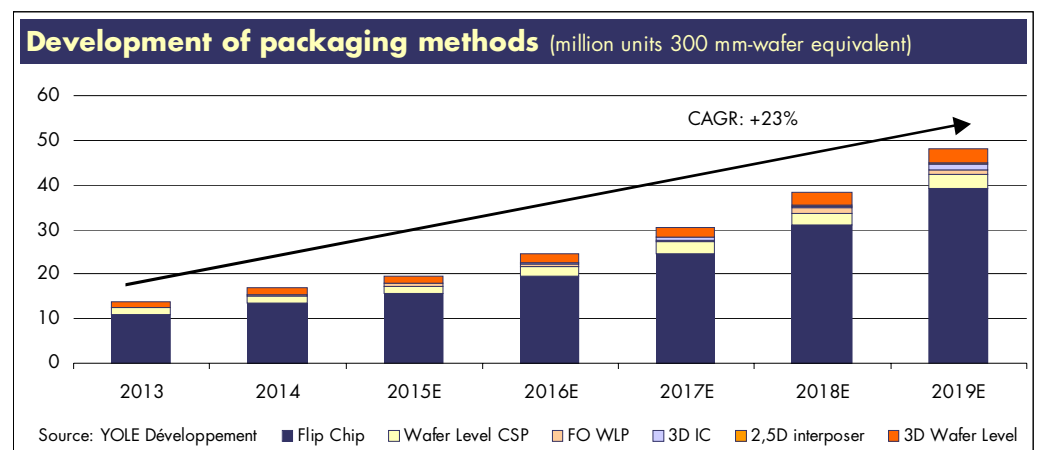
Source: YOLE Développement

Growth among mobile devices drives growth of flip chip packaging

used in 2.5D and 3D bumping. The advantage is in the smaller size and thick packaging of chips which is why the flip chip technology is applicable especially for mobile devices. TechSearch points out the challenge to reduce the cost of the flip chip technology in view of the falling prices for mobile devices. NanoFocus benefits from the growth of flip chip packaging for example with its large client Samsung. Samsung and NanoFocus aim at installing the industry solution µsprint semicon (measurement and control for example of positioning of GHz chips, coating characteristics or sub-micrometer structures) directly in the production line for newly developed products.

The packaging technology targeted by NanoFocus is only at the start of its growth cycle

3D IC packaging (with TSV) that, according to TechSearch, is currently the technology with the thickest degree of packaging and the highest performance is even more efficient and is successively establishing itself. 3D IC packaging is especially suited for processors and memory chips but will not establish itself before 2018, according to TechSearch. TechSearch identifies further applications in logic chips and in automotive electronics (both as of 2019). In our opinion, industry solution µsprint semicon by NanoFocus offers enormous potential mainly for flip chip and 3D IC packaging. In the coming years, we expect high growth rates in the Semiconductor unit as the packaging technologies targeted by NanoFocus are only just beginning to dominate the market.



Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Income Statement

	Unit: Financial year: Accounting standard:	EURm Dec. 31 HGB	2012	2013	2014	2015E	2016E	2017E
Sales			8.9	8.2	11.2	11.0	15.2	18.2
Change in inventory			-0.1	0.1	-0.1	0.0	0.0	0.0
Own work capitalised			0.6	0.6	0.7	0.6	0.4	0.3
Other operating income			0.2	0.1	0.2	0.2	0.3	0.3
Total operating performance			9.6	9.0	12.1	11.8	15.9	18.8
Cost of materials			-2.5	-2.9	-3.4	-3.7	-4.4	-5.3
Gross profit			7.1	6.1	8.7	8.1	11.5	13.4
Personnel expenses			-3.9	-4.3	-5.1	-5.1	-6.5	-7.6
Other operating expenses			-2.3	-2.2	-2.5	-2.8	-3.6	-3.7
EBITDA			0.9	-0.5	1.1	0.1	1.3	2.1
Depreciation and amortisation			-0.7	-0.7	-0.7	-1.1	-0.7	-0.8
EBIT			0.3	-1.2	0.4	-1.0	0.6	1.3
Financial results			-0.1	-0.1	-0.1	-0.2	-0.3	-0.2
EBT			0.2	-1.3	0.2	-1.2	0.4	1.1
Extraordinary expenses			0.0	0.0	1.0	0.0	0.0	0.0
Income taxes and other taxes			0.0	-0.1	-0.6	0.0	-0.1	-0.1
Minority interests			0.0	0.0	0.0	0.0	0.0	0.0
Net income			0.1	-1.4	0.7	-1.3	0.3	1.0
Weighted average number of shares (m)			2.915	3.000	3.000	3.306	4.200	4.200
Earnings per share (EUR)			0.05	-0.47	0.23	-0.38	0.07	0.23
Dividends per share (EUR)			0.00	0.00	0.00	0.00	0.00	0.00

Source: Independent Research; NanoFocus AG

Income Statement (positions in % of sales)

	Unit: Financial year: Accounting standard:	in % Dec. 31 HGB	2012	2013	2014	2015E	2016E	2017E
Sales			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Change in inventory			-1.1%	0.8%	-0.7%	0.0%	0.0%	0.0%
Own work capitalised			6.9%	7.9%	6.6%	5.4%	2.9%	1.9%
Other operating income			2.1%	1.3%	2.0%	2.0%	1.8%	1.4%
Total operating performance			108.0%	110.0%	107.9%	107.4%	104.7%	103.3%
Cost of materials			-28.5%	-35.8%	-30.0%	-33.8%	-29.2%	-29.4%
Gross profit			79.5%	74.1%	77.9%	73.5%	75.5%	73.9%
Personnel expenses			-43.6%	-52.9%	-45.5%	-46.7%	-42.7%	-41.8%
Other operating expenses			-25.3%	-27.2%	-22.6%	-25.8%	-24.0%	-20.5%
EBITDA			10.6%	-5.9%	9.8%	1.0%	8.9%	11.6%
Depreciation and amortisation			-7.6%	-8.9%	-6.5%	-10.3%	-4.6%	-4.2%
EBIT			3.0%	-14.8%	3.3%	-9.2%	4.2%	7.4%
Financial results			-0.9%	-0.7%	-1.3%	-2.0%	-1.7%	-1.2%
EBT			2.1%	-15.5%	2.0%	-11.2%	2.5%	6.1%
Extraordinary expenses			0.0%	0.0%	9.1%	0.0%	0.0%	0.0%
Income taxes and other taxes			-0.4%	-1.6%	-5.0%	-0.3%	-0.6%	-0.7%
Minority interests			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Net income			1.7%	-17.1%	6.1%	-11.5%	1.9%	5.4%

Source: Independent Research; NanoFocus AG

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Balance sheet

Unit: EURm							
Financial year: Dec. 31		2012	2013	2014	2015E	2016E	2017E
Accounting standard: HGB							
Capital subscribed not paid in		0.0	0.0	0.0	0.0	0.0	0.0
Expenditures for start-up and expansion of business operations		0.0	0.0	0.0	0.0	0.0	0.0
Intangible assets		3.0	3.0	2.2	4.4	4.7	4.8
Property, plant and equipment		0.5	0.5	0.5	0.9	0.9	0.9
Financial assets		0.1	0.1	2.1	2.1	2.1	2.1
Total non-current assets		3.6	3.6	4.8	7.4	7.6	7.9
Inventories		2.6	2.9	3.2	4.1	4.3	5.1
Receivables and other assets		3.4	3.2	4.2	4.5	5.1	5.8
Trade receivables		2.6	1.9	2.2	2.5	3.0	3.6
Other current receivables/assets		0.9	1.4	2.1	2.0	2.2	2.3
Securities		0.0	0.0	0.0	0.0	0.0	0.0
Cash and cash equivalents		1.8	0.3	0.8	2.8	0.3	0.3
Total current assets		7.9	6.4	8.2	11.4	9.7	11.3
Deferred expenses and accrued income		0.1	0.1	0.1	0.1	0.2	0.2
Deferred tax assets		1.7	1.7	1.1	1.1	1.1	1.1
Total assets		13.2	11.8	14.3	20.1	18.6	20.5
Subscribed capital		3.0	3.0	3.0	4.2	4.2	4.2
Capital reserve		6.1	6.1	6.1	8.6	8.6	8.6
Retained earnings related to deferred taxes		1.2	1.2	1.2	1.2	1.2	1.2
Capital contributions		0.0	0.0	0.0	0.0	0.0	0.0
Profit/loss carried forward		0.0	0.0	0.0	0.0	0.0	0.0
Retained earnings		0.0	0.0	0.0	0.0	0.0	0.0
Net income		-0.4	-1.8	-1.1	-2.3	-2.1	-1.1
Total equity		9.9	8.5	9.2	11.6	11.9	12.9
Investment grants to non-current assets		0.0	0.0	0.0	0.0	0.0	0.0
Provisions		0.3	0.3	0.6	0.5	0.6	0.8
Financial liabilities		1.3	0.9	1.9	2.1	1.9	2.4
Advanced payments received		0.0	0.2	0.1	0.1	0.1	0.1
Trade payables		0.8	1.0	1.5	1.8	1.9	2.3
Liabilities to affiliated companies		0.0	0.0	0.0	0.0	0.0	0.0
Other liabilities		0.3	0.1	0.5	3.4	1.7	1.4
Total liabilities		2.4	2.3	3.9	7.4	5.6	6.2
Deferred income and accrued expenses		0.0	0.0	0.0	0.0	0.0	0.1
Deferred tax liabilities		0.5	0.7	0.5	0.5	0.5	0.5
Total equity and liabilities		13.2	11.8	14.3	20.1	18.6	20.5

Source: Independent Research; NanoFocus AG

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Balance sheet (positions in % of balance sheet total)

Unit: Financial year: Accounting standard:	in % Dec. 31 HGB	2012	2013	2014	2015E	2016E	2017E
Capital subscribed not paid in		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Expenditures for start-up and expansion of business operations		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Intangible assets		22.5%	25.3%	15.5%	21.8%	25.0%	23.6%
Property, plant and equipment		3.6%	4.3%	3.3%	4.5%	4.6%	4.6%
Financial assets		1.1%	1.2%	14.9%	10.6%	11.4%	10.4%
Total non-current assets		27.1%	30.8%	33.7%	36.8%	41.0%	38.5%
Inventories		19.6%	24.5%	22.6%	20.5%	22.8%	24.9%
Receivables and other assets		26.0%	27.2%	29.6%	22.4%	27.4%	28.6%
Trade receivables		19.5%	15.8%	15.2%	12.2%	15.9%	17.5%
Other current receivables/assets		6.4%	11.5%	14.4%	10.2%	11.6%	11.1%
Securities		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash and cash equivalents		14.0%	2.8%	5.4%	14.1%	1.8%	1.5%
Total current assets		59.6%	54.5%	57.6%	57.0%	52.0%	55.0%
Deferred expenses and accrued income		0.6%	0.6%	1.0%	0.7%	1.1%	1.2%
Deferred tax assets		12.7%	14.2%	7.7%	5.5%	5.9%	5.4%
Total assets		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Subscribed capital		22.7%	25.4%	21.0%	20.9%	22.5%	20.5%
Capital reserve		46.5%	51.9%	43.0%	42.9%	46.2%	42.0%
Retained earnings related to deferred taxes		8.8%	9.9%	8.1%	5.8%	6.3%	5.7%
Capital contributions		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Profit/loss carried forward		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Retained earnings		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Net income		-2.7%	-14.9%	-7.5%	-11.7%	-11.0%	-5.2%
Total equity		75.3%	72.3%	64.6%	57.9%	63.9%	63.0%
Investment grants to non-current assets		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Provisions		2.3%	2.5%	4.3%	2.6%	3.3%	3.8%
Financial liabilities		9.8%	7.6%	13.3%	10.3%	10.0%	11.8%
Advanced payments received		0.0%	1.6%	0.6%	0.5%	0.5%	0.5%
Trade payables		5.8%	8.7%	10.3%	8.9%	10.2%	11.3%
Liabilities to affiliated companies		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other liabilities		2.4%	1.2%	3.2%	17.2%	9.1%	6.9%
Total liabilities		18.0%	19.1%	27.3%	36.8%	29.8%	30.4%
Deferred income and accrued expenses		0.2%	0.3%	0.3%	0.2%	0.3%	0.3%
Deferred tax liabilities		4.2%	5.7%	3.6%	2.5%	2.7%	2.5%
Total equity and liabilities		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Independent Research; NanoFocus AG

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Cash flow statement

Unit:	EURm						
Financial year:	Dec. 31	2012	2013	2014	2015E	2016E	2017E
Accounting standard:	HGB						
Net income		0.1	-1.4	0.7	-1.3	0.3	1.0
+/- Loss/gain on the disposal of PP&E		0.0	0.0	0.0	0.0	0.0	0.0
+ Depreciation and amortisation		0.7	0.7	0.7	1.1	0.7	0.8
+/- Own work capitalised		0.0	0.0	0.0	0.0	0.0	0.0
+/- Changes in provisions		0.0	0.0	0.0	-0.2	0.1	0.2
+/- Other non-cash expenses/income		0.0	0.1	-0.6	0.0	0.0	0.0
Cash flow from sales activities		0.9	-0.6	0.8	-0.3	1.1	1.9
-/+ Changes in inventories, receivables/other current assets		-0.2	-0.1	-1.5	-0.4	-0.8	-1.6
+/- Changes in payables and other liabilities		-0.3	0.3	1.0	0.1	0.2	0.5
+/- Gain/loss from extraordinary items		0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from operating activities		0.4	-0.3	0.3	-0.6	0.5	0.8
+ Proceeds from sale of assets		0.0	0.0	0.0	0.0	0.0	0.0
- Expenses for purchase of assets		-0.2	-0.2	-0.1	-0.2	-0.5	-0.7
- Own work capitalised		-0.6	-0.6	-0.7	-0.6	-0.4	-0.3
- Acquisitions		0.0	0.0	0.0	0.0	-1.9	-0.4
Cash flow from investing activities		-0.9	-0.8	-0.9	-0.7	-2.8	-1.4
+ Proceeds from equity increases		0.6	0.0	0.0	3.7	0.0	0.0
+ Proceeds from finance lease		-0.1	0.0	0.0	0.0	0.0	0.0
-/+ Repayments of/proceeds from financial liabilities		-0.5	-0.4	1.0	-0.3	-0.2	0.6
Cash flow from financial activities		0.0	-0.4	1.0	3.3	-0.2	0.6
Change in financial position		-0.4	-1.5	0.4	2.1	-2.5	0.0
Other non-cash items		0.0	0.0	0.0	0.0	0.0	0.0
Financial position - start of period		2.2	1.8	0.3	0.8	2.8	0.3
Financial position - end of period		1.8	0.3	0.8	2.8	0.3	0.3

Source: Independent Research; NanoFocus AG

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

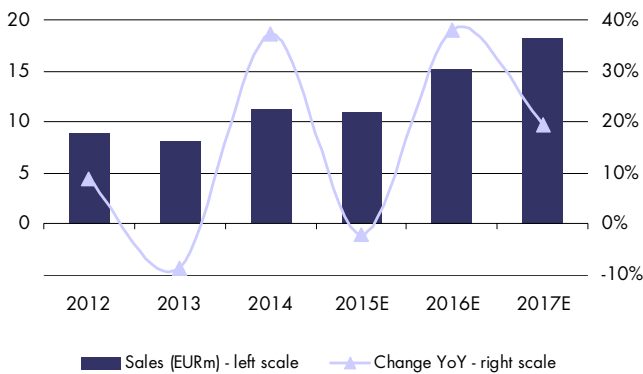
Key figures

Financial year: Accounting standard:	Dec. 31 HGB	2012	2013	2014	2015E	2016E	2017E
Growth rates							
Sales growth		8.7%	-8.5%	37.2%	-2.0%	38.2%	19.6%
EBITDA growth		8.7%	-	-	-89.6%	1079.6%	56.8%
EBIT growth		21.1%	-	-	-	-	109.1%
EBT growth		63.4%	-	-	-	-	192.1%
EPS growth		130.3%	-	-	-	-	237.5%
Margins							
EBITDA margin		10.6%	neg.	9.8%	1.0%	8.9%	11.6%
EBIT margin		3.0%	neg.	3.3%	neg.	4.2%	7.4%
EBT margin		2.1%	neg.	2.0%	neg.	2.5%	6.1%
Net margin		1.7%	neg.	6.1%	neg.	1.9%	5.4%
Yield analysis							
ROI		1.1%	-11.2%	5.2%	-7.4%	1.5%	5.0%
ROCE		2.7%	-17.6%	2.5%	-10.1%	3.9%	8.8%
ROE before taxes		1.9%	-13.7%	2.5%	-11.8%	3.2%	9.0%
ROE after taxes		1.6%	-15.1%	7.7%	-12.2%	2.5%	7.9%
ROIC		1.9%	-12.7%	1.9%	-8.2%	3.5%	8.0%
Balance sheet analysis							
Equity ratio		75.3%	72.3%	64.6%	57.9%	63.9%	63.0%
Equity/non-current assets ratio		2.8	2.3	1.9	1.6	1.6	1.6
Equity + non-current debt/non-current assets ratio		3.1	2.5	2.3	1.8	1.8	1.9
Asset intensity		27.1%	30.8%	33.7%	36.8%	41.0%	38.5%
Inventory turnover		3.4	3.0	3.7	3.0	3.6	3.9
Receivables turnover		3.3	3.7	5.6	4.8	5.6	5.6
Days of sales outstanding		110.0	99.1	65.7	76.8	64.9	65.7
Working capital/sales ratio		48.7%	48.6%	33.0%	38.8%	32.6%	31.6%
Days of payables outstanding		132.8	112.0	135.3	160.0	151.8	143.8
Debt ratios							
Net financial debt		-0.5	0.6	1.1	2.2	2.7	2.8
Net financial debt/EBITDA		-0.5	-	0.8	14.7	1.8	1.3
Net Gearing		-0.1	0.1	0.1	0.2	0.2	0.2
EBITDA interest coverage		9.3	-	6.8	0.5	4.8	9.2
EBIT interest coverage		2.6	-	2.3	-	2.3	5.8
Cash flow analysis							
Free cash flow (FCF)		-0.4	-1.1	-0.6	-1.3	-0.4	-0.2
FCF/sales		-4.7%	-13.6%	-5.1%	-11.9%	-2.8%	-1.0%
FCF/net income		-282.6%	-	-83.7%	-	-145.5%	-18.8%
FCF per share (EUR)		-0.14	-0.37	-0.19	-0.40	-0.10	-0.04
FCF yield		-4.9%	-14.4%	-5.5%	-11.3%	-3.3%	-1.4%
Capex		0.2	0.2	0.1	0.2	0.5	0.7
Capex/depreciation		71.8%	42.5%	38.4%	19.6%	93.4%	106.4%
Capex/sales		2.7%	1.9%	1.3%	1.4%	3.4%	3.6%
Valuation multiples							
EV/sales		0.9	1.0	1.0	1.3	1.0	0.8
EV/EBITDA		8.5	neg.	10.5	121.3	11.3	7.2
EV/EBIT		30.1	neg.	31.5	neg.	23.8	11.4
EV/FCF		neg.	neg.	neg.	neg.	neg.	neg.
P/E		57.4	neg.	15.2	neg.	44.6	13.2
P/B		0.9	0.9	1.1	1.0	1.1	1.0
P/CF		19.9	neg.	32.6	neg.	24.2	15.9
P/S		1.0	0.9	0.9	1.1	0.9	0.7
Dividend yield		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Independent Research; NanoFocus AG

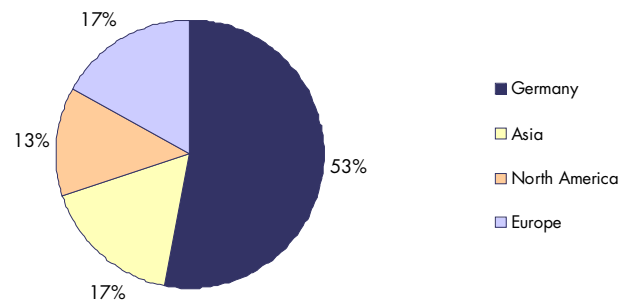
Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Sales development



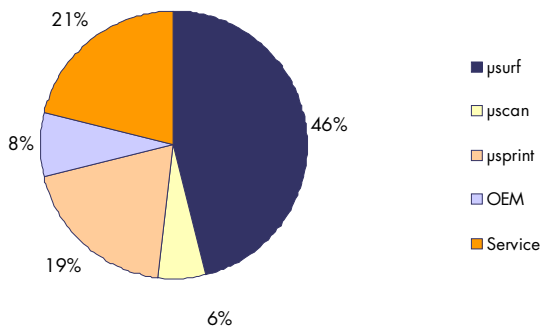
⇒ After a weak FY 2013 NanoFocus returned to growth in 2014 - especially because of a strong automotive industry.
 ⇒ Especially as of 2016 we expect strong growth due to serial production.

Sales by region (2014)



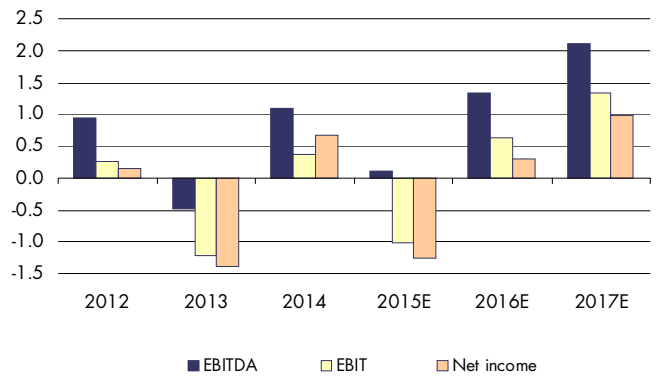
⇒ NanoFocus generates more than half of its sales in Germany.
 ⇒ Because of strong growth in the semiconductor segment (e.g. customer Samsung) the Asian business gained in importance.

Sales by product (2014)



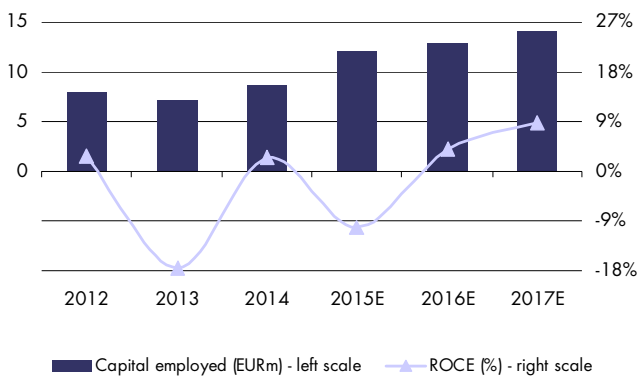
⇒ The µsurf technology is still dominating sales. Growth is driven by the automotive industry (µsurf cylinder).
 ⇒ Due to the semiconductor industry, µsprint becomes more important.

Earnings development (EURm)



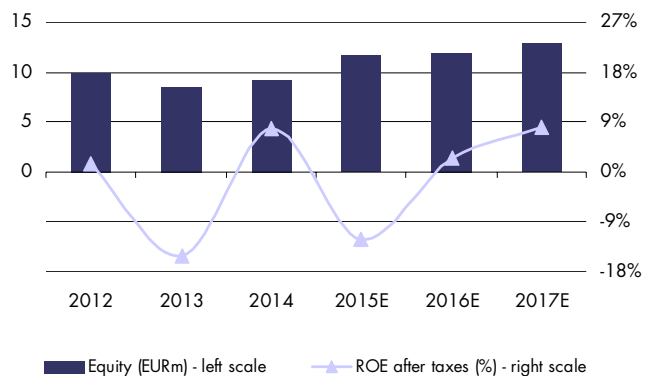
⇒ The postponement of higher-margin projects will be a burden in 2015.
 ⇒ Along with the change towards a producing company economies of scale should gradually gain in importance.

ROCE and capital employed



⇒ Due to the loss in 2015 the ROCE should be negative.
 ⇒ Due to increasing economies of scale and no more goodwill amortisation as of 2017 the ROCE should rise clearly.

ROE and equity



⇒ CAGR of equity from 2012 to 2017E: about +6%
 ⇒ In line with the successively increasing profitability the ROE should improve steadily as well. However, the ROE 2017E should be below the cost of capital.

Source: Independent Research; NanoFocus AG

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Disclaimer

Recommendations concerning particular shares (starting December 18, 2009)

- Buy: According to our assessment, the stock will rise by at least 15% in absolute terms within a 6-month period.
- Hold: According to our assessment, the stock will rise by between 0% and 15% in absolute terms within a 6-month period.
- Sell: According to our assessment, the stock will decline in absolute terms within a 6-month period.

Recommendations concerning particular shares (until December 17, 2009)

- Buy: According to our assessment, the stock will rise by at least 15% in absolute terms within a 6-month period.
- Accumulate: According to our assessment, the stock will rise by between 0% and 15% in absolute terms within a 6-month period.
- Reduce: According to our assessment, the stock will decline by between 0% and 15% in absolute terms within a 6-month period.
- Sell: According to our assessment, the stock will decline by least 15% in absolute terms within a 6-month period.

Compulsory information required under Section 34b of the German Securities Trading Act (WpHG) and the Financial Analysis Regulation

Key sources of information

Key sources of information used in the preparation of this document are publications in foreign and domestic media such as information services (e.g. Reuters, VWD, Bloomberg, DPA-AFX etc.), the financial press (e.g. Börsenzeitung, Handelsblatt, FAZ, FTD, Wall Street Journal, Financial Times etc.), specialised journals, published statistics, rating agencies and publications of the issuers under coverage.

Summary of the valuation principles used:

Analyses of shares:

In valuing companies standard and accepted valuation methods (amongst others the Discounted Cash Flow Method (DCF Method), Peer-Group Analysis) are applied. Under the DCF Method the net value of the issuer is calculated, which represents the sum of the discounted company results, i.e. the net present value of the issuer's future net cash flows. The net value is therefore determined with reference to the company's anticipated future results and the discount rate applied. Under the Peer-Group Analysis Method issuers quoted on the Stock Exchange are valued with reference to the comparison of valuation multiples (e.g. price/earnings ratio, price/book value, enterprise value/sales, enterprise value/EBITDA, enterprise value/EBIT). Comparability of the valuation multiples is primarily determined by business activity and economic prospects.

Sensitivity of the valuation parameters:

The figures taken from the income statement, the cash flow statement and the balance sheet, upon which the valuation of companies is based, are numerical estimates and therefore subject to risks. These may change at any time without prior notice.

Quite apart from the valuation method applied, there is a very real risk that the share price target may not be reached in the anticipated period of time. Risks include unforeseen changes in competitive pressure or in demand for the issuer's products. Such fluctuations in demand may arise as a result of changes of a technological nature, the overall level of economic activity or in some cases as a result of changes in moral concepts. Changes in tax law, in exchange rates and, in certain business segments, in regulations are other factors which can influence valuations. The above discussion of valuation methods and risk factors makes no claim to be exhaustive.

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Timing conditions of planned updates:**Analyses of shares:**

Independent Research GmbH maintains a list of issuers for whom company-based financial analyses („Coverage list of share analyses“) are published. The criterion for the inclusion or removal of an issuer from this list is governed primarily by the company's inclusion in an index (DAX®, EuroStoxx 50SM, and Stoxx Europe 50SM). In addition, selected issuers from the mid and small cap segment or from the US markets are included. In such cases the inclusion or removal of these issuers from the coverage list is at the sole discretion of Independent Research GmbH. If deemed appropriate by the analysts, Independent Research GmbH will release a short expert commentary or studies concerning the companies on the coverage list. As a rule, such research products will be published following the release of financial figures of a company under coverage. Moreover, every day company-specific events such as ad hoc announcements or important news relating to individual companies on the coverage list are evaluated. The decision as to which issuers are covered by such publications is at the sole discretion of Independent Research GmbH. Moreover, fundamental analyses are prepared for the issuers included on the coverage list. The decision as to which issuers are covered by such publications is at the sole discretion of Independent Research GmbH.

It may occur at any time that, in fulfilment of the provisions of the German Securities Trading Act, the publication of financial analyses of individual issuers included in the coverage list is restricted without any prior warning.

Internal organisational measures to deal with the prevention or handling of conflicts of interest:

Employees of Independent Research GmbH who are involved in the preparation and/or the offering of financial analyses are subject to the company's internal compliance regulations which classify them as employees in an environment requiring confidentiality. The company's internal compliance regulations are in accordance with Sections 33 and 33b of the German Securities Trading Act (WpHG).

Possible conflicts of interest – as at: 05/17/2016 –

There are potential conflicts of interest with the following issuers mentioned in this research report:

Issuer	Conflicts of interest
NanoFocus AG	5, 6

Independent Research GmbH and/or its affiliated companies:

- 1) own at least 1% of the issuer's share capital.
- 2) have been involved in the management of a consortium issuing financial instruments of the issuer by way of a public offer within the last twelve months.
- 3) look after financial instruments of the issuer in a market through the placement of buying or selling orders.
- 4) have concluded an agreement with issuers within the last twelve months, which are either themselves or through their financial instruments the object of a financial analysis, covering services related to investment banking transactions or have received a service or a promise of services in such an agreement.
- 5) made this financial analysis available to the issuer prior to publication without the Valuation/Forecasts section and subsequently amended it.
- 6) have concluded an agreement with the issuers which are either themselves or through their financial instruments the object of the financial analysis regarding the preparation of the financial analysis.

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document

Liability statement

This document is for information purposes only. It has been prepared by Independent Research GmbH and shall be distributed in Germany only. This document is not directed to persons or companies domiciled and/or maintaining branch-offices outside Germany, particularly in the United States of America, Canada, United Kingdom, and Japan. This document shall only be distributed according to the applicable laws of the respective country. Any persons receiving this document, i.e. this information and material, shall be obliged to inform themselves about the applicable laws of the respective country and to act accordingly.

This document constitutes neither an offer nor an invitation to subscribe to or to purchase a security. Especially with preparation of this document Independent Research GmbH shall neither act as an investment consultant nor act on the basis of some asset management duty or obligation. Any investment decision regarding any security or other financial instruments must be based on individual, professional advice and/or on the prospectus or information memorandum.

This document constitutes an independent assessment of the respective issuer and/or the negotiable securities by Independent Research GmbH. All and any herein contained assessments, opinions and statements are those of the author of this document and do not necessarily reflect the opinion of the issuer or third parties.

All and any information this document is based on has been taken from resources considered as reliable but has not necessarily been verified by Independent Research. Therefore, Independent Research GmbH does not warrant the accuracy, completeness and correctness of the information and opinions contained herein.

Independent Research GmbH assumes no responsibility or liability for direct or indirect damage arising from the use or distribution of this document or of the information contained therein or which otherwise may arise from it.

The information, opinions and statements represent the status quo of the day of the preparation of the document. Future developments may render them out of date without any changes made to this document. Price movements experienced in the past, simulations or forecasts are no reliable indicators for future price movements of securities. The tax treatment of financial instruments depends on the individual circumstances of the respective investor and may be subject to future changes, which may be retroactive.

Although Independent Research GmbH may provide hyperlinks to websites of companies mentioned in this study, the inclusion of a given hyperlink shall not mean that Independent Research GmbH confirms, recommends or authorises all and any data on the respective website or data that can be accessed from the website. Independent Research GmbH assumes no liability for such data nor for any consequences arising from the use of same.

As at: 05/17/2016

**Independent Research GmbH
Friedrich-Ebert-Anlage 36
60325 Frankfurt am Main
Germany**

Responsible supervisory authority:
Federal Financial Supervisory Authority
(Bundesanstalt für Finanzdienstleistungsaufsicht)
Graurheindorfer Str. 108, 53117 Bonn
and
Marie-Curie-Straße 24-28, 60439 Frankfurt

Please notice the advice regarding possible conflicts of interests as well as the disclaimer at the end of this document