VB Equity Research Ltd.

NanoFocus

BUY

Metrology systems
Germany

Share price: €4.07
Target price: €5.0

New growth phase begins

NanoFocus is a world leading developer and manufacturer of 3D analysis tools. It has advanced technologies which we believe are at least three years ahead of competitors. The group specialises in non-contact optical instruments. These do not require the preparation of samples or contact with measured objects.

Customer relationships. The group has strong customer relationships and significant specialist industry knowledge through research cooperation with customers. The group has installed some 700 systems with some 350 customers worldwide.

Miniaturisation and energy efficiency. With the trend for miniaturisation and greater energy efficiency, demand for high resolution measurement and analysis equipment is expected to rise sharply. The validation of required surface tolerances enables products to offer reduced friction and therefore longer durability and reduced energy consumption.

New technology products. With its new leading and proven equipment with no competition, the group could grow sharply in the coming years and significantly increase sales volumes and profits.

Financials. Sales could grow from €5m in 2009 to €15m by 2013 as new systems are sold. Net profits could increase from a loss of €0.7m in 2009 to an estimated net profit of €2.1m in 2013. Nevertheless, with expansion plans for more production, sales and service facilities, the group has significant cash needs for the next few years. The group completed a small capital increase, raising €1.3m gross cash at the end of 2010.

Valuations. The group's core value is its proprietary technology with over 80 patents. German market and comparable company valuations suggest a value for the company on 2012 forecasts of around €5 per share. However, transaction valuations suggest much higher valuations could be seen if the company was acquired, suggesting a value of around €9 per share. We initiate coverage with a BUY recommendation and a price target of €5.

Year end 31/12	2009	2010e	2011e	2012e	2013e
Sales (€m)	5.02	6.50	8.50	11.50	14.95
EBITDA (€m)	(0.10)	0.63	1.48	1.96	2.82
EBIT (€m)	(0.64)	0.04	0.88	1.36	2.22
Net income (€m)	(0.72)	(0.11)	0.72	1.20	2.07
EPS (€)	(0.29)	(0.04)	0.26	0.43	0.74
CFPS (€)	(0.08)	(0.22)	0.06	0.32	0.63
Dividend (€)	0.00	0.00	0.00	0.00	0.00
PE (x)	nm	nm	15.8	9.5	5.5
PE rel. DAX (x)	nm	nm	1.26	0.85	0.54
PCF (x)	nm	nm	63.3	12.5	6.5
Dividend yield (%)	0.0	0.0	0.0	0.0	0.0

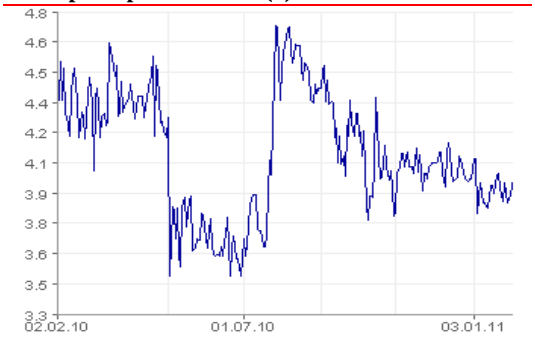
Sources: VB Equity Research

Please refer to disclaimer at the end of the document

2 March 2011

DAX index	7,223
Bloomberg	N2F GR
Reuters	N2FGn.DE
Market cap. (€m)	11.4
($m)	15.7
Free float (€m)	5.5
($m)	7.6
No. of shares	2.79m
12 Month High / Low (€)	4.78 / 3.50
Daily trading volume	1,719
Annual report	May 2011

Share price performance (€)



Source: Deutsche Boerse

Performance (%)	1 mth	3 mths	12 mths
Absolute	2.8	7.0	-2.7
DAX index	1.2	5.9	27.3
Relative to DAX	1.6	1.0	-23.6

Shareholders	(%)
Dr. H.H. Schreier	7.12
LBBW	6.44
Family Eismann	6.33
Management board members	7.76
Boedecker family	4.41
Dr. Christian Velzel	4.41
Tbg Technologie-Bet.	6.01
Alto Invest	8.95
Free float	48.58

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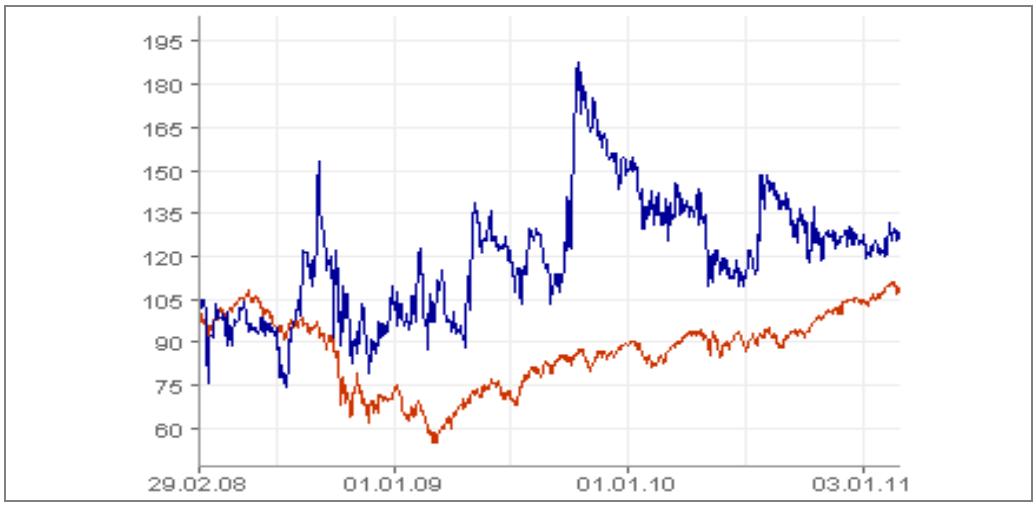
NanoFocus share price and relative to the DAX index



Sources: Deutsche Boerse

Share price development

	Country	Market cap (€m)	% change in Euros 1 mth	3 mths	12 mths
NanoFocus	**Germany**	**11**	**2.8**	**7.0**	**-2.7**
Advanced Vision Tech	Germany	24	-0.5	32.9	30.1
Augusta Technologie	Germany	158	9.9	26.3	72.1
Basler Vision Tech.	Germany	51	27.1	40.3	112.3
Isra Vision	Germany	83	-2.1	23.4	37.7
Analytik Jena	Germany	55	18.5	27.5	24.4
Stratec Biomedical	Germany	376	4.0	9.0	22.5
Sartorius	Germany	544	-0.9	12.4	68.7
Jenoptik	Germany	339	2.6	11.5	28.1
LPKF	Germany	151	-2.0	7.0	145.5
m-u-t	Germany	28	7.9	3.5	119.3
FEI	US	947	21.1	31.3	56.1
JEOL	Japan	188	-6.5	-4.0	-14.1
KLA Tencor	US	5,859	7.4	16.9	61.7
Nanometrics	US	277	-6.6	32.5	76.9
Rudolph Technologies	US	249	11.1	40.3	30.5
Veeco Instruments	US	1,341	8.3	-1.9	30.7
Zygo	US	186	28.5	19.8	48.5
Average*			***7.5***	***19.3***	***55.9***
DAX index			1.2	5.9	27.3

Sources: VB Equity Research: * excluding NanoFocus

I. Investment recommendation

High precision optical 3D measurement equipment

NanoFocus is a leading manufacturer of high precision optical 3D measurement equipment with over 80 patents. The group specialises in non-contact optical instruments which do not require the preparation of samples or contact with the measured object. Through its customised solutions business offering product development cooperation with customers, NanoFocus has strong customer relationships and significant specialist industry knowledge. The group has installed over 700 systems with some 350 customers worldwide.

Technically ahead by over three years

Over the past three years NanoFocus has jointly developed with customers several new key technologies. These have been recently introduced and been tested by several customers since 2010. NanoFocus estimates its µsurf 3D confocal multi-pinhole technology is ahead of its competition by at least three years. The newly introduced µsprint technology with its first system tested and sold in 2010 has further increased its technological advantage.

Innovations allow NanoFocus to enter a completely new market of quality control and inline inspection during continuous production. Other measuring equipment technology cannot be used due to the high precision and speed requirements for the inspection of large areas. Competing technologies are also unable to deal with loud noises or heavy shaking and less clean production lines.

The group has technological leadership and a leading market share in several industries. NanoFocus has sold its µsurf solar solutions to nearly all leading German solar manufacturers and believes there is currently no significant competitor for its technology. Its customer base includes governmental bodies, such as the FBI, German federal criminal police office, as well as large international corporations, including BMW, Daimler, Volkswagen, Siemens, Wilkinson and Bosch.

Trend for miniaturisation and energy efficiency

With a growing trend for miniaturisation and greater energy efficiencies, demand for high resolution measurement and analysis equipment is expected to rise sharply. This can be achieved for example in engine components production by using high-resolution analysis equipment to ensure a specially structured surface for more efficient movement and less wear and tear.

Strong growth potential

NanoFocus made losses in seven of the past eight years. This was mainly due to the significant research and development costs with only limited sales. However, new product lines and new products to be introduced for other industries, suggest the group could see strong growth and increasing profits.

Net profits could increase sharply in coming years

We estimate sales could grow from just €5m in 2009 to €11.5m by 2012 and €15m by 2013 as the group successfully sells its new surface measuring systems to new clients. From an estimated marginal operating profit in 2010, operating profits could increase to €0.9m in 2011 and €2.2m by 2013. Nevertheless, due to expansion plans the group has significant cash needs for the next few years. The group completed a small capital increase, raising €1.3m gross cash to support higher sales, distribution and services businesses internationally.

Significantly undervalued

The group's core value is its proprietary technology. With its now industry leading and proven new products, the group could change significantly in the coming years from a mainly research based company with limited sales volumes to a sales and distribution driven organisation with several strong products and no competition for its newest equipment. German market and comparable company valuations suggest a value for the company on 2012 forecasts of around €5 per share. However, transaction valuations suggest much higher valuations could be seen if the company was acquired, suggesting a value of around €9 per share. We initiate coverage with a BUY recommendation and a price target of €5.

II. Share price development and valuations

a) Share price development

NanoFocus share price (€)

Source: Deutsche Boerse

Listing introduction in 2005 and four small capital increases

In November 2005 NanoFocus joined the German stock market Entry Standard, but did not issue any new shares. Since then the group has held four small capital increases increasing the total number of shares from 1.9m to 2.79m and raising just over €3m. The group's latest capital increase was held in December 2010 issuing 0.32m new shares at €4 per share, raising €1.3m. This allows the group to expand its research and development for specific applications and its production and distribution capacities.

b) Valuations

i) German market valuations

Worth €4.8 per share on general market 2012e valuations

German market PE ratios suggest NanoFocus is worth €3.2 on 2011, €4.8 on 2012 and €7.5 on 2013 forecasts. With sharply rising earnings, price-earnings/earnings growth ratios support significantly higher valuations.

German market

	2010e	2011e	2012e	2013e
NanoFocus net profit (€m)	**(0.1)**	**0.7**	**1.2**	**2.1**
German market PE	15.1	12.6	11.1	10.1
NanoFocus implied value (€m)	**nm**	**9.0**	**13.4**	**20.9**
Per share (€)	***nm***	***3.2***	***4.8***	***7.5***
German market PEG	nm	0.62	0.85	1.01
NanoFocus EPS growth (%)	nm	nm	67.0	72.4
Implied PE for NanoFocus	nm	nm	57.0	73.2
NanoFocus implied value (€m)	**nm**	**nm**	**68.5**	**151.7**
Per share (€)	***nm***	***nm***	***24.5***	***54.3***

Sources: VB Equity Research

ii) Comparable German company valuations

There are no directly comparable companies to NanoFocus. However, the group can be compared to other small leading technology companies, considered as alternative investments. *Advanced Vision Technology, Augusta Technologie, Basler Vision Technologies* and *Isra Vision* offer machine-vision technology, focused on digital 2D cameras. *Analytik Jena, Stratec Biomedical Systems* and *Sartorius* offer analysis applications for the pharmaceutical and biotechnology industries. *Jenoptik* and *LPKF* offer optoelectronics and *m-u-t* offers product development, specialising in spectroscopy, sensors, and laboratory automation.

PE and PCF valuations

	Share Price (€)	Market Cap (€m)	PE (x) 2010e	PE (x) 2011e	PE (x) 2012e	PCF (x) 2010e	PCF (x) 2011e	PCF (x) 2012e
Advanced Vision Tech.	3.8	24	20.0	12.7	10.6	16.5	6.4	5.7
Augusta Technologie	18.7	158	13.0	11.5	10.3	11.4	9.3	8.2
Basler Vision Tech.	14.7	51	13.2	11.7	10.5	5.5	5.7	5.0
Isra Vision	19.0	83	11.7	9.7	8.6	10.8	5.3	4.7
Analytik Jena	10.5	55	30.8	15.9	10.6	36.1	6.9	5.6
Stratec Biomedical	32.7	376	25.2	20.2	16.9	21.5	25.8	22.3
Sartorius	29.2	544	15.8	15.2	14.4	7.1	6.5	5.7
Jenoptik	5.9	339	21.1	16.9	13.5	9.5	6.9	6.7
LPKF	13.7	151	12.4	12.2	11.0	11.1	9.6	8.7
m-u-t	6.3	28	15.9	12.4	11.7	15.9	8.2	5.9
Average*			***17.9***	***13.8***	***11.8***	***15.9***	***7.8***	***6.8***
NanoFocus	4.1	11	nm	15.8	9.5	nm	63.3	12.5
Implied value (€m)*			**nm**	**10.0**	**14.2**	**nm**	**1.4**	**6.2**
Per share (€*)			***nm***	***3.6***	***5.1***	***nm***	***0.5***	***2.2***

Sources: VB Equity Research; * excluding extremes

EV/EBIT, EV/EBITDA and EV/sales valuations

	EV/EBIT (x) 2010e	EV/EBIT (x) 2011e	EV/EBIT (x) 2012e	EV/EBITDA (x) 2010e	EV/EBITDA (x) 2011e	EV/EBITDA (x) 2012e	EV/sales (x) 2010e	EV/sales (x) 2011e	EV/sales (x) 2012e
Advanced Vision Tech.	62.3	38.4	31.0	9.2	8.3	7.7	0.6	0.5	0.4
Augusta Technologie	11.9	10.3	9.0	10.1	8.9	7.9	1.7	1.5	1.4
Basler Vision Tech.	9.7	8.4	7.3	4.1	3.8	3.5	1.0	0.8	0.8
Isra Vision	9.5	8.2	7.0	6.2	5.4	4.7	1.7	1.5	1.2
Analytik Jena	21.0	10.6	6.9	10.5	7.0	5.1	0.8	0.7	0.7
Stratec Biomedical	19.2	15.1	12.4	16.8	13.6	11.3	2.9	2.4	2.0
Sartorius	21.9	19.5	15.7	8.0	7.6	6.9	1.1	1.1	1.0
Jenoptik	20.2	13.8	10.4	9.2	6.8	5.8	1.0	0.7	0.6
LPKF	11.7	11.2	9.8	9.4	9.0	8.1	1.7	1.5	1.4
m-u-t	8.3	7.5	7.0	6.7	6.0	5.7	1.1	1.0	0.9
Average*	***17.6***	***14.0***	***11.5***	***10.5***	***8.7***	***7.9***	***1.4***	***1.3***	***1.2***
NanoFocus	nm	13.1	8.1	17.6	7.8	5.7	1.7	1.4	1.0
Implied value (€m)*	**nm**	**12.1**	**15.9**	**6.9**	**12.8**	**15.9**	**9.3**	**11.0**	**14.1**
Per share (€)*	***nm***	***4.3***	***5.7***	***2.5***	***4.6***	***5.7***	***3.3***	***4.0***	***5.0***

Sources: VB Equity Research; * excluding extremes

2012e PE suggest worth €5.1 per share

The average estimated PE multiples support a fair value for NanoFocus of €3.6 on 2011 and €5.1 per share on 2012 forecasts. PCF valuations suggest fair value of just €0.5 and €2.2 per share respectively. EV/EBIT, EV/EBITDA and EV/sales multiples suggest a share price of €4.3 on 2011 and €5.5 on 2012 forecasts. The average of four ratios, excluding PCF valuations, suggests a fair value for NanoFocus of €4.1 per share on 2011 and €5.4 on 2012 forecasts.

iii) Comparable international company valuations

International groups are all larger, but specialists in 3D measurement equipment. US-based *FEI* and *JEOL* of Japan offer a range of scientific instruments and industrial equipment. US-based *KLA Tencor* and *Rudolph Technologies* offer solutions mainly for the semiconductor and microelectronics industries. *Nanometrics of the US* focuses on systems for the semiconductor and photovoltaic industries. *Veeco Instruments* offers systems for many industries. *Zygo* offers solutions mainly used in the semiconductor and manufacturing industries.

2012e PE suggest worth €6.9 per share

The average PE for 2011 estimates is 17.8x and 16.1x for 2012, suggesting a fair value of €4.6 and €6.9 per share respectively. PCF valuations suggest fair value of €1.1 per share on 2011 and €4.7 on 2012 forecasts. EV/EBIT, EV/EBITDA and EV/sales multiples suggest a share price of €5.0 on 2011 and €6.0 on 2012 forecasts. The average of the four ratios, excluding PCF valuations, suggests fair value of €4.9 on 2011 and €6.2 per share on 2012 forecasts.

PE and PCF valuations

	Country	Market Cap (€m)	PE (x) 2010e	PE (x) 2011e	PE (x) 2012e	PCF (x) 2010e	PCF (x) 2011e	PCF (x) 2012e
FEI	US	947	34.2	23.4	20.4	11.5	7.9	6.9
JEOL	Japan	188	46.8	20.9	17.4	14.1	10.3	8.4
KLA Tencor	US	5,859	33.9	12.5	12.0	97.2	12.4	13.3
Nanometrics	US	277	9.5	9.9	8.0	31.9	33.2	26.9
Rudolph Technologies	US	249	13.3	10.7	8.5	33.2	26.7	21.3
Veeco Instruments	US	1,341	11.2	9.4	9.0	10.3	9.0	8.8
Zygo	US	186	nm	29.3	21.5	19.1	20.9	15.4
Average*			***23.2***	***17.8***	***16.1***	***20.0***	***17.6***	***14.6***
NanoFocus	Germany	11	nm	15.8	9.5	nm	63.3	12.5
Implied value (€m)*			**nm**	**12.8**	**19.3**	**nm**	**3.2**	**13.2**
Per share (€)*			***nm***	***4.6***	***6.9***	***nm***	***1.1***	***4.7***

Sources: VB Equity Research; * excluding extremes

EV/EBIT, EV/EBITDA and EV/sales valuations

	EV/EBIT (x) 2010e	EV/EBIT (x) 2011e	EV/EBIT (x) 2012e	EV/EBITDA (x) 2010e	EV/EBITDA (x) 2011e	EV/EBITDA (x) 2012e	EV/sales (x) 2010e	EV/sales (x) 2011e	EV/sales (x) 2012e
FEI	23.6	17.7	15.1	14.9	11.5	10.3	1.8	1.6	1.5
JEOL	91.6	45.3	37.5	13.1	11.4	10.7	0.7	0.6	0.6
KLA Tencor	23.2	9.3	8.7	15.6	6.3	6.0	4.0	2.6	2.3
Nanometrics	13.5	15.1	11.7	6.5	5.4	4.8	1.8	1.6	1.4
Rudolph Technologies	29.0	24.9	19.3	18.2	16.4	13.6	2.0	1.8	1.4
Veeco Instruments	5.5	5.0	4.6	5.4	4.8	4.4	1.6	1.4	1.3
Zygo	17.9	10.4	7.5	11.7	7.9	6.1	2.1	1.8	1.7
Average*	***21.5***	***15.5***	***12.5***	***14.7***	***9.8***	***8.0***	***1.9***	***1.7***	***1.5***
NanoFocus	nm	12.4	7.7	17.7	7.3	5.4	1.7	1.3	0.9
Implied value (€m)*	**1.1**	**13.4**	**17.3**	**9.6**	**14.3**	**16.0**	**12.6**	**13.9**	**17.2**
Per share (€)*	***0.4***	***4.8***	***6.2***	***3.4***	***5.1***	***5.7***	***4.5***	***5.0***	***6.1***

Sources: VB Equity Research; * excluding extremes

iv) Transaction valuations

Merger and acquisitions can also give an indication of the value of NanoFocus. Simple EV/ sales and EV/ pre-tax profit multiples can give a static valuation. The average EV/ sales ratio for the five takeovers is 3.22 times. On forecast 2011 sales the ratio suggests a value for NanoFocus of €9.7 per share. An average implied EV/ pre-tax profit ratio of 31.7 times suggests a value on forecast 2011 for NanoFocus of €22.6m or €8.1 per share.

Mergers and acquisitions

Date	Target	Acquirer	Implied value	EV	Sales	Pre-tax profit	EV/sales (x)	EV/pre-tax profit (x)
2005	Leica Microsystems	Danaher	$550m	$550m	$130m	na	4.23x	na
2006	Accent Optical Tech.[1]	Nanometrics	$81m	$80.9m	$37.6m	-$7.2m	2.15x	nm
2006	ADE Corp	KLA-Tencor	$488m	$488m	$103.4m	$20.6m	4.72x	23.7x
2007	Therma-Wave	KLA-Tencor	$75m	$75m	$66.3m	-$8.9m	1.13x	nm
2008	ICOS Vision Systems	KLA-Tencor	€310m	€310m	€80m	€7.8m	3.88x	39.7x
Average*							**3.22x**	**31.7x**
Implied value of NanoFocus *(€m) on 2011e							**27.2**	**22.6**
Implied value of NanoFocus per share *(€) on 2011e							**9.7**	**8.1**

Sources: VB Equity Research; * excluding extremes; [1] 2003 results

v) Discounted cash flow

Discounted cash flow valuations could theoretically be used. However, estimating terminal value for fast changing technologies is difficult, meaning DCF valuations are vulnerable.

III. History, Management, Strategy and SWOT

a) History

Founded in 1994 with first products introduced in 1999

Founded in 1994 in Duisburg, NanoFocus specialises in research and development of high-resolution optical 3D microscopy. The group focuses in confocal, white light 3D measurement and analysis system solutions. In 1997 the group founded a subsidiary focused on contactless 3D profilometry and in 1999 the group launched its product ranges µsurf and µscan. In 2007 NanoFocus launched its standard product µsurf explorer and new standard automation software µsoft automation. In 2009 NanoFocus acquired SISCAN, a small operation from Siemens subsidiary SEAS. This enables the group to expand its product range to include µsprint sensor.

Internationalisation

In 2005 the group founded a US subsidiary and in 2006 set up a showroom in Singapore. Between 2006 and 2008 the group increased its distribution through numerous sales agreements, including with Taiwan-based technology consultant Kaitronic, Olympus of Japan and the three German companies IMSTec, Heimann and Werth Messtechnik.

b) Management

Three member board

The management board has three members. Juergen Valentin is the group's speaker of the board and CTO responsible for technology and business development. A physicist by training, he joined NanoFocus as Head of Software and Analytics in 1995. In January 2010 he became the board spokesman. Marcus Grigat is the group's COO responsible for research and development and production. An engineer, he joined NanoFocus as Head of Metrology and Automatic Control in 1996. Joachim Sorg is the group's CFO. He previously worked in investor relations at IntraWare, Syzygy and F+P Multimedia and in relationship management at Corealcredit Bank. In 2006 Joachim Sorg joined NanoFocus initially in charge of investor relations and corporate affairs. He became CFO in January 2009.

The founder and former CEO until late 2009, Dr. Hans Hermann Schreier remains a large shareholder of the group and management board consultant.

The group has a three member supervisory board and 54 employees.

c) Strategy

Strong customer relationships

NanoFocus is heavily research and development driven, owning over 80 patents. The group specialises in customer specific solutions and generally cooperates with customers to develop customised measuring systems, which is partly paid by customers. Traditionally customers have exclusivity on the new technology for its specific purpose, but NanoFocus can develop standard and modular equipment based on the new development as well as for customer specific products for other non-related industrial uses. The close cooperation and development allows NanoFocus a better understanding of its customers' requirements and the continual development of new technologies.

Technically ahead by more than three years

Over the past two years NanoFocus has developed several new key technologies which allow the group to come to market with new leading measuring equipment. The group estimates its µsurf 3D confocal multi-pinhole technology to be ahead of its competition by over three years. The new µsprint technology can measure hundreds of parameters with nanometre precision during continual production processes. The main market for µsprint is in the automotive and semiconductor industry. The first systems were delivered in 2010 for testing. The group expects significant demand from the automotive and semiconductor industries in particular.

NanoFocus plans to further develop its existing technologies and systems capabilities. This includes the development of multi-sensor systems which the group expects to increase in importance as miniaturisation and therefore inspection and quality control requirements become even more complex.

Two acquisitions

The group has made only limited acquisitions; both times to acquire key technology, allowing the group to expand its technology platform. In 2007 NanoFocus purchased extensive patented research activities for new 3D quality control in inline production.

SISCAN

The group's more significant acquisition was SISCAN (Siemens Electronics Assembly Systems) in October 2009. The acquisition included the patented confocal sensor measuring system, named µsprint. Already proven and used in production and the research sector, the technology allows up to a million measurements per second during the production process. The acquisition also included the company's inventories, production and small sales department. The group's confocal system is flexible and the world's fastest, making it suitable for many applications in numerous industries. The acquisition agreement requires NanoFocus paying a small license fee to Siemens per unit sold.

Production

The group manufactures its systems in-house. Simple components are bought in from suppliers, but the group manufactures key components in-house. With a sharp rise in unit sales expected in the next years as orders are agreed, the group plans to invest in additional production capacities in 2011 at its German facilities.

Increasing service revenues

NanoFocus has installed some 700 systems at over 350 customers. The group aims once the systems are sold to have continued sales through services, such as training, servicing of installed equipment and the upgrade of sensors and software. The group aims to further expand its services department with the expected strong rise in unit sales in the coming years. This is also driven by customers requiring customised solutions which can be integrated in the production process. The demand for services therefore is expected to continue to increase in the medium and long term.

Limited distribution in Germany and Europe

The group mainly operates in Germany, but currently has limited distribution capabilities with a few salesmen based in Germany focused on domestic customers, Austria and Switzerland. The group has also a distribution and service office in Ettlingen in Southern Germany with 6 employees. In 2010 the group also opened a small office in the Munich technology centre to allow better customer services for its µsprint customers.

Small US and Asian subsidiaries

NanoFocus has currently only one employee in its showroom in Singapore who also coordinates around 10 sales representatives for the Asian market. The group aims to establish also its own sales force in Asia with four to five salesmen by 2012. Nevertheless, the group already has some Asian business, especially in the semiconductor industry, and has seen first interest by several Asian solar equipment manufacturers for its high precision measurement equipment. The group has one employee in its sales subsidiary in the US. However, the US business is not a key focus, but allows the group to continue its business with several customers and continue its service commitment.

Several distribution agreements

Due to its small size, NanoFocus has several distribution agreements with companies which integrate NanoFocus' sensors in their own production equipment. However, the group is aware of its limited distribution network and with the improved performance and new applications believes that the costs of a sales force could now become cost effective. Its current licensed distributors include Olympus of Japan for the automotive industry, Heimann of Germany for the printing industry, IMSTec of Germany and GDO of the Netherlands both for the pharmaceutical industry.

d) SWOT

Strengths

Stable management – The group's CEO and COO have been with the company for some 15 years. The former CEO and founding member remains as a consultant with the company.

Strong research and development – the group has strong in-house R&D with over 80 existing patents.

Leading technology – the group estimates its non-contact measurement systems in 3D multi-pinhole technology to be ahead of its competition by over three years. The group's new µsprint technology further increases its lead over competitors.

Independent of specific industries – customers include many industries as well as public and private institutions.

Strong customer relationships – the group has developed specialist know-how through its research cooperations and integration services.

Weaknesses

Relatively cash intensive – the group's products are highly dependent on research and development with significant investments required before group starts to sell its products. However, several customers ordering custom products pay some of the research and development costs upfront.

Internationalisation – still very small and underdeveloped, although with the new introduction of its latest µsprint technology is expected to increase its sales and distribution efforts.

Cash requirements and no dividend – with several new projects expected to begin in the next years in cooperation with customers, the group may have further need to raise additional funds. Additionally the group's customers have changed from purchasing products outright to leasing and renting equipment. This has put additional cash constraints on the group.

Opportunities

New technology acquisition – could allow the group to further develop the technology into several industrial applications, which allows the group to significantly expand its product capabilities and applications.

Large numbers of new projects – through its new µsprint technology and its strong industrial knowledge. The group has a large number of new research projects with key customers.

Internationalisation – the group has only limited international distribution capabilities, but plans to expand with the expansion of existing offices and opening of an Asian office in the medium term.

Brand image – the group currently has only limited sales distribution in Germany, the US and Asia. However, with its new technology and expected increase in unit sales, the group could increase its sales distributions and therefore brand image.

Threats

Potential take-over candidate – the group's new technology is significantly ahead of its competition. However, due to its small size, the group could become a take-over target for its larger competitors.

Small size – the group is very small with less than 62 units sold in 2009. Even with significantly rising sales, the group could remain relatively small compared to competitors for some time. Due to its limited size, the group was significantly affected by its customers' delay of orders in 2009.

Alternative systems – introduction of new technologies which could reduce NanoFocus technological leadership or even making the group's technology obsolete. However, the group currently estimates to have a technology lead of at least three years over its competition.

Sources: VB Equity Research

IV. Activities

Optical measuring systems

NanoFocus offers a range of optical measuring systems. System solutions and OEM sales accounted for an estimated €4.9m or 75% group sales in 2010. With the group's new of products, sales in its systems and OEM sales could increase sharply to €6.6m in 2011. Other group services including software and rentals are estimated to account for 25% of group sales in 2010. The group currently sells only limited number of units a year. In 2010 the group could have sold around 78 units compared to 62 units in 2009.

Sales by division (€m)

	2005	2006	2007	2008	2009	2010e	2011e	2012e	2013e
µscan	1.21	1.37	1.27	0.80	0.65	0.60	0.64	0.78	0.88
µsurf	1.10	1.76	2.26	3.17	1.95	3.00	3.18	3.70	4.42
µsprint	0.00	0.00	0.00	0.00	0.06	0.35	1.83	3.98	6.27
OEM sensor and system sales	0.13	0.47	0.73	1.00	1.03	0.92	0.97	1.06	1.25
Systems/ sensor sales	**2.43**	**3.60**	**4.27**	**4.97**	**3.69**	**4.87**	**6.62**	**9.52**	**12.82**
Software, service and system rental	0.35	0.53	0.68	0.99	0.93	1.11	1.25	1.32	1.43
Other	0.27	0.35	0.37	0.58	0.40	0.52	0.63	0.66	0.70
Total sales	**3.06**	**4.48**	**5.31**	**6.54**	**5.02**	**6.50**	**8.50**	**11.50**	**14.95**
No. of units sold				69	62	78	90	100	110
Average sale per unit (€)				71,986	59,484	62,436	61,189	95,200	116,545

Source: VB Equity Research, NanoFocus

In 2009 the group saw the delay of several projects, sharply reducing the group's order intake, especially from the automotive industry. Many projects were reactivated in 2010, including projects with ThyssenKrupp, Daimler, BMW and Bosch. Following no orders on hand at the beginning of 2010, we estimate the group's orders on hand at the end of 2010 was €1.5m.

Incoming orders and orders on hand (€m)

	2008	2009	2010e	2011e	2012e	2013e
Orders on hand at start of year	**0.2**	**0.5**	**0.3**	**1.5**	**2.3**	**3.0**
Incoming orders	6.8	4.8	7.7	9.3	12.2	15.7
Less sales	6.5	5.0	6.5	8.5	11.5	15.0
Acquisitions/ currencies*	0.0	0.0	0.0	0.0	0.0	0.0
Orders on hand at end of year	**0.5**	**0.3**	**1.5**	**2.3**	**3.0**	**3.8**

Source: VB Equity Research, NanoFocus, *including order cancellations and change in accounting standards

a) Technologies

NanoFocus is a specialist for non-contact measuring system solutions offering precision of down to the nanometre range. The core focus is confocal measuring systems. This technology does not require the preparation of samples and is suitable to production lines as well as continuous testing in laboratories. The products can also include two or more measuring systems.

The historic core product ranges are µsurf and µscan. *µsurf* inspects by measuring topography, micro-geometry, roughness by using the patented confocal multi-pinhole technology. *µscan* are point sensor 2D/ 3D profilometers which measure surface structure, layer thickness and geometry and displays the values as a 3D colour image. The group uses a range of confocal sensors and laser technology for these applications. The latest technology is *µsprint*, based on its SISCAN technology. It offers 3D profilometery in fast production lines for quality control.

b) Products

Four product segments

NanoFocus differentiates its products into four segments: standard, modular, integration and business solutions. The largest product segments are services and integration. However, business solutions is gaining importance. Products last two to five years depending on use.

i) Standard segment

The standard product range is generally used in laboratories. The first products were introduced in 1999. Its standard products have been further enhanced and expansions of applications made, such as the equipment's speed and resolution. The main customers are universities and other research institutes.

Four product solutions

The segment includes four product systems with a fixed combination of modules to perform standard measurement and analysis. *µsurf explorer* offers 3D surface measurement and analysis and is used mainly in test laboratories. User-friendly, it offers precision surface analysis with high optical resolution. *µsurf mobile* is a compact, battery powered and portable measurement system. *µscan explorer* is a 3D profilometer system supporting a range of tasks, including analysis of surface texture, microgeometry and thickness of transparent coatings. All systems can be used on nearly all types of material. In May 2010 NanoFocus introduced *µsurf basic* for use in laboratories for industrial research. It enables the measuring of samples of most surfaces, such as polymers, ceramics, metals and composite materials.

ii) Modular segment

µsurf custom and µscan custom

The modular segment offers customer specific solutions, with modules assembled according to customer requirements. *µsurf custom* is a flexible system offering fast nanometre analysis. *µscan custom* is a 3D profilometer measuring topography, height profile or layer thickness. Both systems can be easily automated for process control.

iii) Business solutions segment

Business solutions offers a range of analysis systems which have already been developed for sector-specific applications but are not offered in the packaged solutions of the standard and modular segments. These require more cooperation between the customer and NanoFocus.

Key products µsurf cylinder ….

The segment has four product ranges. *µsurf cylinder* is a key new product. It is an angled optical system to measure a cylinder's surfaces mainly in the automotive industry. The system records over 30 characteristics and displays results on screen. It can be tailored to allow manual steering by the user or automated for fast repeat measurements. The first products were delivered to customer production facilities in 2010 and are in operation in several laboratories adjacent to the production facilities in Germany, the UK and Japan. NanoFocus plans to further enhance its equipment to allow the use of the *µsurf cylinder* equipment in the production process.

…and µsurf solar

µsurf solar allows 3D inspection and analysis of crystalline solar cells. The system makes up to 12 area measurements a minute with nanometre accuracy. Adapted for the solar industry, it is capable of measuring etched structures and through anti-reflective coatings.

Two other products are *µsurf blade* and *µscan leak test. µsurf blade* allows measuring whole blades, including foils and membranes up to 0.8mm thick. The system measures both sides of the blade independently and then integrates and displays the results in a 3D image. *µscan leak test* is used in water testing and was developed with Hymite as an optical leak test for MEMS (Micro-electro-mechanical systems) and other optoelectronic components.

iv) Integration segment

The integration segment offers a range of optical sensors to be integrated into customers' existing manufacturing and measurement machines. The group's key new product is *µsprint.*

µsprint sensor

µsprint sensor was bought with the SISCAN acquisition. It is used for quality assurance and process control. The sensor has a large field of view and offers up to a million measurements a second with very high precision. It can be used for a broad range of applications, but most commonly is used for 3D shape inspection, laser weld and bump inspections on wafers and substrates. The group has sold its first systems to the automotive and semiconductor industries.

µsurf sensor and µscan sensor

The group offers two sensor systems. *µsurf sensor* is a confocal probe which can be integrated into production machines and analysis systems to allow quality control. *µsan sensor* is a range

of precise sensors which can measure height profiles, topographies, geometries and roughness with very high vertical precision. Optional sensors include chromatic sensors and LED technology which can analyse small, usually inaccessible areas. The autofocus sensor is for fast roughness measurement used in a high speed production environment. The holographic sensor measures highly structured surfaces including areas irrespective of the degree of reflection.

v) Software and services

Proprietary software

NanoFocus has its own proprietary software which is continually updated to meet the latest national and international standards. Programs evaluate results and display them in a 3D image. *µsoft control* allows easy and fast valuation and visualisation of results. It is used in all µsurf and µscan custom systems. *µsoft analysis* is an evaluation program allowing 2D/3D surface analysis and illustration, including 3D imaging, measurement curves and tabulated results. *µsoft automation* allows automated measuring for quality inspection during the production process. The *stitch tool* allows the integration of neighbouring measurement fields into one overall measurement. The *winsam tool* displays functional surface volume models for easier analysis of frictional properties. It identifies and measures surface features such as lubrication pockets.

Services

NanoFocus offers several services, including third-party contract measuring, training and servicing of installed equipment. With the acquisition of SISCAN, NanoFocus acquired the former Siemens business and its complete service business.

vi) Research and development

NanoFocus offers to develop customer-specific solutions which allow the group to work closely with customers. This has allowed the group to gain significant specialist knowledge.

c) Customers

Systems are sold to a wide range of industries. In the medium term the main growth could be from the automotive, solar, healthcare and semiconductor industries.

Sales by industry (€m)

	2005	2006	2007	2008	2009	2010e	2011e	2012e	2013e
Public safety	0.15	0.90	0.80	1.31	1.41	1.40	1.45	1.50	1.70
Manufacturing, tools and printing	0.06	0.67	1.01	0.59	0.85	0.91	0.97	1.02	1.15
Material science	0.55	0.81	1.38	1.63	0.70	0.74	0.77	0.80	0.90
Solar	0.00	0.00	0.00	0.52	0.65	0.75	1.00	1.15	1.40
Micro Systems	0.00	0.00	0.00	0.46	0.50	0.54	0.59	0.62	0.70
Electronic	0.61	1.25	0.90	0.46	0.30	0.44	0.70	0.85	1.60
Chemistry, paper, ceramic, plastics	0.46	0.09	0.53	0.13	0.30	0.32	0.37	0.38	0.45
Healthcare	0.55	0.31	0.37	0.39	0.15	0.40	0.60	2.58	3.55
Automotive	0.67	0.45	0.32	1.05	0.15	1.00	2.05	2.60	3.50
Total sales	**3.06**	**4.48**	**5.31**	**6.54**	**5.02**	**6.50**	**8.50**	**11.50**	**14.95**

Source: VB Equity Research, NanoFocus

i) Automotive

Systems to reduce friction, wear and tear and fuel consumption

NanoFocus measures and analyses structured surfaces for the automotive industry. This is mainly for the precise manufacture and inspection of key engine components to reduce friction between engine parts, reducing wear and tear and fuel consumption. The range of products measured include cylinder bore surfaces, camshafts and sheet metal, measuring the structure's geometry and roughness, which then can be analysed for wear and defects.

To allow 100% fault-free production

The life-span of some car components is the life-time of the car. Components need to be durable and fault-free. NanoFocus' new µsurf cylinder system was developed for German car manufacturers and introduced in 2010. In 2011 the group plans to introduce the product as a fully automated system able to integrate into production lines. Automotive customers include the car manufacturers Daimler, BMW, Toyota and Volkswagen and suppliers Elring Klinger, Siemens VDO, Bosch, Kolbenschmidt Pierburg, Continental and ZF Friedrichshafen.

Could account for 30% of group sales by 2013

Following large order delays in the automotive industry in 2009, there was a sharp recovery in 2010. NanoFocus expects strong orders from several large automotive manufacturers and suppliers in 2011.

ii) Solar

In the solar market since 2007

In late 2007 NanoFocus entered the solar industry market. In June 2009 NanoFocus introduced its 3D inspection of crystalline solar cells, µsurf solar, allowing the measurement and analysis of analyse thin-film, mono- and polycrystalline solar cells. For its customers the importance of inspection rises, as increases in the efficiencies and quality of solar cell rises and the price of solar energy falls. NanoFocus has sold its µsurf solar solutions to nearly all leading German solar manufacturers, including Ersol, QCells, Innolas, centrotherm and Schott Solar. The company believes its technology has no significant competition.

NanoFocus plans to further increase its lead through use of its µsprint technology. As the production of solar panels is moved to China, the group has seen its first order from Asia which could significantly increase the group's growth potential in the longer term.

iii) Healthcare

For the healthcare industry NanoFocus offers inspection solutions during research, quality control and manufacturing. Components used in modern healthcare require being fault-free with very small tolerances to ensure durability and biocompatible. The group focuses solutions to measure hip and knee implants, dental implants, stents and microfluidic systems. For hip and dental implants the surface finish is essential in reducing infections and rejections and increase durability. Stents are coated with a bioactive layer to prevent re-growth, which needs to be of determinate thickness and roughness. Customers include Thommen, Straumann, Abbott Medical, Biotronik and Sphere Medical.

Could become a key business

The group is developing a new sensor system for a customer. Although sold exclusively to one customer in the healthcare industry, the technology can be used in other industries. The agreement includes an agreed minimum order with production to start in late 2011. Sales in 2012 could be worth between €3m and €5m.

iv) Electronics

The group offers cost-effective and fast measuring systems used in electronics production for quality control and fault analysis, reducing manufacturing costs and ensuring fault-free products. Applications include measuring systems for multilayer circuit boards, laser-drilled micro vias, fine pitch solder past printing, conductor tracks in circuit boards, nanoliter dispenser dots, lead frame and printed circuits. Customers include Siemens, Philips, Ericsson, Tyco and Bosch. The group already has first customers and orders from Asia. These are for new customised equipment allowing nanometre resolution required for the manufacture of new and smaller semiconductors not offered by other competitors.

v) Manufacturing

For the manufacturing industry NanoFocus offers to analyse wear and material characteristics, including roughness, geometry and wear volume. Materials and products inspected include cutting inserts such as edges, roughness of surfaces and crater volumes. NanoFocus aims to increase its customer base through its new µsprint sensor, enabling in-line inspection during the production process. Customers include ThyssenKrupp, Degussa, BASF, Festo and Bosch.

vi) Micro Systems

In the production of electromechanical and optical components the group offers systems to measure and analyse defective parts. Measured parameters include surface hardness and coating characteristics of the materials, the measurement of nanoliter dispensed dots to ensure the adhesive used does not lead to functional impairment. The company has just completed two large projects for international companies in the semiconductor industry based on its µsprint sensors. Customers include EPCOS, Infineon and ST Microelectronics.

vii) Public safety

NanoFocus' systems are also used in forensic laboratories for criminological analysis of items such as tools of entry, explosives and projectiles. Traces and objects left by criminals can be measured and analysed and then stored on its database. Customers include Forensic Technology (with over 100 systems worldwide), the FBI, German BKA Bundeskriminalamt (Federal Criminal Police office) and several Landeskriminalämter (State Criminal Police offices).

viii) Tools

In the tooling industry NanoFocus offers systems to measure several parameters, including wear and cater volume to ensure the quality surface finish and to reduce potential downtimes when the tools are used during production. Materials and products measured include cutting inserts, tool cutters and razor blades. For blades and cutting tools the group's solutions including to measure and ensure a standard steep edge and absolute cutting angle. With its new µsprint sensors the group aims to increase its customer base. Currently customers include Wilkinson, Mirka and several research institutes, such Fraunhofer IPT and several universities.

ix) Printing/ Paper

NanoFocus offers systems to measure the topography and roughness on printing rolls and paper, allowing increased quality and production efficiencies. The systems are used in the paper manufacturing and printing industries. This not only includes ensuring continuous high quality paper and printing, but also the engraving or etching of printing rolls by laser. Customers include the Schott gruppe, Interprint, Hell Gravur and Koenig & Bauer. Customers also include national banks, including the Deutsche Bundesdruckerei, Italy's and Morocco's national banks.

d) Distribution and sales by area

Distribution

NanoFocus has leading technologies but a limited sales force. Historically sales were based on distribution agreements with international partners. In 2006 NanoFocus signed a long-term agreement with the Taiwan's Kaitronic, for Taiwan and Korea focused on consumer electronics and automotive industries. In 2007 NanoFocus entered several distribution agreements, including with German-based Heimann, a specialist wholesaler focused on the paper and printing industry. In 2008 a distribution agreement was made with Werth Messtechnik for confocal surface sensors used in its multi-sensor coordinate metrology systems. NanoFocus also supplies complete cylinder inspection systems to Japan's Olympus optics group for the Japanese motor industry.

With increasing recognition for developing customised new higher resolution imaging equipment, the group has seen an increase in new orders from large blue chip companies. The group plans to expand sales through increasing its sales force, especially in Asia as well as through several distribution agreements with German and international companies.

Sales by area

The group remains highly dependent on Germany, accounting for around 69% of group sales in 2010. Europe excluding Germany is the group's second most important market accounting for around 14% of group sales. Sales in the US have sharply fallen. However, sales in Asia are expected to be strong in the next years rising from around €0.1m in 2009 to €2.5m by 2012. Domestic sales gains are expected from several large German customers increasing their orders.

Sales by area (€m)

	2005	2006	2007	2008	2009	2010e	2011e	2012e	2013e
Germany	1.85	2.19	2.74	3.82	3.13	4.50	5.55	7.05	8.80
Europe excl. Germany	0.54	0.85	1.08	0.80	0.34	0.90	1.15	1.45	1.85
Asia	0.38	0.63	0.68	0.28	0.09	0.70	1.35	2.50	3.76
North America	0.29	0.81	0.81	1.63	1.47	0.40	0.45	0.50	0.54
Total sales	**3.06**	**4.48**	**5.31**	**6.54**	**5.02**	**6.50**	**8.50**	**11.50**	**14.95**

Source: VB Equity Research, NanoFocus

V. Financials

a) Consolidated profit and loss account

Consolidated profit and loss account (€m)

Year end to 31 December	2005	2006	2007	2008	2009	2010e	2011e	2012e	2013e
Sales	**3.06**	**4.48**	**5.31**	**6.53**	**5.02**	**6.50**	**8.50**	**11.50**	**14.95**
% change	*-3.0*	*46.4*	*18.7*	*23.0*	*-23.1*	*29.4*	*30.8*	*35.3*	*30.0*
Cost of materials	(1.21)	(1.78)	(2.15)	(2.41)	(1.83)	(2.21)	(2.87)	(3.85)	(4.95)
% of sales	*39.5*	*39.7*	*40.4*	*36.8*	*36.3*	*34.0*	*33.8*	*33.5*	*33.1*
Gross profit	**1.85**	**2.70**	**3.17**	**4.13**	**3.20**	**4.29**	**5.63**	**7.65**	**10.00**
% of sales	*60.5*	*60.3*	*59.6*	*63.2*	*63.7*	*66.0*	*66.2*	*66.5*	*66.9*
% change	*0.0*	*46.0*	*17.3*	*30.4*	*-22.5*	*34.1*	*31.2*	*35.9*	*30.7*
Personnel costs	(1.29)	(1.66)	(1.98)	(2.18)	(2.39)	(2.57)	(2.82)	(3.73)	(4.62)
Depreciation and amortisation	(0.43)	(0.51)	(0.52)	(0.51)	(0.54)	(0.59)	(0.60)	(0.60)	(0.60)
Other operating expenses	(1.11)	(1.54)	(1.54)	(1.67)	(1.50)	(1.95)	(2.28)	(3.01)	(3.76)
Other operating income	0.76	0.77	0.55	0.49	0.59	0.85	0.95	1.05	1.20
Operating profit	**(0.22)**	**(0.24)**	**(0.31)**	**0.25**	**(0.64)**	**0.04**	**0.88**	**1.36**	**2.22**
% of sales	*-7.1*	*-5.3*	*-5.9*	*3.9*	*-12.7*	*0.5*	*10.3*	*11.8*	*14.9*
% change	*-17.2*	*9.2*	*32.1*	*nm*	*nm*	*nm*	*nm*	*54.8*	*63.2*
Net financial income/	(0.28)	(0.16)	(0.58)	(0.04)	(0.08)	(0.14)	(0.16)	(0.16)	(0.15)
Extraordinaries	0.00	0.00	(0.05)	0.00	0.00	(0.00)	0.00	0.00	0.00
Pre-tax profit	**(0.50)**	**(0.40)**	**(0.95)**	**0.21**	**(0.72)**	**(0.11)**	**0.72**	**1.20**	**2.07**
% of sales	*-16.2*	*-9.0*	*-17.9*	*3.3*	*-14.4*	*-1.6*	*8.5*	*10.5*	*13.9*
% change	*nm*	*nm*	*nm*	*nm*	*nm*	*nm*	*nm*	*67.0*	*72.4*
Income tax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% rate	*-0.2*	*0.0*	*-0.2*	*1.1*	*-0.3*	*0.0*	*0.0*	*0.0*	*0.0*
Net profit	**(0.50)**	**(0.40)**	**(0.95)**	**0.21**	**(0.72)**	**(0.11)**	**0.72**	**1.20**	**2.07**
% change	*nm*	*nm*	*nm*	*nm*	*nm*	*nm*	*nm*	*67.0*	*72.4*
Minorities/adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net attributable profit	**(0.50)**	**(0.40)**	**(0.95)**	**0.21**	**(0.72)**	**(0.11)**	**0.72**	**1.20**	**2.07**
% change	*nm*	*nm*	*nm*	*nm*	*nm*	*nm*	*nm*	*67.0*	*72.4*
% of sales	*-16.3*	*-9.0*	*-18.0*	*3.2*	*-14.4*	*-1.6*	*8.5*	*10.5*	*13.9*
Adj. shares issued (m)	1.91	1.93	2.25	2.25	2.47	2.79	2.79	2.79	2.79
EPS (€)	**(0.26)**	**(0.21)**	**(0.42)**	**0.09**	**(0.29)**	**(0.04)**	**0.26**	**0.43**	**0.74**
% change	*nm*	*nm*	*nm*	*nm*	*nm*	*nm*	*nm*	*67.0*	*72.4*
Dividend per share (€)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Sources: VB Equity Research, NanoFocus

HGB accounting

NanoFocus reports under German HGB accounting standards. However, there are no significant differences to IFRS with goodwill of just €0.3m deducted under HGB, but excluded under IFRS rules.

Sales cover products and services including consulting. Additionally some 10% of group output is derived from own capitalised work.

2009 and first half 2010 results

In 2009 NanoFocus reported a sharp decline in sales as customers delayed orders. For the year group sales declined by 25% and reported a net loss of €0.7m. During the year the group introduced several cost reduction and better cash management systems, reducing costs by around €0.5m. The group acquired SISCAN and its new key technology from Siemens. Additionally marketing and distribution efforts were increased through new workshops and new personnel in its sales and services departments.

With customers reactivating their orders, group sales increased by 47% to €2.7m in the first half of 2010. Operating losses nearly halved to €0.4m with net losses of €0.5m.

Outlook 2010 to 2012

2010 forecasts

In 2010 we estimate group sales in 2010 increased by 29% to €6.5m. With a reduced cost base, the group is estimated to have returned to a small operating profit. The group has reduced cost of materials successively between 2007 and 2009. We estimate an additional reducing in cost of materials to 34% in 2010. The group nonetheless could report a small pre-tax loss of €0.1m for 2010. The group has €5m of tax losses, which could see the company not pay any taxes for several years.

Outlook 2011 and 2012

In 2011 and 2012 we estimate further significant sales growth as the group successfully sells its new surface measuring systems. With only a small incremental further reduction in cost of materials, the group benefits from moving away from its relatively lower margin product ranges to its higher priced new technology systems. Operating profits could therefore increase sharply to €0.88m in 2011 and €1.36m in 2012. Net profit could also increase from an estimated €0.72m in 2011 and €1.20m in 2012.

Despite the group's significant rise in profits, we do not expect the group to pay dividends in the next two years due to its accumulated losses. However, in the medium term the group plans to pay moderate dividends.

NanoFocus' exchange rate risks are limited as the group mainly invoices in Euros.

b) Consolidated cash flow

Consolidated cash flow (€m)

Year end to 31 December	2005	2006	2007	2008	2009	2010e	2011e	2012e	2013e
Net profit	**(0.50)**	**(0.40)**	**(0.95)**	**0.21**	**(0.72)**	**(0.11)**	**0.72**	**1.20**	**2.07**
Depreciation	0.43	0.51	0.52	0.51	0.54	0.59	0.60	0.60	0.60
Change in working capital	(0.78)	(0.39)	(0.96)	(0.82)	0.01	(1.10)	(1.14)	(0.89)	(0.91)
Other	0.00	0.00	0.00	(0.00)	(0.01)	0.00	0.00	0.00	0.00
Cash flow	**(0.85)**	**(0.28)**	**(1.40)**	**(0.10)**	**(0.19)**	**(0.62)**	**0.18**	**0.91**	**1.76**
CFPS (€)	**(0.44)**	**(0.14)**	**(0.62)**	**(0.05)**	**(0.08)**	**(0.22)**	**0.06**	**0.32**	**0.63**
Non-operating cash flow	3.52	0.25	0.33	1.99	(0.98)	1.29	0.00	0.00	0.00
Total cash flow	2.67	(0.03)	(1.07)	1.89	(1.17)	0.67	0.18	0.91	1.76
Net debt at start of year	**(0.57)**	**1.95**	**1.30**	**0.07**	**1.71**	**0.32**	**0.39**	**(0.18)**	**0.28**
Capital expenditure	0.15	0.63	0.15	0.25	0.22	0.60	0.75	0.45	0.50
Dividends (for previous year)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net debt at end of year	**1.95**	**1.30**	**0.07**	**1.71**	**0.32**	**0.39**	**(0.18)**	**0.28**	**1.54**
Surplus cash flow from operations	***2.52***	***(0.66)***	***(1.22)***	***1.64***	***(1.39)***	***0.07***	***(0.57)***	***0.46***	***1.26***

Sources: VB Equity Research, NanoFocus

In 2011 we estimate the group to show to a positive operating cash flow for the first time since its listing introduction in 2005. However, due to a sharp rise in capital expenditure, the group's net cash position could for the year become net debt of €0.2m.

By 2012 with increasing profits, operating cash could also rise sharply and despite continued high capex group net cash could rise to €0.3m by the end of 2012.

c) Consolidated balance sheet

Consolidated balance sheet (€m)

As at 31 December	2005	2006	2007	2008	2009	2010e	2011e	2012e	2013e
Current Assets									
Inventories	0.98	1.21	1.78	2.35	2.35	2.95	3.55	4.07	4.59
Trade & other debtors	1.15	1.45	2.03	2.57	2.47	3.10	3.75	4.34	4.94
Liquid funds	2.48	1.82	1.97	1.81	1.93	2.17	1.57	2.00	3.12
	4.61	**4.48**	**5.78**	**6.73**	**6.76**	**8.22**	**8.88**	**10.40**	**12.64**
Current Liabilities									
Short term debt	(0.01)	(0.01)	(0.03)	(0.45)	(0.28)	(0.28)	(0.35)	(0.32)	(0.28)
Provisions	(0.13)	(0.23)	(0.21)	(0.24)	(0.27)	(0.28)	(0.28)	(0.30)	(0.32)
Trade payables	(0.41)	(0.32)	(0.30)	(0.64)	(0.42)	(0.45)	(0.57)	(0.72)	(0.88)
Other	(0.27)	(0.10)	(0.24)	(0.26)	(0.36)	(0.37)	(0.38)	(0.40)	(0.42)
	(0.82)	**(0.66)**	**(0.78)**	**(1.59)**	**(1.34)**	**(1.38)**	**(1.57)**	**(1.74)**	**(1.90)**
Net Current Assets	**3.79**	**3.82**	**4.99**	**5.14**	**5.42**	**6.84**	**7.30**	**8.66**	**10.74**
Long-term Assets									
Intangible Assets	3.54	3.39	3.04	2.80	2.52	2.52	2.56	2.45	2.38
Tangible Assets	0.25	0.32	0.14	0.14	0.13	0.14	0.23	0.21	0.20
Other	0.14	0.23	0.29	0.18	0.25	0.25	0.27	0.25	0.23
	3.93	**3.93**	**3.47**	**3.116**	**2.90**	**2.91**	**3.06**	**2.91**	**2.81**
Long-term Liabilities									
Debt	(0.51)	(0.51)	(1.87)	(1.55)	(1.33)	(1.50)	(1.40)	(1.40)	(1.30)
Other liabilities	(1.85)	(2.01)	(0.06)	0.00	(0.22)	(0.28)	(0.28)	(0.28)	(0.29)
	(2.37)	**(2.52)**	**(1.93)**	**(1.55)**	**(1.55)**	**(1.78)**	**(1.68)**	**(1.68)**	**(1.59)**
Total Net Worth	**5.35**	**5.23**	**6.53**	**6.71**	**6.77**	**7.97**	**8.69**	**9.89**	**11.96**
Represented by									
Share capital	1.91	1.93	2.25	2.25	2.47	2.79	2.79	2.79	2.79
Capital reserves	3.44	3.25	4.25	4.25	4.81	5.80	5.80	5.80	5.80
Distributable reserves	0.00	0.05	0.03	0.21	(0.51)	(0.62)	0.10	1.30	3.37
Shareholders' Equity	**5.35**	**5.23**	**6.53**	**6.71**	**6.77**	**7.97**	**8.69**	**9.89**	**11.96**
Minority interests	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Net Worth	**5.35**	**5.23**	**6.53**	**6.71**	**6.77**	**7.97**	**8.69**	**9.89**	**11.96**

Sources: VB Equity Research, NanoFocus

Inventories are comparatively high. However, the group aims to further reduce its inventory levels and is introducing a new ERP system as part of its new production capacity expansion. Nevertheless, inventories are required as some components' delivery times are over 3 months.

Appendix – Surface metrology

Surface metrology is the measurement and analysis of surface parameters. The use of measurement technology is widespread, but with ever increasing demand for miniaturisation and increasing higher resolution, demands on measuring technology is also increasing sharply. There are different key measuring systems: profilometers, atomic force microscopes, electron microscopes and optical systems. All these have different advantages and disadvantages.

a) Contact or tactile measurement systems

Contact or tactile measurement systems are well established technologies. There are two key different types: contact profilometers and atomic force microscope. The two systems use a stylus or probe which offer very high resolution but scan only a very small area. Contacting the surface is usually less sensitive to surface reflection and contaminants than optical systems. For use in production processes, the process is very slow and only allows measuring of a small proportion of products.

Contact profilometers use a stylus with the scan areas moving from right to left and top to bottom of an area for 3D analysis and measurement. The technology allows a very high resolution and surface variations. The automotive and machine building industries generally have been focused on using tactile measuring systems. Manufacturers include Mahr of Germany, Taylor-Hobson of the UK, Mitotoyo of Japan and Hommel of Germany.

Atomic force microscopy (AFM) was introduced in the mid 1980s. The technology also uses a probe and requires direct contact with the surface. AFM probes cannot normally measure steep surface ridges and overhangs.

b) Electron Microscope

Electron Microscopes are differentiated between scanning and transmission electron microscopes. The technology uses high energy electrons to form an image. The technology offers very high resolution. However, the electron microscopes have significant disadvantages which do not allow the technology to be used in high speed, in-line production processes. The electron microscope requires a vacuum environment for its operation. The scanning electron microscope also requires its sample to have a conductive surface, generally achieved by using a very thin layer of gold or palladium particles.

c) Optical measurement systems

There are no universal optical measurement products. Instead depending on the characteristics of the surface and measurement requirements, there are different measuring technologies. Systems include confocal and interferometer.

Optical measurements have several advantages over tactile metrology systems. The surface of the samples are not touched and therefore cannot be damaged. The measurement speed is also much faster as the imaged area is measured in its entirety. Samples can be measured through transparent surfaces, such as glass and plastic film. However, optical imaging systems have an absolute limiting factor for its resolution defined by the wavelength of light.

Confocal is an imaging technique which allows the reconstruction of a 3D structure from the image obtained. Typical applications are generally used as inspection equipment in the pharmaceutical and biotechnology, semiconductor and material science industries.

Interferometer splits a light beam into two light waves, studying the pattern of interference to create an image. The technique is mainly used in astronomy, fibre optics, optical metrology and seismology.

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Previous Investment Recommendations

Date	Investment Recommendation	Target Price (€)
2 March 2011	BUY	5.0

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