Annual Report 2016

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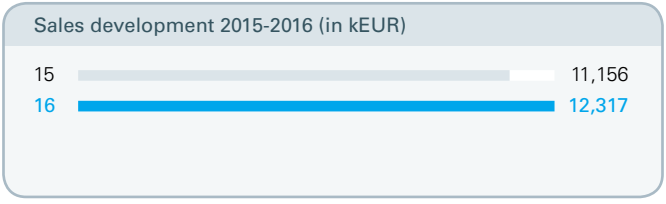
Key figures on 2016-12-31

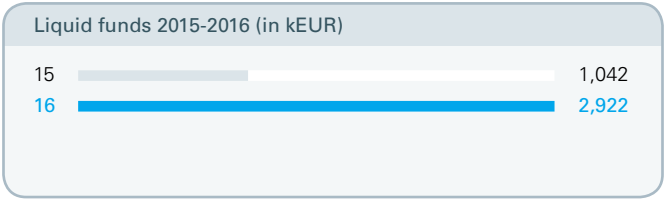
	2016		Change	2015*
	kEUR	%	Absolute	kEUR
Revenues	12,317	10.4	1,161	11,156
Total operating performance	12,548	10.8	1,227	11,321
Gross yield	7,821	8.0	577	7,244
Personnel expenditure	5,709	6.5	347	5,362
EBITDA	-970	n/a	-812	-158
EBITDA margin	-7.9%	n/a	-6.5 PP.	-1.4%
Depreciation	1,047	22.0	189	858
EBIT	-2,017	98.5	-1,001	-1,016
Profit/loss for the year	-3,076	n/a	-1,574	-1,502
Fixed assets	7,704	-12.6	-1,110	8,815
Current assets**	10,013	8.3	771	9,242
Liquid funds	2,922	n/a	1,880	1,042
Equity	9,725	-3.0	-305	10,030
Third-party capital	8,953	-7.0	-670	9,623
Liabilities	5,681	-9.0	-560	6,241
Balance sheet total	18,678	-5.0	-975	19,653
Cash flow from sales activities	-1,189	n/a	-1,054	-135

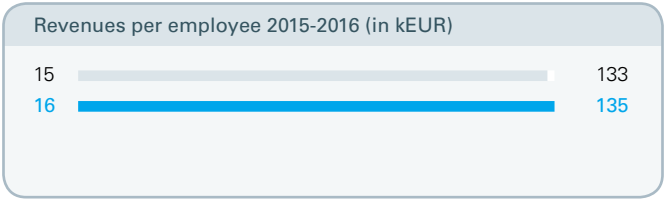
	2016		Change	2015*
	kEUR	%	Absolute	kEUR
Cash flow from current operating activities	13	-102.2	1,093	-1,080
Cash flow from investment activities	-1,712	-41.2	1,201	-2,913
Cash flow from financing activities	3,761	6.8	238	3,523
Working capital	4,804	-22.1	-1,360	6,164
Equity ratio	52.1%	2.0	1.1 PP.	51.0%
Return on equity	-31.6%	111.3	-16.6 PP.	-15.0%
Average number of employees	91	8.3	7	84
Earnings per share (in EUR)	-0.55	52.5	-0.19	-0.36
Orders received 2016	11,470	-21.7	-3,171.00	14,641
Existing orders (at the close of the period)	1,933	-30.4	-843.00	2,776
Development expenditure	2,106	6.1	121	1,985
Development intensity (expenditure in relation to revenues)	17.1%	-3.9	-0.7 PP.	17.8%
Average number of development employees	21	0.0	0	21
Average development employees as a % of average employees	22.8%	-8.8	-2.2 PP.	25.0%

* Acquisition of Breitmeier Messtechnik GmbH as at 12/31/2015: profit and loss values not taken into account in 2015 Group financial statements.

** Less prepaid expenses and deferred taxes


Sales development 2015-2016 (in kEUR)
15
11,156
16
12,317

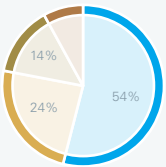

Liquid funds 2015-2016 (in kEUR)
15
1,042
16
2,922


Revenues per employee 2015-2016 (in kEUR)
15
133
16
135

EBITDA margin 2015-2016 (in percent)

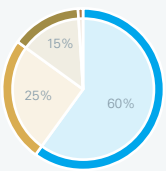
15	-1.4
16	-7.9

Revenue distribution by Business Unit



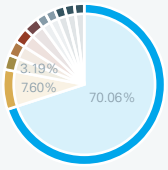
	kEUR	%
Standard/Laboratory	6,665	54
Automotive	2,967	24
Semiconductor	1,740	14
OEM	945	8

Revenue distribution by region



	kEUR	%
Europe	7,428	60
Asia	3,083	25
North America	1,790	15
South America	16	<1

Shareholder structure as at 01/12/2017



	Shares	%
Free Float	3,951,680	70.06
Alto Invest	428,500	7.60
Baden-Württembergische VA	180,000	3.19
Schreier family	176,611	3.13
tbg mbH	168,000	2.98
Eismann family	153,950	2.73
Bödecker family	123,350	2.18
Velzel family	123,350	2.18
Hansa Invest	117,667	2.09
Valentin family	109,346	1.94
Grigat family	108,332	1.92

Company boards

Dipl.-Phys. Jürgen Valentin
Chief Technology Officer (CTO) and Spokesman of the Management Board (until April 1, 2017)

Dipl.-Ing. Marcus Grigat
Chief Operations Officer (COO)

Joachim Sorg
Management Board Officer for Administration, Finances and Controlling (CFO)

Supervisory Board

Dr. Hans Hermann Schreier, Supervisory Board Chairman
Ralf Terheyden, Deputy Chairman
Felix Krekel, Supervisory Board Member

Member by proxy

Prof. Dr.-Ing. Stefan Altmeyer

Investor relations contact

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Equity Story

NanoFocus AG is the technological leader in the field of optical 3D surface metrology. Approximately EUR 12m was invested in research and development in the period from 2010 to 2016 alone. Today, NanoFocus AG's leading technological position is protected by numerous patents and utility models. The Group's main areas of activity include the development, production and distribution of surface measuring systems from the laboratory to production control. In addition to patented hardware developed in-house, the specialist in surface measuring technology also offers its customers tailor-made software solutions and services. The Group's products are now established worldwide, both in leading research and development institutes and in global corporations from the medicine, automotive, electronics and semiconductor industries.

The optical 3D surface measurement technology is used in industry and in science to examine surfaces with structures in the micro and nano range. While this next generation metrology was previously mainly used in the laboratory, it is becoming more and more prevalent in industrial manufacturing. For example, it can be integrated into the increasingly digital production process (termed Industry 4.0) better than other methods, and it is precise to the micrometer and nanometer.

The jump from 3D surface metrology to production control has opened up significant sales and earnings potential for NanoFocus AG. This potential will be exploited in the coming years. The Group also commenced a sales campaign at the end of 2016. At the same time, the investment phase in R&D was completed and measures were taken to cut costs. New sales potential will also be generated with the new strategic investor from the industry.

NanoFocus ...

- has gained technology leadership in the growth market of optical 3D surface metrology through consistent R&D in the past years.
- has opened up significant sales and earnings potential with the jump from laboratory equipment supplier to production control.
- has completed the investment phase in R&D and taken measures to cut costs.
- has started the roll-out of systems in the semiconductor and automotive industries.
- has commenced a sales campaign.
- is generating new sales potential with the strategic investor from the industry.

Technologies

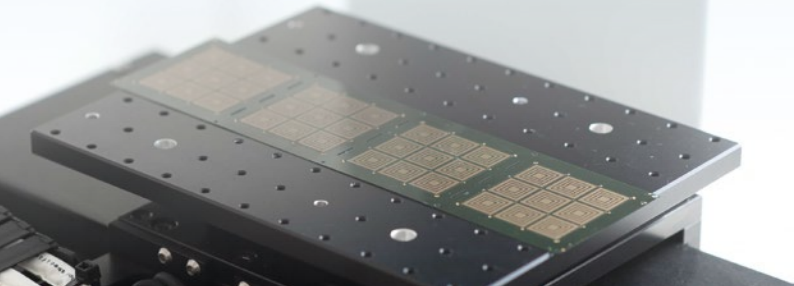
µsurf
The µsurf sensor is based on NanoFocus's patented laminar confocal technology. It records topography, roughness and coating thickness in seconds in the micrometer and nanometer field.

µscan
The flexible µscan technology is based on the principle of optical 3D scanning profilometry using different point sensors.

µsprint
The high-speed µsprint technology is based on a combination of a laser with up to 128 channels and a vertically-oscillating tuning fork. This makes it possible to scan a surface at in-line speed.

Know-how
All the skills required for the development and production of optical 3D measurement technology are combined under one roof at NanoFocus – ranging from hardware to software.

Conformity with standards
The NanoFocus measurement systems and software solutions allow you to take measurements according to national and international standards.



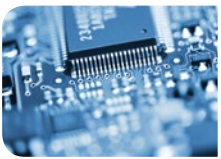
Applications

Selected applications range from roughness measurement in the automotive industry to wear measurement in tool manufacture:

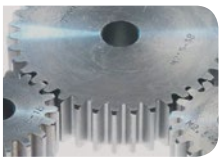

Automotive

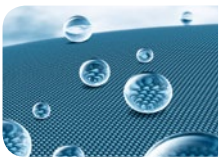

Fuel cell technology

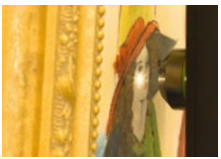

Printing and paper industry

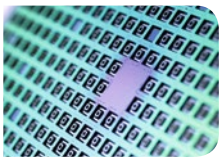

Semiconductors


Medical technology


Mechanical engineering


Materials science


Art


Microsystem technology

Security technology


Solar technology


Tool manufacture

Dear Shareholders,

2017 will be a year of changes for NanoFocus AG. We have excellent technology and sophisticated products, which allowed us to achieve success and realize our plans in our core areas Laboratory and OEM last year too. However, NanoFocus AG failed to meet its annual sales targets for the second year in a row. We had to accept great losses in 2016.

The causes of this did not lie in the field of technology. NanoFocus is undisputedly one of the leaders of technology and innovation in surface metrology. The causes of last year's poor earnings lie in multiple delays in our industrial projects with the automotive and semiconductor industries. Long-term decision-making processes and the establishment of measurement standards in industrial production are often subject to project cycles lasting several years. Developing suitable prototypes and monitoring complex test phases and acceptance tests require extensive preparation by our company, particularly in relation to HR and expenditure on R&D. This is why the cancellation and delay of major projects that had already been planned led to losses and significant deviations from our annual plans in 2015 and 2016.

Even though the so-called emissions scandal had nothing to do with our projects, the resulting reluctance to invest in the automotive industry exacerbated our financial pressures further. As a result, we were forced to drastically reduce costs in 2016. Short-time working, redundancies and salary cuts, including on the Management Board, enabled the situation to be stabilized again in the second half of 2016.

Based on our experience of the last two years, however, we will take further steps. Our goal is to significantly reduce business risk in the area of industrial projects and realize the market potential of our products and technologies better at the same time. Our steps will include organizational streamlining, concentrating intensively on operative sales business and significantly reducing our R&D costs.

In the future, our wholly owned subsidiary NanoFocus Materialtechnik GmbH will take responsibility for the development of industrial business, primarily in the direction of growth markets such as medical technology and photonics. I myself have moved from the Management Board of NanoFocus AG to the management of NanoFocus Materialtechnik GmbH, to enable me to focus on and efficiently devote myself to this high-margin sector.

Following the successful completion of some important research projects, NanoFocus AG can significantly reduce its expenditure on R&D. The goal for the future is to market the developed and marketable technologies even more strongly than before through intensified sales. To this end, our development departments' resources and employee competence will be coordinated with sales activities even more closely. In addition to the streamlining of the NanoFocus AG Management Board, 2017 will also be characterized by the implementation of internal restructuring and cost-cutting.

Increasing efficiency, minimizing risk, focusing on sales and reducing costs - with these four packages of measures, we aim to sustainably consolidate NanoFocus AG and achieve a profitable result. Demand for our sophisticated measurement solutions remains consistently high in numerous industries. NanoFocus AG is a technologically significant company that enjoys an excellent reputation and represents high-end industrial metrology for its customers.

The future development and production of miniaturized parts, new optical components and faultless mass production are inconceivable without nanometer-level quality assurance. NanoFocus has just the right laboratory and process tools to enable a great number of companies to join this industrial megatrend.

We remain confident that NanoFocus AG has great growth potential. This is why we will do everything in our power to use our leading-edge knowledge and our many years of experience in application to achieve sustainable sales success.

Yours sincerely

Dipl.-Phys. Jürgen Valentin
Chief Technology Officer (CTO) and Spokesman of the Management Board (until April 1, 2017)

Interview with the Management Board

NanoFocus AG's sales in 2016 were considerably lower than planned. Only EUR 10.2m of the originally envisaged EUR 13m was realized. What were the causes of these losses?

Joachim Sorg: The causes primarily lay in the area of large plants in industrial business. The prospect of orders held out by customers did not materialize. Following the delivery of successful test facilities, our plans from the beginning of the year were based on subsequent orders expected from the semiconductor and automotive industry, among other things. These projects were put on hold or postponed by customers. Unfortunately, they were orders of a considerable volume. One or two major customers can cause a loss in sales of one to two million euros. As a result, we had already adjusted our plans downwards by the second half of the year.

Marcus Grigat: Our sales forecasts for 2016 were definitely realistic. We were actually very certain about the orders in the semiconductor sector. The technical requirements had been met and the customers had given clear signals. The postponement of this investment alone resulted in a deviation from plans of EUR 1.5m. The sales opportunities are still there, but the delay was not anticipated. There was a similar situation in the automotive sector. As the industry was working through the emissions scandal, internal strategies were reviewed and, in some cases, larger investments were postponed. Technologically, our projects had nothing to do with these issues, but we still suffered because of this reluctance to invest. The emissions scandal harmed NanoFocus AG economically, that's for certain.

NanoFocus AG Management Board
Joachim Sorg, Management Board Member for Administration, Finances and Controlling (CFO)
Dipl.-Ing. Marcus Grigat, Chief Operations Officer (COO)
Dipl.-Phys. Jürgen Valentin, Chief Technology Officer (CTO) and Spokesman of the Management Board (until April 1, 2017)

"For us, the strategic adjustments that will take effect in the future are crucial. We have learnt from our experience."

Joachim Sorg
Management Board Member for Administration, Finances and Controlling (CFO)

Joachim Sorg: The losses that these projects caused primarily resulted from the significant preliminary work that we as a technology developer had to perform. Complex, technically demanding industrial projects already entail high fixed costs upfront. We have to commit personnel to these projects and spend on R&D. It is only by making these investments that we can make these projects possible in the first place. This is why our plans are based on joint roadmaps and our major customers' indications. When there are delays, the fixed costs have a negative impact at the end of the fiscal year. This loss turned out to be particularly high in 2016 because of the reasons stated above.

However, there were also business sectors that ended the last fiscal year with positive figures: the core NanoFocus areas Standard/Laboratory, OEM and Breitmeier Messtechnik GmbH.

Marcus Grigat: We were largely on track in our core areas. Standard business and OEM are stable. This is easily overlooked in view of the poor overall result. The automotive sector was also able to record a slight increase in sales compared with 2015, but this still fell considerably short of our expectations and plans. Our service business continues to exhibit the same high and even inflow of orders in all segments. It is therefore clear that NanoFocus AG's core areas are healthy. They form the basis of our sales. The problems in 2016 actually lay solely in the industrial projects, because of the fixed costs incurred.

Joachim Sorg: Despite restricted liquidity, Breitmeier only fell slightly short of sales expectations. However, the crucial thing is that we have achieved a positive result with our new subsidiary, as planned. That is more than we could do with the AG. It is important to increase working capital for Breitmeier in the future. Lead times there are often short and, in the production process, goods must be ordered in advance. A prospective bank loan here has still not materialized because of the poor performance of the AG in 2016. However, alternative financing is currently being obtained. Overall, we are satisfied with Breitmeier. Our subsidiary will still become immensely important, especially for the automotive industry.

How has the new fiscal year begun for NanoFocus AG?

Marcus Grigat: Extremely positively, including compared to the start of 2016. We began with an inflow of orders of EUR 2.6m. That's considerably higher than the year before, when it was only EUR 900,000. We have already had positive signals from the business units that ended the last year poorly too. In the automotive sector, we received an order from VW in Mexico for a cylinder inspection system. The semiconductor industry ordered two systems for use in battery research. However, we are remaining prudent in spite of this. The weak inflow of orders as at mid-2016 forced us to take significant action. There will be significant changes for 2017 too. The difficulties experienced last year cannot be allowed to reoccur. That is our main goal.

What action was taken and what changes are you planning for 2017? The poor sales performance in 2016 was certainly a major crisis for NanoFocus AG.

Joachim Sorg: We had already begun an extensive cost-cutting program in 2016. Naturally, the most effective emergency measures were short-time working and, unfortunately, redundancies. Even the Management Board waived a part of its salaries. It is clear to see that these measures were absolutely necessary. The short-time working ended in March 2017, but the internal restructuring will only be completed later this year. For us, the strategic adjustments that will take effect in the future are crucial. We have learnt from our experience and will brace ourselves for major volatility in the industrial sector. The basis for this in the future will be a cost structure with a significantly lower level of risk.

"Standard business and OEM are stable; our service business continues to exhibit the same high and even inflow of orders. NanoFocus AG's core areas are healthy."

Dipl.-Ing. Marcus Grigat
Chief Operations Officer (COO)

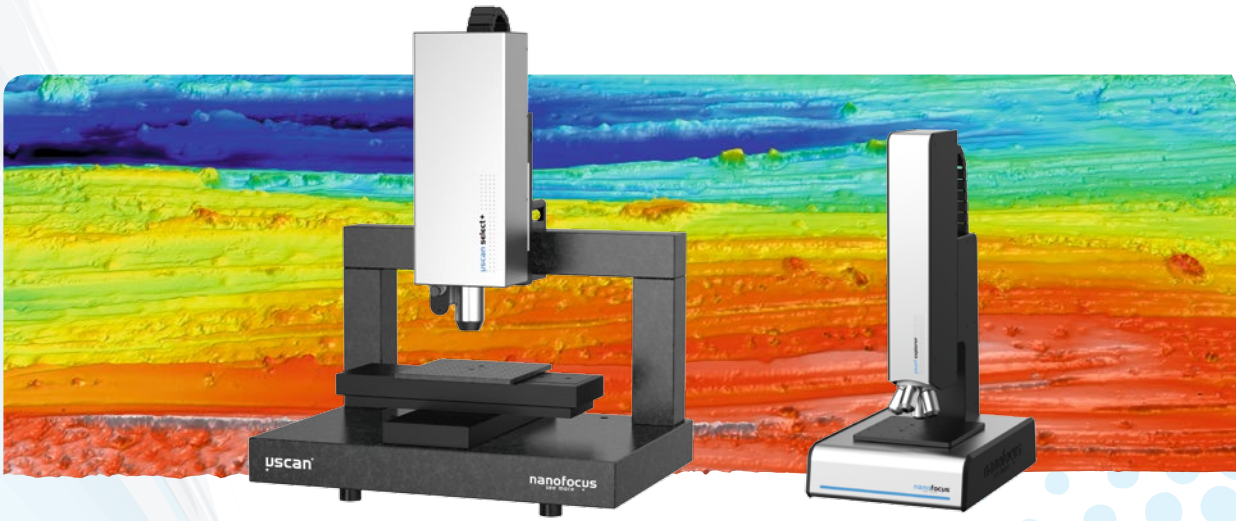
What exactly are these strategic adjustments?

Joachim Sorg: The keywords are streamlining, focusing and strengthening sales. Increasingly, we will bundle the automotive sector up in our subsidiary Breitmeier Messtechnik. Breitmeier has excellent market access in the automotive industry. Using NanoFocus technology, it is possible here to offer a very extensive product range, ranging from tactile to optical systems, which were already successfully developed for the automotive industry.

Reducing our widespread R&D costs is an important matter. Because of industrial projects, our R&D ratio in the past has often reached up to 25%. These advances are no longer sustainable for us and they are no longer necessary on this scale either.

Meanwhile, key development projects such as the ultra-fast sensor HiCOS3D have now been completed successfully. The technological benchmarks have been reached; our systems are ready for the market. This is why we will not start any new, expensive funded projects for the time being either. The R&D investments were necessary for NanoFocus AG, but we can now return to a normal level of innovation. We aim for an R&D ratio of approximately 15%; a solid figure for a high-tech company. We will now focus mainly on expanding sales further.

NanoFocus AG's cost structure will be reduced by almost EUR 2m in total. Relieving this financial burden means that it will no longer be mandatory to include our project business in sales plans. NanoFocus AG will be able to act in a more flexible, entrepreneurial way in the future.



Left: The new 3D line sensor µscan select+ will be introduced for the first time in 2017. It is an extension of the successful µscan product range. It enables even large surfaces to be measured three-dimensionally, extremely quickly and with great precision.

Right: The new generation of µsurf explorer has been completely reworked and equipped with new, more effective sensors and numerous improvements for 2017.

"Technologically, we have already achieved great things here and have a superb reputation. It is important to develop these prospects further."

Dipl.-Phys. Jürgen Valentin
Chief Technology Officer (CTO) and Spokesman of the Management Board (until April 1, 2017)

We will outsource our innovation business, which is primarily characterized by technology collaborations and agile project management, to our subsidiary NanoFocus Materialtechnik GmbH. NanoFocus Materialtechnik GmbH will execute these projects, which, in perspective, remain of extreme importance to us, independently - in a more streamlined, flexible way. These projects will no longer play a role in the AG's sales plans. We plan conservatively for our core areas.

What do these changes mean for NanoFocus AG itself? What will the focal points be in 2017?

Marcus Grigat: NanoFocus AG will consistently focus on the core areas Standard/Laboratory, OEM and Services. Additionally, the automotive sector will be bundled up in Breitmeier Messtechnik GmbH, with a focus on sales. In the semiconductor sector, we will focus on marketing the new ultra-fast sensor technology. Therefore, it is mainly a case of expanding sales further and marketing the newly developed products. In 2017 we will launch on the market the standard system µsurf explorer, a new, more effective generation of sensors. Together with our premium device for the laboratory, µsurf expert, we offer the best technical devices for production-related quality control and development.

For us, the overall motto for 2017 is consolidation. This is why we will also perform internal personnel changes and process optimization throughout the year. Many employees have been tied up in major projects and funded projects, especially in the last two years. Our development department can now be more strongly integrated into sales. In the future, specific adjustments and development services will only be performed when a customer has placed an order.

Therefore, to summarize: streamlining the internal HR structure, outsourcing and pooling long-term technology partnerships in subsidiaries, reducing the R&D ratio and concentrating on the core business and sales. That is the plan for the years ahead.

Joachim Sorg: What we aim to do is increase efficiency while making savings at the same time. Essentially, these are two parallel approaches. Firstly, we will act and plan significantly more conservatively in business terms. We will no longer burden the overall performance of the company by performing risky preliminary work. 2016 taught us that. Secondly, we intend to fundamentally increase efficiency, internally and on all levels. One part of this increase in efficiency lies in reorganization.

This reorganization also includes a change on the Management Board. Jürgen Valentin hat left the AG Management Board and moved to the management of NanoFocus Materialtechnik GmbH.

Jürgen Valentin: That is a logical, sensible step for various reasons. Firstly, a Management Board with three members is not absolutely necessary for a company with annual turnover of approximately EUR 10m in the current phase of business development. I would like to consciously make a personal contribution to increasing efficiency and streamlining.

However, the decisive factor lies in our focus. Focusing on the industrial business that, operationally, is extremely profitable remains important for the future of NanoFocus. We have already achieved great things here technologically and have a superb reputation. It is important to develop these prospects further, because the future of metrology in the nanometer range lies in industrial quality assurance. That is indisputable.

However, we have to learn that the corresponding project timeframes and preliminary work pose a high risk for NanoFocus AG. This is why bundling such projects up in one subsidiary is the right thing to do. Such a procedure is certainly not uncommon either.

So you yourself, Mr. Valentin, will increasingly look after NanoFocus AG's future prospects there as a specialist in industrial metrology.

Jürgen Valentin: As a Managing Director of NanoFocus Materialtechnik GmbH, I can tend to these issues better and more intently than before. In the past, we have often not been able to respond to the demands of industry development with the necessary flexibility and speed. The aim is to market our knowledge better. We have a number of innovations that are of extreme interest to a whole range of industries and companies, primarily in medical technology and photonics.

Therefore, the priority here is not further technological development, but better entry to high-margin markets instead. This involves achieving NanoFocus's potential in these areas more efficiently and quickly. I would like to make NanoFocus Materialtechnik GmbH an operational and profitable subsidiary that makes a positive contribution to turnover for the entire company.

Joachim Sorg: That's a very important point. Our main goal is profitable growth. We exploit opportunities, but we do not drain further liquidity from the company. Our subsidiaries should and will be profitable. Industrial technology projects can be pushed forward better in this concentrated form. The restructuring of NanoFocus AG was and is, after the last fiscal year, a top priority. However, it was important to us to not risk or even lose our excellent market opportunities in the industrial business. That would not make sense. Besides, Jürgen Valentin remains at the disposal of the entire company with his skills and market knowledge. Because of the action we have taken, it is possible to put our consolidation into effect and, at the same time, maintain NanoFocus AG's technological leadership, including beyond the standard business.

Marcus Grigat: It should not be forgotten that throughout the year, approximately EUR 15m was invested in the development of our technology. Our industry solutions are unparalleled worldwide and our expertise and knowledge of application have great business value. This knowledge creates significant sales opportunities.

Where do the market opportunities for the NanoFocus technology lie? What are the benefits for your customers and why do you think that NanoFocus AG is able to exploit these opportunities profitably?

Jürgen Valentin: There are actually several reasons, which our customers and partners corroborate again and again. We offer sophisticated measurement technology and not simply microscopes that allow you to examine surfaces. Our systems provide precise digital data with which production parameters can be continuously monitored and observed, including in the nanometer range. NanoFocus has a wide range of specialist analysis software for various application scenarios. We have an advantage here. We supply both the hardware and the application knowledge.

Of course, how well a system can measure in the nanometer range is not the only decisive factor. How I can integrate these results into my production in practice is crucial. Which parameters are they and what do I have to measure and how to keep my production running faultlessly? We can answer these questions. Our systems enable metrology for Generation 4.0 digital production. We offer more than just highly precise metrology; we offer the answer to questions of how this technology can be used profitably in various industries. Our industry solutions have verifiable corporate benefits for our customers.

3D surface analysis
Laboratory standard for development and quality assurance

NanoFocus AG has developed, produced and distributed highly precise measurement systems for analysis surface structures, including in the nanometer range, for more than 20 years. The spectrum of the NanoFocus systems' performance fundamentally distinguishes them from conventional microscopes. Our patented µsurf and µscan technology delivers precise three-dimensional measurement date in the form of reproducible digital parameters. This surface data enables our customers to guarantee production quality and continuously develop product features - quality assurance and innovation, even in the micrometer and nanometer range.

The standard systems in the range - µsurf, µscan and µsprint - bring the highest laboratory standards into the everyday processes of a production environment. Ease of use and robust practical applicability make the systems the ideal 3D surface analysis tool for medium-sized enterprises and smaller development laboratories too.

Standard-compliant and flexible metrology

Nearly all surfaces can be captured and analyzed with NanoFocus systems - from razor blades to painted surfaces or optical microlenses. The range of possible uses is extraordinarily wide: car manufacturing, microsystems technology, medical technology, printing industry, consumer goods, alternative energies, security technology and many more.

Customer-specific adjustments can be made quickly and easily. Besides the tried and tested standard systems, our customers benefit from the flexible modular construction and our measurement engineers' many years of experience. We do not just implement technical specifications; using our high level of application knowledge, we find the optimum measurement solution together with the customer.

µsurf expert – high-end metrology

µsurf expert is the newest development in our range of standard systems. It combines decades of expertise in optical surface measurement with our knowledge of production conditions and industry requirements. The data analysis, documentation and visualization functions make µsurf expert a diverse measurement device that is ideal for production-related quality control as well as laboratory use.

The user has access to all data and can integrate this into its processes via interfaces and protocols. As the system is easily automatable, it also enables standardized series of measurements. These features make µsurf expert superior to mere laboratory systems. It was designed for continuous quality assurance and the reliable monitoring of parameters.

Mobile measurements in the production environment

It is not always possible to bring the component to be examined to the device. NanoFocus originally developed µsurf mobile to be used on roller surfaces in steel processing. It is the only optical confocal mobile device on the market. Weighing less than five kilograms, it is easy to transport and is suitable for large objects that are

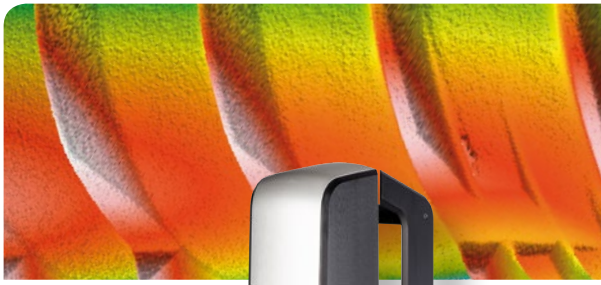
difficult to move. So far, µsurf mobile has primarily been used in the printing and steel industries and for testing painted sheet metal.

The tactile hand sensor MiniProfiler from our subsidiary BMT is an important addition to our mobile systems. The MiniProfiler is barely bigger than a matchbox and very quickly delivers highly precise roughness parameters when simply placed on inaccessible surfaces.

NanoFocus Inside – OEM sensors for a technological advantage

Integrating the NanoFocus sensors into existing measurement and production environments gives our customers a significant productivity improvement in critical to quality manufacturing processes. This is why optical OEM components from NanoFocus are used in various industries. The latest development in our compact measuring head was therefore optimized specifically for use on a robot arm. The mobility and accuracy of an automated measurement therefore go hand in hand with highly precise 3D surface analysis from NanoFocus.

NanoFocus sensors have already been providing a technological advantage in other industries for years. Ultra Electronics Forensic Technology (FTI), the global market leader in forensic investigation devices, uses NanoFocus sensors in its ballistic analysis devices. 3D data from NanoFocus enables FTI to provide unrivaled forensics with precision to the nanometer.



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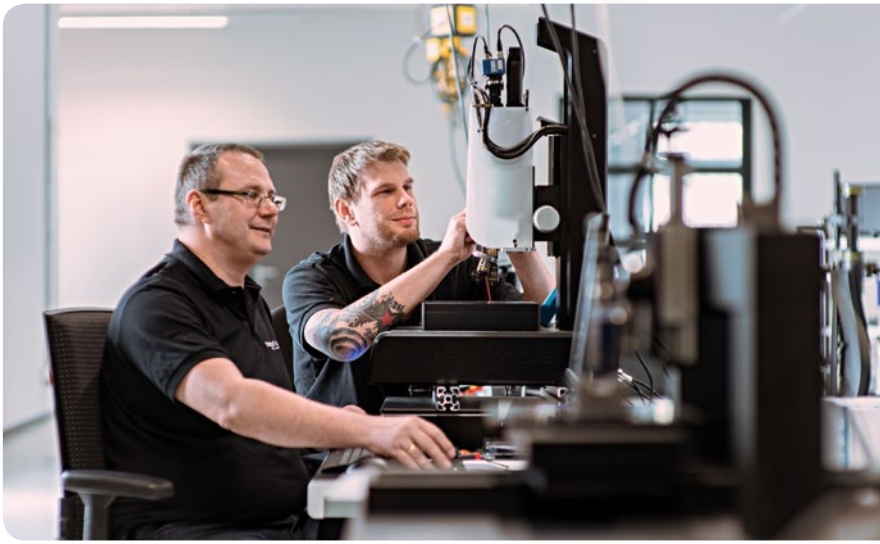
µsurf expert
3D confocal microscope for test and development laboratories



Industrial metrology
Process tools for faultless production

The development of industrial metrology is characterized by advancing miniaturization and new production processes to cut costs by avoiding errors. With the quality requirements with increasingly powerful electronics, conventional macro-metrology reaches it limits.

Intelligent avionics, smartphones, micro-optics, miniature implants, sensors for environmental and health controls - there are many examples of new, ultra-compact technologies. Previously, optical metrology was primarily used in the laboratory. Because of its considerable advantages, it is also becoming increasingly prevalent in the industrial production of new technologies.

Exponential failure costs (power of 10)

A defect discovered during or prior to production is significantly less expensive than one that is discovered after delivery to the customer.
The earlier a defect is discovered and rectified, the lower the total costs are for a company. Our systems enable even small discrepancies in the process chain to be identified promptly.

Optical metrology in industrial production

NanoFocus measurement technology meets the requirements of an integrable, highly precise measurement environment. Our systems deliver parameters relevant to production, not photographs. In contrast to analogous optical monitoring instruments, the digital measurements from the NanoFocus systems can be integrated into an automated production environment.

Our measurement is based on the premise of detecting possible production errors promptly and reliably - before the failure costs for the company add up with every additional process step. To achieve this, NanoFocus offers modular combinable hardware and software and the corresponding application knowledge. Our consultancy service is at the center of our collaboration with industrial customers. We do not just provide high-quality metrology, but also the necessary knowledge to use this in an optimum, cost-cutting way.

Business solutions for industry

Together with leading companies, NanoFocus AG has developed and commissioned numerous industry applications.

µsurf cylinder has been used successfully as an industry solution for monitoring cylinder running surfaces in engine manufacturing for a long time. The surface structures of these running surfaces have a direct effect on wear and fuel consumption.

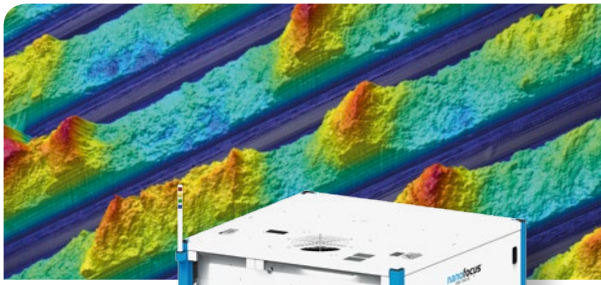
In the field of renewable energies, NanoFocus offers µsurf solar, a universal solution for the surface analysis of solar cells. The measurement system can be used to capture and analyze the surface properties of entire solar modules. Both the hardware and software are specially tailored to the requirements of the solar industry.

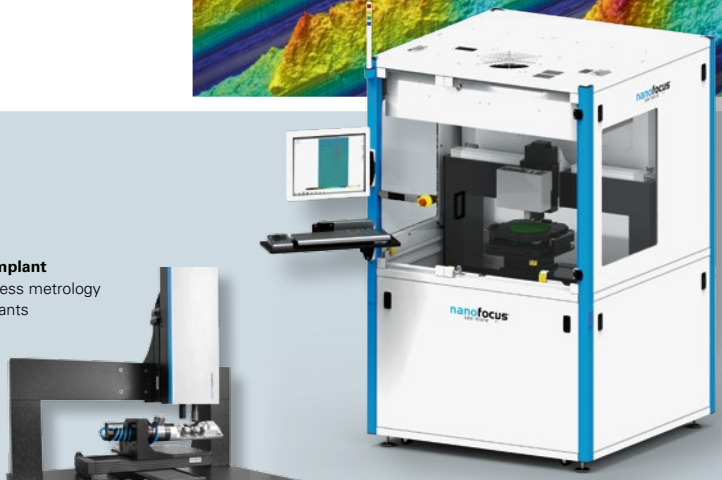
With the µsprint hp-opc 3000, based on the fastest confocal sensor in the world, NanoFocus AG commissioned a process-ready, industry-standard measurement system for the optical analysis of probe cards in semiconductor manufacturing for the first time in 2016. The hp-opc 3000 enables a considerable reduction in end products and therefore a decrease in operating costs.

Expertise in medical technology

Biotechnology is one of the industrial sectors with the most growth potential in the coming decades. Highly precise is of particular importance on the thresholds between technical and organic surfaces, for example, in quality control for stents, dental implants and artificial joints. Due to the potential effects of defective production on health, manufacturers have an increasingly stringent burden of proof in respect of their compliance with quality criteria. This requirement can only be met by using efficient measurement procedures.

NanoFocus has great expertise in the optical surface inspection of technical medical products. Our newest development is the µsurf implant, a flexible measurement system for implant components. The finest surface structures can be captured on metal, plastic and ceramic surfaces. µsurf implant can be used for both single measurements and programmed series of measurements.





µsurf implant
Roughness metrology
for implants

µsprint hp-opc 3000
Automated 3D metrology
for the semiconductor industry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83 %
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Technologie
Dienstleistungen
Referenzen
wendungen – Optische Messtechnik
Elektronik und Halbleiter
Bauteilinspektion bis in den Submikrometerbereich für fehlerfreie Produkte
NanoFocus setzt neue Maßstäbe
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Consumer electronics

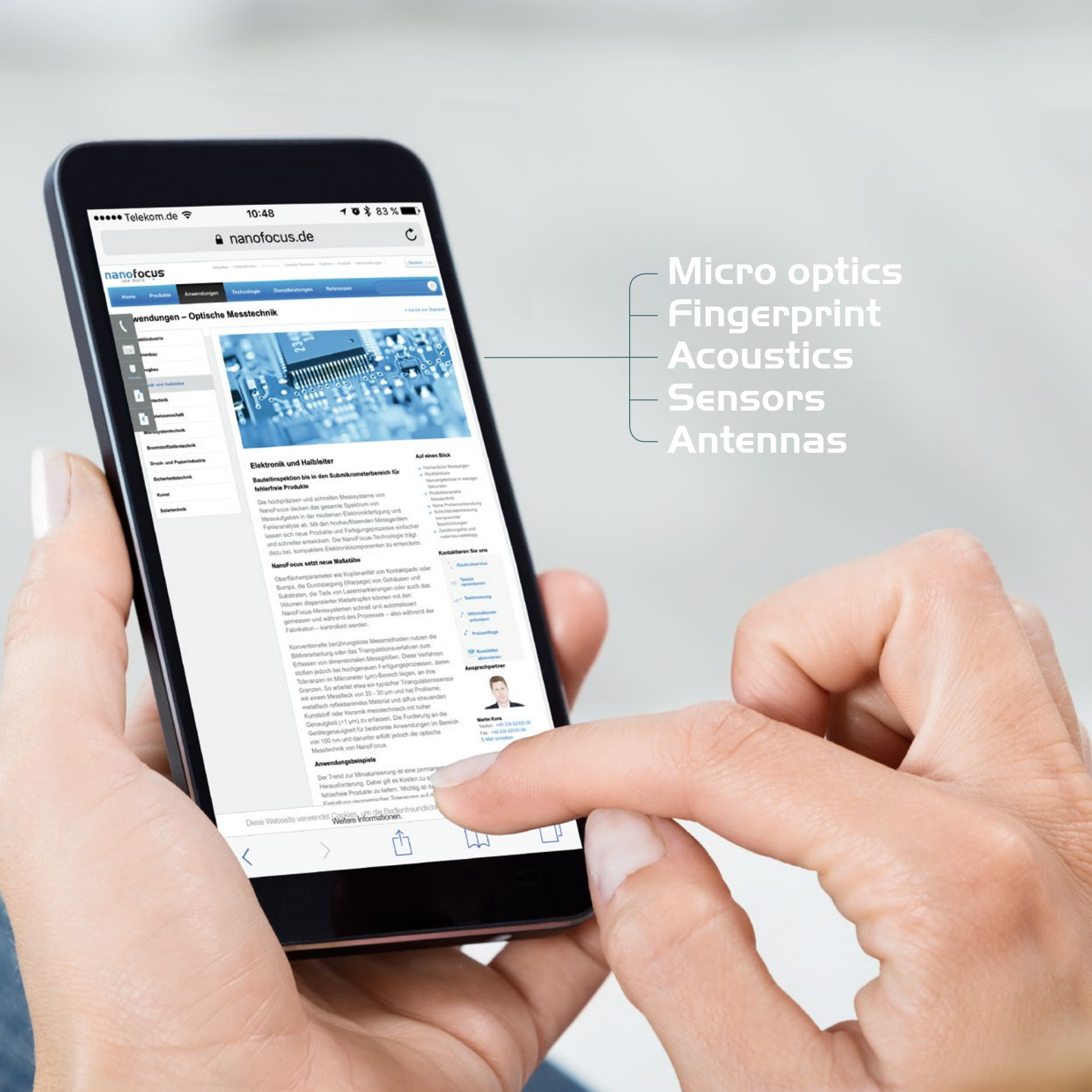
Information and entertainment are only a click away. Efficient electronics combine communication, knowledge and creative possibilities in the smallest space. NanoFocus provides leading 3D metrology for digital miniaturization.

2.1
billion smartphone users

90
smartphone manufacturers

391
billion euros turnover

Source: Wikipedia


Micro optics
Fingerprint
Acoustics
Sensors
Antennas
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83 %
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wendungen – Optische Messtechnik
Elektronik und Halbleiter
Bauteilinspektion bis in den Submikrometerbereich für fehlerfreie Produkte
Die hochpräzisen und schnellen Messsysteme von NanoFocus decken das gesamte Spektrum von Messaufgaben in der modernen Elektronikfertigung und Fehleranalyse ab. Mit den hochauflösenden Messgeräten lassen sich neue Produkte und Fertigungsprozesse einfacher und schneller entwickeln. Die NanoFocus-Technologie trägt dazu bei, kompaktere Elektronikkomponenten zu entwickeln.
NanoFocus setzt neue Maßstäbe
Oberflächenparameter wie Koplanarität von Kontaktpads oder Bumps, die Durchbiegung (Warpage) von Gehäusen und Substraten, die Tiefe von Lasermarkierungen oder auch das Volumen dispensierter Klebetropfen können mit den NanoFocus-Messsystemen schnell und automatisiert gemessen und während des Prozesses – also während der Fabrikation – kontrolliert werden.
Konventionelle berührungslose Messmethoden nutzen die Bildverarbeitung oder das Triangulationsverfahren zum Erfassen von dimensionalen Messgrößen. Diese Verfahren stoßen jedoch bei hochgenauen Fertigungsprozessen, deren Toleranzen im Mikrometer (µm)-Bereich liegen, an ihre Grenzen. So arbeitet etwa ein typischer Triangulationssensor mit einem Messfleck von 20 - 30 µm und hat Probleme, metallisch reflektierendes Material und diffus streuenden Kunststoff oder Keramik messtechnisch mit hoher Genauigkeit (<1 µm) zu erfassen. Die Forderung an die Gerätegenauigkeit für bestimmte Anwendungen im Bereich von 100 nm und darunter erfüllt jedoch die optische Messtechnik von NanoFocus.
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Case study: Consumer electronics

Microelectronics has become a part of our lifestyle and has taken over all areas of everyday life. Smartphones, tablets and a variety of mobile devices make high performance and speed seem natural. However, production processes and quality assurance have to keep pace with the devices' increasing high performance density. NanoFocus AG's measuring tools enable companies to detect defects promptly and therefore decrease production costs.

Power integration through packaging

One way in which miniaturization is achieved in the semiconductor industry is through wafer level packaging, in which individual components are laid on top of each other in layers. Quality assurance for this three-dimensional planar technology requires optical 3D metrology that supplies precise digital data in the smallest dimensions.

The µsprint technology from NanoFocus AG is the technological leader for these measurement tasks. The confocal sensor used is the fastest in the world and also enables high numbers of units in production-related 100% controls.

Micro optics and MEMS

Many functional elements are integrated, even into smartphones, for which our 3D measurement systems are used for production control. In many cases, miniaturized acoustic components and fingerprint sensors contain microelectromechanical systems (MEMS): highly sensitive three-dimensional structures measuring only a few micrometers.

One important way in which they are used is to inspect micro optics for use in optical communication, camera technology and sensors. These optics of less than 10 µm are produced as microlens arrays, directly on a wafer. NanoFocus systems are used successfully for the challenging measurement of the structure and form of these optics.

Quality assurance for antenna elements

Antennas and signal amplifiers for smartphones are produced in large quantities nowadays. NanoFocus AG developed the hp-opc 3000 in cooperation with the semiconductor industry. The fully automated measurement system can capture the three-dimensional parameters of these components at high speed. Automation, precision, speed and reproducibility are the crucial advantages here. Our systems' optical 3D metrology provides reliable, stable data for industrial quality assurance in the growing sector of consumer electronics.

2.1
billion smartphone users

90
smartphone manufacturers

391
billion euros turnover

Source: Wikipedia

Mobility

The future of the car is shaped by current issues: energy efficiency, networking, intelligent safety systems, alternative powertrains and new materials. NanoFocus surface metrology ensures quality standards for changing mobility.

1.2
billion cars

153
Car manufacturers

1.7
billion euros turnover*

* of the 20 largest car manufacturers, source: Wikipedia


Glass
Cylinder
Energy
Body
Electronics

Case study: Mobility

Cars are becoming safer, more efficient and more intelligent. Advancement in mobility is occurring in the smallest space: tightly packed onboard electronics and three-dimensional underlying structures of surfaces. This requires production control that is accurate to the nanometer, which can be used reliably on an industrial scale. Our optical 3D metrology delivers highly precise surface data for demanding production processes and product innovations.

Efficient and environmentally friendly powertrains

The automotive industry uses the globally unique µsurf cylinder from NanoFocus to perform quality assurance on optimized cylinder running surfaces. Their surface properties reduce wear and fuel consumption.

In the field of alternative powertrains, we are developing new measurement devices for the faultless production of fuel cells and Li-ion batteries. The decrease in failure costs is an important prerequisite for the economic mass production of the next generation of engines.

Safety and comfort when driving

Advanced driver assistance systems require powerful onboard electronics, intelligent sensors, cameras and micro optics. The need for integrated microsystem technology in motor vehicles is growing constantly. Our measurement systems are ideal for capturing and analyzing the three-dimensional functional parameters of these components precisely and reliably.

The realization of autonomous mobility concepts without highly precise surface analysis in production control is inconceivable too. The production of cars in the future requires faultless, industry-standard quality assurance for micro and nanostructures. NanoFocus is one of the technological leaders in this field.

Tool quality and appearance

Our systems are also used for three-dimensional surface measurement when evaluating car paints and performing quality control on production tools.

µsurf mobile can be used directly on the finished part to capture the optical properties and quality features of different car paints. The measurement is non-destructive and can be performed throughout the entire process chain.

NanoFocus has developed an optical measuring head that is suitable for use with robots specially for testing the surface qualities of forming die in car body construction. The system is suitable for fully automated measuring processes in production facilities.

1.2
billion cars

153
Car manufacturers

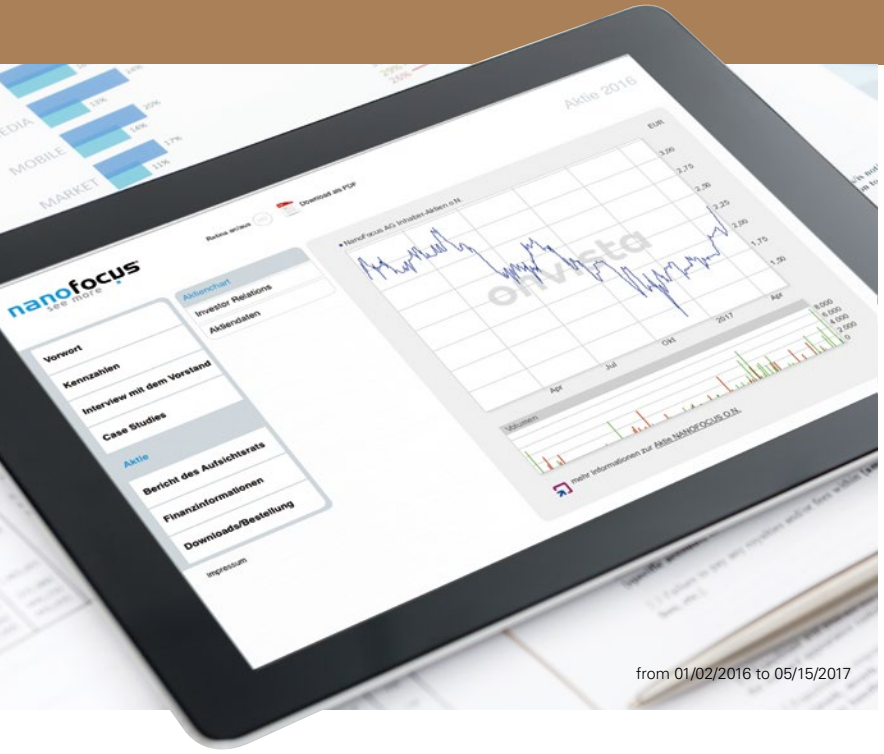
1.7
billion euros turnover*

* of the 20 largest car manufacturers, source: Wikipedia

Shares 2016

Stock performance and analyst evaluation

General stock market development was volatile in 2016. The German index DAX ended 2016 up thanks to a price rally in the final quarter. The technology index TecDex was slightly down. In line with business, the development of the NanoFocus share price was disappointing in 2016. The share price at the start of 2016 was EUR 3.21. In the following months, it moved within a narrow range around EUR 3.



from 01/02/2016 to 05/15/2017

The publication of the 2015 annual financial statements, which were affected by the emissions scandal in the automotive industry, triggered a downward trend. A cash capital increase of 330,000 no-par value shares for an issue price of EUR 2.60 affected the price. The NanoFocus share was able to remain at this level until the end of August.

The publication of the 2016 half-year figures was unable to provide any positive impetus and the price drop continued. Because the year-end business was worse than expected, the sales and EBIT forecasts had to be reduced at the beginning of November. The announcement of a strategically important order from the photonics industry provided a slight price increase after this.

After the NanoFocus share reached an annual low of EUR 1.65 on December 9 and a capital increase with subscription rights from the authorized capital was performed to finance growth by 1,110,786 no-par value shares for a price of EUR 1.75, the year-end price was EUR 1.85.

Investor relations

NanoFocus AG maintains regular dialogue with the capital market. It is in the company's interest to increase public awareness of NanoFocus AG further and maintain contacts and establish new ones. Regular investor talks were therefore held. NanoFocus AG's business model and market opportunities were presented to current and prospective investors at various capital market conferences. These included a presentation in March 2016 at the Family Office Technology Day in Vienna and on May 21 at the MKK in Munich, in November as part of a roundtable equity forum and on December 22 at the MKK in Munich.

Naturally, shareholders and investors had the opportunity to contact the company by telephone, email or via the NanoFocus website at any time.

On November 22, 2016, GBC Research started the coverage of NanoFocus AG with a purchase recommendation. The recommendation was confirmed in February 2017 with a target price of EUR 2.45. GBC continues to consider NanoFocus an attractive investment. Already in 2017 analysts are expecting a significant improvement in the order and sales situation, which should also be reflected positively in the results. The experts are expecting a further sales and earnings increase for 2018.

Outlook for 2017

As a result of the negative annual result of 2016, the company is focusing on attaining sustainable profitability for 2017. At the beginning of the year, the Management Board initiated measures that will lead to cost cuts within the Group of approximately EUR 2m this fiscal year.

In consideration of current orders, economic expectations and current business relationships, we are planning for an increase in sales to at least EUR 13.5m for the 2017 fiscal year. Based on a profitable product mix with a higher gross margin overall, cost cuts of approximately EUR 2m in total and the omission of the one-off effects of 2016 of EUR 1.5m (allowances and depreciation), we are expecting an EBITDA margin of 10% and an EBIT margin of 5%.

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References


AIRBUS
BASF
The Chemical Company
BMW
BOSCH
centrotherm
photovoltaics AG
cpm
Danfoss
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creating essentials
elringklinger
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TECHNISCHE UNIVERSITÄT DRESDEN
ThyssenKrupp
Wieland
WILKINSON SWORD
XYCARB CERAMICS
Pure Excellence

Share data on 2016-12-31

Total number of shares	5,640,786 bearer shares
Capital	EUR 5,640,786
Market capitalization	EUR 10,435,454
Transparency level	m:access, Basic Board

Share statistics 2016 (XETRA)

Year-end rate	EUR 1.85
Annual high	EUR 3.22
Annual low	EUR 1.65
Shares traded per day in 2016	7,447 shares per trading day on average

Company information

Founding date	Founded on 08/24/1994 under the legal form of limited liability company (GmbH). Changed to public company (AG) by resolution at the Annual General Meeting on 10/26/2001
Accounting standard	German Commercial Code (HGB)/Accounting Law Modernization Act (BilMoG)
Balance sheet date for the financial year ending on	12/31

Stock market listing

Start of trading	11/14/2005
Securities identification number/ISIN	540066/DE0005400667
Bloomberg reference	N2F.GR
Stock exchanges	XETRA (continuous trading with specialist), Munich (m:access), Frankfurt (Basic Board), Berlin, Bremen, Dusseldorf, Stuttgart
Designated sponsor in Xetra trading	ICF BANK AG Securities trading bank
Research	GBC AG (Rating: Buy, target price: EUR 2.45)

Your contact:
Fabian Lorenz
Investor relations

Tel. +49 221 29831588
ir@nanofocus.de

Group balance sheet assets

	2016	Change		2015
	EUR	%	absolute	EUR
A. Fixed assets	**7,704,462**			**8,814,712**
I. Intangible assets				
1. Internally generated intellectual property rights, similar rights and assets	3,190,624	8.87	259,849	2,930,775
2. Concessions, intellectual property rights and licenses acquired for a fee	3,094,608	-12.20	-430,013	3,524,621
3. Goodwill	1,048,790	-10.00	-116,532	1,165,322
	7,334,022			**7,620,718**
II. Property, plant and equipment				
1. Technical equipment and machinery	196,774	-2.37	-4,767	201,541
2. Other assets, fixtures and fittings	173,665	-9.76	-18,788	192,453
	370,440			**393,994**
III. Financial assets				
1. Other loans	0	-100.00	-800,000	800,000
	0			**800,000**
B. Current assets	**10,013,371**			**9,242,173**
I. Inventories				
1. Raw materials, auxiliary materials and consumables	2,261,551	1.47	32,744	2,228,807
2. Unfinished goods, unfinished services	985,105	30.39	229,602	755,503
3. Finished goods	955,294	-23.37	-291,282	1,246,576
4. Advance payments for inventories	3,111	-44.91	-2,536	5,647
	4,205,061			**4,236,533**
II. Accounts receivable and other assets				
1. Trade accounts receivables	2,685,773	-28.99	-1,096,631	3,782,404
2. Other assets	200,318	n/a	18,931	181,387
	2,886,091			**3,963,791**
III. Cash assets, due from banks and checks	2,922,219	n/a	1,880,370	1,041,849
C. Deferred income and accrued expenses	**130,163**	**-2.62**	**-3,500**	**133,663**
D. Deferred tax assets	**830,131**	**-43.25**	**-632,661**	**1,462,792**
	18,678,127	**-4.96**	**-975,213**	**19,653,340**

Group balance sheet liabilities

	2016	Change		2015
	EUR	%	absolute	EUR
A. Equity				
I. Subscribed capital	5,640,786	34.30	1,440,786	4,200,000
II. Capital reserve	9,964,539	15.82	1,361,089	8,603,450
III. Retained earnings	1,165,000	0.00	0	1,165,000
IV. Capital difference from currency conversion	-56,759	n/a	-30,783	-25,976
V. Loss carried forward	-3,912,297	n/a	-1,501,836	-2,410,461
VI. Net loss for the year	-3,076,291	n/a	-1,574,455	-1,501,836
	9,724,978	**-3.04**	**-305,198**	**10,030,176**
B. Provisions				
1. Tax provisions	55,754	-73.68	-156,099	211,853
2. Other provisions	1,240,059	-5.12	-66,857	1,306,916
	1,295,813	**-14.68**	**-222,956**	**1,518,769**
C. Liabilities				
1. Bonds (convertible)	1,350,000	0.00	0	1,350,000
2. Amounts owed to credit institutions	331,370	-52.17	-361,428	692,798
3. Advance payments received on orders	618,494	n/a	404,339	214,155
4 Trade accounts payables	1,669,954	-8.35	-152,197	1,822,151
5. Other liabilities	1,710,730	-20.85	-450,692	2,161,422
	5,680,548	**-8.97**	**-559,978**	**6,240,526**
D. Deferred income and accrued expenses	**70,022**	**-2.35**	**-1,686**	**71,708**
E. Deferred tax liabilities	**1,906,766**	**6.39**	**114,605**	**1,792,161**
	18,678,127	**-4.96**	**-975,213**	**19,653,340**

Group income statement

		2016	Change		2015
		EUR	%	absolute	EUR
1st	Revenues	12,316,544	10.41	1,160,885	11,155,659
2.	Inventory changes to finished and unfinished goods	-61,680	n/a	76,122	-137,802
3.	Other capitalized assets	585,609	-31.62	-270,749	856,358
4.	Other operating income	293,214	-3.37	-10,212	303,426
5.	Material expenditure	4,433,660	17.49	659,892	3,773,768
5a.	Expenses for raw materials, materials and supplies and for goods purchased	4,225,995	14.95	549,552	3,676,443
5b.	Expenses for purchased services	207,665	113.37	110,340	97,325
6.	Personnel expenditure	5,708,875	6.47	346,823	5,362,052
6a.	Wages and salaries	4,762,941	4.02	184,284	4,578,657
6b.	Social contributions and expenditure for pensions and benefits	945,934	20.75	162,539	783,395
7.	Depreciation	1,047,410	22.02	189,053	858,357
7a.	on intangible assets of fixed assets and property, plant and equipment	1,047,410	30.30	243,554	803,856
7b.	on current assets in as far as such exceed the usual depreciations in the corporation	0	-100.00	-54,501	54,501
8.	Other operating expenditure	3,960,799	23.79	761,149	3,199,650
9.	Other interest and similar income	912	n/a	757	155
10.	Interest and similar expenditure	309,317	69.80	127,149	182,168
11.	Tax on income and on profits	747,309	146.85	444,576	302,733
12.	Result after tax	-3,072,771	n/a	-1,571,839	-1,500,932
13.	Other taxes	3,520	n/a	2,616	904
14.	Net loss for the year	-3,076,291	104.84	-1,574,455	-1,501,836

Group cash flow statement

	2016	Change	2015
	kEUR	absolute	kEUR
Cash and cash equivalents at the start of the period	**562**	**-459**	**1,021**
Result for the period	-3,076	-1,574	-1,502
Depreciation on fixed assets	1,047	243	804
Depreciation of current assets	0	-54	54
Increase/decrease in provisions	-114	-134	20
Other non-cash expenditures and income	54	50	4
Interest expenses/interest earnings	309	127	182
Income tax expense/income	747	444	303
Income tax payments	-156	-156	0
Cash flow from sales activities	**-1,189**	**-1,054**	**-135**
Increase/decrease in stocks, accounts receivables and other assets not classified as investment or financing activities	968	2,313	-1,345
Increase/decrease in liabilities from accounts payables and other liabilities not classified as investment or financing activities	234	-166	400
Cash flow from current operating activities	**13**	**1,093**	**-1,080**
Pay-outs for investments in intangible assets	-923	139	-1,062
Deposits from the disposal of financial assets	800	800	0
Pay-outs for investments in property, plant and equipment	-139	-44	-95
Pay-outs for investments in financial assets	0	800	-800
Pay-outs for additions to the group of consolidated companies	0	956	-956
Pay-outs for payment of purchase price liabilities for previously consolidated entities	-1,450	-1,450	0
Cash flow from investment activities	**-1,712**	**1,201**	**-2,913**
Deposits from capital injections	2,802	-858	3,660
Deposits from the issue of bonds and the raising of (financial) credits	1,970	1,970	0
Payments from the settlement of loans and (financial) credits	-1,177	-843	-334
Deposits from subsidies received	366	41	325
Interest paid	-200	-72	-128
Cash flow from financing activities	**3,761**	**238**	**3,523**
Cash alterations to cash funds	**2062**	**2532**	**-470**
Currency exchange changes to investment fund	3	-8	11
Cash and cash equivalents at the close of the period	**2,627**	**2,065**	**562**

Group statement of changes in equity

	Subscribed capital	Capital provisions	Retained earnings	Capital difference from currency conversion	Balance sheet loss	Group equity
	EUR	EUR	EUR	EUR	EUR	EUR
Equity as per 2016-01-01	**4,200,000**	**8,603,450**	**1,165,000**	**-25,976**	**-3,912,297**	**10,030,176**
Capital increases						
Capital increase in return for cash contribution (June 2016)	330,000	528,000				858,000
Capital increase in return for cash contribution (December 2016)	1,110,786	833,090				1,943,876
Currency conversion				-30,783		-30,783
Profit/loss for the year					-3,076,291	-3,076,291
Equity as per 2016-12-31	**5,640,786**	**9,964,539**	**1,165,000**	**-56,759**	**-6,988,588**	**9,724,978**

Financial Calendar 2017

05/15	Annual Report 2016	Oberhausen
06/28	General Annual Meeting	Oberhausen
08/31	Half-Year Statement 2017	Oberhausen
12/13	22. MKK – Munich Capital Market Conference	Munich

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