

20 Years NanoFocus

Annual Report  
2013

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Company Facts



Financials 2013



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# Letter to the Shareholders

## Dear Shareholders,

This year, NanoFocus AG can celebrate its 20th anniversary. For the last two decades, NanoFocus has been a pioneer of optical surface measurement and technological leader in many areas and offering industry solutions, which are not only aimed at laboratories but also meet the requirements of production and quality assurance.

We have created great technological values in this company. This includes know-how and patents as much as in-house developments, top services and extensive application experience.


Our path over the years was not always easy, and especially in 2013, it became apparent just how close difficulties and success really are for a medium-sized company like NanoFocus. We deeply regret that we were unable to meet our revenue objectives, which we were still forecasting as a target in the half-year report.

The necessary restructuring of the regional sales force and customer projects postponed until after the balance sheet date are the main causes of the result falling below budget.

And yet incoming orders alone, which were much higher than the previous year, demonstrate that 2013 can nonetheless be viewed as a strategically successful year with a good outlook in the medium and long term. The first two quarters of this year also clearly outperformed previous years. Not just these figures show our positive

trend: With the new  $\mu$ surf expert, we have released a compact measurement system, which impressively confirms the technological leadership of NanoFocus AG. Fully automated and with precise, traceable measurement data, it is the ideal system for medium-sized high-tech companies, which must meet the growing competitive needs in terms of development and quality assurance.

In addition, our industry solutions, such as  $\mu$ surf cylinder, has by now become established as a reliable process tool for quality assurance of advanced vehicle engines. In groundbreaking development programs, we are working on improving our technology even further and on anticipating the requirements and measurement standards of the future.



»Our systems turn measurement data into direct production progress.«

**Dipl.-Phys. Jürgen Valentin**  
Chief Technology Officer (CTO) and Spokesman of the Management Board

All of this allows us to take a positive view of 2014 and to draw an optimistic conclusion from the 20 years of our company's history. Whereas we started with new optical technologies and measurement opportunities in micro and nanotechnology, NanoFocus systems today offer more than just insights and information. They are high-tech tools, whose precise data directly impacts on our customers' production and quality assurance.

Such is the path that we want to continue to tread together with our employees, partners and shareholders. As equipment partner to major companies as well as medium-sized high-tech firms, we deliver technologically leading measurement systems, which turn knowledge and data into direct progress and zero-defect production. We do not only offer insight into the microcosm – our systems also make sure that such insights are useful.

Kind regards



**Dipl.-Phys. Jürgen Valentin**  
Chief Technology Officer (CTO) and Spokesman of the Management Board

# Interview with the Management Board





»The know-how and market opportunities of NanoFocus AG have never been as valuable as they are today.«

**Joachim Sorg**

Management Board member for Administration, Finances and Controlling (CFO)

With annual revenues of approx. EUR 8.2 million, the performance of NanoFocus in 2013 was around 15% lower than forecast. How do you evaluate this result, and what are the reasons?

**Joachim Sorg:** In terms of revenues, it was a weak year, undoubtedly. We are anything but happy about that. One cause was that revenues are based on the balance sheet date. Our most important business segment is by now borne by large projects for complex industrial measurement tools. For a high-tech specialist of our size, delays in one or two major projects can have a perceivable impact on annual revenues. That is precisely what happened. Added to this was the repositioning in standard business. This business segment has been difficult for us in the last two financial years. But we have had a good start to the new financial year, and we must not forget that the situation would only be cause for concern if not just revenues but also incoming orders had gone down. That is not the case at all, on the contrary.

**Jürgen Valentin:** In addition to revenues, incoming orders are also important for us, especially in relation to our position on the market. And incoming orders noticeably increased compared to the previous year, and our order books were full at the start of the new year. These figures are significantly above those of the prior year. Therefore, we must take a more relative view of the balance-sheet-based revenues for 2013, even though we were of course not happy with them, as we already said. We must simply live with a certain amount of cluster risk. We do not sell many small sensors for EUR 1,000 but carry out major orders for by now up to half a million Euros, so that deferrals can have a major impact on balance sheet dates.

**Joachim Sorg:** In terms of our company's security and continued existence, we are operatively financed by incoming orders. Our liquidity is resilient and stabilized. In addition, our working capital is boosted by a successful

conversion issue, which will allow us to further intensify our strategic direction. Our focus continues to be on high-volume project business and on intensifying newly positioned standard sales.

**In the last few years, the operative focus was on equipping major industry customers with process tools and achieving a project-related cooperation with key customers. Is this strategy tried and tested?**

**Jürgen Valentin:** Business with industrial companies and key accounts is stable. Our long-term customer FTI has already placed the first major order for the new year, which makes us particularly happy. We are also successfully designing large equipment in other areas, such as the semi-conductor industry. At the start of 2014, we delivered the second major system for production control, and other large-scale projects, also with long durations, will follow. This is similar in the automotive area: In addition to standardized, partially automated solutions, which are already very extensive, we also have projects in the pipeline in this area, which deal with fully automated processes and line integration.

**Automation is an important trend for process tools. How can this be felt?**


**Jürgen Valentin:** Demand for automated high-end test solutions is significantly on the rise, especially in the semi-conductor and automotive sectors. We have been driving the relevant solutions for a while now, and our technology platforms can be ideally automated. What

can be felt is that more and more industries are looking for full automation for their quality control. For instance, we are currently working on a major order from a globally leading group in the transplant area, and the automated system is for measuring joint transplants. In the past, these areas were only relevant to individual laboratories, but now orders come in for automated solutions with production integration.

**Standard sales were another important topic in 2013. The aim was to refocus and successfully reposition this rather weak business segment. In addition, with µsurf expert, NanoFocus presented an even further developed compact system at the ControlTrade Fair in May 2014.**

**Jürgen Valentin:** In the past, one problem was that we did not sufficiently present our technological advance and our unique selling points on the market for compact devices. Unfortunately, we felt that in our revenues. This year, we want to catch up in this area. With µsurf expert, we have a new device which is focused on our strengths and addresses markets, which are particularly interesting for us. µsurf expert is an extremely high-quality standard system. In the compact standard class, it is currently the best you can get. Very fast, highest resolution, fully automated and with interfaces to production.





»The demand for automated NanoFocus measurement solutions is significantly on the rise.«

**Dipl.-Phys. Jürgen Valentin**  
Chief Technology Officer (CTO) and Spokesman of the Management Board

**Joachim Sorg:**  $\mu$ surf expert is definitely a device for very quality-aware users who want more than just microscope images for their laboratory. You could almost call this system the big brother of the  $\mu$ surf explorer, an important addition to our portfolio in the high-price segment. This highlights our strategy to place emphasis on high-performance and investment security, and not on cheap solutions, which are out of date for companies in only a short time.

**For which corporate environment and which application scenarios was  $\mu$ surf expert developed? And which sales strategy will you apply to develop this market more sustainably than previously?**

**Jürgen Valentin:** Medium-sized industrial companies are undoubtedly the target market. On the one hand,  $\mu$ surf expert was designed for ongoing measurements, and on the other hand, it contains software modules for automation. It can therefore be adapted to industry

environments and is nevertheless standardized. Many medium-sized high-tech companies want more than just laboratory microscopy, and instead look for high-quality measurement systems, which can also be adapted to production. The device must be usable as a precise measurement tool, it must be "complete", but still adjustable.  $\mu$ surf expert is our answer: a standardized industry solution.

**Marcus Grigat:** The question of our sales strategy is very important for the standard business segment. First of all, we must realize that most of our customers are industry customers. We ourselves distinguish between standard business and industry customers, but the companies don't really make that distinction. The actual difference is between 1-1 business and key accounts. For standardized solutions, we need an areal sales force, which is more strongly positioned. As a result, I think that it was a very important step to significantly expand areal sales in 2013.

**Joachim Sorg:** Industry customers are often smaller companies with only 50 employees. But they can be similarly important for the order volume as larger company groups. Many globally important technological leaders are smaller companies than one would think. The benefits that these companies derive from our systems are disproportionately large, so that in some cases, more devices might be bought than at larger companies. It is especially in this area that a demanding but standardized industry solution carries the relevant sales potential for NanoFocus.

**Marcus Grigat:** That's why we significantly boosted areal sales. We did not have the staff resources here, we have to admit that. But we have grown in this area, with a new sales manager and a regional cover, which we did not have before. It is an important factor of success to be able to send out enough and sufficiently qualified employees for such topics.


**Joachim Sorg:** And that's another aspect explaining the revenue development last year. We greatly invested in both employees and products and systematically added to the sales department. We needed to set up a much better regional presence, recruit sales staff and basically get the newly defined sales strategy out on the road.

**But are these extended sales measures having an effect?**

**Jürgen Valentin:** Definitely. The number of requests has been going up since the end of last year. The number of visits on site, demonstrations, presentations – all of these are markedly on the rise. Everyone here can see that it's really working well. Communication with customers has also markedly improved and comprises the entire, multi-level sales communication. We are very happy with that so far. Customer feedback is motivating, and we can really look forward to great successes in this area.

**With its technology platforms and systems, NanoFocus AG is a technological leader in the area of optical 3D surface measurements. The know-how and its applications are based on continuous research and development.**

**Marcus Grigat:** This aspect is extremely important to us. While sales control and growth strategy are no doubt necessary, we must also not forget how important research and development are for us. If we want to stay ahead in the future, we must broaden the limits of measurement technology now. We were also very active in this area in 2013/2014. The state-funded project HICOS3D also deserves a mention, in which we together with a major manufacturer of semi-conductors are in charge of the development of an ultra-fast line sensor for production control.  $\mu$ sprint is already the world's fastest confocal sensor now. As part of this development project, we will update it to an even higher level. We are the fastest, and we are getting even faster – at maximum precision.



»We want to break open  
the existing limits of  
measurement technology.«

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

**What is the background to such a project? To what extent do existing product limits even need to be exceeded, and in how far are they relevant to the market?**

**Marcus Grigat:** Market relevance is in fact the decisive drive of our research. Our aim is to integrate our systems into production control in better and better ways. These are the most important topics: speed, repeatability, precision and automation. To be specific, HICOS3D is to solve the problem for the semi-conductor industry that the contacts on conductor boards will become so tiny and tightly packed in the next few years that other regular systems can simply no longer measure at competitive speeds and qualities. The project is therefore directly related to an up-to-date industry requirement, which is why they asked us to participate.

**Jürgen Valentin:** A high technological standard is also definitely a national location factor. A top standard of precision and speed keeps critical production aspects in our country. And the location factor of the high-tech environment is clearly high-tech. Our European customers are very aware of that.

**Marcus Grigat:** This also applies to other topics, which relate to a second one of our research projects: Cosyra. We are cooperating with Duisburg-Essen University to develop standardized interfaces in the robotics area. Robot-based high-precision surface measurement for generative components, which you could also call 3D printers. Highly relevant future trends on which we are focused are also influencing this project. It isn't research for its own sake, but this is about the big markets and future responses of NanoFocus.

Jürgen Valentin: Another future trend has had an effect for a while now, and has almost become a present trend already: resource conservation, efficiency and CO<sub>2</sub> emissions. These topics won't just disappear, and they are especially relevant to the survival of the automotive industry. As a result, automotive manufacturers view our µsurf cylinder as an important component, as a process tool for developing energy-efficient engines. We noticed in the USA how strongly manufacturers there are also interested in our solutions.

**Nationally, the Ministry of Economics for North-Rhine Westphalia recently called NanoFocusAG a "technological leader" in its initiative "Germany at its best".**

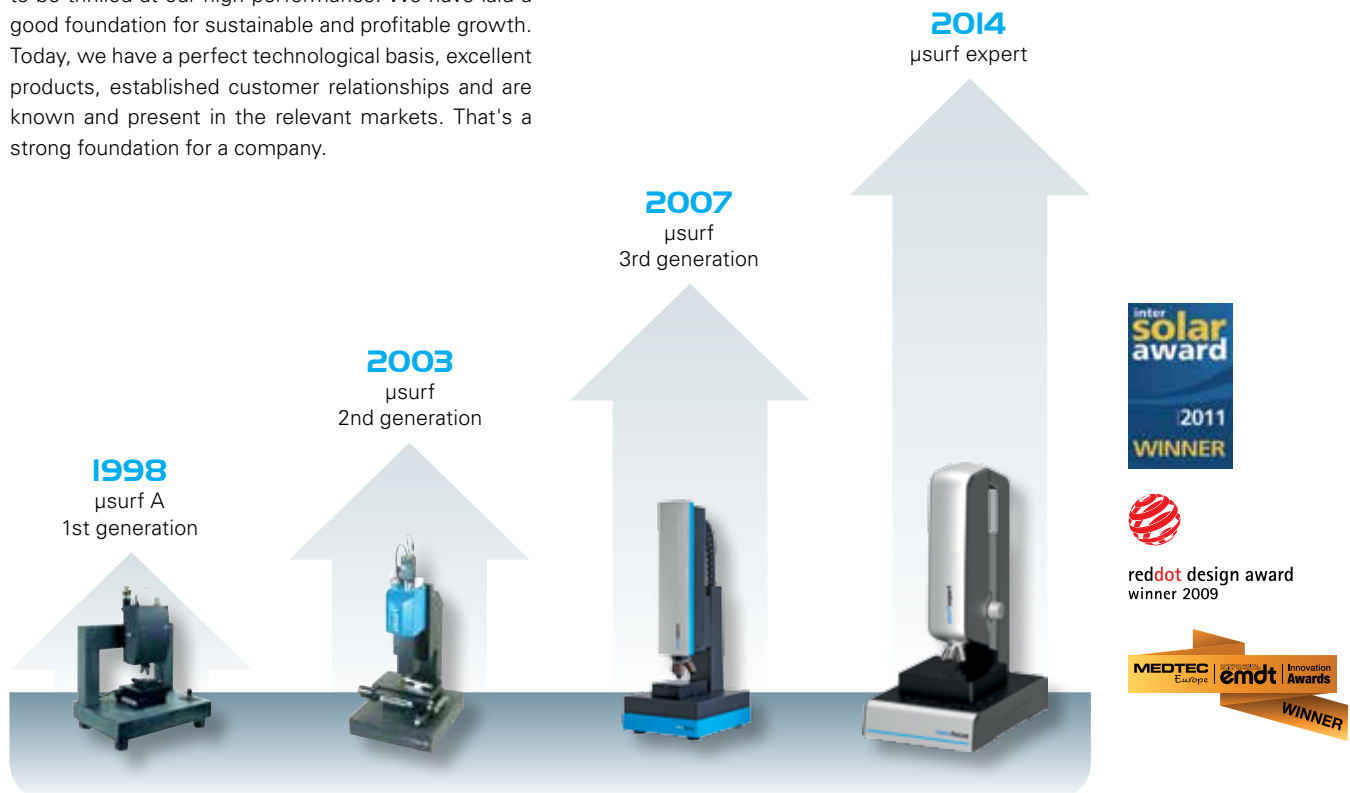
Jürgen Valentin: We were of course very happy to hear that. I also view it as a political signal, because – notwithstanding all international trade and focus on global companies – we depend on our site in the Ruhr area. Which is why it is an honor to be named in the same breath as the federal state North-Rhine Westphalia. We have always been able to evolve well at this site. One really couldn't claim that too little is done here. If politicians are approaching us, that can open some doors across the state. I generally think that a certain amount of networking is important. Which is why we have e.g. been active in the VDMA Photonics Steering Group this year. One important aim here is to draw more investor attention to the topics photonics and optical technologies.

**NanoFocus AG is celebrating its 20th anniversary in 2014. You have all been with the company since the early days. How do you view this period, what conclusions would you draw?**

Joachim Sorg: In addition to technological developments, we made investment bit by bit and have built a really good company structure. However, high-tech companies have long start-up phases. We have now reached a point where our focus can shift and the economic utilization of our technology is becoming the focus. I am confident that we will implement this successfully. Looking at our know-how, our systems, our patents and customer relationships, and not least our excellent team, I see a company that is more valuable today than it has ever been. We have built an internationally pertinent and competitive high-tech company. Now it is time to reap the harvests.

Jürgen Valentin: That's right. Sometimes, I'm almost surprised at all the value we have created here in the last few years. This has really grown, many new colleagues have joined us, new ideas, new products – at the moment, I can feel a great inner strength for growth. At the beginning, we underestimated the time needed to open up the market, but we became more and more professional and organized over time and focused on expanding product performance. Today, we represent quite a number of really excellent technologies, whose value greatly exceeds the extent of our original investments. Now, we must sustainably and more strongly add these values to the market and further stabilize our business economically.

**Marcus Grigat:** I agree completely. Technologically, we are often pioneers and ranked first in implementation in many cases. We built the first confocal microscope able to also measure genuinely technical surfaces in an industrial environment. We are always far ahead technologically, identify trends and have implemented these successfully. Some of our customers have worked with our systems for nearly 20 years and never cease to be thrilled at our high performance. We have laid a good foundation for sustainable and profitable growth. Today, we have a perfect technological basis, excellent products, established customer relationships and are known and present in the relevant markets. That's a strong foundation for a company.







20 years of surface measurement technology



# A high-performance standard for development and quality assurance

Three-dimensional optical measurement of technical surfaces down to the nanometer range – with this innovation, NanoFocus AG opened up new paths in industrial measurement technology 20 years ago already. NanoFocus products are not microscopes but measurement systems. They don't just display but deliver precise, repeatable industrial measurement data in the micro and nano dimension according to international standards. Which is why today, the three-dimensional surface analyses of our measurement systems constitute an important basis for many product developments and quality assurance processes.

Our core technologies and many years of measurement competence are bundled in our standardized measurement systems like  $\mu$ surf mobile,  $\mu$ surf explorer and our new high-end system  $\mu$ surf expert.

For medium-sized industrial companies, these varied systems offer top-of-the-range measurement technology and unique advancement opportunities in product development and effective manufacturing control.

## $\mu$ surf expert – Measurement technology that gets straight to the point

20 years of measurement experience in the nano area, the continual further development of our technologically leading systems, many years of research and cooperations, a broad range of highly varied applications – the new  $\mu$ surf expert combines all of these:

an extremely reliable, ultimately flexible and versatile measurement system.

$\mu$ surf expert is the world's top performance measurement system for three-dimensional optical surface analyses in development laboratories and production control. Features such as an extremely high measurement speed, high resolution image converters, real color mode and intuitive operations make this new high-end standard system into a milestone in 3D surface analysis.

## 1998

A revolution in surface metrology: Market launch of NanoFocus  $\mu$ surf, the world's first industrially usable confocal microscope for the three-dimensional measurement and analysis of technical surfaces.



## 2003

Measurement progress goes mobile: Introduction of the portable and handy confocal microscope  $\mu$ surf mobile. Highly progressive surface measurement in a transportable wheeled case allows for measurements directly on site.





### Manufacturing proximity due to individual automation

The perhaps most remarkable difference compared to regular devices also shows its major benefit when used in industrial production:  $\mu$ surf expert can be automated tailored to individual needs and has software interfaces to production control.

In this area, our customers benefit from our experience in special purpose machine manufacture and in the integration of NanoFocus technology into demanding industry solutions.  $\mu$ surf expert can be seamlessly integrated into the manufacturing process.

### Quality assurance taken that extra step further

The demands of successful quality control will only get larger: Manufacturing processes in the micro and nanometer ranges, ever shorter innovation cycles, zero-defect tolerance and the desire for a documentation of exact measurement data without gaps – in this area, the measurement system  $\mu$ surf expert is not only technological market leader but also provides reliable quality assurance through its stable analytics and industrial production suitability, thus securing future competitiveness. The flexible standard system  $\mu$ surf expert already meets the high demands of process and quality control, which will increase ever further in the next few years, today.

#### Maximum performance

A combination of a high measurement point density and measurements within seconds

#### High precision

The most modern imaging sensors, high-performance optics and precise linear encoders on all axes for standard-compliant measurements

#### Real 3D measurement values

Physical data recording with patented, confocal, multi-pinhole technology

#### Intuitive operation

Well-thought out operating concept and ergonomic workplace solutions

#### Simple automation

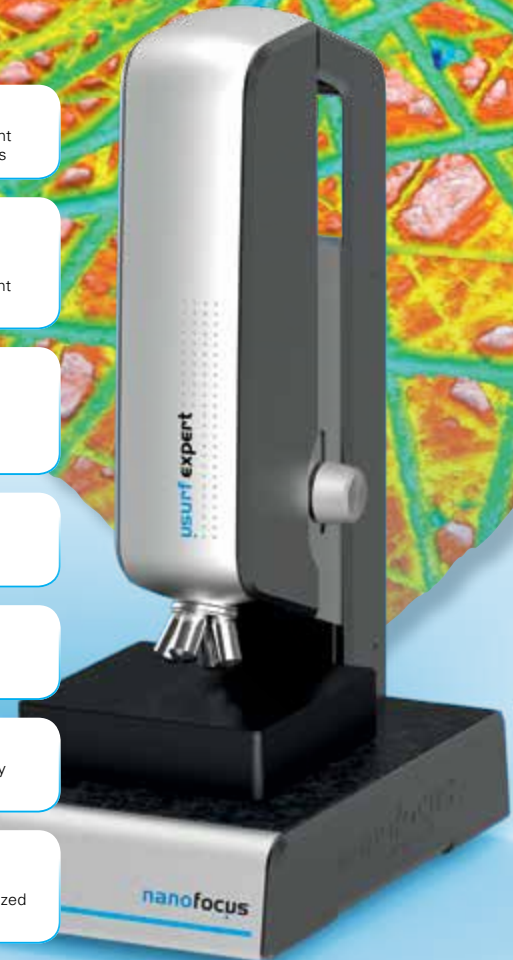
User-independent serial measurements compliant with industry requirements

#### Robust construction

High level of repeatability due to practically conceived industrial design

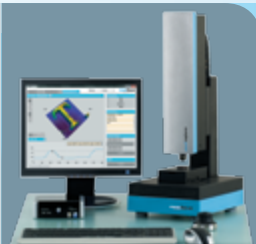
#### High level of flexibility

Modular hardware component design, powerful software solutions and standardized interfaces



## 2007

A new measurement standard: International launch of the innovative all-round system  $\mu$ surf explorer and the new  $\mu$ surf mobile. The third generation of  $\mu$ surf technology is even faster and even more user-friendly.



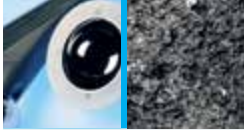
## 2014

A milestone in surface metrology: Introducing NanoFocus  $\mu$ surf expert – faster, higher-performing and with full-automation option. The new confocal microscope is based on 20 years of experience in industrial 3D surface measurement.



# Basic technologies for industrial progress

## Medical technology

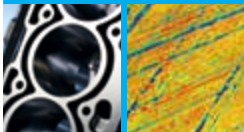


Implants  
Microfluidics  
Sensors  
Stints  
Microtomes  
Smart materials

The high level of practical applicability and the high quality of our – standardized and customer-specific – surface measurement systems are based on the technologically leading confocal technology that we have developed, and on our tried and tested analysis software.

In many cases, the differences to other measurement systems relate to the degree of integration into manufacturing processes and into the development processes of special industry solutions, so-called process tools. These process tools meet the specific measurement requirements of e.g. the automotive, semi-conductor and medical technology industries, enable fully automated measurement processes and constitute an important part of the process chains of our major industry customers.

## Automotive industry



Drive train  
Vehicle body  
Interior  
Electronics  
Glass components

### Successful cooperation with the automotive industry

The NanoFocus  $\mu$ surf cylinder is a good example of the role of cooperation with industry in developing an industry solution that has been used successfully for many years. Since its market launch in 2003, the continually improved  $\mu$ surf cylinder has been an indispensable tool for many engine manufacturers. The surface structures of cylinder running surfaces provide important key values for developing and producing efficient and reliable vehicle engines.

Industry-specific measurement requirements can be solved due to a continuous exchange with key users. In photovoltaics and medical technology, such development partnership also form the basis for high-quality process tools for industrial 3D surface measurement.

### Fully automated measurement systems for production control

NanoFocus measurement systems, especially for the semi-conductor and electronics industry, are ever more frequently designed as all-round equipment.



## 2003

Partner for growth: Market launch of groundbreaking engine cylinder inspection system  $\mu$ surf cylinder after cooperative development in the automotive industry. The first business solution by NanoFocus.



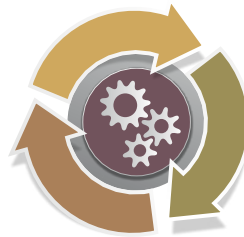
## 2007

Measurement trend automation:  $\mu$ soft automation is introduced as the new standard software for automation. Further NanoFocus technology established in production-related quality control.





Instead of time-consuming individual measurements, extensive sample packages can be checked fully automated. Error messages and analyses are quickly fed back into the production process. The high measurement speed enables quality assurance without delays at the same pace as production. The processes for users are becoming simpler: automation means they no longer need to be measurement experts in order to perform a high-level production-related quality control.



### Used in forensics and medical technology for many years

Forensic Technology, Inc. from Canada, world market leader for ballistic analysis systems, has been a long-term customer of NanoFocus AG. Forensic Technology has for years used  $\mu$ surf sensor by NanoFocus for its globally leading system for forensic securing of evidence from gun shells. The technological success story of the Canadian company would not have been possible without the competence of NanoFocus in 3D surface measurement.

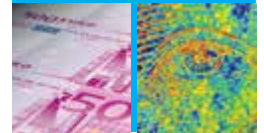


In medical technology, NanoFocus AG can also boast many years of experience in many successful cooperations and projects. NanoFocus systems play an important role in the development and quality control of transplants. Biocompatibility and durability of dental implants, hip joints and stents for treating cardiovascular diseases greatly depend on the three-dimensional surface features in the micro- and nanometer ranges. In this area, NanoFocus also made possible the step from development laboratory to production control using full automation.



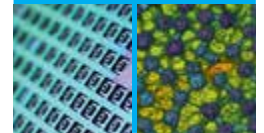
World market leader in criminal technology: a NanoFocus customer for many years

### Security technology



Chip cards  
Works of art  
Instrumentalities

### Microsystem technology



MEMS  
LED  
High performance electronics  
BGA  
Micro-optics

## 2011

Business solution  $\mu$ surf solar receives the Intersolar Award. The new metrology software platform allows for faster, clearer and more intuitive system operations.



## 2012

$\mu$ surf custom receives MEDTEC EMDT Innovations Award for the contribution of NanoFocus to progress in medical technology. The third generation of  $\mu$ surf cylinder established successfully and used by well-known automotive manufacturers.



# Industrial measurement technology for high-tech companies

In terms of market leadership, it isn't always the big global companies and well-known brands who are calling the shots. A surprising number of technological leaders are "smaller" companies with fewer than 1,000 employees. Germany's economy power is also based on its medium-sized companies, whose quality, innovation and highly specialized products more often than not achieve global market leadership in their niche markets.

NanoFocus offers these innovative companies ideal solutions for three-dimensional surface measurements in development and production. Regular microscopes are insufficient for the exact requirements especially in production-related quality control. That is why NanoFocus AG is responding specifically to the requirements and needs of

this user group with its new core product  $\mu$ surf expert: standardized industrial measurement for demanding medium-sized industrial companies. Development and quality control at high-end level needs production-related systems, which can be used effectively in the laboratory and on the factory floor.

## Energy efficiency – a key topic for the automotive industry

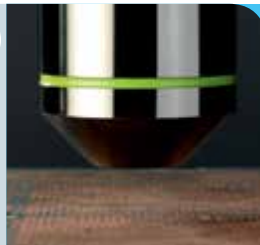
Resource consumption, CO<sub>2</sub> emissions and energy efficiency are key topics for industrial production in the 21st century. They are not mere fashionable topics, but factors securing the future existence of companies. This strongly applies to the automotive industry, whose future will be determined based on issues such as new alternative propulsion systems, efficiency and innovative manufacturing processes.

The analysis of surface structures down to the nanometer areas is one such key technology making this further development process possible for automotive manufacturers. Optimized functional surfaces e.g. enable significantly reduced wear and tear and fuel consumption for engines.



## 1994-99

The start of the corporate history of NanoFocus: NanoFocus Messtechnik GmbH is founded in Duisburg. Expansion start and market launch of NanoFocus  $\mu$ surf and  $\mu$ scan products.



## 2005

Internationalization and successful stock market floating: Listed in the Deutsche Börse Open Market (Entry Standard). NanoFocus, Inc. founded in Richmond (Virginia), USA.



In this area, NanoFocus AG supplies numerous automotive manufacturers with solutions such as the  $\mu$ surf cylinder systems, which greatly surpass regular microscopes and tactile measurement systems with their interfaces, speeds and precise measurement data according to international standards. In terms of meeting the industry requirements of quality assurance, there is simply no one better than NanoFocus.

Just how interested the automotive industry is in process tools by NanoFocus AG became apparent at the 2014 World Congress of the Society of Automotive Engineers in Detroit. The presentation of NanoFocus systems at the largest and most important congress for vehicle developers was met with intense, sustainable interest.

### Electronic lifestyle and medical technology

In addition to the big trend of energy efficiency, NanoFocus AG is also well positioned in other markets relevant for the future. Especially in the areas of electronic lifestyle and medical technology, NanoFocus systems are already used successfully now.

The unbroken trend of an ever more dominant electronic lifestyle in the industrialized nations requires a continuous miniaturization of components until size ranges are reached where the systems used until now can no longer provide reliable quality assurance. That's where



NanoFocus comes in with its technology capable of closing this gap.

In medical technology – which makes up an increasingly larger proportion of electronic lifestyles in the field of individual health care products – NanoFocus AG has been a successful industry partner in the development and production control of transplants and sensors for some time now. And yet, in this area, we are also only at the beginning of a rapidly increasing future market.



Great interest in NanoFocus at the most important congress for automotive developers.

## 2012

$\mu$ surf cylinder established as technological leader for surface measurement technology in the development and production of efficient vehicle engines. Numerous development partnerships in different industries.



Photograph: VW

## 2013-14

Entry into the fully automated quality inspection. Delivery of first fully automated measurement systems for fast and highly precise quality assurance in the manufacture of semi-conductors.



# Research projects and cooperation with future potential



More on the HICOS3D project.

SPONSORED BY THE



NanoFocus AG has sustained a strong position in the high-tech environment for 20 years and today produces technologically leading optical 3D surface measurement systems. The award by the Ministry of Economics for North-Rhine Westphalia, which called NanoFocus AG the "technological leader in optical 3D surface measurement technology" earlier this year, also clearly confirmed the high performance of NanoFocus AG in its regional environment in the economic zone of North-Rhine Westphalia.

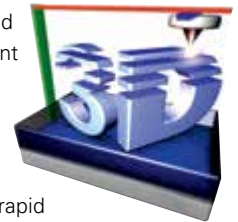
The technological leadership of NanoFocus AG is also based on its ongoing involvement in research cooperations, and not least in the NanoFocus corporate philosophy of identifying technological trends early on, developing them further and transferring them into marketable solutions.

## HICOS3D – the world's fastest sensor is becoming even faster

With its successful  $\mu$ sprint product line, NanoFocus already offers the fastest line sensor for inline production control available now. But in line with the rapid technological further development, especially in the electronics and semi-conductor areas, this performance is to be improved even further. The electronic contacts on semi-conductor substrates will reach dimensions of less than 20 micrometers in the next few years. So far,

no sufficiently high-performing measurement system is available on the market for this task.

Together with a globally successful company in the electronics area, NanoFocus AG is working on the project HICOS3D to significantly improve NanoFocus measurement technology even further. The objectives of the project funded by the German Federal Ministry for Education and Research are a significantly higher resolution and significantly higher measurement speeds.



## Cosyra – robot-controlled surface control for 3D printers

Generative production or rapid prototyping are manufacturing processes described by the key term "3D printing". These technologies form an important trend in the development of new products and components, which in years to come could revolutionize the production of microelectronics and microcomponents, such as for medical technology or even consumer goods.

For now, a number of technological challenges must still be mastered. The first one is fast surface inspection of generatively produced components, which can be automated. The research project Cosyra (Confocal System for Robot Application), carried out cooperatively

## 1994-96

Basic research and development of high-resolution optical 3D microscopy, such as phase microscopy, confocal white light microscopy and 3D analysis software.



## 2004

Winner of the 'Future Competition Award' for the Ruhr area of Germany. Set-up of the competence center for surface metrology

 ZukunftsWettbewerb  
Ruhrgebiet





by NanoFocus AG and the University of Duisburg, even combines two technological future trends because of the important future role of automated measurement robots in the further development of the required technologies.

### What is photonics?

Photonics is the technical control of light in any format. Photonics focuses on creating, monitoring, measuring and above all using light in nearly all socially and economically important areas. The term "photonics" reflects its relationship to photons, or particles of light, as well as the term "electronics", which refers to the electron.

### NanoFocus AG in the VDMA Photonics Steering Group

Photonics – the industrial use of light – will be a crucial key technology in future decades, according to the German Engineering Association VDMA. NanoFocus AG with its innovative use of optical confocal microscopy is also a national driving force of this technological environment with its strong potential for growth.

As a result, NanoFocus AG was elected to VDMA's newly created industrial Photonics Steering Group. The aim of NanoFocus and the industrial partners from numerous photonics companies who are involved is to promote the politico-economic position of this technological sector and to strategically develop further its development and growth opportunities.



More on the VDMA Steering Group.



Members of the Steering Group in the following order (from left to right): Dr. Michael Vergöhl (Fraunhofer IST), Jürgen Valentin (NanoFocus AG), Dr. Thomas Rettich (Trumpf GmbH & Co. KG), Gerhard Hein (VDMA), Stephan Geiger (Rofin-Baasel Lasertech GmbH & Co. KG), Dr. Susanne Heun (Merck), Annika Löffler (VDMA) and Dr. Rüdiger Hack (Laser 2000 GmbH). Photograph: VDMA Photonics Forum

## 2009

Inclusion and extension of the NanoFocus product range by high-performance measurement device µsprint, the world's fastest confocal sensor for production-related measurement tasks.



## 2013-14

Start of the research projects HICOS3D and Cosyra. Award "Technological leader for optical 3D surface measurement technology" from the Ministry of Economics of North-Rhine Westphalia. NanoFocus Pte. Ltd. (Asia) founded.







## Price development and analyst evaluation

The NanoFocus share price remained below the level of the Entry Standard benchmark until November. From November 2013 until the report was drawn up, the share with its increasing retail revenues has sustainably outperformed the benchmark index. This trend is also apparent in the share's revenues (trading liquidity), which went up from 3,794 per day last year to 5,046.

NanoFocus AG failed to meet its targets set in the first half of 2013. Talks with investors and manifestation of the equity story resulted in a new upward trend so that the share leveled off at EUR 3.50.

The mood on the stock market in the 2013 financial year continued to be highly volatile. Uncertainty in the Eurozone and the now impending budget freeze in the USA only allowed the Entry Standard Index to climb upwards very slightly.

Analysts estimate that at a price target of around EUR 4.10, NanoFocus AG in 2013 fell slightly below the previous year (EUR 4.30).

## Investor Relations

In order to further increase public awareness of NanoFocus AG, regular investor talks were held, and the business model and market opportunities of NanoFocus AG were presented at various national analyst conferences. NanoFocus AG presented itself at the Deutsche Börse Spring Conference in May and at the Munich Stock Market conference m:access as well as at a Round Table of SAB Bank in Stuttgart in June. In November, this was succeeded by two days of one-on-ones at the German Equity Forum in Frankfurt. Throughout that time, shareholders and investors had the option of contacting the company by phone, by email or via the NanoFocus website at any time to ask detailed questions.

## Outlook for 2014

After a year during which NanoFocus stayed below the targets that it had set itself, we identify a more positive scenario for 2014. We are expecting an increase in revenues to EUR 11 million and an EBIT return of 3%. The high number of incoming orders for more than EUR 9.5 million at the balance sheet date is already signaling that the market for optical measurement technology continues to be present and that it is growing.

NanoFocus continues to strategically drive its growth priorities in the automotive industry, semi-conductors, medicine and surface refinement. In addition to our standard business, we identify diversified growth markets in this area, in which we are growing disproportionately together with our customers, significantly increasing revenues over the next few years.



Scan this code with your Smartphone or tablet to go directly to the online report (german only).



Annual General Meeting in Oberhausen on 7/10/2013



# Share data

Total number of shares	3,000,000 bearer shares
Capital	EUR 3,000,000
Market capitalization	EUR 11,100,000 on 5/6/2014
Transparency level	Entry Standard (Open Market)

## Share statistic 2013

52-week-high	EUR 4.40
52-week-low	EUR 2.12
Traded number on all stock markets Incl. Xetra per diem (1-year basis)	ø 5,046 per trading day (01/01-12/31)

## Company information

Founding date	Founding on 8/24/1994, legal form 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 financial year	12/31
Start of trading	11/14/2005, prospectus since 2006
Deutsche-Börse listing partner	BAADER/Wertpapierhandelsbank AG, Munich
Trading model	Xetra, continuous trading, Süddeutsche Aktienbank
Securities identification number/ISIN	540 066, DE 0005400667
Bloomberg	N2F.GR
Freefloat market capitalization	EUR 5,140,406 on 5/6/2014

## Stock market listing

	Xetra (continuous trading with specialist), Frankfurt on the Open Market (Entry Standard), Munich (M:access, since 2/1/2007), Berlin, Bremen, Düsseldorf, Stuttgart (OTC market)
Type of security	No-part bearer share (class)



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## Dear Shareholders,

Our work focuses on monitoring and supervising the Management Board, as well as on providing strategic support in terms of using opportunities and avoiding risks. The Supervisory Board again performed these tasks in 2013 in the shareholders' interests.

As a result, in the reporting year, we met at eight Supervisory Board meetings, at which the Supervisory Board was updated on all questions regarding the economic and technical development. Monthly controlling reports supplemented this, which meant that we stayed informed of the Company's situation at all times. In addition to meetings and reports, the Chairman of the Supervisory Board also maintained continuous contact with the members of the Management Board to discuss the company's current and strategic developments.

### Weak result – but high level of incoming orders creates a good start into 2014

NanoFocus AG failed to meet its target of increasing performance at acceptable levels of risk in terms of revenues and profits. In the opinion of the Supervisory Board, the annual result of NanoFocus AG is not satisfactory. The reasons for this was primarily the fact that major projects were not realized before the end of the year. In addition, investments remained reticent in spite of the good economic environment.

As a result, the Management Board of NanoFocus AG analyzed the causes why the revenue development remained below expectations, and developed suitable countermeasures in intensive as well as extensive consultation with the Supervisory Board. The subsequent restructuring of sales for standard devices resulted in reductions in this area, particularly in the first half of

the year, with related successes only reflected in the revenues and profits of the next financial year. Analyses by the improved sales controlling confirm this evaluation. At the same time, it was possible to headhunt a new sales manager from an important competitor, and to extend the sales team. In terms of products, the new technologically leading measurement system  $\mu$ surf expert was developed and launched on the market in the shortest time and in close cooperation with sales. The Supervisory Board assumes that project business with major customers, which continues to be favorable, will also lead to significant positive revenue developments in 2014. At a value of more than EUR 9.5 million as at 12/31/2013, incoming orders are not only 8 % above the prior year value, but this is also the highest value in the company's history.



»We continue to identify good growth perspectives in the target markets.«

**Dr. Hans Hermann Schreier**  
Supervisory Board Chairman

### Growth perspectives in key industries

In addition to a dynamic development in our standard business, we are expecting further orders in our key areas automotive, medical technology and the semi-conductor industry. We continue to identify good growth potential for NanoFocus AG in these target markets, which we are hoping to open up in the coming months given the level of projects and negotiations.

In the automotive industry, we maintain cooperations not just with well-known German automotive manufacturers but also have very good perspectives in the USA. In the quality control area for semi-conductor production, NanoFocus AG offers an important technology with  $\mu$ sprint, whose value and market opportunities will increase further in the coming months due to development projects. We see particularly good revenue opportunities in the area of medical technology, in which NanoFocus AG

has developed remarkable technological and application-based expertise in recent years. Here, the aim is to use market opportunities in a targeted and consistent manner.

### Consistent implementation of the strategy

The strategic orientation of NanoFocus AG is based around its focus on the three mentioned key markets in project business as well as on the sale of standard high-end compact devices. The definition of these four main revenue pillars simultaneously takes account of the strategic requirements to diversify and minimize the company's risk. The ascetic strategy is to contribute to reducing complexities and dependencies. The separation strategy comprises divesting of areas, which are successful independently. The strategy agreed between the Management Board and the Supervisory Board aims at a sustainably profitable growth in the coming years. It places emphasis on a clear focus on

You can read our Corporate Governance Statement here: [www.nanofocus.de/investor-relations/corporate-governance/](http://www.nanofocus.de/investor-relations/corporate-governance/)

existing technology platforms, a consistent use of existing market opportunities and on a retention of further strategic investors.

#### **A corporate history with future potential**

NanoFocus AG is a medium-sized technology company with a high proportion of research and development costs. For 20 years, NanoFocus has been successful at controlling related risks and at making use of the opportunities available. NanoFocus AG has sold more than 800 measurement systems to a broad group of customers, who are extremely loyal. The technology platform developed and patented by NanoFocus again and again produces innovative products. At the same time, the Management Board managed to find a very broad basis for company financing and was thus able to secure the further development of NanoFocus AG. Based on the Supervisory Board's view, the implementation of this strategy is a promising path towards implementing the values created as sustainable, high-profit growth. The successful placement of a convertible bond in January 2014 shows that the capital market is also convinced of the potential of NanoFocus AG.

#### **Unanimous approval of the Annual Financial Statements**

The Management Board presented the Supervisory Board with the Annual Financial Statements, the Annual Report and the Auditor's Report giving an unqualified audit opinion. The Supervisory Board discussed the

Annual Financial Statements and the Annual Report in much detail at its meeting on 5/21/2014, taking account of the Auditor's Report. The auditor who signed the Auditor's Report provided the Supervisory Board with all information and answered all questions in detail. The Supervisory Board unanimously approved the Annual Financial Statements and Annual Report compiled by the Management Board. The Annual Financial Statements were confirmed according to § 172 of the German Stock Corporation Act (AktG).

#### **A thank you to the employees**

The basis for the company's success and continued existence are the people working for NanoFocus AG each day with their technical knowledge and their commitment. From the development lab to sales staff, from Management Board assistants to accounts – all employees in their joint efforts form the backbone of past and future success.

On the occasion of its 20th year, the Supervisory Board would therefore like to thank not only current employees but also all those involved over the last two decades in working towards the success of NanoFocus AG.



**Dr. Hans Hermann Schreier**  
Supervisory Board Chairman

# Financial Calendar 2014

03/13/2014	Analysts Conference m:access, Stock Exchange, Munich
05/30/2014	Annual Report 2013
07/09/2014	General Annual Meeting 2014, Oberhausen
08/29/2014	Half-Year Statement 2014
11/24-26/2014	Eigenkapitalforum 2014, Frankfurt am Main

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