



ScanRG



Yes we scan.

Multispectral 3D scanner technology
for inline and offline quality control of
food, components and other products.

About us

ScanRG GmbH was founded in Aachen in 2021. Our company name is made up of **Scanning** and **EneRGy**. We are fully committed to achieving optimum scanning results! Our managing director, Dr Uladzimir Zhokhavets, has been involved in optics, scanner technology and data processing for more than 20 years. He studied from 2001 to 2005 at the Technical University of Ilmenau and graduated as Dr rer. Nat. technical physics. He then worked for 5 years as a Senior Scientist at Philips. In 2010, together with a partner, he founded the company PHENOSPEX, where he worked as CTO until 2021.



We offer high-quality and patented scanner technology for inline and offline quality control of baked goods, food or technical parts. We combine 3D, color measurement in RGB and NIR and data processing in just one device.

As every task is individual, we place great value on tests and evaluations in advance so that we can adapt the scanner software in particular to our customers' requirements.

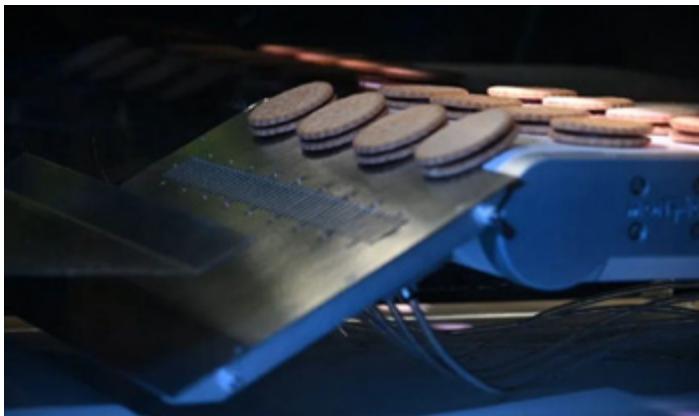
Our customers include well-known companies from the food sector, industry and research institutes.



Multispectral N1 scanner

combines 3D scanning and color measurement in one device.

Inline quality control



INLINER

For baked goods, food, technical products

Offline quality control



BAKEMETER

for baked goods such as bread, rolls, croissants, cookies, chocolates, pizza, chocolate bars, cakes



QUALIMETER

for printed circuit boards, plastic parts, metallic components or ceramic components

COMING SOON!

FOODMETER

for meat, poultry, fish, cheese...

Scanner technology N1



At the heart of all our products is our patented multispectral N1 scanner, which combines 3D, RGB and NIR measurement and data processing in one device. It is designed for moving products, which enables smooth integration into production lines.

The N1 scanner works according to the laser triangulation method, which guarantees the highest accuracy. N1 supports FAST and HDR measurement modes. The FAST mode was developed for dynamic applications in moderate ambient light (indoor, artificial lighting, no strong reflections). The HDR (high dynamic range) mode is used under direct sunlight or with particularly demanding materials (high contrast or very shiny surfaces). N1 achieves a high speed: up to 1,500 Hz in FAST and up to 1,000 Hz in HDR mode.

N1 has powerful and user-friendly tools for setting up, integrating and commissioning the system, such as a touchscreen for easy data entry, a web interface for full parameterization and REST API for system integration.

N1 has Gigabit Ethernet, RS232 serial interface, encoder input and four digital inputs/outputs. The scanner has an integrated PC with quad-core processor and 4GB RAM for customer-specific applications.

Highlights

- **POWERFUL:** complete product characterization in 3D (height, area, volume and more) and color (RGB and NIR)
- **ROBUST and PRECISE:** stable colors due to active illumination, measurement even under direct sunlight, highest accuracy due to laser triangulation method
- **FAST:** sampling rate up to 1,500 Hz
- **FLEXIBLE:** integration options thanks to a wide range of interfaces and APIs
- **COST-EFFICIENT:** Integration of 3D, color measurement and data processing in one device reduces system complexity and costs

Analysis software

A wide range of options are available for analyzing the data collected. The software is constantly being further developed to meet the requirements of our customers.

Data selection

The screenshot shows a software interface for data selection. On the left, there is a sidebar with 'BAKMETER' and 'BAKEMETER' sections. The main area has three tabs: 'TIME SERIES', 'SELECTION', and 'CONTROLS'. The 'TIME SERIES' tab displays a table of data with columns: start_date, product, weight, min_weight, max_weight, and count. The 'SELECTION' tab contains search fields for start_date, product, weight, and count. The 'CONTROLS' tab includes a date range selector (2024-01-01 to 2024-01-01), a dropdown for 'Maximum weight' (20000), and a 'SEARCH' button. Below these are buttons for 'Analyze' and 'Analyze as CSV'. A progress bar at the bottom indicates 'Loading time series data...'. The overall interface is dark-themed.

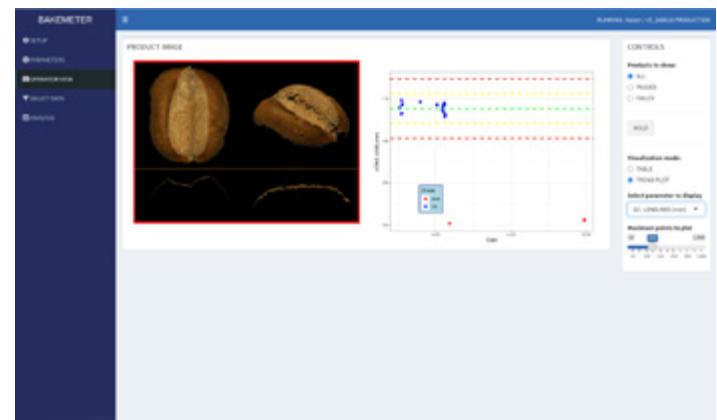
Histogram view



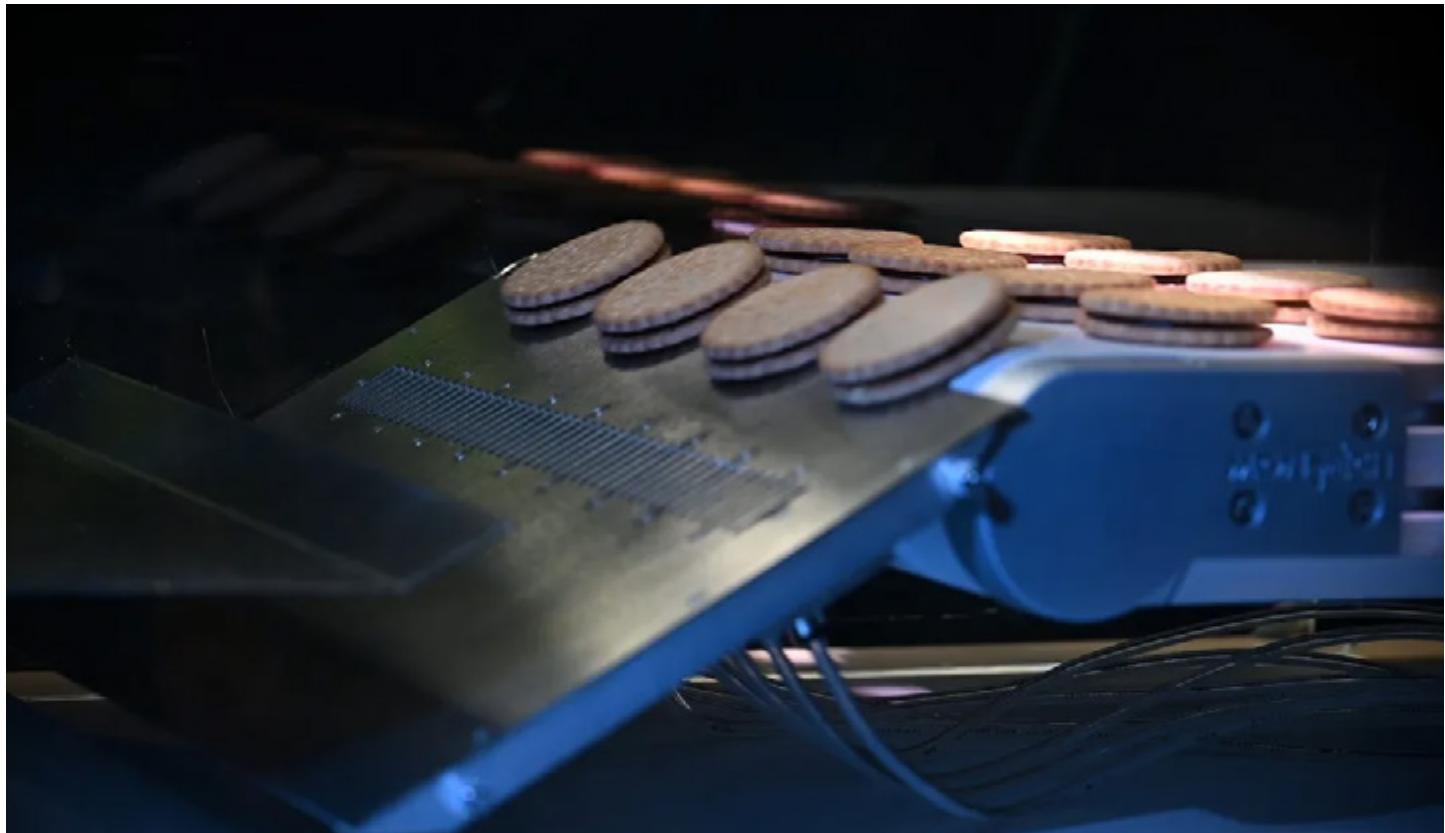
Operator view Product not ok

The screenshot shows a software interface for operator review. On the left, there is a sidebar with 'BAKMETER' and 'BAKEMETER' sections. The main area has two tabs: 'PRODUCT IMAGE' and 'CONTROLS'. The 'PRODUCT IMAGE' tab shows two images of a product (potato) and a line graph below them. The 'CONTROLS' tab includes a dropdown for 'Product to show' (set to 'All'), a dropdown for 'Classification mode' (set to 'Basic'), and a dropdown for 'Select parameter to display' (set to 'unsorted'). A 'SEARCH' button is also present. The overall interface is dark-themed.

Operator view Trendplot



Our INLINER was developed on the basis of our N1 scanner for the inline quality control of food and components. As our N1 scanner was specially developed for moving products, the INLINER delivers precise measurement results at high conveyor belt speeds. Products that move outside the specified tolerances are blown away by a stream of air, for example. The INLINER is individually adapted to your requirements.



Highlights/Details

- Detection of 3D shape and color (RGB and NIR) of the products on the conveyor belt
- Calculation of height, volume, diameter, color, gloss and other product parameters using the integrated machine learning module
- Resolution 0.2 mm
- Sorting out products that are outside the specified tolerances
- Customization and development possible for a wide range of applications
- High throughput: conveyor belt speed of up to 30 m/min with a scan width of up to 100 cm per scanner



The BAKEMETER is a stand-alone device for offline quality control of baked goods such as bread, rolls, croissants, cookies, pralines, pizza, chocolate bars and cakes.

The technology of the integrated N1 scanner is highly complex and delivers high-quality results, while operation is child's play. To teach the system, a number of items that meet the desired quality criteria are placed on the conveyor belt and scanned by BAKEMETER. BAKEMETER then creates a table with the corresponding tolerances.

The products to be tested are then placed on the conveyor belt. BAKEMETER now indicates with a red light if a product is outside the tolerances. The detailed results can be read on the screen.

All data can be evaluated and exported using the software analysis.



Highlights/Details

- Measurement in 3D, color and NIR
- System calculates product parameters such as dimensions, volume, surface area, baking color, color indices and gloss
- Parameters and product images are stored permanently for visualization and analysis
- Resolution 0.18 mm
- Max. product size LxWxH = 700 x 365 x 190 mm
- Dimensions of the device: LxWxH = 800 x 460 x 765 mm
- Weight 28 kg

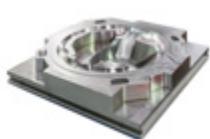
The BAKEMETER can already be used for offline quality control of meat, poultry, fish, cheese etc.. However, in order to achieve even better results, we are currently developing a specially adapted system, the FOODMETER. You can look forward to its market launch.





Our QUALIMETER was developed for random quality control of printed circuit boards, plastic parts, metallic components and ceramic components. The focus was placed on optimum detection of the object and therefore maximum precision of the evaluated parameters.

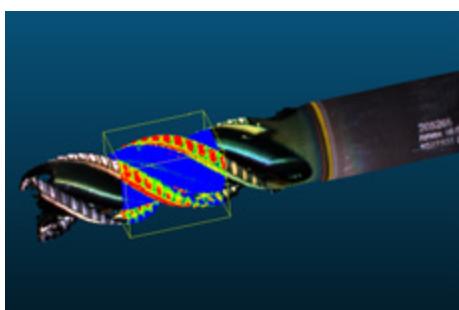
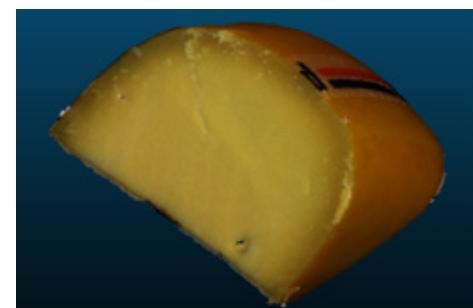
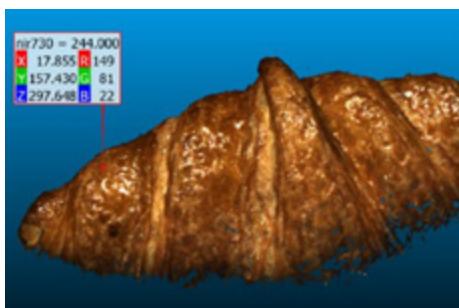
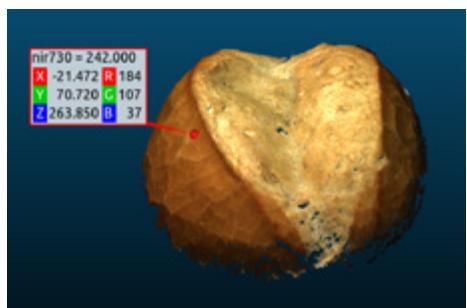
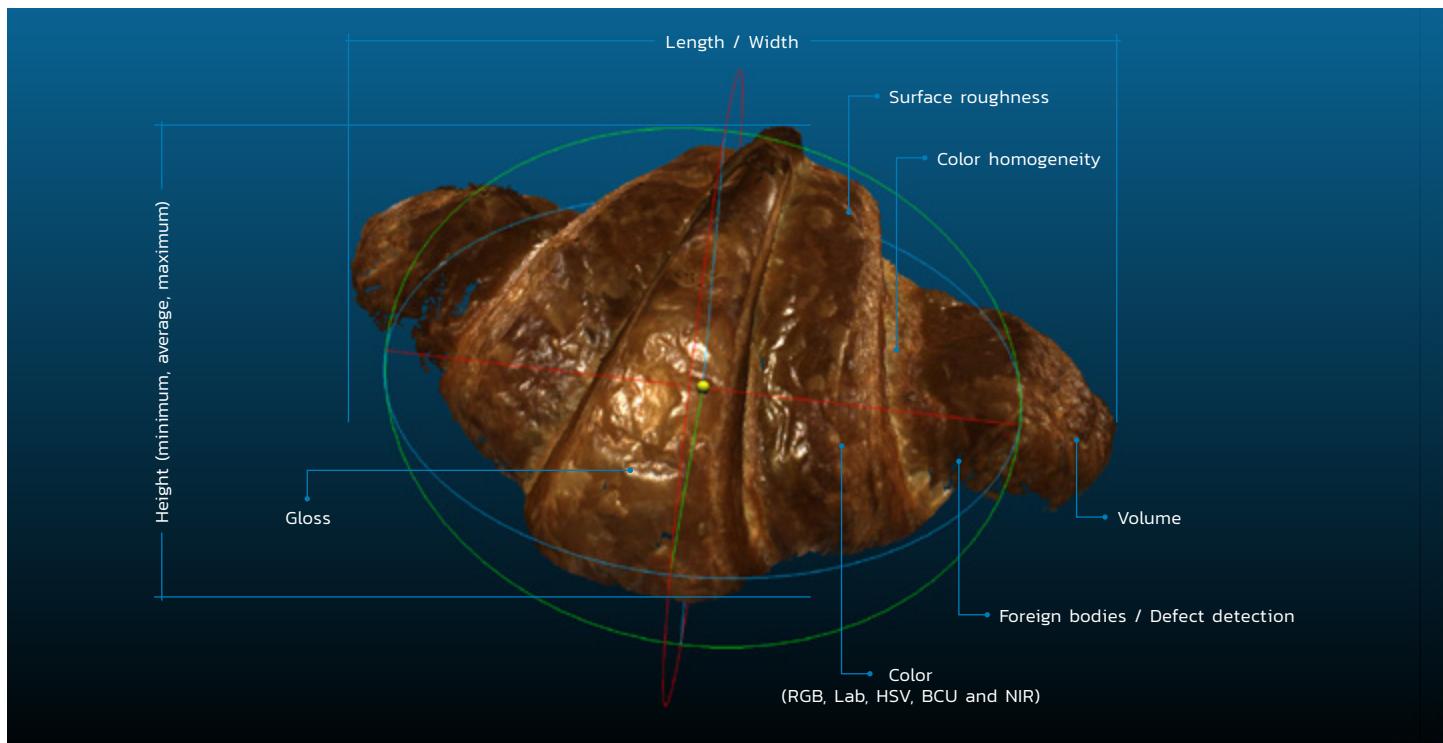
Thanks to the combination of linear and rotary movement, the scanner achieves an optimum measuring range even with very demanding geometries.



Highlights/Details

- 3D, RGB and NIR in one device
- Combined linear and rotary movement for complete detection of the component in complex structures Highest accuracy for all products
- Max. Product size DxH = 400 x 150 mm
- Max. Product weight 15 kg
- Dimensions of the device: LxWxH = 605 x 560 x 630 mm
- Weight: 37 kg

Scan examples

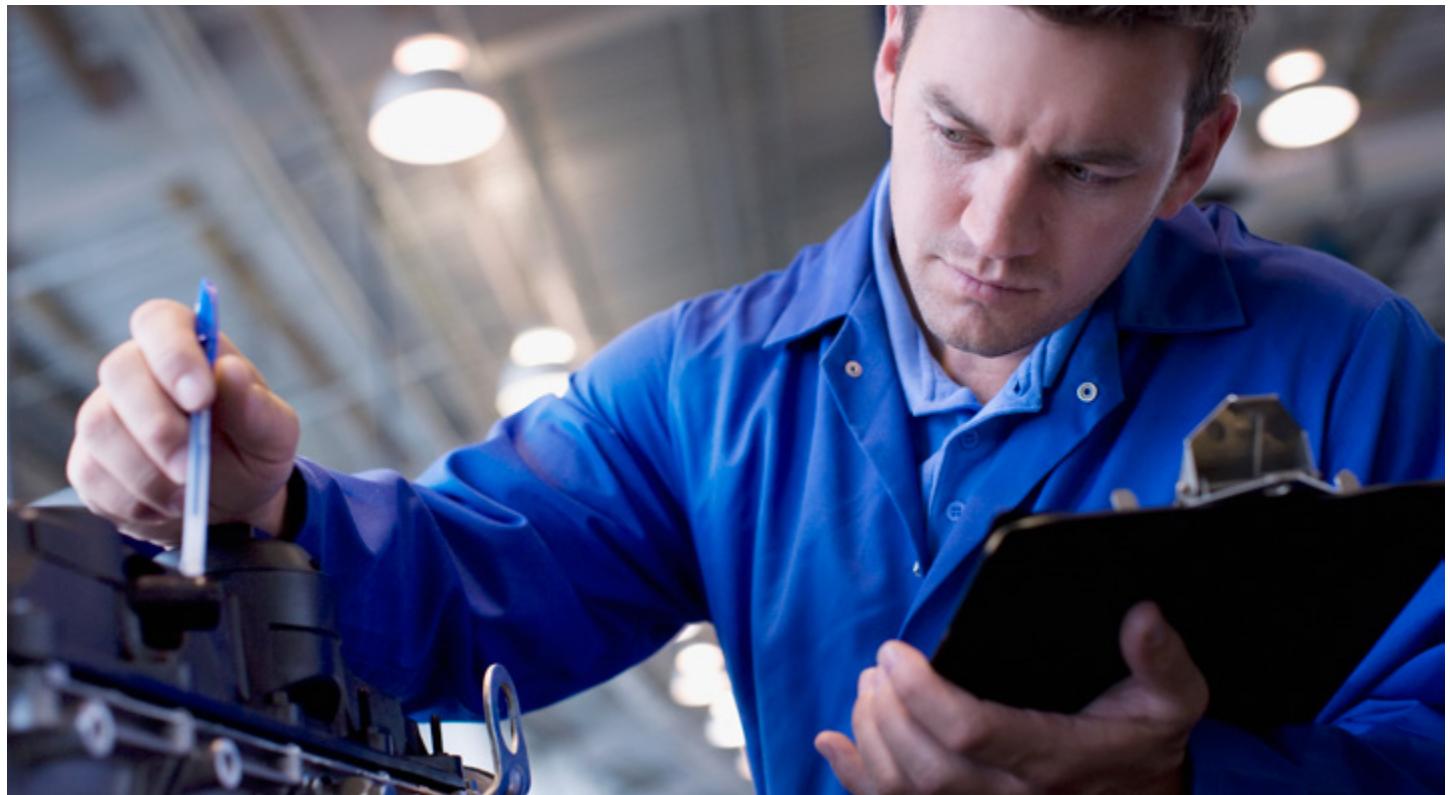


It is very important to us to advise you personally and competently. Every application has its own special challenges and, thanks to our many years of experience, we will find the optimum solution for you. We are supported in sales and service by international partners, so that you can be optimally looked after on site.

You are welcome to send us samples, which we will scan and then prepare a detailed test report for you with recommendations for action.

We can also visit you with our mobile scanner and carry out tests on site.
Our customers already include well-known companies from the food industry and research.

Put your trust in our technology and expertise and make an appointment with us.





ScanRG GmbH

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Yes we scan.

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