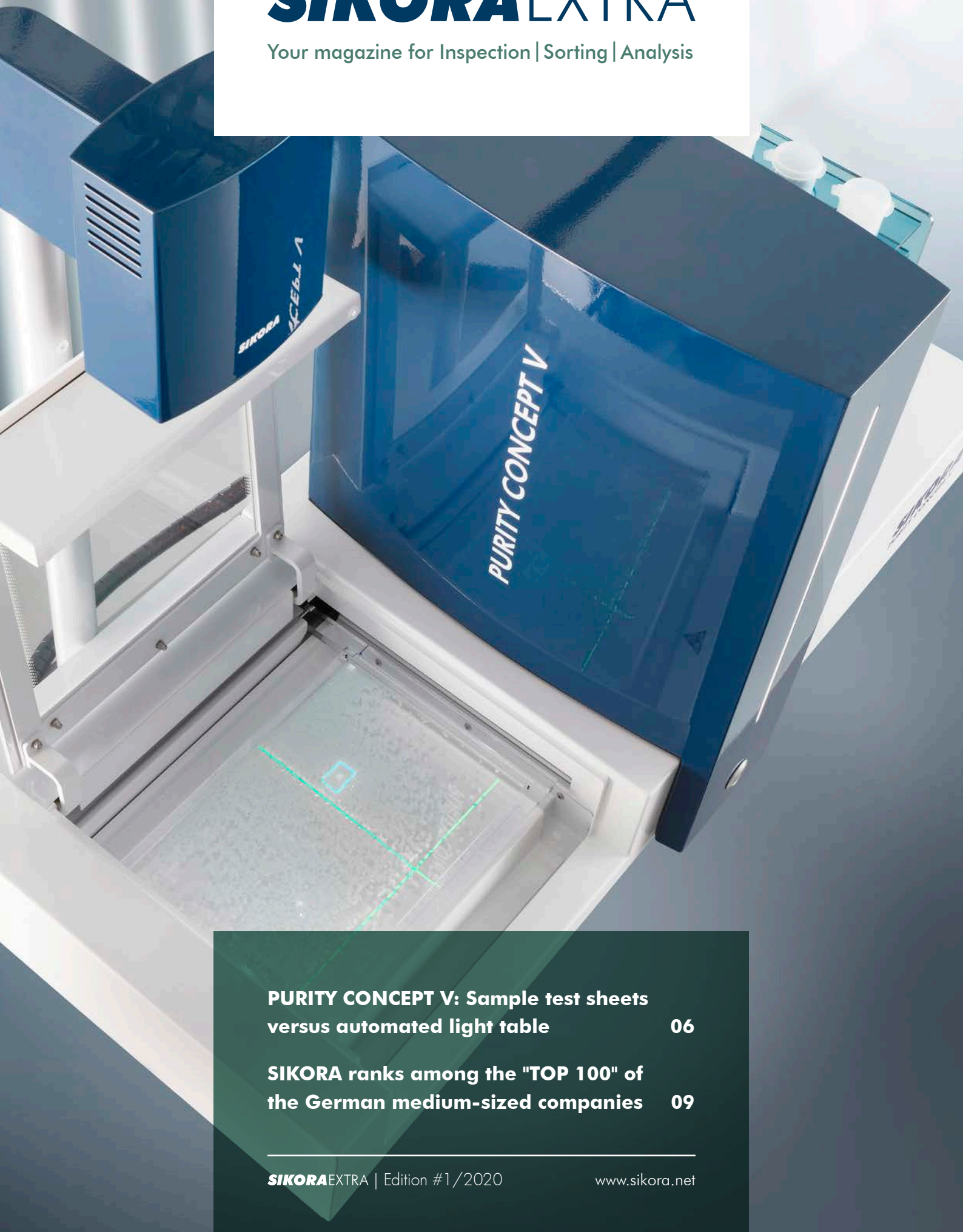


SIKORAEXTRA

Your magazine for Inspection | Sorting | Analysis



**PURITY CONCEPT V: Sample test sheets
versus automated light table**

06

**SIKORA ranks among the "TOP 100" of
the German medium-sized companies**

09

Dear readers,

It is that time again, you are holding the latest EXTRA magazine in your hands. In this edition, we look closely at sample testing of plastic pellets. On page 06, you will find a comparison between the traditional method with test sheets and automated light table.

At K in October last year, many visitors already took the chance to experience the performance of the PURITY CONCEPT V during a live pellet test (see review on page 08). Due to the positive feedback, we offer this pellet inspection also at other exhibitions. Furthermore, we demonstrate you the new PURITY CONCEPT X, which detects metallic contamination inside the pellets. Read more about the systems and tests on pages 04 to 08.

We are especially proud to have received once again the award for ranking among the TOP 100 companies of German medium-sized businesses by the Munich Strategy Group. Find out more on page 09.

Enjoy reading!

Sincerely,



Dr. Christian Frank
CEO SIKORA AG

Harry Prunk
Executive Board SIKORA AG



f. l.: Dr. Christian Frank, Harry Prunk

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OUR PASSION? YOUR MEASURING DEVICE!

NO CHANCE FOR METALLIC CONTAMINATION

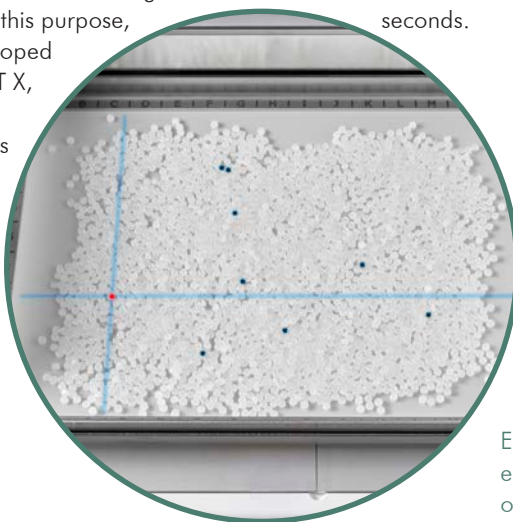
The PURITY CONCEPT X automatically detects contamination in pellets

The plastics industry is characterized by very high quality demands and strict standards regarding the material and products. Metallic contamination inside the pellets poses a significant challenge to plastic producers and processors. Therefore, the production and use of absolutely pure raw material is of utmost priority.

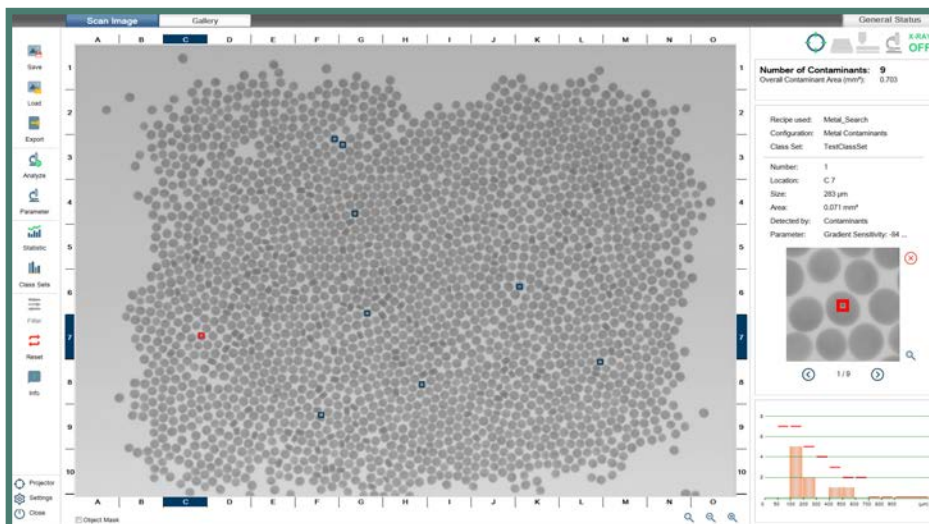
For this purpose, plastic producers and processors specifically monitor and inspect single batches or complete product lines depending on the field of application of the polymers. In addition to the application of online inspection and sorting systems during the running production process, like SIKORA's PURITY SCANNER ADVANCED, which has a throughput of up to 3 tons per hour, samples are also being inspected regularly. For this purpose, SIKORA AG has developed the PURITY CONCEPT X, an X-ray based offline inspection and analysis system that reliably detects and analyses metallic contamination down to a size of 50 μm in plastic pellets.

Metallically contaminated pellets cannot be used for many applications and would result in complaints. The X-ray unit is hermetically sealed from the environment, making it absolutely safe to handle and fulfilling the requirements of the Radiation Protection Act and the Radiation Protection Ordinance.

The PURITY CONCEPT X is characterized by its intuitive handling. The operator places the material onto a sample tray, where it is being moved through the inspection area which features an X-ray camera. The inspection and analysis are carried out within 30 seconds.

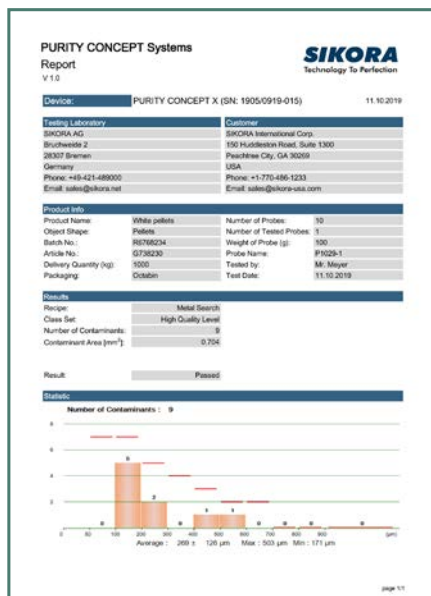


Easy removal due to the optical marking of the detected contamination on the sample tray (left) as well as on the X-ray camera image on the monitor (below)



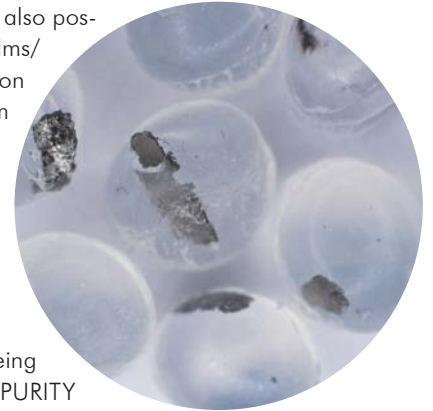
With the specially developed analyzing software, metallic contaminants are detected, highlighted in color on the monitor as well as on the sample tray and evaluated. In addition to an image gallery of detected contamination, the software provides statistics about their size, area and number. In addition to single inspections, serial tests can also be done with the PURITY CONCEPT X. Hence, samples

from one batch, which were taken at different times, can be analyzed and summarized in an overall evaluation.



The test certificate sets the prerequisite for the material release and delivery

On the sample tray, it is also possible to inspect flakes, films/tapes, sheets and injection molded parts made from various plastics, such as XLPE, TPU or TPE, with a height of up to 50 mm (1.97"). Only flawless plastics are being distributed and machine downtimes as well as reclamation costs are being reduced. Therefore, the PURITY CONCEPT X contributes significantly to highest quality and process optimization.



Metal abrasion in plastic pellets caused by wear and tear of the metal screw in the extruder

The application areas for the PURITY CONCEPT X at a glance:

- Laboratory testing equipment
- Incoming goods inspection
- Quality assurance and documentation by test certificate
- Follow-up inspection in case of a complaint
- Sample testing next to the production line

INSPECTION UND ANALYSIS OF PLASTIC PELLETS

Sample test sheets versus automated light table

How do producers and compounders guarantee the optical quality of their plastics and what are the latest developments on the market?



Typical sample test sheets

An optical quality check via sample test sheets for plastic raw materials or plastic compounds and masterbatches is common after production. The sheets are made in an

injection molding process and visually checked on light tables for contamination. The examiner counts the quantity and size of the detected black specks. The values are used for fish-eyes' index respectively black speck determination. Thereby, the contamination area is determined on the inspection area and evaluated.

Following a brief example:

On a sample sheet of the size of 100 x 100 mm (3.94 x 3.94"), 5 contaminants with a total size of 0.42 mm² (.00065 inch²) are detected. Projected to a sheet of 1 m² (1,550 inch²), this corresponds to a size of 42 mm² (.065 inch²). As for the inspected material an area of 40 mm² (.062 inch²) is the limit, in this case, the material has not passed the inspection.

With the PURITY CONCEPT V, SIKORA has developed an alternative technology that eliminates the need for visual inspection by the inspector. Within 30 seconds, the sample test sheet is inspected by a color camera on a sample tray and contamination from 50 µm is detected. Simultaneously, the quantity, size and area of the contaminants can be analyzed with the PURITY LAB PRO software. With these values, the fish-eyes index is determined.

Offline inspection via the PURITY CONCEPT V is carried out without delay. Consequently, the operator receives information immediately about the produced quality. When deviations

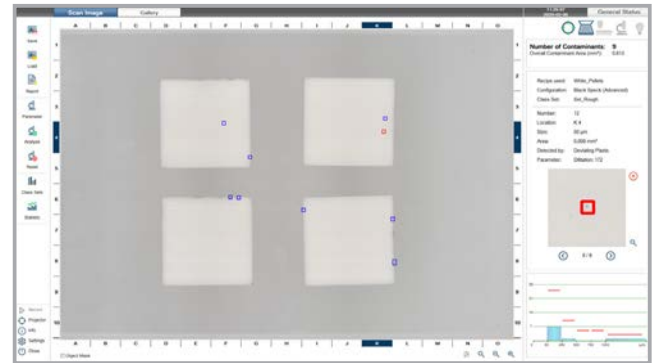


In addition to pellets, the PURITY CONCEPT V also inspects and analyses sample test sheets for contamination.

occur, the extruder parameter can be changed promptly, the production stopped or bundles can be disabled. In contrary, the visual control via sample sheets by the inspector is usually done with a delay of several hours due to the production process.

In certain cases, where quality documentation with sample test sheets is not required, the control of the pellets is done directly by the PURITY CONCEPT V, bypassing the sample test sheet. With the PURITY CONCEPT V, the pellets themselves are inspected in that case. Therefore, there is no risk of an error entry due to wrong inspection molding parameters or additional burning on the extruder screw or barrel.

The automated analyses of the PURITY CONCEPT V are reproducible. The recorded images can be read and analyzed at any time. Therefore, the PURITY CONCEPT V is an attractive complement or even an alternative to the established quality inspection via sample test sheets.



The PURITY LAB PRO software provides comprehensive information about quantity, size and the area of all detected contamination.

SIKORA at FIP 2020

This year, SIKORA is for the first time at the FIP. Please visit us on our booth L14 from June 16th to 19th, 2020, in Lyon, France.



We will present you the PURITY CONCEPT V for an automated offline sample testing. Bring along your granulate samples and have them inspected live and free of charge on site for contamination with the PURITY CONCEPT V.

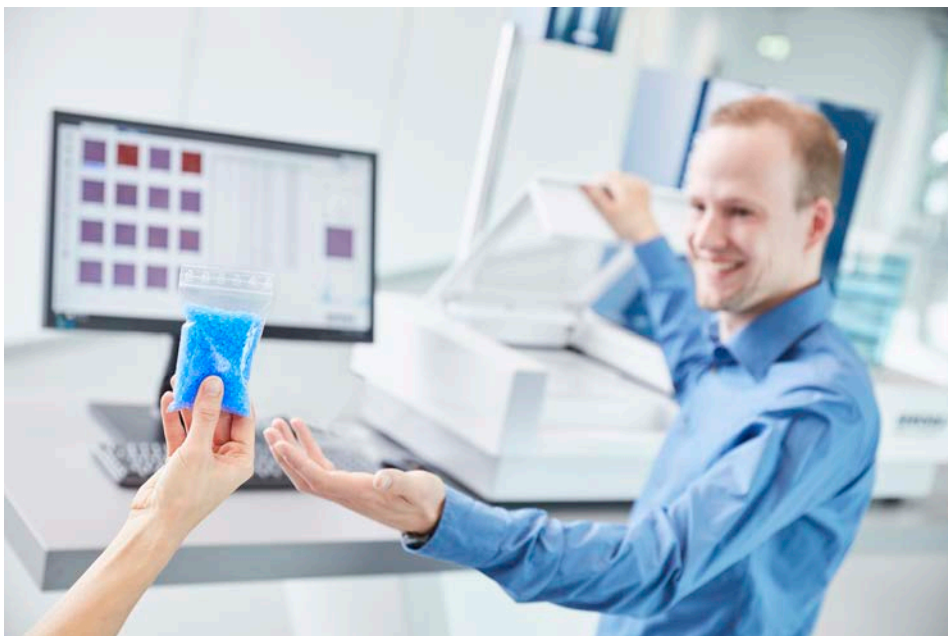
We are looking forward to your visit!

SUCCESSFUL PELLET TESTS AT K

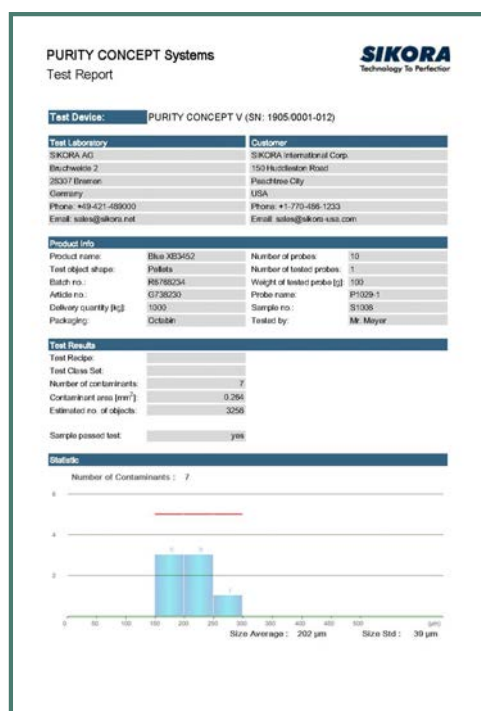
Live analysis at the SIKORA booth convinces visitors

At K 2019 in Düsseldorf, SIKORA invited plastic manufacturers and processors to bring plastic pellets for a live analysis to the booth. The result: Many visitors had their material samples inspected and analyzed by the PURITY CONCEPT V and thus could be convinced by the performance of the system.

“The response to this campaign was impressive. About 150 visitors followed the invitation and brought their material to the exhibition. Among those were almost 20 different polymers, which were all analyzed by the PURITY CONCEPT V. This does not only demonstrate the system’s remarkable range of possible applications, but also shows that the plastic market has a great demand for this kind of technology”, says Hilger Groß, Business Development & Area Sales Manager at SIKORA.



Whether PE, PPSU or PEEK – the PURITY CONCEPT V proofed at K that it can analyze all common plastics. The pellets are simply spread on the sample tray, inspected by a color camera and within a few seconds the detailed analysis is available at the monitor of the connected PC. Additionally, the customer is provided with an inspection certificate with the summary of the analysis.



Test certificate

CONVINCING BY ONGOING PERFORMANCE

SIKORA ranks among the "TOP 100" of the German medium-sized companies

The SIKORA AG ranks once again among Germany's 100 fastest growing medium-sized companies. This is the result of the study "TOP 100 ranking of the medium-sized companies 2019", which was carried out by the management consultancy Munich Strategy Group. This year, SIKORA is the only company from Bremen that has made it into the "TOP 100".

More than 3,500 companies from all industries with an annual turnover between 10 million and 1 billion Euro were evaluated by the Munich Strategy Group. The "TOP 100" companies were determined on the basis of their long term growth and profitability. The basis for the selection is the performance of the companies during the last five years.

Dr. Christian Frank, CEO of SIKORA says: "I am delighted that we are among the "TOP 100" again this year. Once again, the award shows that we belong to the elite of the German medium-sized companies and that we set trends and play a leading role in the area of innovative measuring, control, inspection and sorting technologies. By focusing on technical innovations as well as expanding our global sales and service network and the simultaneous concentration of research, development and production at our location in Bremen, we create the conditions for a future, constant growth. I see this award particularly as a recognition of the entire workforce."



WELCOME TO SIKORA SERVICE

Our passion? Your measuring device!

Do you want a measuring device that precisely and reliably measures your plastic pellets? To ensure that you can rely on your testing device every day, our engineers have aligned the latest technologies with state-of-the-art hardware and software components to deliver top technical performance.

Inspection, sorting and analysis systems of SIKORA convince by innovative technologies, which automatically detect the smallest contamination in order to guarantee the highest material purity. The

SIKORA service team is always available for you with know-how and passion so that you can

benefit from all advantages of the measuring device throughout its entire life cycle. The year of manufacture of the device is irrelevant. Our team is just as committed to SIKORA classics as to the latest devices.



Just contact us!

No matter which question you have about your measuring device, your SIKORA service team is always available for you worldwide.

Simply contact us at service@sikora.net.

RAFFLE

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Find the hidden SIKORA terms

This alphabetical jumble hides 6 SIKORA terms in total that are written in all directions.

Find these 6 terms and send us a picture of your solution.

QUALITY
X RAY
MADE IN GERMANY
INNOVATION
INTERNATIONAL
SERVICE

Send us an email
by Jun 30, 2020, to:
extra@sikora.net

Win one of three WD Elements External Harddrives - 1 TB (USB 3.0, 2.5", black; image similar)



Your contact details will not be passed on to third parties. Each correct answer takes part in the raffle. Employees of SIKORA AG and SIKORA Holding GmbH & Co. KG and their relatives are excluded from participation. Each player can only participate once. We value the first email, all subsequent emails will be considered invalid. The legal process is excluded.

GOOD LUCK!

Congratulations to the winners of the picture raffle – SIKORA EXTRA 2/19:

- Eric O'Brien
- Daniel Deyerler
- V. Ganesh

NEXT EVENTS



- Compounding World Expo | Jun 3-4, 2020 | Essen, Germany



- FIP | Jun 16-19, 2020 | Lyon, France



- Chinaplas | Aug 3-6, 2020 | Shanghai, China

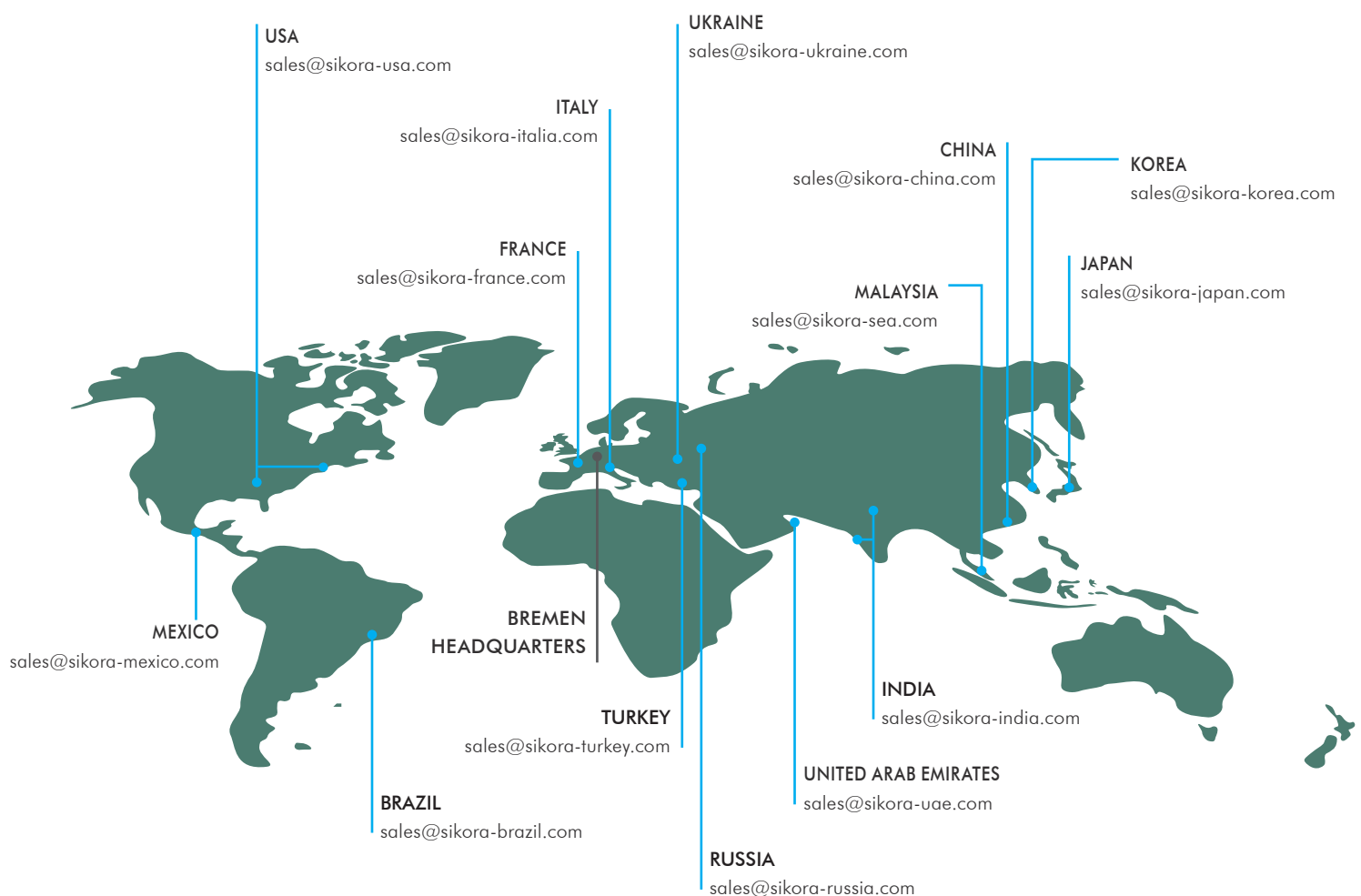
Sustainability at SIKORA

Our environment is important to you, but you do not want to do without the informative SIKORA EXTRA articles? Register today at extra@sikora.net and receive the SIKORA magazine conveniently via email.

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Technology To Perfection

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