SIKORA EXTRA

Your magazine for Hose & Tube | Sheets

Dear readers,

SIKORA AG is celebrating. 45 years ago, on November 11th, 1973, Harald Sikora founded the company as a one-man operation. Today, we have more than 250 employees working for the SIKORA Group worldwide. Back then as well as today, we see ourselves as your industry partner for quality control and process optimization. Find an example for successful cooperation on page 04. The company APT has been relying on SIKORA measuring devices for the production of fluoropolymer plastic hoses since the beginning.

Determined by constant growth, a state-of-the-art production building is currently being built at SIKORA headquarters in Bremen, Germany. The new building offers more space for an efficient production and logistics as well as additional communication areas for creative ideas. Read more on page 08.

Furthermore, our workforce keeps growing as well. Thus, we are always able to support you with innovative technologies, reliable service, and competent consultation. Meet our new sales colleague on page 09.

Enjoy reading!

Sincerely,

Dr. Christian Frank
CEO SIKORA AG

Harry Prunk
Managing board der SIKORA AG

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

FOR 45 YEARS, WE HAVE BEEN THERE FOR YOU!

"IT'S NOT A TUBE YOU'RE INVESTING IN – IT'S SAFETY"

For many years, APT has been relying on inline X-ray measuring systems from SIKORA

Close cooperation: (f. l.) Peter Hügen, SIKORA Area Sales Manager and Erich Kipping, APT Managing Director

Founded in 2011, the German company APT (Advanced Polymer Tubing) – part of the publicly listed Masterflex Group – is specialized in the production and processing of fluoropolymers. The employees ensure daily that fluoropolymers become high-quality tubing, shrink tubes, and profiles. In order to guarantee the hose quality and optimize production processes, APT applies inline measuring and control technology from SIKORA in the extrusion lines.

There are only a small number of manufacturers worldwide who specialize in fluoropolymer tubing with a similar portfolio. Fluoropolymers are extremely temperature resistant, resistant to almost all types of chemicals, such as fuels, solvents or lye and, besides, are even long-time weather-resistant. "Fluoropolymers are becoming essential when high temperatures, aggressive chemicals or both are involved", says Erich Kipping, APT Managing Director. Additionally, fluoropolymers are ultra-clean and biocompatible, and therefore, suitable for especially demanding applications, which would not be achievable with common polymers.

Applications for fluoropolymer tubing

Due to their chemical resistance, the polymers are used in process and plant engineering. Fluoropolymer tubing can also be found in the paint industry and in the sector for consumer goods. The low surface energy allows an easy cleaning of the products and prevents sticking. The hoses often must withstand constantly high temperatures while simultaneously being pure – meaning without any kind of additives and plasticizers – so that they are physiologically safe. A further exciting field of application for these hoses, besides the semiconductor industry, is the laboratory, analytics and biotechnology. "During criminal investigations, a DNA analysis is commonly done with automatic equipment. Our tubes are also built into these devices. Thereby, each centimeter of tubing must meet the highest quality standards. After all, no one should be sent to prison if innocent", says Kipping.

Due to the fact that tubes from APT are being used in various operating and security related areas, their production is subject to numerous standards that are set, for instance, by the FDA (Food & Drug Administration) in the USA or by ATEX, which regulate constructions in potentially explosive areas. In addition, there are fire protection regulations as well as fire protection classes, for example, for the use of tubes in airplanes.

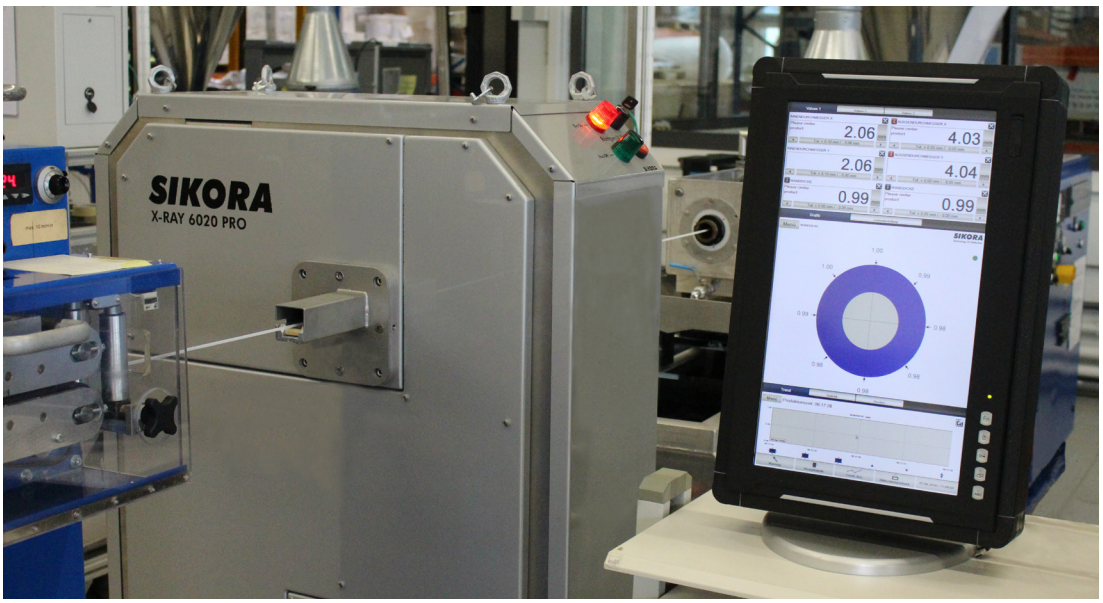
Professional Quality Management
For APT, it is crucial to comply with standards to fulfil customer demands. To ensure the quality of the tubing and optimization of production processes, APT applies online measuring and control technology from SIKORA in their extrusion lines. “Since our foundation, we have chosen to use X-ray measuring technology from SIKORA. The decision was made on grounds of experience we gained by using other technologies. This was mainly regarding reproducibility of the data and their accuracy.”

The X-ray measuring devices of the X-RAY 6000 PRO series from SIKORA reliably and precisely measure the wall thickness, eccentricity, the inner and outer diameter, and the ovality of up to three different material layers of a tube. The operator at the line can see at a glance on the corresponding processor system if the values are within the defined tolerances. “The application of our X-ray measuring devices is very flexible. It can be either installed between the extruder and the cooling trough or alternatively between two cooling troughs”, explains Peter Hügen, Area Sales Manager at SIKORA AG and first contact for APT.

We define ourselves mainly by the characteristic quality. For this, a continuous quality control is necessary. With an inline measurement of the products, quality can be quicker assessed, controlled and reproduced”, explains Kipping. An eccentricity of the wall thickness, for example, is displayed on the monitor as an eccentric ring, whereas the position of the thinnest wall thickness is highlighted in color. With this information, the operator can intervene and control the process much sooner and prevent the production process exceeding the tolerance limit. Therefore, with the automatic control of the line speed or the extruder rpm in consideration of the minimum values, the devices from SIKORA ensure an optimal process control.

Recording is also a crucial element of Quality Management, as customers usually require a measurement report. Each centimeter of tubing that APT delivers to customers can be assigned to a corresponding recorded measuring value. “This is an essential element of our Quality Assurance”, emphasizes Kipping. “Sometimes it is just wiser to invest in a higher-quality product right from the start. I always tell our customers: It is not a tube you’re investing in – you’re investing in safety as a breakage can be very costly and can have severe consequences”, explains Kipping. Material saving is also an important topic. “Ultimately, we have a relatively low material waste”, says Kipping. “This is always desirable considering the comparatively high costs of raw material for fluoropolymer.” SIKORA’s X-ray measuring devices provide measuring values immediately after the start-up of the line. Therefore, the start-up process is relatively short and is carried out without significant material loss.

Erich Kipping is especially pleased with the cooperation with SIKORA; not only regarding the measuring technology and the accompanying benefits, but also with the customer support. “In SIKORA, we have found a reliable and competent partner who is available at any time and offers perfectly customized solutions. Therefore, we will continue to use measuring devices from SIKORA in our lines in the future.”



X-RAY 6020 PRO and ECOCONTROL 6000 by SIKORA in the APT production line

LASER SERIES 6000 INTERFACES

Perfectly connected

SIKORA LASER 6020 XY with integrated Profinet module

Each hose and tube manufacturer has company specific requirements and each production line is individually built. As diverse as the production lines are the networking opportunities of the line components, the process control and the measuring technology for quality and process control. Whether CANopen, EtherNet/IP, DeviceNet, Profibus, Profinet or OPC UA – the variety of networks can be a real challenge for the communication of the components. SIKORA was one of the pioneers regarding integrated Profibus interfaces and also nowadays, our engineers offer solutions for an optimal communication. With the introduction of the diameter measuring device LASER Series 6000, a flexible concept, that matches the customer's requirements at all times, was created.

On the way to global networking of production lines, the industrial Ethernet is put into focus. Compared to the previous year, the market share of the Ethernet division increased about 30 % in 2016.*

*Volz, Michael: "Trendreport Kommunikation: Der Markt gerät in Bewegung". In: IEE Industrie Engineering Effizienz. 04/2016. Hüthing GmbH. Heidelberg. Page 104.

As a company with a close customer relationship and an open ear for innovative ideas, SIKORA discovered this development early, and therefore, offers the interface modules Profinet and OPC UA for the measuring devices of the LASER Series 6000. The advantage of these moduls is the smart connection of present technology and ports with the future-oriented worldwide networking.

SIKORA does not simply follow a trend. Many production plants have made Ethernet interfaces, such as Profinet, one of their standards. This way, SIKORA has also built a foundation for future developments. All SIKORA LASER Series 6000 gauge heads are technically prepared to go the next step towards the "Industrial Internet of Things" (IIoT) and Industry 4.0.

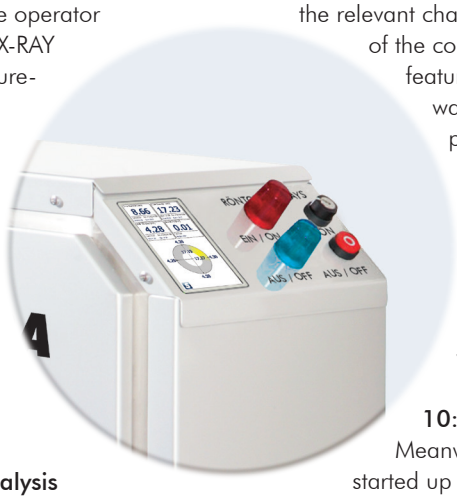
LASER Series 6000

SIKORA SMART ASSISTANCE MANAGER IN USE

Direct service – fast, easy, successful!

Since its introduction at the beginning of 2017, SIKORA customers worldwide have been impressed by the Smart Assistance Manager (SAM). The 13.3" industrial tablet pc offers a live video chat feature and thus, a fast and effective service. Via the 5 MP camera and the LTE/UMTS module, you are directly connected to our support. A recent practical example shows why the Smart Assistance Manager is so successful.

08:00 a.m. – Start-up of the production line
During the start-up of the extrusion line for multi-layer tubes, the line operator discovers that SIKORA's X-RAY 6000 PRO for the measurement of diameter, wall thickness, ovality, and eccentricity of cables does not power up. As the trained worker for this device is not present, his colleague quickly reaches for the SAM and contacts the SIKORA support in Bremen.



08:30 a.m. – Event analysis
Thanks to the various connections and interfaces of the SAM, SIKORA's support engineer can directly connect his PC with the device and can lead the customer via the built-in video chat feature through the event analysis. It soon becomes clear that a control lamp in the safety circuit of the X-ray device blocks the starting of the device.

08:45 a.m. – Troubleshooting
Control lamps are consumable parts and therefore, typical stock items. SIKORA's service database shows that this customer has a spare lamp on stock. Whilst the operator collects the spare part from the warehouse, the SIKORA support engineer already opens the device documentation, which is saved on the SAM, with the relevant chapter regarding the replacement of the control lamp. Via the video chat feature, the SIKORA employee is watching the exchange and supports with useful tips and hints.

09:15 a.m. – Device analysis
The support engineer uses the SIKORA diagnosis software to check the device, which is ready for production.

10:00 a.m. – Production
Meanwhile the line has completely started up and production is in full swing. SIKORA's X-RAY 6000 PRO precisely measures the product parameters and thus, ensures the quality for end customers.

STRATEGIC INVESTMENT IN THE FUTURE

Laying of the foundation stone for the new SIKORA production building in Bremen, Germany

Laying of the foundation stone at SIKORA: f. l. Jürgen Menke and Fikret Egi (Zechbau), Harald and Bernadette Sikora (SIKORA HOLDING), Jürgen Keil (Gruppe GME), Dr. Christian Frank and Harry Prunk (SIKORA AG)

On December 12, 2017, at 12:12 p.m., SIKORA laid the foundation stone for the new production building at their headquarters in Bremen-Mahndorf, Germany, in the presence of employees and business partners. The expansion of the headquarters offers more space for a more efficient production and logistics as well as good conditions for communication, creativity, and innovations. The completion of the building is planned for November 2018.

The new production building, with an effective area of 7,000 m² on three floors, offers more than additional space for employees and production. Planned are also areas for communication and creativity to create room for new ideas and innovations. Furthermore, the expansion will be used to make existing processes more efficient and innovative. The inclusion of current lean production concepts is a central element in order to increase productivity. The result is a more efficient and innovative production for the assurance of highest product quality as well as delivery reliability.

"The expansion at our production headquarters in Bremen, Germany, is a strategic investment in the future", says Dr. Christian Frank, CEO of SIKORA AG. "We invest in further growth and global competitiveness." Strong growth as well as diversification of the company to new markets and accompanying new and further development of technologies and devices were the reasons for the expansion. "With our large product portfolio for the segment cable as well as for the area optical fiber measuring technology and the hose and tube, sheet and plastics industries, which grew strongly over the last years, we reached our capacity limit with the old production building", says Dr. Christian Frank. The new building offers 350 % more space for the growing business.

The architectural implementation of the production building is carried out by Gruppe GME, who also realized the three previous SIKORA buildings. "We have found an optimal solution to combine modernity with tradition. That is reflected in the design of the façade and the inventory planning", explains Jürgen Keil, Shareholder at Gruppe GME.

During the construction phase, the production has been moved to a building only 400 m from SIKORA headquarters, ensuring a very short connection to management, administration and the research and development team.

Design of the new SIKORA prodcution building

SIKORA'S SALES TEAM IS GROWING

Ralf Kulenkampff supports sales in many European countries

SIKORA is continuing its expansion campaign for the areas Hose & Tube, Wire & Cable, Optical Fiber and Plastics with continued product innovations and the expansion of the sales network. Since January 2017, Mr. Ralf Kulenkampff has been reinforcing the sales team at SIKORA's headquarters in Bremen and is looking after Hose & Tube customers.

Mr. Kulenkampff, you joined the sales team of SIKORA AG over a year ago. What fascinates you about your new role?

Consulting is simply in my blood and I found my calling in opening up new potentials – at SIKORA, I can combine both. Especially the medium scale structure of the company supports my consulting activities and gives me the security to present our products competently. For example, when a customer has a request, I can directly speak to the developers as well as the production team – together we can find the most suitable solution for our customer.

Besides the company structure, what made you accept the position at SIKORA?

After working for several years in domestic sales, I wanted to show my abilities on the international market, and this is what SIKORA enables me to do. My sales territory covers the United Kingdom, Ireland, Switzerland, the Baltic States as well as Poland, Slovenia, Slovakia, Croatia, Bosnia and Herzegovina, Serbia, Bulgaria, Macedonia, and Greece.

You are talking about showing your abilities. Can you tell us more about your strengths?

Certainly my strong will to find and realize the best solution. Thereby, it happens that I become deeply involved in a project and I am fully committed to finish it successfully. Moreover, I have already mentioned that I find it easy to recognize potentials. This means that I support customers efficiently to optimize their processes and ultimately to save costs.

Mr. Kulenkampff, thank you very much for the interview!

Further addition to the sales team for customers in Spain and Portugal

Since January 2017, Mr. Aguinaldo Ramalho has been looking after Hose & Tube customers from Spain and Portugal. The master electrician and graduated industrial engineer has extensive language skills and technical know-how and is happy to assist you in optimizing your production processes.

INDUSTRY 4.0 AND IIOT*

Shape the future with SIKORA devices

The term "Industry 4.0" – together with the "Industrial Internet of Things" (IIoT) – shapes the discourse on sustainability and competiveness of the industry. The interaction between human, machine, and production during the running production process enables an independent production control via intelligent machines. SIKORA measuring technologies are equipped with interfaces for Industry 4.0. How the customer benefits from it, shows the following overview.

Data transmission

In classic production lines, SIKORA devices receive nominal values from a programmable logic controller (PLC) of the customer and in return transmit real measuring values. The received information are the basis of process optimization.

Visualization of measuring values and plant control

With the integration of SIKORA's ECOCONTROL processor system into the production line, the customer gains various new networking and control possibilities in the area of Industry 4.0. All SIKORA measuring devices are connected to the ECOCONTROL. It visualizes the transmitted data, creates trend and statistical data and, on this basis, initiates specific measures for plant control. The regulation is done by increasing or decreasing the line speed or extruder rpm. Furthermore, the ECOCONTROL is able to mirror the recorded production data to any desired display systems in the line where it can be further processed.

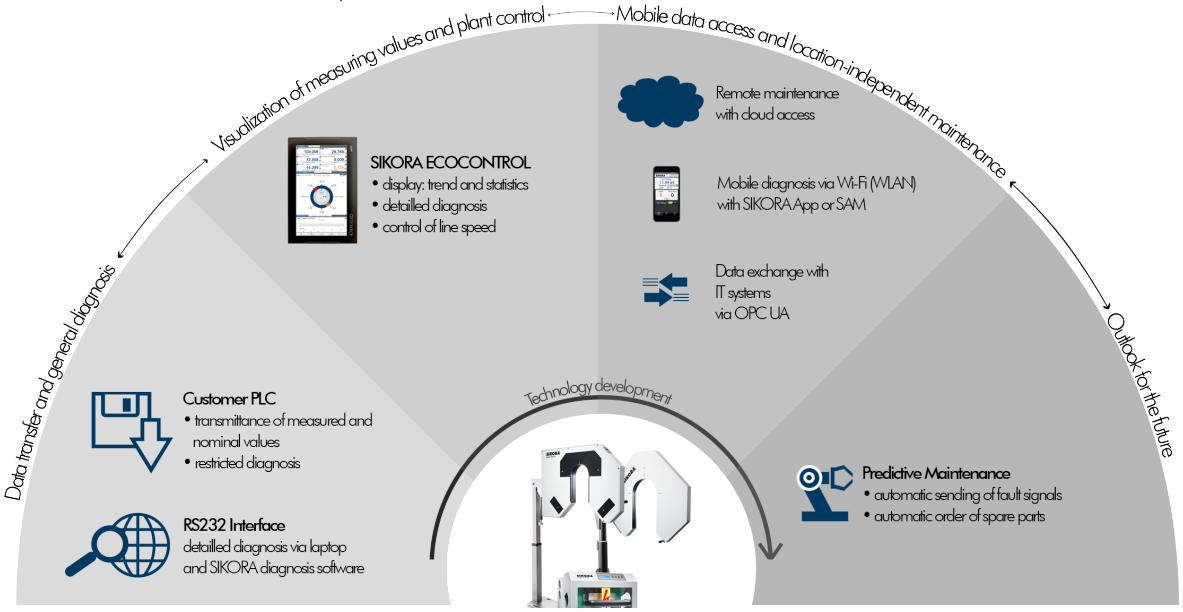
Mobile data accessing

The SIKORA processor devices provide the industrial network protocol OPC UA, which increasingly prevails as standard language of the IIoT and allows a comprehensive data exchange with IT systems. SIKORA devices are equipped with all standard interfaces, and therefore, fit for Industry 4.0 and with regard to the hardware optimally designed for future developments. Via an Ethernet interface, a remote maintenance is also possible with the ECOCONTROL and allows SIKORA employees to access a system independent of the location.

SIKORA service

SIKORA service offers customers comprehensive services regarding the area of Industry 4.0. This includes a mobile diagnosis by Wi-Fi transmission, for example, from the LASER Series 6000 or SPARK 6000 to the SIKORA App or SAM (Smart Assistance Manager). In addition, remote maintenance via safe cloud accesses is increasingly gaining importance for customers. The ECOCONTROL also enables remote maintenance via an Ethernet interface, so that SIKORA employees may access the system location-independent if needed. The development of special maintenance software tailored to individual customer requirements that enables predictive product maintenance will also be possible in the future. For example, a LASER Series 6000 device may then send an automated fault message when the gauge head is dirty.

*Industrial Internet of Things



RAFFLE

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L	W	G	H	E	B	L	O	R	T	N	O	C	V	A

Find the hidden SIKORA terms

This alphabetical jumble hides 5 SIKORA terms in total that are written in all directions.

Find these 5 terms and send us a picture of your solution.

LASER
PERFECTION
CONTROL
SIKORA
QUALITY

Send us an email with your solution by May 31st, 2018, to: extra@sikora.net

Win one of three **Creative Sound Blaster Play!3** (USB-DAC-amplifier/external sound card)

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 e-mail, all subsequent emails will be considered invalid. The legal process is excluded.
GOOD LUCK!

Congratulations to the winners of the selfie raffle of the Fakuma!

- **Marius Kantoch**
- **Susanne Sauer**
- **Iris Brisbois**

NEXT EVENTS

- CHINAPLAS | Apr 24 - 27, 2018 | Shanghai, China
- NPE | May 7 - 11, 2018 | Orlando, FL, USA
- PLAST | May 29 - Jun 1, 2018 | Milan, Italy

WIRE/TUBE
Apr 16 - 20, 2018
Düsseldorf,
Germany
Booth 9A41/6J32

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Technology To Perfection

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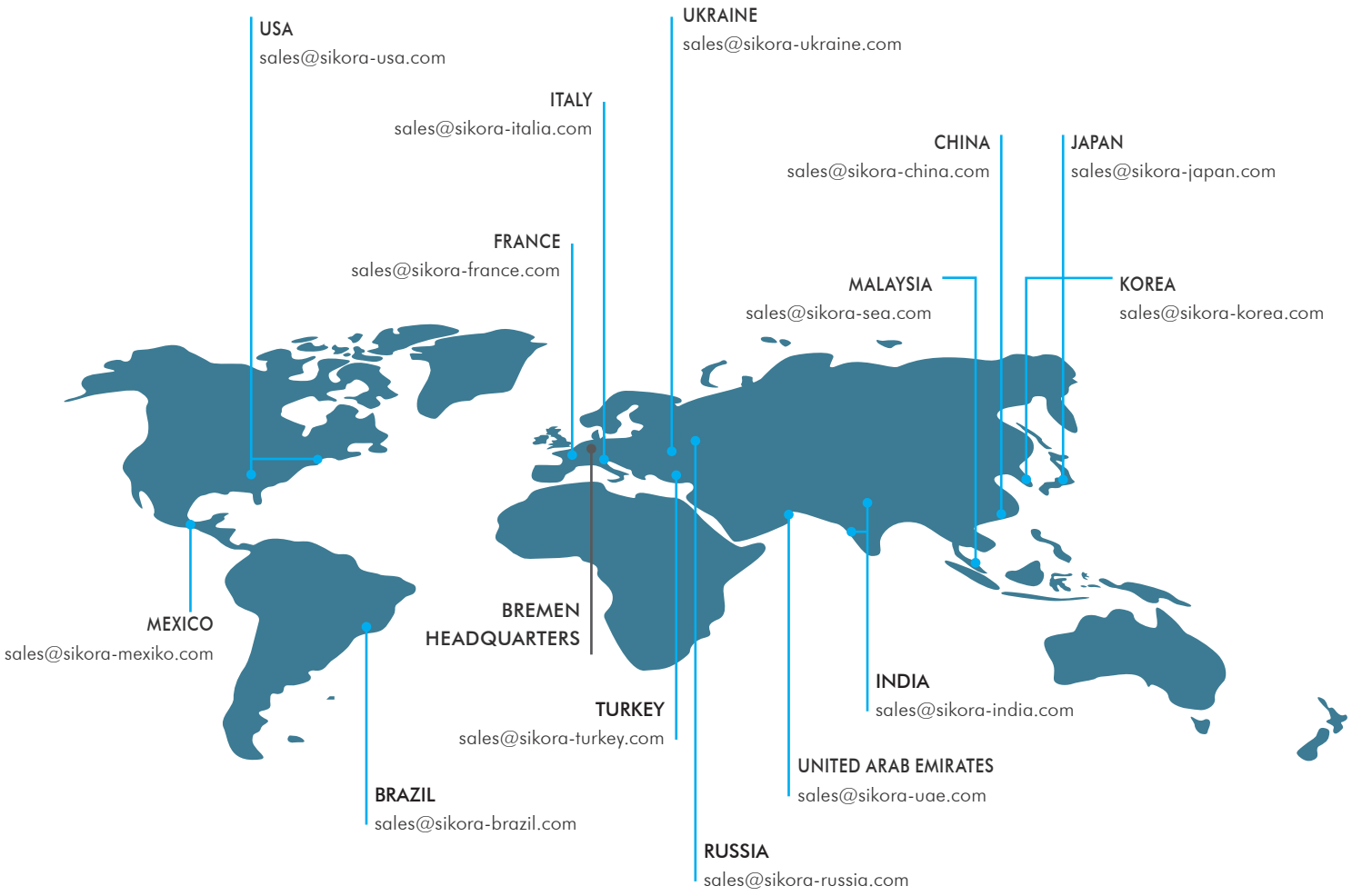

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