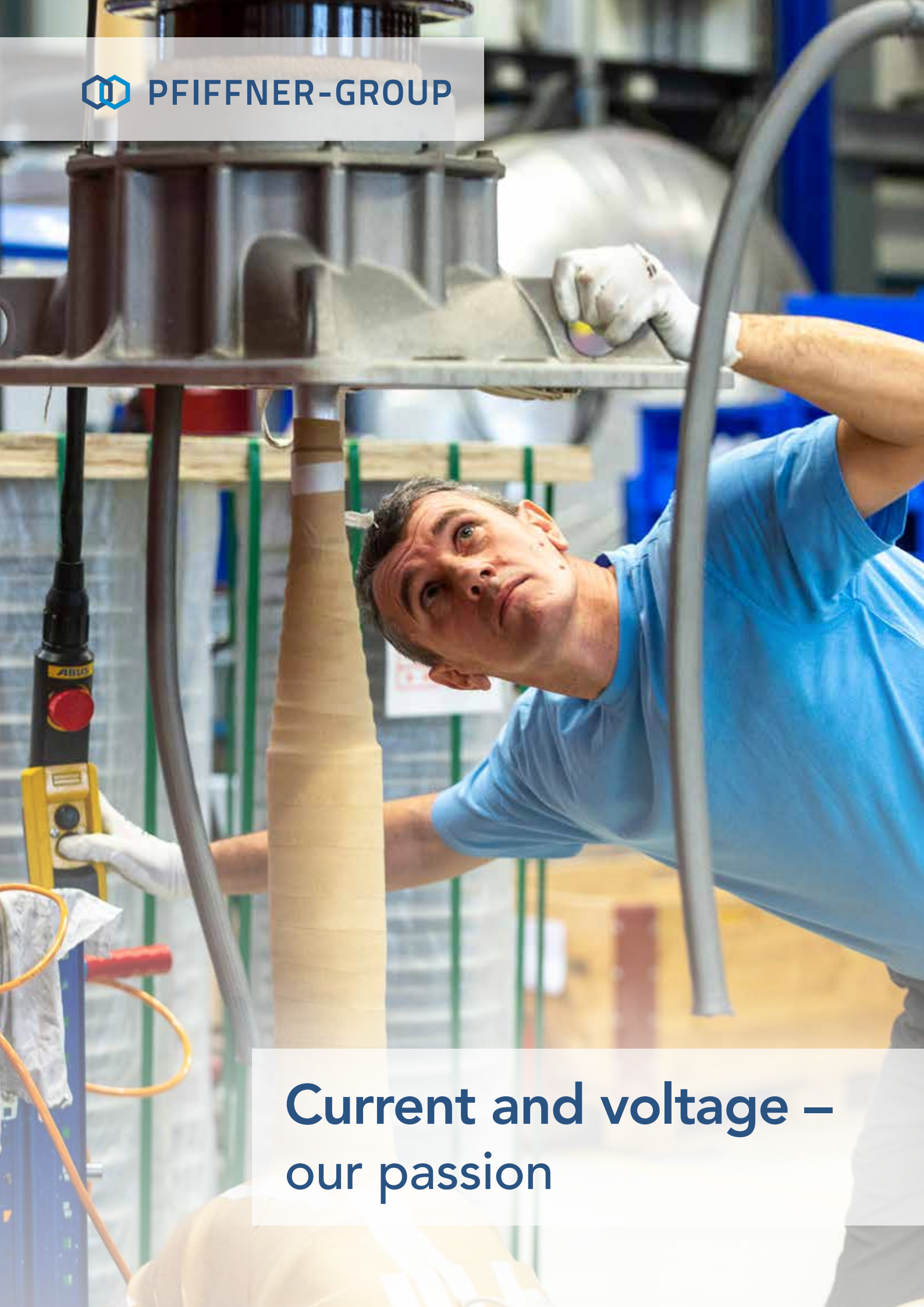




PIFFNER-GROUP



**Current and voltage –
our passion**

PIFFNER International AG

The PFIFFNER Group has grown to become a medium-sized group of companies with over 750 employees worldwide. Having its headquarter in



Fritz Hunziker
Entrepreneur / Chairman of the Board

Hirschthal, Switzerland, PFIFFNER International AG is the Group's umbrella organisation. It has a total of eight production sites across three continents, where various products for the use in transmission and distribution networks and electricity generation are produced.

The challenging requirements of our customers together with our ambition to represent state of the art products offer high quality and reliability. The outcome of this is our mission: «Current and voltage – our passion». Thanks to this commitment the PFIFFNER Group has grown steadily over the last few years.

PFIFFNER is the ideal business partner to serve customers globally in the different segments like utilities, industries and railway. The PFIFFNER Group is acting with several brands: PFIFFNER, MO-

SER GLASER, ALPHA, HAEFELY. The brands are well-known on the market and have pioneered several technologies over the last decades.



Jürgen Bernauer
CEO PFIFFNER International AG

Our solutions and services add value for our customer's assets by providing functions like measure, meter, protect or transfer electric energy from A to B in a safe and reliable way.

Our strengths are in-depth high voltage know-how, customized solutions and the typical flexibility of a medium-sized company. We serve our customers from the development stage to the final delivery and installation with our teams at different locations. Services like routine and type testing but also calibration in our in-house testing facilities are essential to secure a proper quality of our solutions.

Our vision

We are a profitable leading provider of technical solutions for our customers in the electrical power and rolling stock industry, supplying first-class products with a high level of reliability and excellent service. We have developed products, systems and services for our customers resulting from changing market conditions such as renewable power generation, energy storage or e-mobility.

Our mission

Together with our employees, we are continuously improving our processes to meet our customers' quality standards. Our installed customer base is the source of new ideas that constantly increase the reliability of our deliveries. We want to offer the customer added value that creates long-term customer loyalty.

What we stand for

- Sustainable and fair partnership with customers and suppliers
- Swiss quality from solution development to delivery
- Our brands: PFIFFNER, MOSER GLASER, ALPHA, HAEFELY
- Local production close to our customers
- In-depth technical understanding of high voltage technology
- Excellent customer service



Company history

PIFFNER Group - 90 years of tradition

1927 Company founded by Emil Piffner

1953 Acquisition of the company by
Fritz Hunziker Senior

1987 Fritz Hunziker Junior becomes
Managing Director

2001 Acquisition of
MGC Moser-Glaser Ltd, Kaiseraugst

2004 Start-up of
PIFFNER Transformatör Ltd, Turkey

2006 Start-up of PFIFFNER do Brasil Ltd, Brazil

2010 Start-up of
PIFFNER Deutschland Ltd, Germany

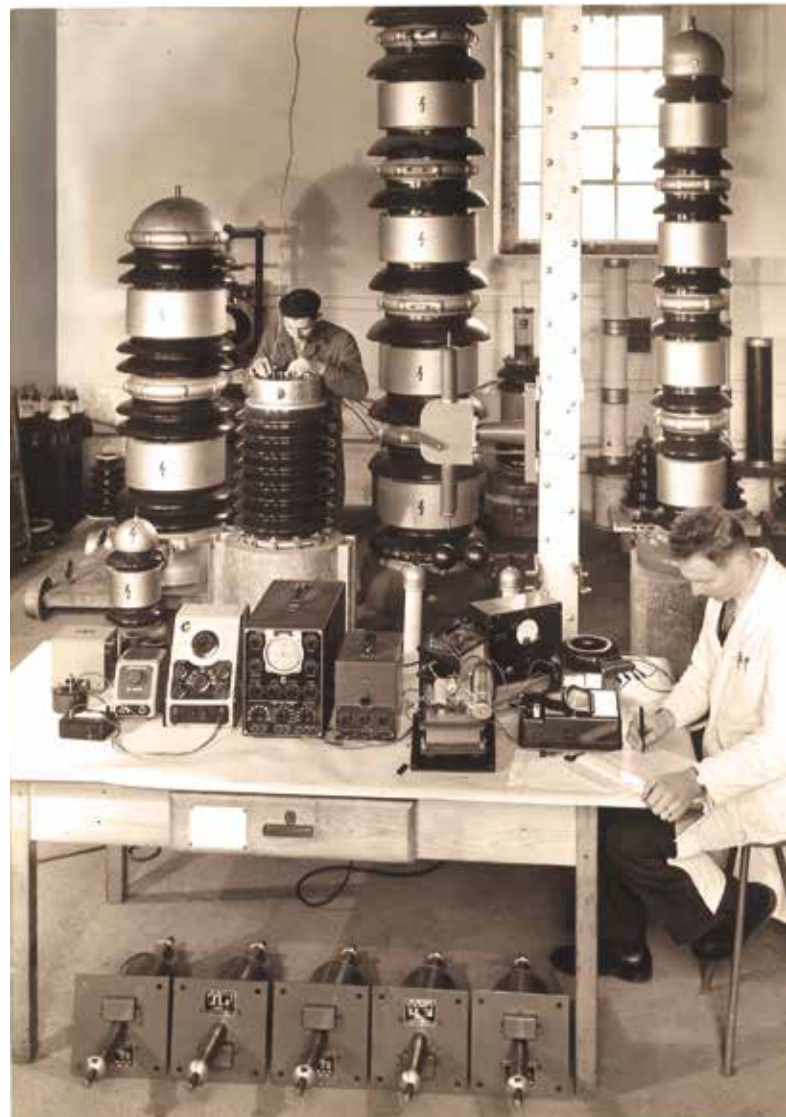
2011 Start-up of
PIFFNER Technology Ltd, Hirschthal

2015 Acquisition of
ALPHA Elektrotechnik Ltd, Nidau

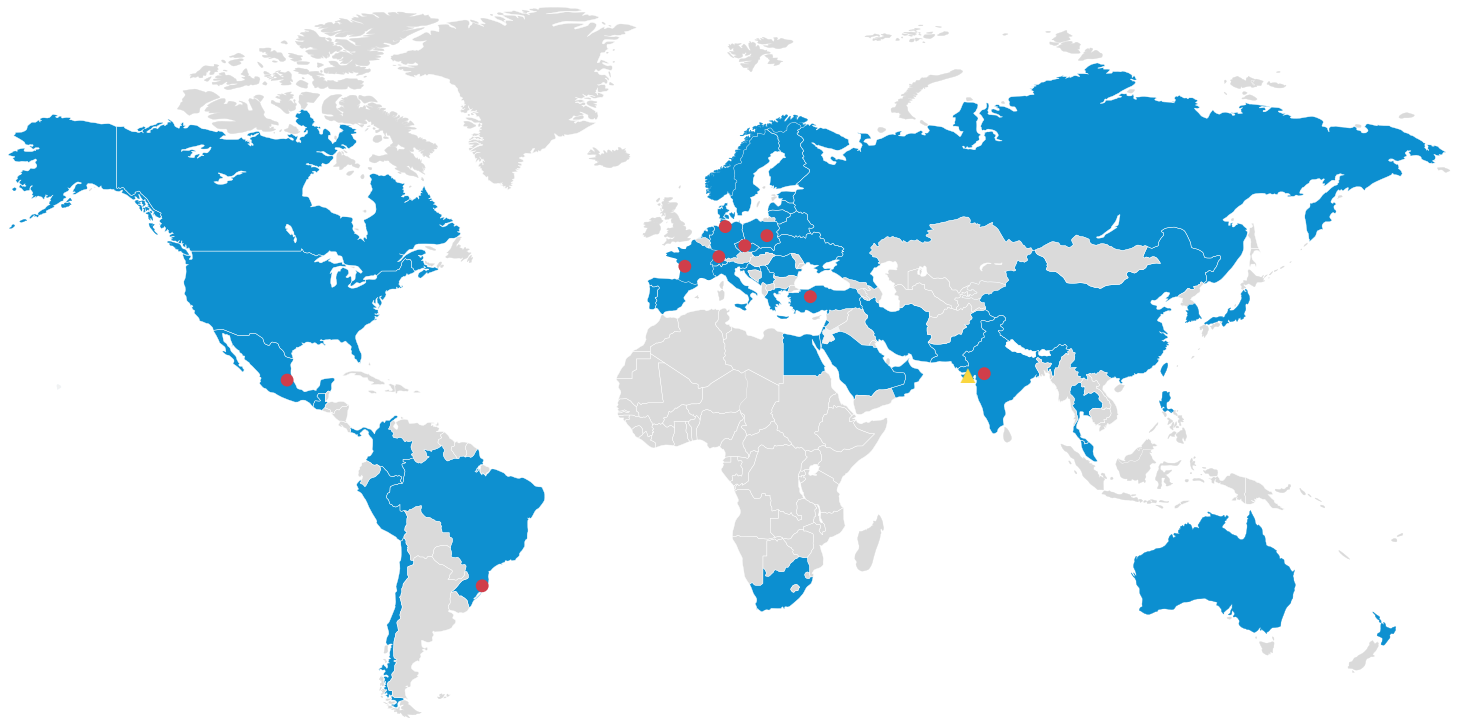
2016 Start-up of
PIFFNER Systems Ltd, Kaiseraugst

2018 Start-up of
PIFFNER Instr. Transformers private Ltd,
India

2015 Acquisition of
HAEFELYLtd, Basel



Locations & Representatives



● Factory or sales organisation

■ Representatives

▲ Strategic cooperation
Yash Highvoltage Ltd
Gujarat, India

PFIFFNER International AG
Hirschthal, Switzerland

PFIFFNER Instrument Transformers Ltd
Hirschthal, Switzerland

MGC Moser-Glaser Ltd
Kaiseraugst, Switzerland

ALPHA Elektrotechnik Ltd
Nidau, Switzerland

HAEFELY Ltd
Basel, Switzerland

PFIFFNER Transformatör A.S.
Ankara, Turkey

PFIFFNER Systems Ltd
Kaiseraugst, Switzerland

PFIFFNER do Brasil Ltda
Itajai, Brazil

PFIFFNER Deutschland GmbH
Itzehoe, Germany

PFIFFNER Instrument Transformers private Ltd
Nashik, India





PFIFFNER Instruments Transformers Ltd

PFIFFNER Instrument Transformers Ltd was founded by Emil Piffner in Hirschthal in 1927. The traditional company is now the only manufacturer of voltage transformers in Switzerland. Since 1990 the company consistently focussing its activities on international markets by providing best in class quality products and services to our customers worldwide.

PFIFFNER's product range includes all current and voltage transformers from low-voltage through to high voltage options of 550 kV, from a few amps through to today's 50,000 A power plants. We also use modern, state-of-the-art cast resin, oil paper and SF₆ gas as insulating materials.

A comprehensive product portfolio covers inductive and capacitive voltage transformers and ohmic capacitive voltage dividers, meaning PFIFFNER has become a successful full-service provider when it comes to voltage transformers.

Our renowned inhouse Research & Development department constantly works on innovative technologies and the challenges the power grid will be facing in the future. All our employees are committed and dedicated to service all needs of our customers.



Joachim Tschira, CEO

HV

HIGH VOLTAGE

MV

MEDIUM VOLTAGE

LV

LOW VOLTAGE



MGC Moser-Glaser Ltd

The company is a leading manufacturer of busbar systems and bushings for utility and industrial customers. MGC has been founded in 1914 and invented the Epoxy Resin Impregnated Paper (ERIP) technology in 1958. Since 2001, our brand Moser Glaser Company (MGC) is part of the PFIFFNER Group.

MGC pioneered the standardization of Silicone Rubber Insulators on bushings, bringing a high level in safety and reliability to the electric utility industry and increasing the performance in heavily polluted environments.

MGC busbar solutions are essential for our customers to transfer electric energy from power plants to the consumers. We have managed with our installation teams to implement customized busbar solutions under harshest conditions while fulfilling customer requirements on time, quality and cost.

Our teams in design, production, testing and project execution improve our offering continuously to add value for our customers based on Swiss quality.

MGC has expanded the international presence over the years to become a global player. For the Indian market MGC has a strategic cooperation with YASH Highvoltage limited at Gujarat, India.



Oliver Haerdi, CEO

DURESCA®

busbar systems, transformer bushings & wall bushings.

TIRESCA®

busbar systems

GASLINK®

SF₆ isolated busbar systems



ALPHA Elektrotechnik Ltd

Established over 90 years ago in Nidau, Switzerland, ALPHA Elektrotechnik Ltd (ALPHA) is a company steeped in tradition. Having started out in the power transmission business selling disconnectors for medium- and high-voltage networks, ALPHA also takes care since 1999 of an independent business area – cable solutions – for the transfer of energy in the high-voltage networks of modern railways.

Its disconnectors have been used around the world for a number of decades and have proved to be very efficient under a wide range of conditions.



Jean-Marc Gamma, CEO

ALPHA has become a specialised supplier for disconnectors from 3 kV to 550 kV. The manufacturing programme encompasses products that are designed for both external and internal application. The high quality and reliability enables the disconnectors to deliver long-term performance under extreme conditions such as icy and high temperatures, significant sun exposure, sand, wind as well as earthquakes.

The ALPHA cable solutions for locomotives, EMUs and high-speed trains work reliably and guarantee the safe operation of trains around the world. The solutions are available from 3 kV to 25kV, manufactured according to customers' requirements. All products meet the relevant railway standards and the applicable fire protection standards.

The reliability of our products and their safe application over decades are key characteristics of their quality. Furthermore an outstanding level of service provided by our experienced employees for customer specific engineering, on-site installation, training sessions and also mobile partial discharge testing for the railway sector.

DISCONNECTORS

TRACTION



HAEFELY Ltd

Emil Haefely, a renowned Swiss technologist, founded Haefely in 1904. The company grew fast based on a patented design for manufacture of resin-impregnated paper insulation, aptly named Haefely & branched out into High Voltage testing as early as 1922. Over the intervening decades customers have seen Haefely as a leading manufacturer of high quality, reliable high voltage testing equipment. Since August 2019 Haefely is a part of Pfiffner group.

Haefely's three product lines are well known in the test & measurement sphere the world over: **HAEFELY High Voltage** test systems and solutions – used in factories producing distribution and power transformers, instrument transformers, cables, switchgear, motors and generators. **TETTEX** – pioneered and continues to be at the cutting edge of technology for precise measurements of partial discharge, capacitance and tan δ , accuracy measurements on instrument transformers & measurement of losses of transformers. **HAEFELY EMC** – produces electromagnetic compatibility (EMC) testing equipment for the electronic industry.

We stay close to our customers. Haefely is a global player and is active in more than 70 countries with skilled and experienced distributors and representatives. Haefely runs local service points in China, India, Brazil and US to keep our customers' test

equipment running, with minimum downtime, for decades at a stretch.

Our mission is to deliver best in class HV test solutions by way of innovative products which incorporate our huge experience in test and measurement technology and market intelligence, thus meeting the customer's expectation from Haefely.

We promise - We deliver:

- Innovative Swiss engineering & technology
- Accurate, reliable test solutions of the highest quality standards



Peter Schikarski, CEO

- Best-in-class products, services and support
- Business integrity

PFIFFNER Transformatör A.S.



Yücel Tümay, CEO

PFIFFNER Transformatör A.S. was established in 2004 as a subsidiary of PFIFFNER Switzerland. PfiFFner Turkey manufacture resin cast and voltage transformers up to 40.5 KV, oil filled current transformers and capacitive voltage transformers up to 550 kV.

The modern plant and the 80 employees are manufacturing quality products for the Turkish market and the international markets in the region and in Europe. A continuous growth since the beginning made them to a leading and respected company in Turkey.

Highly developed laboratory is capable of performing routine and type tests according to international standards. The factory holds ISO 9001&14001 certification since 2005 and also ISO 17020 laboratory accreditation. The laboratory is the official calibration laboratory accredited by the Ministry of Industry in Turkey.



PFIFFNER do Brasil Ltda



To gain a foothold in the interesting and fast growing energy market in Brasil, PFIFFNER has founded PFIFFNER do Brasil in 2006. An own factory was built in the city of Itajaí in the southern State of Santa Catarina, located only a few kilometers away from the Itajaí Seaport, the Airport and the South to North Highway.

Thanks to their good quality and short delivery times, PFIFFNER do Brasil established themselves in the local market, providing high quality instrument transformers.

PFIFFNER do Brasil has constantly increased the variety of their products up to 550 kV and is meanwhile working together with all important utilities in Brasil. PFIFFNER do Brasil has become an important supplier for the small and up to the biggest energy facilities all over Brasil and MERCOSUL for high voltage instruments transformers.



Pérry Picoli, CEO

PIFFNER Deutschland GmbH



Dr. Claudia Weller, CEO

PFIFFNER Deutschland GmbH was founded 2010 and is located in Itzehoe a medium-sized city in the northern part of Germany. The focus of our unit is to design and produce gas-insulated instrument transformers for high-voltage applications like AIS and GIS substations.

Several key milestones have been achieved since our start: A running greenfield manufacturing site having executed already many customer orders and the first combined instrument transformer 420 kV for AIS substations. Today our product portfolio comprises

instrument transformers within the voltage range from 123 kV up to 550 kV.

Our unit is driving forward new manufacturing technologies and explores new product innovations like instrument transformers with alternative insulation gases. We strive also for ambitious development projects together with our customers. With our state-of-the-art testing lab we assure the quality of our products and deliveries based on type testing and routine testing according to international standards.



PIFFNER Instr. Transf. private Ltd



PFIFFNER Instr. Transformers private Ltd, is the newest member of our Group and was established in 2018. The company has integrated production facilities for manufacturing of oil immersed instrument transformers, CT, IVT and bushings.

Current Transformers are of live tank design which range from 72.5 kV upto 420 kV. In house manufacturing of key components starting from CRGO cores and laminations with a commitment to produce world class, eco friendly, innovative and cost competitive products.

Robust infrastructure, best manufacturing practices along with internal developed software tools ensure consistency of processes during the entire production cycle with quick delivery timelines.



Ravi Pichaya, CEO

PFIFFNER Systems Ltd



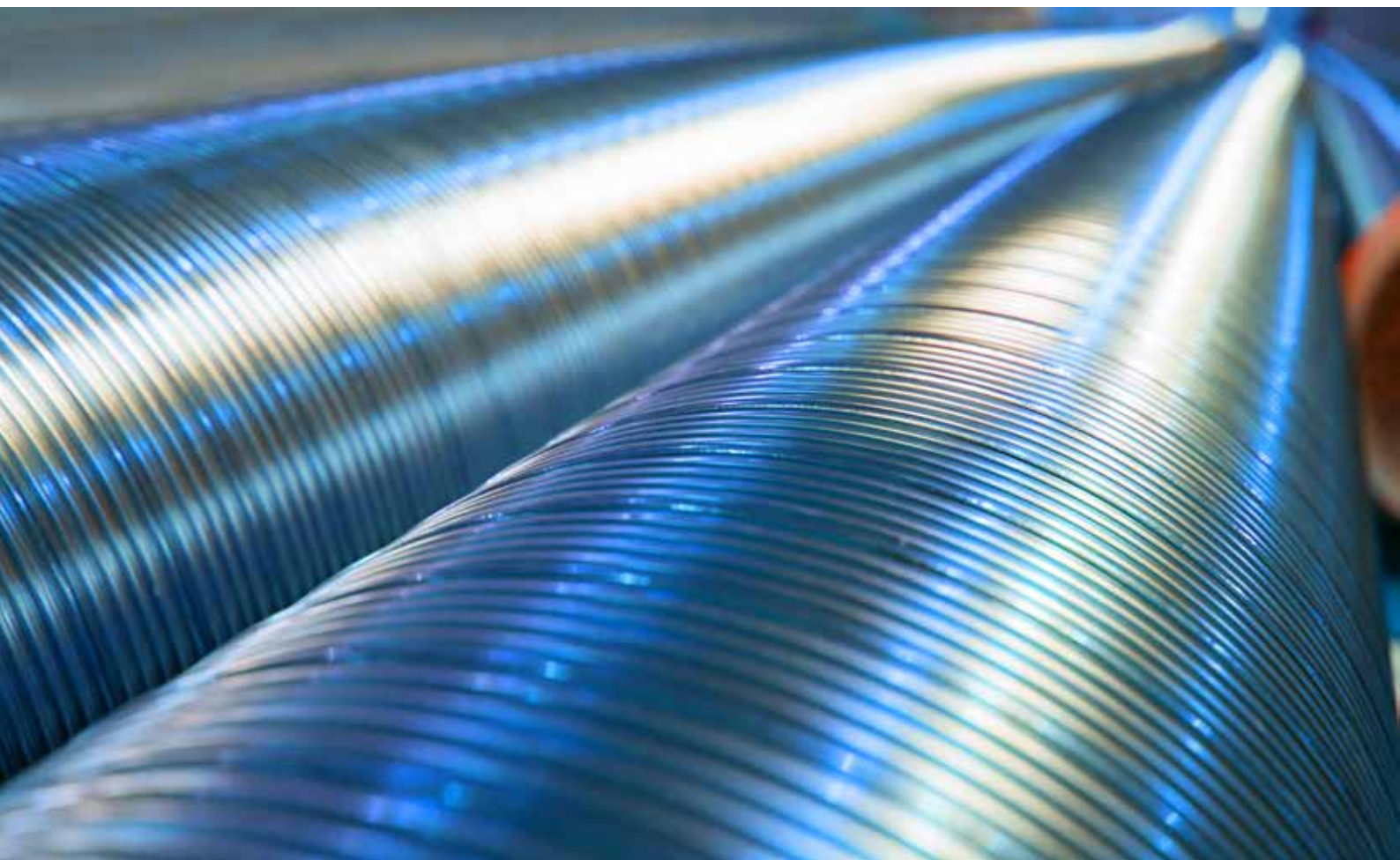
Walter Stetter, CEO

PFIFFNER Systems was founded in July 2016 and is a response to some of our customers asking not only for individual products but also product packages or even complete system solutions. Therefore, the company offers the whole range from engineering services to complete solutions using PFIFFNER Group products, supplemented by third-party products on request.

Contact us in the early phase of your project feasibility and we help you to find the adequate technical solution.

Our specialists in design and engineering cover all phases from project planning through to commissioning, and a customer service team is on hand to help to operate the systems.

Whether you're looking for product packages, subsystems or complete systems, we rely on high quality products that we have manufactured in-house and integrate marketable, external solutions. Cost effectiveness and customer benefits are always at the forefront of our operations.





Global presence

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