

# MEDIUM POWER TRANSFORMERS



[www.sgb-smit.com](http://www.sgb-smit.com)

# SGB-SMIT AT A GLANCE

## HISTORY



1913

## SITES



15

## EMPLOYEES



3,800

## TRANSFORMING TOGETHER THE FUTURE OF ENERGY

The SGB-SMIT Group manufactures reliable and efficient transformers in line with demand and adapted to our customers and their requirements for applications worldwide.

Sales and service centers on all continents ensure optimum processes.

Our goal is to help our customers accelerate the transition from conventional energy sources to renewable alternatives and the expansion of electrification.

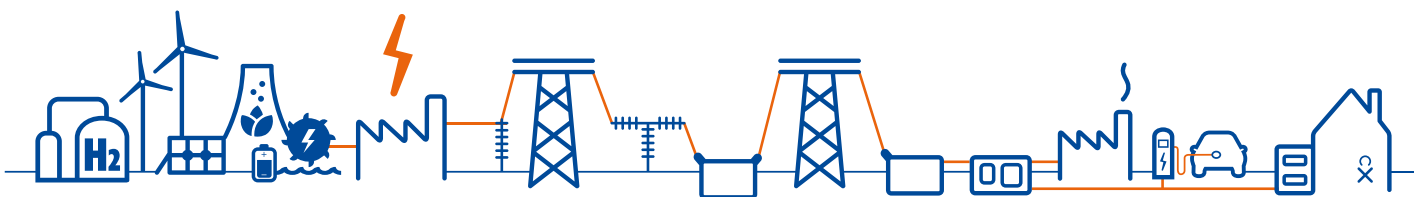
With our products, we ensure a safe and reliable supply of energy.

## PRODUCTS



- large power transformers
- medium power transformers
- large liquid-immersed distribution transformers
- liquid-immersed distribution transformers
- dry type transformers
  - cast resin transformers
  - VPI transformers
- shunt reactors
- series reactors
- phase shifters
- Lahmeyer-Compactstationen (compact substations)

Transformers from 30 kVA up to incl. 1,200 MVA in the voltage range up to 765 kV.



# TRANSFORMING TOGETHER THE FUTURE OF ENERGY

# SGB & RETRASIB: THE POWER OF PARTNERSHIP

A world in transition: power itself, power generation and power distribution are among the most important challenges of our future. The SGB-SMIT Group provides key technologies and tools worldwide to secure markets and shape the future.

## SGB-SMIT GROUP

SGB (Regensburg, Germany) and Retrasib (Sibiu, Romania) are part of the SGB-SMIT Group, together with its numerous locations in Europe, the USA and Asia. SGB-SMIT stands for professionalism, experience, technological expertise, reliability and economic efficiency. With these strengths, the Group develops and produces power transformers from 30 kVA up to 1,200 MVA within a voltage range of up to 765 kV. The product portfolio includes oil transformers, quadrature regulators, cast-resin transformers, compact substations, shunt and series reactors, as well as transformer services. We promote the exchange of knowhow and experience within the Group.



### Starkstrom-Gerätebau GmbH (SGB)

Established in 1947, SGB is a company with a long tradition. Extensive experience and highly motivated employees ensure its stable organisational structure. Thanks to our innovative corporate philosophy, we consistently succeed in combining our products with proven technologies, innovation and lean manufacturing. Our customers appreciate these advantages.

## “BEST OF BOTH WORLDS”

The SGB-SMIT Group is the result of the merger of locally operating, highly successful medium-sized companies and today represents an efficient international network. A combination that unites the “best of both worlds” for our customers: globally, we offer world-class quality and market expertise. Locally, our customers benefit from lean structures and short distances in planning and production, transport and service. Close cooperation with our customers leads to focused development. Continuous and structured improvement of ongoing projects ensures the fine-tuning of services required locally on site.



### Retrasib S.R.L.

Retrasib was founded in 1895 as the “Hermannstädter Elektrizitätswerk” power plant in Sibiu, Romania, and has been part of the SGB-SMIT Group since 2014. In addition to the production of SGB-designed power transformers, the site is an important engineering and IT hub. Continuous investment in infrastructure, quality and automation ensures high performance levels and strengthens Retrasib as a reliable partner for future energy projects.

# MEDIUM POWER TRANSFORMERS ALL OVER THE WORLD





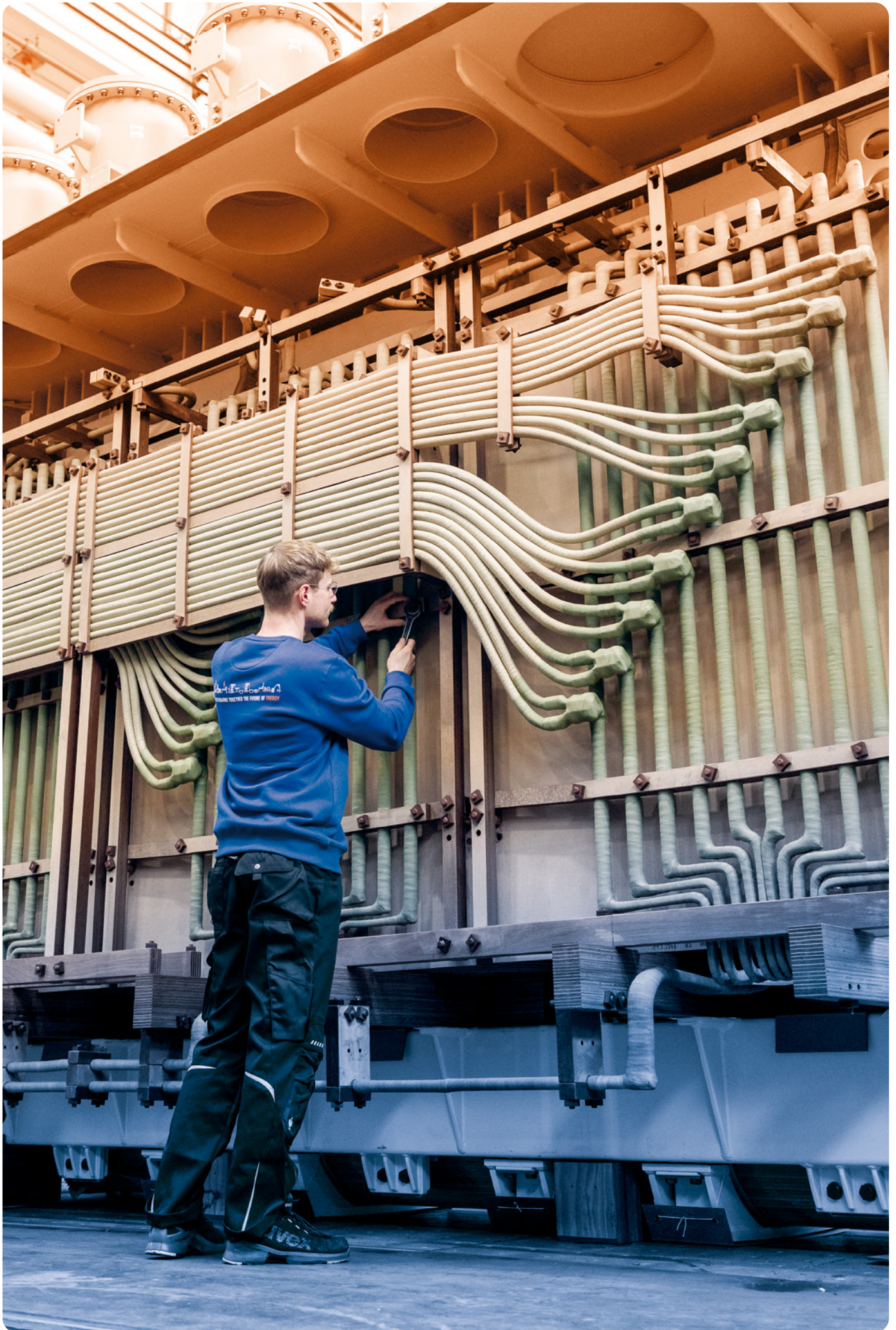
## CUSTOMERS

SGB and Retrasib are international companies producing modern and efficient power transformers for large energy supply companies and industries in Europe, North America and Northern Africa. Customers worldwide rely on the high-quality and safe transformers manufactured by SGB and Retrasib. They value the diversified know-how from layout to production, combined with flexibility and a strong focus on service. This is why our customers gladly resort to our demand-based project support at co-engineering level. For us, long-term customer relationships and carefully selected suppliers are the key ingredients for delivering successful results on a sustained basis.

## PRODUCTS

At our Regensburg site, we develop and produce transformers up to 150 MVA and 300 kV, as well as shunt reactors up to 100 MVA and 150 kV. In Sibiu, we produce transformers up to 350 MVA and 420kV. Careful selection of the materials is decisive for the high quality of our products, as are reliable design and sound workmanship. The interaction of these factors permits continuous optimization of losses and noise emissions. In case of dimensional limitations, adaptation to the most demanding, bespoke customer requirements is also possible.

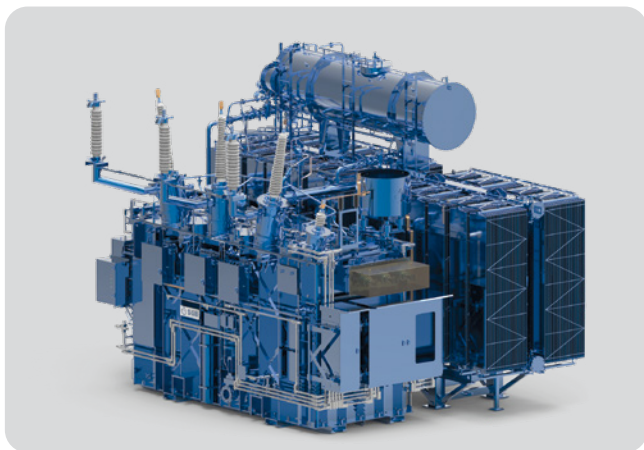




# RESEARCH & DEVELOPMENT

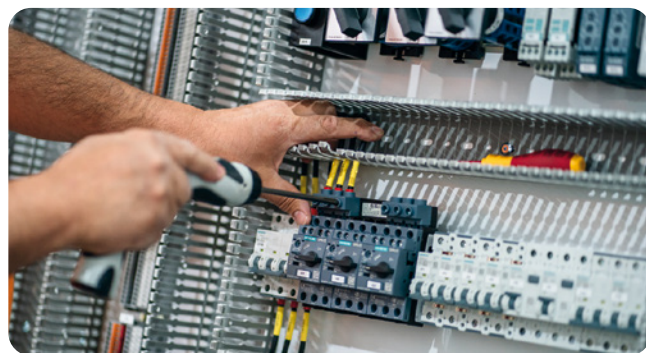
The goal of our experienced engineering teams is to calculate and design transformers that are perfectly adapted to the customer's requirements, taking into account all current national and international standards. For this purpose, our design engineers rely on a modern and integrated working environment, including in-house design software directly interfaced with customer-specific 3D modelling.

Our highly skilled teams continuously develop the design software by implementing customer requirements and technical innovations. This enables us to create a digital twin of the transformer and to simulate its behaviour throughout its entire life cycle, from production and acceptance testing through to operation at the customer's site. In this context, innovative spirit and creativity are just as an important factor as our active participation in international committees such as IEC, IEEE, CIGRE and CENELEC.



# PRODUCTION

Decades of experience and expertise, combined with cutting-edge equipment, form an important foundation that enables us to continuously optimise our production processes. This results in ongoing improvements in the quality and safety of the end product. We combine the fully integrated design programs with a coordinated production and testing environment, including horizontal and vertical coil winders, a fully automated core metal cutting machine, a separate coil winding shop, block assembly of the windings, a vapour-phase drying process and air-cushion transport within the test area.



# THE SPECIAL QUALITY STANDARD



# TESTING



Every unit manufactured in both factories is tested in accordance with applicable standards and customer specifications.

The high-voltage testing laboratory of SGB provides three measurement stations where all routine and type tests, as well as selected special tests, are performed in accordance with common standards such as IEC, IEEE, BS and VDE.

Moreover, it features a separate, modern test area for lightning impulse tests, allowing up to four transformers to be tested in parallel. The test laboratory is electrically shielded and soundproofed. With a background noise level of less than 10 pC (PD measurement) or 38 dB(A) (noise measurement), we are well below normative specifications. This creates ideal conditions for interference-sensitive measurements such as the determination of partial discharges or noise levels. Our current and voltage measurement systems are state of the art. In conjunction with regular system and component calibrations by independent metrology institutes, we can guarantee highly precise loss measurements even at the smallest  $\cos \phi$ .

Thanks to advanced high-voltage, impulse and testing equipment, Retrasib's test laboratory ensures the highest precision and safety, as well as compliance with international standards. New test transformers, switchgear and analysers significantly increase our capacity for faster testing, maximum reliability and first-class quality.



## TRANSPORT

### NO DISTANCE IS TOO FAR

Several decades of transport experience within our logistics teams ensure that transformers are delivered, unloaded and commissioned on schedule. With customised logistics solutions and certified partners, we manage every challenge, whether special dimensions, heavy weights, hazardous substances or extreme local conditions – by road or inland waterways, through to ocean shipment and subsequent follow-up to our customers worldwide. Deliveries are carried out in accordance with the import requirements and specific regulations of the respective country.







## INSTALLATION

A permanent team of service specialists and project managers is ready to solve any issue that may arise with a transformer or tap changer – regardless of type or make.



## SUSTAINABILITY

The SGB-SMIT Group provides products for renewable energy applications such as wind energy and photovoltaics, as well as for e-mobility infrastructure. Together with our customers, we support the energy transition and sustainable solutions by focusing our products and processes on low emissions and resource efficiency.

The transition to renewable energies requires substantial expansion of power generation and modern transmission networks – we provide the innovative technology required. During product development and in the utilisation of materials, we focus on sustainability and efficient circularity.



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