

Dear readers,

The July edition of Transformer Magazine focuses on a question that is becoming increasingly important for the industry: how to build resilience in a power system that is growing, changing and becoming harder to predict.

Grid development, renewable integration, rising electricity demand, and the rapid growth of data centres are all changing the way power systems are planned and operated. At the same time, many transformer fleets are ageing, while delivery times and supply chain constraints continue to influence investment and maintenance decisions.

In this environment, the ability to make the right decision at the right time is becoming a business advantage.

This edition opens with a historical perspective from Reinhausen, marking 100 years of the Jansen patent and the high-speed resistor-type tap-changer. It is a story of an invention that remained mostly hidden inside the transformer, yet helped make stable voltage regulation and modern power grids possible.

Dr Konstantin Papailiou, President of CIGRE discusses grid expansion, renewable integration, the shortage of young engineering talent and the importance of international collaboration in building a more resilient electricity system.

The Industry trends column looks at the business power of research-based insights. Based on this year's Industry Navigator research, the column explores why benchmarks on lead times, supply-chain position, capacity, transparency, specifications and competence can help companies understand where they stand in the market.

The supply side is further explored in our interview with Dr Naihu Li, Vice-President of CHINT T&D and Head of the CHINT Group R&D Institute, who discusses Europe's grid infrastructure challenge and CHINT's position in the European market. In another interview, Dr Karl Schäcke, CEO of ASTA Energy Solutions AG, reflects on ASTA's role in high-performance copper winding solutions, and on how electrification, grid expansion and AI-driven data centres are increasing demand for reliable transformer components.

Antoine Magnier, President, CEO and Co-Owner at SERGI, explains why physical protection of power transformers deserves more attention as grids become more loaded, dynamic and less tolerant to failure.

Several contributions look at how better decisions are made in practice. Fernando Melo from Siemens Energy writes about transformer refurbishment and dedicated industrial capacity as part of a more structured, risk-based approach to asset management. Drs Richard Heywood, Mohamed Khalil and Tony McGrail examine why asset health indices should not be treated as absolute numbers, but as decision-support tools shaped by the quality and completeness of the data behind them.

Our technical section includes Vitaly Gurin and Marius Grisaru's work on the statistical scatter of breakdown voltages of transformer oil, this time focusing on hydrostatic pressure. Bhaba Das examines why transformer size alone is not enough to determine the return on investment for online condition monitoring, while Andrea Tonin and Fiorenzo Stevanato explain how direct hot spot temperature measurement using gallium arsenide-based fibre-optic sensing can improve insulation ageing assessment.

R&S Group looks at the Interface Transformer developed by Kyte Powertech, Sungrid presents paper-wrapped flexible copper conductor solutions, and Qualitrol discusses why monitoring is becoming a missing link in the energy transition.

This edition shows that resilience is not built by one solution alone. It depends on reliable components, protection, monitoring, refurbishment, data, benchmarks and engineering judgement. Most of all, it depends on people who understand how these details connect.

I hope this edition offers useful insight into the technologies, decisions and people shaping the next phase of the transformer industry.



With best regards,
Dr Mladen Banović
Editor-in-Chief

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mladen.banovic@transformer-magazine.com

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Director: Mladen Banovic, PhD