



Dear readers,

This edition of Transformers Magazine arrives at a time when the global energy sector stands on shifting ground — balancing urgent infrastructure needs, sustainability targets, and an evolving workforce. Through the insights from engineers, innovators, researchers and executives, this edition captures these dynamics in depth, offering valuable guidance to help you navigate the road ahead.

We begin with a series of insightful interviews that showcase not just corporate strategies but the people and thinking behind them.

Roberto Solaroli, President and CEO of Specialacciai, reflects on the legacy and future of a company that has grown through technical excellence, investment, and the dedication of its team. His perspective reminds us that even in a highly technical industry, success ultimately hinges on people and processes working in harmony.

From COMEM Group, Andrea Tonin and Nicola Tomanin share their thoughts on the recently rebranded fibre optic production unit in Dresden - a move that reflects broader industry shifts towards digital sensing, data-driven asset management, and operational transparency.

Meanwhile, Paolo Miolo from KEMA Labs provides a forward-looking perspective on the energy transition, focusing on the shift away from SF₆-based technologies in high- and medium-voltage applications, which is being driven by regulatory pressure and a commitment to environmental responsibility.

In our interview, Tony McGrail, the winner of the 2024 Best Author and Article Award, offers a more personal perspective. He discusses his experience and the value of open industry dialogue. His work is a great example of the honest, experience-based insights that we are proud to publish and promote.

This edition showcases the latest advances in transformer engineering and diagnostics. In this part of their column on insulating liquids, Vitaly Gurin and Marius Grisaru focus on the surprising effects of temperature on breakdown voltage. This article is essential reading for practitioners who rely on a deep understanding of insulation behaviour in order to make critical maintenance decisions.

Similarly, Bhaba Das' article provides a nuanced analysis of the impact of trans-

former impedance on both fault current and long-term carbon emissions, offering a timely reminder that sustainability must be considered throughout the entire life cycle of equipment.

Additional contributions provide practical solutions to real-world challenges. We explore how partial discharges, which are invisible yet destructive, can now be monitored in real time using acoustic fibre optic technology. Another article outlines strategies for extending transformer life when supply chain limitations delay new installations. The innovations presented here, ranging from the use of natural esters in cold climates to intelligent tap changer monitoring, are all grounded in genuine industry requirements.

This brings us to a broader theme that continues to emerge: the central importance of people. The Industry Navigator 2025 conference and our Workforce Challenges research have together helped shed light on what may be the most pressing issue facing the industry today — the availability and development of skilled professionals.

To continue this vital work of addressing the industry's most critical challenges, the **Industry Navigator 2026** conference will take place in **Vienna, Austria, from October 6–8, 2026**. Building on the success of the previous event, the next conference will expand its reach, deepen its focus, and spotlight the intersection of technology, people, and sustainability. We are preparing a set of exciting new features, including cross-sector collaboration formats. More details will follow soon, but in the meantime, please save the date and start thinking about how you might contribute.

The voice of each of our delegates matters. You are invited to submit your work, share your ideas, or participate in the next conference as a speaker, sponsor, or delegate. Together, we are shaping the future of this industry — not just through what we build, but also through how we think, collaborate and grow.

I hope this edition sparks inspiration, reflection, and learning.

Mladen Banovic, PhD
Editor-in-Chief, *Transformers Magazine*

TRANSFORMERS MAGAZINE

ISSN 1849-3319 (Print) ISSN 1849-7268 (Digital)

EDITORIAL BOARD

Editor-in-Chief:

Mladen Banovic, PhD, Merit Services Int., Croatia
mladen.banovic@transformers-magazine.com

EXECUTIVE EDITORS

Michel Duval, PhD, Hydro Quebec, Canada
Jean Sanchez, PhD, EDF, France
Michael Krüger, PhD, OMICRON electronics, Austria
Jin Sim, Jin Sim & Associates, Inc., USA
Juliano Montanha, SIEMENS, Brazil
Craig Adams, TRAFIX, Australia
Arne Petersen, Consulting engineer, Australia
Zhao Yongzhi, Shandong Electrical Engineering & Equipment Group Co., Ltd, China
Barry M. Mirzaei, LargePowerTransformers Inc., Canada
Bhaba P. Das, PhD, Dynamic Ratings Australia, New Zealand

EDITORS

Daosheng Liu, Jiangxi University of Science and Technology, China
Mislav Trbusic, University of Maribor, Slovenia
Dr. Mohammad Yazdani-Asrami, University of Strathclyde, United Kingdom
Dr. Shuhong Wang, Xi'an Jiaotong University, China
Nam Tran Nguyen, PhD, TT Electronics, USA

ASSISTANT EDITOR

Pedro Henrique Aquino Barra, MSc,
EESC/USP - University of São Paulo, Brazil

Art Director: Momir Blazek
Photo: Shutterstock.com
Front page image: Specialacciai
Language Editor: Ena Tomićić

ADVERTISING AND SUBSCRIPTION

+385 1 7899 507
sales@merit-media.com

SUBSCRIPTION RATES:

Print edition: \$130 (1 year, 4 issues)
Digital edition: \$65 (1 year, 4 issues)
Online edition - full access: \$20 (1 year, 4 issues)
Online edition - free access: free of charge for registered users
www.transformers-magazine.com

TRANSFORMERS MAGAZINE

Transformers Magazine is published quarterly by Merit Media Int. d.o.o., Setaliste 150. brigade 10, 10 090 Zagreb, Croatia. Published articles do not represent official position of Merit Media Int. d.o.o. Merit Media Int. d.o.o. is not responsible for the content. The responsibility for articles rests upon the authors, and the responsibility for ads rests upon advertisers. Manuscripts, photos and other submitted documents are not returned.

REPRINT

Libraries are permitted to photocopy for the private use of patrons. Abstracting is permitted with credit to the source. A per-copy fee must be paid to the Publisher, contact Subscription. For other copying or republication permissions, contact Subscription. All rights reserved.
Publisher: Merit Media Int. d.o.o.
Setaliste 150. brigade 10,
10 090 Zagreb, Croatia
Contact: +385 1 7899 507
VAT number: HR09122628912
www.transformers-magazine.com
Bank name: Revolut
Bank IBAN: LT343250038251836452
SWIFT / BIC: REVOLT21
Intermediary BIC: CHASDEFX
Director: Mladen Banovic, PhD