

TRANSFORMERS MAGAZINE

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Dear Readers,

I believe you will all agree that the digitalization is a trend that has been dominant in our industry for the last two years. During that time, the so-called digital transformers which are designed for connectivity, digitalization and exchange of data and transformer parameters appeared on the market. Interestingly, Siemens called their digital transformer Sensformer, demonstrating the great trust in the concept. They are sending the message that it is not just the transformer with a new functionality, but much more. **Dr. Beatrix Natter** often emphasises that factories make digital model first, and only when the digital model i.e. digital twin completely meets all the requirements, the physical twin is being manufactured. Apart from added value for transformer users and grid operators, she emphasises new learning possibilities, but also attracting the new generation of engineers by applying such concepts.

According to **Miguel Cuesto** and **Miguel Oliva** from ABB, transformer losses account for some 5 % of global consumption – more than the electricity demand of the continent of Africa. This is more than obvious reason for the introduction of eco-design regulations worldwide with the aim to reduce transformer losses. This, however, technologically speaking, changes the game rules instantly.

For over a century, engineers have tried to reduce transformers' dimensions, finding the ways to reduce the millimetres in the core, windings, phase-to-phase distances, distances to the tank and lead exits, making the reduction of the dimensions of the transformer, after some time has passed, noticeably visible, multi useful, with the key motivation to produce the cheapest transformer.

However, by introducing the eco design regulation, the best transformer is not the cheapest one, but the one that ensures the lowest total cost of ownership (TCO). Since the big part of TCO are

the costs of losses, transformers with less losses, which usually means bigger transformers, are being preferred over the other ones. From the aspect of the transformers' dimensions and size, the situation regresses, bearing in mind that the comeback is not of an evolutionary nature (it is not step by step process), but instantaneous. Of course, the engineers will continue to reduce dimensions whenever possible, but now we have more variables and obstacles to do so, at least until the time the materials are developed to the level where it will be possible to achieve the required lower losses without increasing transformers' dimensions.

A few remarks regarding companies. Haefely was recently acquired by Pfiffner group. We bring you exclusive interview with the board member **Peter Schikarsky**, who talks about the acquisition and what it means to Haefely, but also about the digitalization in the field of transformer testing, which Haefely started in 2012. **Cai Zixiang** from PTTX brings our readers valuable smart manufacturing experiences in the area of transformers core manufacturing. Mitsubishi plant in Memphis, USA, seeks joint venture partners and/or is ready to sell its power transformer division.

In SGB SMIT, former CEO **Jan Oelscher** was appointed as a member of the Supervisory Board, where he will handle M&A, and the COO **Holger Ketterer** was promoted to the CEO, which we have already informed you about. That shows the group's aspiration for growth, including acquisitions.

The conclusion regarding the companies could be summarized into one sentence: the growing companies aim for the global market.

Regarding the market, all the reports we have seen in the last years bring prognosis on positive CAGR, but too many manufacturers do not see that yet.

I write this as Transform event in Hong



Kong on the topic of Megacities is taking place. During this event, the leading companies will present innovations and visions that should give today the solutions concerning the key problems of the energy supply of the tomorrow.

We bring you, as usual, a few columns from our esteemed experts. The topics concern measurement policies for optimum asset management, how water affects transformer oil quality and helps monitor its aging – this is where some experts will start arguing, but I recommend everyone to read the article first; then a second part of an overview of a century-long history of dissolved gas analysis, and an overview of evidence-based asset management which is any practice that relies on scientific evidence for guidance and decision-making.

Further more, we bring you articles on dry-type transformers, ester liquid transformer design, transformers for renewable applications, reduction of energy losses in transformers, on-line PD measurement and monitoring, 100 years of connectivity technology development which is now smart and digital enough to enable detailed monitoring of the connection condition, etc.

Nikola Lukenda suggests using isoparafinic oil for better cooling performance.

K.K. Murty writes about the problems big utilities have regarding the storage of all kinds of bushings which are used in the grid and the problems which can arise in case of bushing malfunctions when there is no replacement in the storage, nor the replacement can be bought on the market in such a short time.

Michel Sacotte writes about eco-design regulation explaining that reduction of transformer losses is possible thanks to the improvement of the transformers' technology, but also magnetic steel performance, such as improved grain orientation and reduced sheet thickness.

If you would like to comment on some of the articles or claims in this magazine, feel free to contact me anytime. I wish you a joyful reading of this, again the biggest yet, regular edition so far!



Mladen Banovic, Editor-in-Chief



Siemens extends contract of Managing Board member Cedrik Neike

The Supervisory Board of Siemens AG agreed to extend the appointment of Managing Board member Cedrik Neike by five years.

The contract of the CEO of Siemens' Smart Infrastructure Operating Company (SI) will now run until May 31, 2025. By extending Neike's contract, the Supervisory Board is pointing the way to the future. Jim Hagemann Snabe, Chairman of the Siemens Supervisory Board said that Cedrik Neike and his management team have put our new Smart Infrastructure Operating Company on track for success. Together with Digital Industries (DI), SI will form part of the industrial core of the future Siemens. Cedrik Neike and his team can now implement their clear plan to increase growth and profit.

Source, Photo: Siemens



Valdir Baraldi appointed country manager for Cargill in South Africa

Valdir Baraldi was recently appointed country manager for Cargill Bioindustrial division in South Africa.

He is based in Johannesburg and will guide transformer manufacturers and end users in the application of FR3 for local markets, following his relocation from Sao Paulo, Brazil, where he has been working for the past 12 years.

Source: ESI Africa



Holger Ketterer joins SGB-SMIT Group management board

Holger Ketterer joined the Management Board of the SGB-SMIT Group effective 1 June 2019.

Ketterer, who joins the board from ABB, has many years of experience heading a global power transformers division. Holger Ketterer is an electrical engineer who started his career as a scientist at a research centre. Afterwards, he served as the technical manager of a transformer manufacturing plant in Germany and later on he managed transformer business services in Canada before he became head of global power transformer division. Holger Ketterer will assume the role of COO (Chief Operating Officer) with the focus on leading the day-to-day activities of the Group, but also to further develop all internal processes together with other business units.

Source, Photo: SGB-SMIT Group



Jan Oelscher appointed Member of Supervisory board of SGB-SMIT group

Germany, Regensburg: After 6 years as the CEO Jan will join the Supervisory board of SGB-SMIT group starting from September 1.

He will hold an active role and support the CEO Holger Ketterer in M&A activities, so that Holger can be fully concentrated on the Group operations. Before joining SGB-SMIT group Jan was with the ABB in the role of Group Vice President, Head of Dry Transformer business.

Source: Transformers Magazine