Dear Readers,

You are holding in front of you our Special Edition on Substations. This topic is the result of our readers’ choice and I think this is a good opportunity for all of us dealing with specific products, to look at the big picture and the conditions in which these products are made – substations.

This issue confirmed once again that digitalization is the dominant trend which enables new opportunities and imposes new challenges for power products. The first conclusion would be that monitoring as we know it, will slowly cease to satisfy practical needs. Power products must be, starting for their design, increasingly able to communicate with other devices and systems in the power grid which comprise the Internet of Things (IoT). The great number of such devices in the network generates big amounts of data and that data needs to be transferred, processed, and stored safely. Cybersecurity comes out of the security standpoint, and, operationally, Big Data arises. The interview with Goran Leci dwells more on the topic of cybersecurity of the critical infrastructure.

At the recently held EuroDoble conference in Porto, Portugal, one of the key topics and one of the panel discussion topic was the Big Data. There are a number of definitions of the Big Data, and my interpretation, influenced by several definitions that I have heard during presentations and discussions, is that the Big Data is the big collection of data that is not easy to process and store in the usual ways and by using the already existing software and hardware.

One of the solutions which should be of great help with all those challenges is the design of the intelligent products, that is, equipping the power products with intelligent algorithms. It is important to say that this is not only a vision for future since such solutions described in this issue are already used in practice.

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Ufuk Kivrak, in his column, explains the complexity of the supply chain in transformer industry, providing an insight into the characteristics of supply markets, products, and methods for supply chain optimization.

Saqib Saeed and Shirin Sheppard address the highly fragmented and competitive global distribution transformers market.

Diego Robalino, in his article, discusses the application of dielectric frequency response for the analysis of the insulation in MV, HV, and EHV instrument transformers.

Marius Grisaru provides a review of the classical bathtub for failure hazards and the foremost probability of failures in the middle life period.

Manuel Bolotinha advises on the proper preventive maintenance and planned inspections of equipment up to 800 kV.

Mislav Trbusic et al. article deals with the basic concept of the transformer’s heat utilization in which a proposed technical solution anticipates the installation of an additional oil-water heat exchanger in the transformer’s cooling system.

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