NEXANS is Paving the Way for a Superconducting Electric World

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***Abstract*—The future is electric. From transport to heating, almost everything that currently depends on fossil fuels will need to switch to electricity if zero carbon goals are to be achieved. Bringing additional power where it is needed will become more and more challenging and High Temperature Superconducting (HTS) systems have a critical role to play in providing network operators with the solutions they need. For 20 years, Nexans has been developing and deploying High Temperature Superconducting (HTS) cables and Fault Current Limiters (FCL) for the energy infrastructure market. Numerous demonstrators and pilot projects have demonstrated that the HTS technology provides significant and unmatched benefits for our customers and is quite reliable as up to 7 years of continuous operation have already been proven. This work has allowed to develop all the technological bricks, including test standards, and to achieve TRLs high enough to envision large commercial applications in the short term. It is now key to identify at a very early stage of the network planning process locations where HTS systems are economically viable or constitute the only realistic solution owing to significant constraints. This will require a close collaboration with network planners and the development of the relevant modeling tools which will allow them to simulate and prepare the integration of HTS systems in power grids. HTS systems have become a key component of the network planner's toolbox.**

***Keywords (Index Terms)* — High Temperature Superconducting Cable, fault current limiters.**

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