

SUPERCONDUCTORS TWO HUNDRED TIMES MORE POWERFUL

Theva is preparing series production

Ismaning, May 8, 2015 - Smaller, more compact, and more powerful – that's the trend in today's electrical power engineering. THEVA Dünnschichttechnik GmbH has the proper answer, with its superconductors of the THEVA Pro-Line series. Compared to copper, the high-temperature superconductors (HTS) developed by THEVA transport two hundred times the amount of current through the same cross-section. The company is currently focusing on the manufacturing processes required to meet coming demand for this technology of the future. Managing Director Dr. Werner Prusseit: "Production expertise, the employees, the and the equipment are all in place. All we need now is the fine tuning – after which series production can begin."

"The applications for superconductors are just as attractive as their market potential," says Prusseit. "They range from the electricity industry and the manufacturing industry to manufacturers of drives and magnet technology." Cables in inner cities will carry more power, drives for ships will be more compact, and magnets for medical technology will be more efficient. To meet this challenge, the company – which has been based near Munich for around 20 years now – has developed and patented its own manufacturing process for ceramic HTS superconductors. The highlight here is that the complex material is very easily and uniformly vaporized by means of an electron beam. This guarantees a continuous industrial-scale coating, even with long processing times and conductor lengths.

"With THEVA Pro-Line, we'll be presenting a virtually lossless superconductor that satisfies demand for efficient, space-saving power transmission," Prusseit explains. "Our product is robust and high-quality, and can be further processed with ease." In addition, THEVA Pro-Line can be adapted to meet comprehensive needs in a wide variety of high-performance requirements.

Cable manufacturers can thus offer extremely compact medium-voltage cables to replace old high-voltage installations with the same transmission power in cities. Electrical grid operators can save space, and the retrofit reduces their civil work costs. Busbars or components for industrial grids can be designed for easier installation and dramatically reduce power dissipation.

"THEVA Pro-Line will enable as yet unrivalled peak performance in high-end research for magnet technology," adds Prusseit. A further application is drive technology, ranging from compact ship's engines to superconducting industrial drives, which will enable shorter cycle times thanks to higher dynamics. "Superconductors are among the key technologies of the future," Prusseit summarizes. "Our goal is to help shape this development in the coming years, with key projects in markets such as power engineering and industry."

About THEVA

With around 20 years' experience in coating technology and equipment engineering, THEVA today stands for a unique approach in superconductor production. In 2012, after investing over 15 years in research and testing phases, the company brought powerful partners on board: Target Partners and the Bayerische Beteiligungsgesellschaft. With the new superconductors in the THEVA Pro-Line Series, THEVA will initially address central markets such as the electricity industry or the manufacturing industry. In a second phase, the focus will be on future-oriented applications in the magnet and drive technology sectors.

THEVA Dünnschichttechnik GmbH was founded in 1996 and today has around 40 employees. Headquartered in Germany, and with contacts in Asia, the USA and Russia, the company has a global presence for its customers.

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