

What's New in the World of Superconductivity (January)

Power

American Superconductor Corporation (January 14, 2003)

American Superconductor Corporation (AMSC) has sold a one mega-VAR (MVAR) D-VAR™ voltage regulation system to Nordex USA Inc., a manufacturer of wind-turbines. The power rating of the MVAR D-VAR system is one-eighth of AMSC's full-size D-VAR system rating. The system was specially designed for use with individual wind turbines. Nordex intends to install the MVAR D-VAR system at a 2.6 MW wind farm in Minot, ND. The system will protect the local utility grid from the voltage sags that are produced when the wind turbines are initially energized. The system's output can be dynamically varied in response to the VAR demand of the wind turbines. John Fedorko, president of Nordex USA, commented "AMSC's D-VAR voltage regulation system solves the voltage issues experienced by wind farm operators in weak grid areas and lets us address a wider market with our wind turbines." The American Wind Energy Association has estimated that wind farms will be used to generate about 100,000 MW of energy by 2020.

Source:

"American Superconductor Sells Voltage Regulation System to Wind Turbine Manufacturer"

American Superconductor Corporation Press Release (January 14, 2003)

<http://www.amsuper.com/html/newsEvents/news/104376405291.html>

SuperPower, Inc. (January 21, 2003)

SuperPower, Inc. announced that it has produced its first 10-meter long, second-generation HTS wire with a performance of 1060 amp-meters. The announcement was made at the US Department of Energy Wire Development Workshop. Philip J. Pellegrino, president of SuperPower, Inc., confirmed that SuperPower expects to achieve its goal of consistently producing 1000 amp-meter wires in lengths of more than 10 meters well before its initial target of December 2003. In addition to the scale-up of their second-generation HTS wire production facilities, SuperPower is collaborating with Los Alamos and Argonne National Laboratories to scale-up second-generation HTS wire manufacturing technologies.

Source:

"SuperPower, Inc. Announces New Coated Conductor Performance Achievements"

SuperPower, Inc. Press Release (January 21, 2003)

http://www.igc.com/news_events/news_story.asp?id=82

American Superconductor Corporation (January 22, 2003)

American Superconductor Corporation (AMSC) has received a two-year US \$ 750,000 Small Business Innovation Research (SBIR) Phase II grant from the National Institute of Health for the development of second-generation HTS wire to be used in powerful, high-resolution nuclear magnetic resonance (NMR) spectroscopy machines. The HTS wire will be used to create electromagnets capable of boosting the magnetic field of NMR machines to 25 T or higher. The highest magnetic field presently produced by commercial NMR machines is 21.1 T. A 25 T NMR would enable the resolution of molecular analyses to be increased by 20%; the sensitivity of the machines would also be increased dramatically. The HTS wires to be developed in this project must be able to provide the necessary

persistent current required by NMR applications. In addition, the wires will need to be of sufficiently high mechanical strength to withstand the high magnetic fields produced by this application. The increased persistent current flow and the high magnetic field capabilities of AMSC's second-generation HTS wire are perfectly suited to NMR applications and may open new market opportunities for HTS wire in MRI and other areas.

Source:

"American Superconductor Receives Grant from National Institutes of Health to Develop Second Generation HTS Wire"

American Superconductor Corporation Press Release (January 22, 2003)

<http://www.amsuper.com/html/newsEvents/news/104367870871.html>

American Superconductor Corporation (January 30, 2003)

American Superconductor Corporation (AMSC) has introduced a new line of SuperVAR™ HTS dynamic synchronous condensers. These machines can be used to cost-effectively increase and optimize the transmission capacity of existing power grids by producing the reactive power required to ensure reliable electricity flow through AC power grids. The SuperVAR machines represent an upgrade of existing technology; standard synchronous condenser frames and stator coils have been combined with new, power-dense rotor coils made from HTS wire. The HTS rotor enables the machine to provide up to eight times its rated capacity for short periods, allowing both continuous and transient VAR requirements to be supported. Tennessee Valley Authority (TVA) has already placed an order for five of the SuperVAR units. This sale marks the first fully commercial product to incorporate AMSC's HTS wire technology. The five units will be based on a prototype that TVA helped finance. This prototype will be installed in TVA's grid in November 2003. Greg Yurek, CEO of AMSC, commented, "SuperVAR machines open up an entirely new market for HTS technology. Their introduction coincides extremely well with the sharp increase in investment for new grid solutions that's predicted in the U.S. over the next 10 years . . . Our market analysis shows that the current U.S. market for SuperVAR machines is approximately \$200 million per year with a projected compound annual growth rate of more than 15 percent. The worldwide market for synchronous condensers is projected to be four to six times larger."

Source:

"American Superconductor Announces Commercial Launch"

American Superconductor Corporation Press Release (January 30, 2003)

<http://www.amsuper.com/html/newsEvents/news/104393668111.html>

Medical

CardioMag Imaging, Inc. (January 14, 2003)

CardioMag Imaging, Inc. (CMI) has received a US \$ 500,000 investment from the New York State Urban Development Corporation d/b/a Empire State Development (ESD). The investment was part of CMI's efforts to raise US \$5.6 million in second-stage financing to cover costs associated with the company's efforts to obtain final FDA approval for its magnetocardiography machine. The FDA is expected to approve this application sometime in 2003. In addition, John Hopkins Hospital will join the Klinikum Hoyerswerda Hospital (Germany) as a key participant in multicenter trials, which will generate clinical data that can be used to demonstrate the system's safety and efficacy.

Source:

"CardioMag Imaging Receives \$500,000 New York State Investment"

CardioMag Imaging, Inc. Press Release (January 14, 2003)

<http://www.cardiomag.com/>

Communication

Superconductor Technologies Inc. (January 21, 2003)

Superconductor Technologies Inc. (STI) expects net revenues of approximately US \$ 6.8 to 7 million for the fourth quarter of 2002, ending December 31, 2002. M. Peter Thomas, president and CEO of STI, commented "STI posted nearly 130% commercial product revenue growth and nearly doubled our systems deployed in the field during 2002. We showed progress on every front, adding new customers, introducing innovative new products, entering new international markets, and ending the year on a strong note with a merger [with former Conductus] and concurrent \$20 million private financing." The fourth quarter results include shipments to a new, major US-based wireless carrier and to a Brazilian carrier. STI has received an initial purchase order from Global Telecom, a subsidiary of Portugal Telecom/Telefonica SA, the largest mobile carrier in Brazil. Regarding the merger with former Conductus, STI reports that the integration of the two companies is now complete. The STI Sunnyvale facility has been reorganized as an R&D facility to pursue government contracts. STI expects to announce its final year-end results in March.

Source:

"Superconductor Technologies Inc. Announces Preliminary Fourth Quarter Revenues"

Superconductor Technologies Inc. Press Release (January 21, 2003)

<http://ir.thomsonfn.com/InvestorRelations/PubNewsStory.aspx?partner=Mzg0TIRrMU1RPT1QJfKEQ UALSTO&product=MzgwU1ZJPVakWQEQUALSTOEQUALSTO&storyId=79484>

ISCO International, Inc. (January 22, 2003)

ISCO International, Inc. has received a purchase order for nearly half a million dollars (US) worth of Adaptive Notch Filter™ (ANF) solutions from a wireless operator in Israel. The order will be delivered during the first quarter of 2003. Dr. Amr Abdelmonem, CEO of ISCO International, commented, "This represents the first significant deployment of ANF solutions outside North America. In working with this operator, it was clear that ISCO could provide significant benefits to the performance of an existing CDMA network that was experiencing severe in-band interference. We are pleased that this operator has moved forward with what we expect is the first of a series of purchases of ANF solutions for this network."

Source:

"ISCO International Announces Sale of In-Band Interference Solution"

ISCO International, Inc. Press Release (January 22, 2003)

<http://www.iscointl.com/>

Superconductor Technologies Inc. (January 30, 2003)

Superconductor Technologies Inc. (STI) reported that its SuperLink™ Rx product line has obtained a Mean Time Between Failure (MTBF) of more than 500,000 hours. This value is more than double that announced one and a half years ago and is associated with improvements in quality and

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manufacturability as a result of the dramatic increase in the deployment of SuperFilter ® and SuperLink Rx 850 units, as well as the cumulative hours of their operation. STI shipped its 2000th SuperLink Rx system in January 2003; the cumulative number of operation hours for all deployed systems is now more than 23 million. M. Peter Thomas, president and CEO of STI, explained "The outstanding performance of the company's products has accelerated market acceptance of HTS technology from STI. Equipment reliability is an important issue for any product deployed in today's sophisticated wireless networks. Our customers demand outstanding reliability and performance, and we're delivering on that promise."

Source:

"Superconductor Technologies Inc. Achieves Milestones in Reliability and Market Acceptance"

Superconductor Technologies Inc. Press Release (January 30, 2003)

<http://ir.thomsonfn.com/InvestorRelations/PubNewsStory.aspx?partner=Mzg0TIRrMU1RPT1QJfKEQ UALSTO&product=MzgwU1ZJPVakWQEQUALSTOEQUALSTO&storyId=80273>

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[Top of Superconductivity Web21](#)