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# What's New in the World of Superconductivity (October)

## Power

### Oak Ridge National Laboratory (October 6, 2005)

Oak Ridge National Laboratory (ORNL) and Metal Oxide Technologies (MetOx) have announced a cooperative research and development agreement to develop long-length HTS wires. ORNL will use its expertise to increase the capacity of HTS wires made using a modified metal organic vapor deposition process developed at the University of Houston. ORNL will focus on characterizing the properties and microstructure of the enhanced wire and will provide feedback to MetOx, which expects to start producing long lengths of second-generation superconducting wire early in 2006. Bob Hawsey, manager of ORNL's Superconductivity Program, commented, "This is the laboratory's latest effort to assist the Department of Energy in reaching its goal of having a viable, high-temperature superconductivity industry in place by 2010 with several different companies competing in the marketplace." MetOx currently operates the world's only single pass continuous YBCO coated conductor production line, producing high-quality coated conductor wire and selling samples for testing. The company's low vacuum in-line process eliminates the need for expensive multistep production operations and a clean room environment. MetOx has applied for 23 U.S. and foreign patents.
Source:
"Houston company seeks to accelerate superconducting capability with ORNL help"
Oak Ridge National Laboratory press release (October 6, 2005)
http://www.ornl.gov/info/press_releases/get_press_release.cfm?ReleaseNumber=mr20051006-00

### SuperPower (October 18, 2005)

SuperPower, Inc., along with its partners Sumitomo Electric Industries, The BOC Group, and National Grid, have announced that the Albany HTS Cable Project was ranked No. 1 at the 2005 Annual Peer Review of U.S. Department of Energy sponsored projects in the Superconductivity Partnerships with Industry (SPI) program. The report cited that "this project is progressing well at all levels: cables, cryogenics, dielectrics and utility operations." The project is currently in the HTS cable installation phase at the North Albany Service Center of National Grid. The joining of two cable segments in an underground vault is expected to be the world's first demonstration of a cable-to-cable joint. Once the cable installation, configuration and system testing has been completed, phase one of the cable is expected to be commissioned early in 2006. SuperPower is also scaling-up its production of second-generation HTS wire toward the delivery of nearly 6 miles of wire to Sumitomo for the fabrication of the world's first second-generation HTS cable system, which will be installed in phase two of the project in 2007. Panel Reviewers further noted, "…the fact that all design tests were done in accordance with ASME, IEEE, AEIC standards is good news. This means that the product may be applicable in the U.S. without any doubt."
Source:
"INTERMAGNETICS' SUPERPOWER SUBSIDIARY RECEIVES FIRST PLACE RANKING AT 2005 DOE PEER REVIEW AMONG SPI DEVICE PROGRAMS FOR HIGH TEMPERATURE

SUPERCONDUCTING (HTS) CABLE PROJECT”
SuperPower press release (October 18, 2005)
http://www.igc.com/superpower/news/news_story.asp?id=168

**SuperPower (October 18, 2005)**

SuperPower, Inc., has announced that its Matrix Fault Current Limiter Program was ranked sixth out of the nine Superconductivity Partnerships with Industry (SPI) device programs presented at the Department of Energy (DOE) Annual Peer Review in August 2005. The objective of the Matrix Fault Current Limiter Program over the last year was to design, build and test an Alpha prototype FCL to withstand 138 kV transmission-level voltage requirements. Problems with the thermal and mechanical stress properties of the superconducting elements and the slower than planned progress in addressing high voltage electrical insulation issues resulted in significant increases in both the cost and schedule of the program. Consequently, a decision was made to reduce the current program effort until other options can be reevaluated; the Review Panelists supported the decision to reassess options before moving forward, but reinforced the need for this device. In addition, the Panelists praised SuperPower’s Technical Advisory Board (TAB) concept, in which a group of technology and utility experts oversees the design and fabrication of each device during each phase of the program: "Research integration on this project is very good and this is the right approach to make this project successful. The TAB model is excellent." While the program is on reduced effort status pending the reevaluation of technical and financial options, SuperPower plans to investigate the feasibility of using second-generation superconductors for FCL applications.
Source:
“INTERMAGNETICS’ SUPERPOWER SUBSIDIARY RECEIVES 2005 ANNUAL US DOE PEER REVIEW RANKING FOR MATRIX FAULT CURRENT LIMITER”
SuperPower press release (October 18, 2005)
http://www.igc.com/superpower/news/news_story.asp?id=170

**SuperPower (October 18, 2005)**

SuperPower has announced that its program to scale-up second-generation HTS wire to commercial production levels was ranked second out of eight HTS wire programs presented at the Department of Energy (DOE) Annual Peer Review in August 2005. SuperPower’s program was outranked only by the National Institute for Standards and Technology (NIST)’s program. The Review Panel commented that SuperPower’s program was “a strategically well planned and executed scale-up of 2G conductor manufacturing technology to pilot manufacturing.” They also felt that the company’s plan to reach 2G commercialization was well constructed and that the company’s staff was well trained. Glenn H. Epstein, chairman and chief executive officer of Intermagnetics, stated, "Of particular significance are the comments about SuperPower’s record on research integration with, not only the DOE national labs, but also with a variety of universities and DOD organizations such as NAVSEA, NRL and AFRL. This serves to validate SuperPower’s philosophy of teaming with experts in the field to increase the likelihood of successful project outcomes." While overall program progress was deemed positive, the Panel recognized that product performance over long lengths is not yet optimal, and that further work is needed on process quality control and repeatability.

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Source:
"INTERMAGNETICS' SUPERPOWER SUBSIDIARY RECEIVES 2005 US DOE PEER REVIEW RANKING FOR SECOND-GENERATION HTS WIRE PROGRAM"
SuperPower press release (October 18, 2005)
http://www.igc.com/superpower/news/news_story.asp?id=169

**American Superconductor Corporation (October 19, 2005)**

American Superconductor Corporation (AMSC) has been awarded three new government contracts, totaling US$ 1.35 million, for second-generation HTS wire and applications development. The contracts are funded by the Department of Defense's Small Business Innovation Research Program (SBIR) and Small Business Technology Transfer Program (STTR) and should be completed during the next two years. The first contract is a Phase II SBIR contract provided by the Office of the Secretary of Defense and the Air Force Research Laboratory for the basic development of coil technology using 2G HTS wire for military applications, such as rotating machines and magnets. AMSC will work with the Francis Bitter Magnet Laboratory at the Massachusetts Institute of Technology on this contract. The second contract is a Phase II STTR contract provided by the Air Force Office of Scientific Research. AMSC will work with Florida State University to develop and test 2G wire for AC losses and quenching in a simulated coil environment. The third contract is a Phase I STTR contract, also provided by the Air Force Office of Scientific Research, focused on enhancing the current carrying capacity of 2G HTS wire. AMSC will collaborate with the Applied Superconductivity Center at the University of Wisconsin-Madison on this project.
Source:
"American Superconductor Awarded New Government Contracts for High Temperature Superconductor Wire Development"
American Superconductor Corporation press release (October 19, 2005)
http://phx.corporate-ir.net/phoenix.zhtml?c=86422&p=irol-newsArticle_Print&ID=769767&highlight

**American Superconductor Corporation (October 23, 2005)**

American Superconductor Corporation has selected Suzuki Shokan Co., Ltd., as its distribution partner for 344 superconductors in the Japanese market. Japan represents one of the world's larges markets for superconductor wires, and the Japanese government has recently increased funding for the development of products that utilize second-generation HTS wires. Greg Yurek, President and CEO of American Superconductor, commented, "Japan represents a substantial opportunity for sales growth for 344 superconductors. We have worked successfully with Suzuki Shokan on a number of projects over the last ten years and have developed a strong business relationship with them. Their knowledge of the Japanese market, their expertise and track record in selling products based on advanced technologies make them a great choice to act as our distributor for 344 superconductors in this key market." Suzuki Shokan is also a distributor of HTS electromagnets for the New Zealand-based company HTS-110, of which AMSC is a shareholder.
Source:
"American Superconductor Selects Japanese Distributor for Second Generation High Temperature Superconductors"

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American Superconductor Corporation press release (October 23, 2005)
http://phx.corporate-ir.net/phoenix.zhtml?c=86422&p=irol-newsArticle_Print&ID=771403&highlight

**American Superconductor Corporation (October 31, 2005)**

American Superconductor Corporation (AMSC) and GE Energy, a business of the General Electric Company, have received an order for two D-VAR(R) systems for the Wild Horse Wind Farm project, located near Puget Sound, Washington. GE Energy will install the D-VAR system, which will help the wind farm to meet grid interconnection requirements. When the wind farm is completed in the summer of 2006, it will include 127 wind turbines and will be capable of generating up to 229 MW of zero-emission electricity, enough to serve 114,500 homes. Chuck Stankiewicz, vice president and general manager of AMSC's Power Electronic Systems business, commented, "The recently passed Energy Policy Act of 2005 called for a two year extension on the Wind Farm production tax credit for electricity generated by wind facilities. We believe it has created a more stable environment for the development and financing of new wind farms and ancillary facilities in the U.S., which require solutions to comply with recent FERC grid interconnection standards. Our D-VAR-based voltage regulation system has become the industry product of choice for helping wind facilities meet these new grid interconnection standards." This is the tenth wind farm in North America and the eleventh worldwide to incorporate AMSC's D-VAR technology, bringing the total wind-generated electric power served by AMSC's D-VAR systems to more than 906 MW.
Source:
“D-VAR(R) for Connection of Pacific Northwest Wind Farm to Electric Transmission Grid To Be Supplied By American Superconductor and GE Energy”
American Superconductor Corporation press release (October 31, 2005)
http://phx.corporate-ir.net/phoenix.zhtml?c=86422&p=irol-newsArticle_Print&ID=775127&highlight

## Material

**Superconductive Components, Inc. (October 19, 2005)**

Superconductive Components, Inc. has announced the successful completion of the largest single private equity placement in the company’s history. The company has received US$1,386,000 in cash for 693,000 shares of common stock at a price of $2 per share and five-year warrants to purchase an additional 173,250 shares of common stock at $3 per share. The company also converted $587,110 in liabilities into 293,555 shares of common stock and five-year warrants to purchase an additional 73,389 shares of common stock at $3 per share. The financing strengthened the company’s capital structure and balance sheet and will enable the company to continue implementing its long-term growth strategy.
Source:
“Superconductive Components, Inc. Completes Private Equity Financing”
Superconductive Components, Inc. press release (October 19, 2005)
http://www.targetmaterials.com/ne/news/scci101905financing.htm

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**Superconductive Components, Inc. (October 28, 2005)**

Superconductive Components, Inc., has announced its financial results for the third quarter ending September 30, 2005. Total revenues increased by 126.5% to US$ 1,021,211, compared with $450,838 for the same period in 2004. The loss applicable to common shares was $44,320, compared with a loss applicable to common shares of $262,505 for the same period in the previous fiscal year. Product revenues increased by160.5% to $953,494 for the third quarter, compared with $366,072 for the same quarter in the previous fiscal year, while contract research revenues declined to $67,717 for the third quarter, compared with $84,766 for the same quarter in the previous fiscal year because of lower revenues related to a Phase II Small Business Innovation Research award from the Department of Energy. Dan Rooney, Chairman, President and Chief Executive Officer, commented, “Our results for the third quarter 2005 included the highest quarter of revenue since the first quarter 2001, improved margins and a substantial reduction in the net loss compared to the prior year. The significant growth in revenues was primarily attributable to increased sales to customers added earlier in 2005 and as well as to existing customers… During the third quarter 2005, the company received $1,004,000 of new orders, which was the highest quarterly amount in the past three years… We plan to increase our presence in the photonic/optical market and further strengthen our leading position in the manufacture of materials for the emerging thin-film battery market”

Source:
“Superconductive Components, Inc. Reports Improved Third Quarter Results”
Superconductive Components, Inc. press release (October 28, 2005)
http://www.targetmaterials.com/ne/earnings/scci35.htm

## Communication

**ISCO International (October 3, 2005)**

ISCO International has announced its preliminary financial results for the third fiscal quarter. Revenue for the third quarter totaled US $2 million, and year-to-date revenue exceeded $7.8 million. This amount is about three times the company’s full-year revenue of $2.6 million for 2004. Customer activity was very high entering the fourth quarter, which has historically been the company’s best revenue quarter. John Thode, Chief Executive Officer, commented, “We have recently concluded a very successful field trial with a large operator, and are in ongoing discussions regarding commercial deployment. We have made progress on a number of other significant opportunities over the quarter and expect to make additional announcements over the next couple of months."

ISCO International also announced that it has entered into three new distribution channel partnerships to take advantage of international opportunities. The new distributors will focus on Far East, Latin America, and subcontracting opportunities within the US.

Source:
“ISCO INTERNATIONAL PROVIDES BUSINESS AND DISTRIBUTION CHANNEL UPDATES”
ISCO International press release (October 3, 2005)
http://www.iscointl.com/

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**Superconductor Technologies Inc. (October 4, 2005)**

Superconductor Technologies Inc. has announced that the NASDAQ Stock Market has accepted STI's application to transfer it s common stock listing from the NASDAQ National Market System to the NASDAQ Capital Market. As of October 5, 2005, the company's common stock has been trading on the NASDAQ Capital Market under its current symbol "SCON." The transfer was made to secure additional time for regaining compliance with the NASDAQ Stock Market's minimum stock price requirement of $1.00 per share. STI now has an additional 180 days (until March 4, 2006) to regain compliance.

Source:

"Superconductor Technologies Inc. Common Stock to be Traded on the NASDAQ Capital Market Beginning October 5th"

Superconductor Technologies Inc. (October 4, 2005)

http://phx.corporate-ir.net/staging/phoenix.zhtml?c=70847&p=irol-newsArticle&ID=763887&highlight

**ISCO International (October 19, 2005)**

ISCO International has received the Deloitte Technology Fast 500 award, which is given to the 500 fastest growing technology companies in North America. The list of companies is compiled from Deloitte's 15 regional North American Fast 50 lists and from direct nominations and industry research. Being included on the list is a significant achievement in today's highly competitive technology industry.

Source:

"ISCO INTERNATIONAL RECEIVES DELOITTE TECHNOLOGY FAST 500 AWARD"

ISCO International press release (October 19, 2005)

http://www.iscointl.com/

**ISCO International (October 25, 2005)**

ISCO International has announced its final financial results for the third quarter of 2005. The company's three best quarters have all been achieved during 2005, and progress has been made in several areas, further strengthening the company's position. Revenue for the third quarter reached US$ 2.0 million, nearly triple the amount received during the third quarter of the previous fiscal year. Net loss improved by approximately 65% to $0.6 million, compared with $1.7 million in losses for the third quarter of 2004. Product gross margins improved to 62%, compared with 34% for the same period in the previous fiscal year. Noncash items accounted for $0.5 million of the third quarter loss. The company is benefiting from an improved production cost and product mix. John Thode, Chief Executive Officer, commented, "By further diversification of our supply chain, particularly to China, our gross margins have grown during 2005 and now are about 50% year to date." ISCO expects to continue engaging with new customers on a number of potentially significant opportunities in the future.

Source:

"ISCO INTERNATIONAL REPORTS FINANCIAL RESULTS FOR THE THIRD QUARTER 2005"

ISCO International press release (October 25, 2005)

http://www.iscointl.com/

(Akihiko Tsutai, Director, International Affairs Department, ISTEC)

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