

What's New in the World of Superconductivity (October,2007)

Power

American Superconductor Corporation (October 1, 2007)

American Superconductor Corporation (AMSC) has formed a joint venture with TECO-Westinghouse Motor Company (TWMC) to conduct research on the development of HTS and related technologies for high-power direct drive wind generators for offshore wind farms. The smaller, lighter, and more efficient generators enabled by HTS wire are expected to reduce the cost of wind-generated electricity, particularly for offshore wind farms. The two companies have also received an award from the National Institute of Science and Technology's Advanced Technology Program for US \$3.4 million, 50% of the 30-month, \$6.8 million research project. The ultimate goal of the venture will be the deployment of offshore 10-MW class direct drive wind generators with twice the power capacity of conventional systems. The resulting increase in power produced by each wind turbine should significantly reduce the total costs of offshore wind farms. AMSC and TWMC estimate that a 10-MW class direct drive generator system weighing approximately 120 metric tons, or about one-third the weight of conventional direct drive generators with this power rating, is feasible. Dr. H.C. Meng, President of TWMC, commented, "Our wind generator business is growing rapidly, and today's turbine manufacturers are increasingly focusing on offshore locations and higher power systems. Our research joint venture with AMSC gives us the opportunity to expand our product offerings in the global wind energy market."

Source:

"AMSC Teams with TECO-Westinghouse Motor Company on Superconductor Wind Generator Project"

American Superconductor Corporation press release (October 1, 2007)

http://phx.corporate-ir.net/phoenix.zhtml?c=86422&p=irol-newsArticle_Print&ID=1057074&highlight

Zenergy Power plc (October 1, 2007)

Zenergy Power plc announced that its wholly owned subsidiary, Trithor GmbH, has signed a 5-year joint development agreement with ThyssenKrupp VDM GmbH, one of the world's largest suppliers of nickel alloy materials. As part of the agreement, ThyssenKrupp will not enter into any collaborative development agreements with any other HTS industry participants for the period of the agreement and will develop, in conjunction with Zenergy, industrial-scale supplies of textured nickel tape to be used in the mass production of 2G HTS wire. Zenergy views this agreement as a significant endorsement from the world's largest producer of this key 2G HTS wire component. The agreement is also a response to the anticipated increase in Zenergy's need for textured nickel tape for the manufacture of 2G wire arising from its commercial activities with Converteam SAS in the global wind and hydro power markets.

In addition to the significant cost savings generated by replacing silver-based solutions with ThyssenKrupp's textured nickel tape, the component is also central to Zenergy's

Superconductivity Web21

Published by International Superconductivity Technology Center
5-34-3, Shimbashi, Minato-ku, Tokyo 105-0004, Japan Tel:+81-3-3431-4002, Fax:+81-3-3431-4044

groundbreaking "all-chemical" mass production techniques. Research on this all-chemical method, which is expected to realize a highly economically viable superconductor material, is being supported by the German Ministry of Economics and Technology.

Source:

"Joint Development and Supply Agreement – Metal Tapes for 2G HTS Wires"

Zenergy Power plc press release (October 1, 2007)

<http://zenergypower.com/pdf/press-en/2007-10-01-ThyssenKruppVDM.pdf>

American Superconductor Corporation (October 3, 2007)

American Superconductor Corporation (AMSC) has signed two licensing contracts with AAER Inc., a Canadian wind turbine manufacturer. AMSC's wholly owned subsidiary, Windtec™, will license the design for its WT-200sg – a proprietary 2-MW wind turbine – to AAER. The license will provide AAER with the right to manufacture, sell, and commission the wind turbines in Canada, the United States, Mexico, France, and the United Kingdom. In addition to the multi-million dollar upfront license fees, AMSC will also receive royalties for every wind turbine commissioned by AAER and will supply AAER with the electrical system components that are essential to the operation of these turbines. AMSC founder and chief executive officer, Greg Yurek, commented, "AAER is the fourth new customer for our wind turbine designs since we acquired Windtec in January 2007. AAER also marks our first alliance with a North American wind turbine manufacturer. With AAER's expertise and the tremendous growth in wind energy taking place in North America and Europe, I believe this new business relationship will provide additional growth for both of our companies."

Source:

"AMSC Sells First North American Wind Turbine License to Canada's AAER Inc."

American Superconductor Corporation press release (October 3, 2007)

http://phx.corporate-ir.net/phoenix.zhtml?c=86422&p=irol-newsArticle_Print&ID=1058384&highlight

American Superconductor Corporation (October 9, 2007)

American Superconductor Corporation (AMSC) and Southern California Edison (SCE; an Edison International company and California's largest electric utility), have announced a cooperative agreement awarded from the Department of Energy (DOE) to develop and perform in-grid testing of a three-phase, 115-kV transmission-voltage fault current limiter (FCL) solution. The FCL in question will utilize a design from Siemens AG that features a proprietary low-inductance coil technology and will be constructed using AMSC's proprietary second-generation HTS wires. The low-inductance coil technology will make the FCL invisible to the grid until it switches to a resistive state upon the detection of a fault current. The project will be conducted in two phases. The first phase will concentrate on customizing approximately 7,500 meters of 2G HTS wire for the application, developing an advanced switching module, designing the terminations, and manufacturing and testing a single-phase, transmission-voltage FCL in a laboratory setting. The second phase will concentrate on manufacturing and testing a three-phase, 115-kV FCL in SCE's grid. AMSC will receive approximately US\$3.1 million in federal funding until the end of the first project budget period in September 2008. If the project meets its key milestones and results in a viable business strategy, as much as \$9.7 million in

additional DOE funding may be made available for the continuation of the 5-year project. Other project members include Nexans, the University of Houston, and Los Alamos National Laboratory. DOE Secretary Samuel W. Bodman commented, "Superconductor technologies hold great potential for improving the capacity, reliability and efficiency of the nation's transmission grid. Fault current limiters are among the most promising of these technologies given their potential to suppress the increasing power surges that are threatening our electrical infrastructure." AMSC founder and Chief Executive Officer Greg Yurek commented, "We continue to view stand-alone fault current limiters as one of the largest potential market opportunities for our AMSC Superconductors business."

Source:

"AMSC Commences Fault Current Limiter Project for Southern California Edison"

American Superconductor Corporation press release (October 9, 2007)

http://phx.corporate-ir.net/phoenix.zhtml?c=86422&p=irol-newsArticle_Print&ID=1060238&highlight

American Superconductor Corporation (October 23, 2007)

American Superconductor Corporation (AMSC) has received a multi-million dollar order from a major U.S. utility for AMSC's Static VAR Compensator (SVC) solution. The complete turnkey solution, which will be commissioned in mid-2008, will provide 150 MVAR of support to help control and stabilize voltage in the utility's power grid. The new transmission-voltage SVC solution utilizes the proprietary thyristor switch technology that AMSC acquired during its acquisition of Power Quality Systems, Inc., earlier this year. The order is the second that AMSC has received for its new SVC solution since the product was introduced in September of this year. Greg Yurek, founder and chief executive officer of AMSC commented, "Commercial order activity in the power grid sector has increased markedly in 2007. In addition, we have brought in several important new power grid development contracts focused on superconductor power cables and fault current limiters. While the wind power market is the primary contributor to AMSC's rapid growth today, the power grid sector is now picking up momentum that we believe will contribute strongly to our growth going forward." AMSC estimates that the current annual power grid market for reactive compensation solutions is at least \$250 million worldwide. This market is expected to continue to grow as global demand for electricity increases.

Source:

"AMSC Receives 150 MVAR Static VAR Compensator Order"

American Superconductor Corporation press release (October 23, 2007)

http://phx.corporate-ir.net/phoenix.zhtml?c=86422&p=irol-newsArticle_Print&ID=1065948&highlight

American Superconductor Corporation (October 30, 2007)

American Superconductor Corporation (AMSC) has formed a new division, which will be known as "AMSC China", to serve the growing wind energy, power grid, and industrial markets in the Asia-Pacific region. AMSC recently received an enterprise business license from the Chinese government to form a Wholly Foreign Owned Enterprise in Suzhou National New and Hi-Tech Industrial Development Zone (SND), located near Shanghai. This business license will enable AMSC to manufacture and sell their proprietary power electronics and superconductor products,

such as AMSC's PowerModule™ power converters, in China. AMSC has also expanded its sales and field service office in Beijing to further support the growth of its business in China and the Asia-Pacific region. Greg Yurek, founder and chief executive officer of AMSC, commented, "Today, approximately half our revenues are coming from the Asia-Pacific region, with China accounting for the largest fraction of those sales. By serving these markets locally, we believe we will foster stronger ties with our current customers and more rapidly develop new customers in the region. We also expect to be able to reduce costs for standard products like our PowerModule™ power converters by locally sourcing, assembling and testing certain non-proprietary components."

In parallel, AMSC is expanding their operations in the U.S. to meet the growing demand for their new, next-generation PowerModule power converters as well as their D-VAR®, PQ-IVR™, and Static VAR Compensator products. The company plans to eventually begin producing these products in their China operations as well. Yurek added, "The need for D-VAR, PQ-IVR and SVC solutions in the Asia-Pacific region is quite significant, and AMSC China will serve as our channel into this market. At the same time, we will take the steps necessary to protect our intellectual property, including maintaining production of the encrypted control cards for these systems in the United States."

In related news, AMSC also announced that it has received an initial order for wind turbine electrical systems from a second Chinese turbine manufacturer – Zhuzhou Electric Locomotive Research Institute (ZELRI). ZELRI will utilize these systems in the first ten 1.65-MW wind turbines it expects to produce under a license it purchased from Windtec, a wholly owned subsidiary of AMSC, in January 2007.

Source:

"AMSC China Established to Serve Asia-Pacific Wind Energy, Power Grid and Industrial Markets"

American Superconductor Corporation press release (October 30, 2007)

http://phx.corporate-ir.net/phoenix.zhtml?c=86422&p=irol-newsArticle_Print&ID=1069341&highlight

Communication

ISCO International (October 15, 2007)

ISCO International Inc. has announced a proposed merger with Clarity Communication Systems, Inc. – a private company that sells value-added applications, like push-to-talk and location based service solutions, for mobile networks and devices. The two companies have signed a letter of intent wherein ISCO would acquire Clarity in a merger involving an aggregate of 40 million shares of ISCO stock in exchange for all of Clarity's stock and the satisfaction of employee rights and interests. Of these ISCO shares, 15 million would be performance-based shares subject to market capitalization of the combined entity. The merger remains subject to negotiation and approval by the boards of ISCO and Clarity, the execution of a definitive merger agreement, and ISCO's approval of audited financial statements from Clarity as well as the requisite shareholder and regulatory approval.

Source:

Superconductivity Web21

Published by International Superconductivity Technology Center
5-34-3, Shimbashi, Minato-ku, Tokyo 105-0004, Japan Tel:+81-3-3431-4002, Fax:+81-3-3431-4044

"ISCO International to Accelerate Move to Adaptive Interference Management Software Platform with Proposed Acquisition of Clarity Communications Interim CEO Named at Wireless Systems Solutions Company"

ISCO International press release (October 15, 2007)

<http://www.b2i.us/profiles/investor/ResLibrary.asp?BzID=826&ResLibraryID=21826&GoTopage=1&Category=135>

Superconductor Technologies Inc. (October 23, 2007)

Superconductor Technologies Inc. (STI) held their Annual Meeting of Stockholders on October 23, 2007 in Santa Barbara, California. At the meeting, the stockholders approved all matters set forth in the company's proxy statement, including two elections to the Board of Directors and the ratification of the selection of Stonefield Josephson, Inc. as an independent auditor for the current calendar year. In addition, the stockholders approved an amendment to increase the number of company shares that can be issued to 2,500,000.

Source:

"Superconductor Technologies Announces Results of Annual Meeting"

Superconductor Technologies Inc. press release (October 23, 2007)

<http://phx.corporate-ir.net/phoenix.zhtml?c=70847&p=irol-newsArticle&ID=1066452&highlight>

ISCO International (October 25, 2007)

ISCO International Inc. has released its financial results for the third fiscal quarter, ending September 30, 2007. ISCO's consolidated net revenues decreased to US \$1.9 million, compared with \$6.4 million for the same period in the previous financial year. The gross margin also decreased to 37% from 40% for the same period in the previous financial year, mainly because of the lower volume. The consolidated net loss was \$1.8 million, compared with \$1.6 million for the same period in the previous fiscal year. John Thode, CEO of ISCO, commented, "While we certainly had higher expectations for our Q3 financial results, and more in line with our record results of last year, the spending and structural changes in the US markets we serve continue to be extremely challenging, as is evident from the ongoing earnings disappointments being announced by several OEMs and after-market infrastructure providers. However, we have made significant progress in a number of areas including a sizeable order (nearly \$1 million)..., the imminent completion of our digital adaptive interference management (AIM) platform, and the subsequent commercial trials of a number of product derivatives, some with international entities." The proposed merger with Clarity Communications is also expected to yield a competitive advantage that will support near-term growth.

Source:

"ISCO International Reports Financial Results for the Third Quarter 2007 and Investor Call"

ISCO International press release (October 25, 2007)

<http://www.b2i.us/profiles/investor/ResLibrary.asp?BzID=826&ResLibraryID=21990&GoTopage=1&Category=135>

ISCO International (October 26, 2007)

ISCO International Inc. has signed an agreement with Mexico's Exitel to distribute ISCO's radio frequency management and interference-control solutions to the wireless

Superconductivity Web21

Published by International Superconductivity Technology Center
5-34-3, Shimbashi, Minato-ku, Tokyo 105-0004, Japan Tel:+81-3-3431-4002, Fax:+81-3-3431-4044

telecommunications industry in the Latin America. The adaptive interference management (AIM) products will be used to aid telecom operators experiencing interference, especially in spread spectrum (CDMA/UMTS/WiFi) mobile systems.

Source:

"ISCO International Signs Distribution Agreement with Exitel in Mexico"

ISCO International press release (October 26, 2007)

<http://www.b2i.us/profiles/investor/ResLibrary.asp?BzID=826&ResLibraryID=22007&GoTopage=1&Category=135>

Superconductor Technologies Inc. (October 30, 2007)

Superconductor Technologies Inc. (STI) has entered into a sales agreement with China Corporate Credit Assurance Co. Ltd. (CCAC). Under the terms of this agreement, STI will sell their SuperLink® solution to CCAC for deployment in 2G and 3G wireless networks in China. The agreement with CCAC will serve as a mechanism for STI to supply its products to China while STI's previously announced joint venture with Hunchun BaoLi Communications Co. Ltd. is finalized. Jeff Quiram, STI's president and CEO, commented, "We are excited about the opportunities for STI in the ongoing build out of the 2G networks and the upcoming rollout of 3G networks in China. CCAC's reputation and established relationships with Chinese wireless operators will enable us to meet the demand for our SuperLink solution in China in the near-term. We will be continuing discussions about technical evaluations and testing activities in China with the National Radio Administrative Bureau and Chinese wireless operators."

Source:

"STI Enters Into Sales Agreement With China Corporate Credit Assurance Co. Ltd. to Purchase SuperLink Solutions for Deployment in China"

Superconductor Technologies Inc. press release (October 30, 2007)

<http://phx.corporate-ir.net/phoenix.zhtml?c=70847&p=irol-newsArticle&ID=1069334&highlight>

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

[Top of Superconductivity Web21](#)