

What's New in the World of Superconductivity in May, June and July

Power Applications

American Superconductor Corporation (May 7, 2001)

Entergy Corporation, one of the USA's largest utility companies, has ordered two additional distributed superconducting magnetic energy storage (D-SMES) units from American Superconductor Corporation and GE Industrial Systems. The units will be used to assure power reliability, in Houston, Texas, in the summer of 2002. Entergy is presently installing two other D-SMES units in the suburbs of Houston that are scheduled to become operational on June 1, 2001.

News Source:

"American Superconductor and GE Industrial Systems Receive Follow-on D-SMES Order from Entergy: Entergy Chooses D-SMES to Assure Power Reliability in Summer of 2001 and 2002"

(American Superconductor Corporation Press Release; May 7, 2001)

<http://www.amsuper.com>

American Superconductor Corporation (May 15, 2001)

American Superconductor Corporation (AMSC) has reported their financial results for fiscal 2001, ending March 31, 2001. AMSC's revenue increased by 11% to US \$16.8 million, compared to \$15.1 million for fiscal 2000. The net loss for fiscal 2001 was \$21.7 million, compared to \$17.6 million for fiscal 2000. AMSC's cash, cash equivalents, and long-term investments totaled \$160.2 million as of March 31, 2001, compared to \$218.7 million for the previous year. The reported loss and decrease in cash and cash equivalents reflects planned investments, mainly for advanced electric power applications R&D and expansions in wire manufacturing and power electronics operations.

Greg Yurek, chief executive officer of AMSC, commented on the company's achievements over the last fiscal year. AMSC has delivered 29 kilometers of HTS wire to Pirelli Cables and Systems for the Detroit Edison cable project and participated with Rockwell Automation in a successful demonstration of the world's first 1,000-horsepower HTS motor. In addition, AMSC reduced their price/performance ratio for large orders of HTS wires by 33% and began construction on the world's first commercial HTS wire manufacturing plant. The company also received new contracts from the U.S. Navy for the development of HTS ship propulsion motors.

News Source:

"American Superconductor Reports Fiscal 2001 Year-end Results"

(American Superconductor Corporation Press Release; May 15, 2001)

<http://www.amsuper.com>

Los Alamos National Laboratory (June 4, 2001)

The Los Alamos National Laboratory has licensed several patents and applications for second-generation HTS tape manufacturing technology to IGC-SuperPower, a subsidiary of Intermagnetics General Corporation. The Los Alamos manufacturing process involves the deposition of a cubic zirconia buffer layer on a flat, nickel-alloy tape using the Ion Beam Assisted Deposition (IBAD) technique. A YBCO layer is then deposited using pulsed-laser deposition. The resulting wires can be used to form superconducting cables and coils. IGC-SuperPower intends to use the licensed technology to manufacture kilometer-lengths of HTS tapes on a commercial basis.

News Source:

"High-temperature superconducting tape licensed (Los Alamos National Lab 010604)"

(Los Alamos National Lab press release; June 4, 2001)

<http://www.amsuper.com>

American Superconductor Corporation (June 19, 2001)

At the European Power Electronics and Power Quality Show, American Superconductor Corporation (AMSC) announced the commercial release of the PM125 - a 125 kilowatt power module. The PM 125 is a modular power electronic "switch" that replaces conventional power converters, inverters and related auxiliary components with a single integrated electronic device. It is programmable for power switching, modulation and control in a wide range of applications including wind turbines and microturbines, solar cells and fuel cells, flywheels and also uninterruptible power supplies.

The PM 125 is a stand-alone device that integrates many functions into a single programmable switch. Moreover, it is based on an exclusive printed circuit board design that allows assembly of the switch by automated wave soldering techniques that produces a product that is low-cost yet reliable and rugged.

According to Dr. Greg Yurek, President of American Superconductor Corporation, they will expand the PowerModule product line to include power ratings from 50 to 1000 kW per module by March 2002.

American Superconductor has fielded hundreds of 250 kW PowerModules in its commercial SMES systems. Good results have been demonstrated for those PowerModule systems.

News Source:

"American Superconductor Announces Commercial Release of New Power Electronic Switch." (American Superconductor Press Release. June 19, 2001)

<http://www.amsuper.com>

Intermagnetics General Corporation (July 9, 2001)

In a move which is expected to enhance stock liquidity, Intermagnetics General Corporation (Amex: IMG) began trading on the NASDAQ from July 11, 2001 under the ticker symbol of IMG

Company President and CEO of Intermagnetics, Glenn H. Epstein, says that he believes that moving to the NASDAQ will make Intermagnetics common stock more attractive to institutional investors due to higher visibility as an attractive growth company and improved liquidity.

Intermagnetics is a leading developer and manufacturer of superconducting materials and related equipment and peer companies in related fields also trade on the NASDAQ.

News Source:

"Intermagnetics Stock To Move To NASDAQ"
(Intermagnetics General Corporation Press Release July 9, 2001)
<http://www.igc.com>

American Superconductor Corporation (July 25, 2001)

In line with company expectations American Superconductor Corporation reported that revenues for the first quarter of fiscal year 2001 were \$1.6 million vs. revenues of \$3.92 million in the first quarter 2000. The net loss for the quarter was \$9.04 million, compared with a loss of \$4.46 million for the quarter ended June 30, 2000.

Greg Yurek, CEO pointed out that the downturn of the economy and the confusion surrounding regulations in the utility industry had been taken into account in American Superconductor's expectations of achieving revenue in the \$20 million to \$30 million range this fiscal year. Moreover, losses in the first quarter reflect investments in R and D, which increased by 19% to \$8.02 million in the quarter, ended June 30, 2001. Yurek added that utilities are now prepared to spend money on solutions that just six months ago they would have avoided.

Cash at the end of the quarter totaled \$131.9 million. Around \$21 million of the cash used during the quarter was for investment in plant and equipment in particular related to the world's first HTS wire manufacturing plant, to be located in Massachusetts.

News Source:

"American Superconductor Reports Fiscal 2001 First Quarter Results"
(American Superconductor Press Release. July 25, 2001)
<http://www.amsuper.com>

Motor Applications

American Superconductor Corporation (July 18, 2001)

American Superconductor Corporation has built and demonstrated the world's first 5,000-horsepower (hp) HTS electric motor. The company's patented ultra-compact HTS electric motor is designed to reduce the manufacturing costs of industrial and ship propulsion motors by up to 40% (compared with conventional motors) and reduce net electrical losses by about 50%, enabling significant fuel savings and reducing operational costs. The HTS motor is half the size and weight of a conventional 5,000-hp motor.

Since motors over 1,000 hp consume approximately 25% of all the electric power generated in the United States, the US

Department of Energy has estimated that the lower electrical losses of HTS motors could save U.S. industry billions of dollars annually in electrical operating costs. Industry experts have estimated that the current market for industrial electric motors with ratings of over 1,000 hp is about US \$ 1.2 billion per year, worldwide. In addition, electric ship propulsion is projected to become a major new market that is expected to reach more than US \$ 1 billion per year by 2010.

American Superconductor presently has a contract with the U.S. Navy's Office of Naval Research to design and develop HTS ship propulsion motors with a power ratings of up to 33,500 hp for use in electric warships. Sea trials are expected to begin by the end of 2003.

News Source:

"American Superconductor Demonstrates World's First HTS 5,000-Horsepower Electric Motor"
American Superconductor Corporation Press Release; July 18, 2001)
<http://www.amsuper.com>

Accelerators

ACCEL (May 4, 2001)

The Paul Scherrer Institute (PSI) has chosen ACCEL Instruments GmbH to supply a 250 MeV superconducting cyclotron that will form a major component of PSI's proton therapy program known as "PROSCAN". The cyclotron will supply protons to the existing Spot-Scanning-Gantry for deep-seated tumor treatments, a new industrialized Gantry with advanced technical feature (still a plan) and a horizontal beam for treating eye tumors. The cyclotron's main superconducting coils allow moderate HV and RF power levels to be obtained. The system is expected to become operational by mid-2004.

News Source:

"Superconducting Cyclotron Contract awarded by Paul Scherrer Institute (PSI), Villigen, Switzerland (ACCEL010504)"
(ACCEL News Release May 4, 2001)
<http://www.accel.de/struktur/news.htm>

NMR

Varian, Inc. (June 27, 2001)

Varian, Inc. has received its first order for a 900 MHz NMR spectrometer from Yokohama City University. The system is valued at more than US \$ 5 million and is the most powerful NMR spectrometer in the world. The spectrometer will be used for research on proteomics and genomics, especially the study of telomeric proteins. The 900 MHz spectrometer is the result of a joint collaboration between Varian, Inc. and Oxford Instruments, plc.

News Source:

"Varian, Inc. Receives First Order for World's Most Powerful NMR Spectrometer from Yokohama City University"
(Varian press release; June 27, 2001)
www.varianinc.com

Electronics

Atlantic Technology Ventures (May 1, 2001)

Atlantic Technology Ventures announced the start of a new investment program, called "CryoComm™", that will invest in emerging superconducting technologies in terabit switching and transport. These superconducting technologies promise significant improvements in performance compared to currently available technologies. The announcement was made at the Marcus Evans Optical Network Summit in Tuscon, Arizona.

News Source:

"Atlantic Technology Ventures announces new program at optical networking summit"

(Atlantic Technology Ventures Press Release; May 1, 2001)

<http://www.atlan.com/press2001/05-01-2001.html>

Atlantic Technology Ventures (May 24, 2001)

Atlantic Technology Ventures has signed an option agreement to exclusively license a new invention entitled "Magneto-Optical Modulator for Superconducting Digital Output Interface" from the University of Rochester. The technology was invented by Dr. Roman Sobolewski, a respected authority in the area of superconducting electro-optics. The invention uses a magneto-optic material to modulate light at very low temperatures using magnetic fields. This allows the invention to be used in digital optical output interfaces for ultrafast superconducting electronic circuits. Atlantic plans to use the new technology in its CryoComm™ program (see above press release).

News Source:

"Atlantic Technology Ventures, Inc., Signs Option Agreement with the University of Rochester for a Superconducting Optical Modulator: Company Adds Critical Component to its New CryoComm Program"

(Atlantic Technology Ventures Press Release; May 24, 2001)

Telecommunications

ISCO International (May 14, 2001)

ISCO International reported their first-quarter financial results for fiscal 2001. Consolidated net revenues increased by 198% to US\$ 512,000, compared to first-quarter results for fiscal 2000. The first-quarter revenue even exceeded that of the entire year ending December 31, 2000. An increase in the sale of HTS filter products and revenue from the recently acquired ANF division were cited as the reasons for the significant increase in revenue.

News Source:

"ISCO International Reports 198% Increase in First Quarter Revenues"

(ISCO International News; May 14, 2001)

<http://www.iscointl.com>

Conductus, Inc. (June 7, 2001)

Conductus has received a follow-on order for several ClearSite systems from one of the top ten wireless carriers in the United States. The follow-on order was placed after the completion of successful 2G trials using an initial deployment of systems that resulted in significant improvements in coverage, a reduction in the dropped call

rate, and an improvement in bit error rates within the carrier network.

News Source:

"Conductus Receives Follow-On Order From the Leading US Wireless Carrier"

(Conductus press release; June 7, 2001)

www.conductus.com

Conductus Inc. (June 14, 2001)

As part of an ongoing project under the Advanced Technology Program, Conductus Inc. (CDTS) has developed a new ultra selective thin-film superconducting filter believed to have the world's highest performance and which could facilitate faster and more cost-effective 2.5 G and 3G wireless networks.

This advanced wideband CDMA filter out-performs any previously reported superconducting filter in a number of key areas and is designed for use in 3G wireless networks. It will enable an increase in network capacity, coverage and data rate due to its extreme selectivity (for superior rejection of out-of-band signals) and with very low loss (less than 1 dB). The filter architecture can also be applied to existing 2G and 2.5G networks. All this adds up to significant economic benefits to wireless carriers and Conductus will be familiarizing the world's leading service providers, equipment manufacturers etc. with the benefits of this technology at The 3G World Congress 2001.

News Source:

"Conductus develops ultra-selective filter for advanced wireless networks." (Conductus Inc. Press release June 14, 2001)

www.conductus.com

Conductus, Inc. (July 10, 2001)

Conductus has received a contract from the U.S. Army Aviation and Missile Command to develop miniaturized superconducting filter systems for use in satellite communications, airborne receivers, and numerous other applications. The award is part of a US \$744,000 two-year program entitled "Prototype Miniature Cryoelectronic Receivers" that is funded by the Defense Advanced Research Projects Agency (DARPA). As part of the project, Conductus will develop several prototypes of miniature superconducting filter systems designed to meet the particular size and weight requirements of specialized applications. The superconducting components of these filter systems will be cooled by ultra-small Stirling cryocoolers.

News Source:

"CONDUCTUS AWARDED CONTRACT TO DEVELOP MINIATURE FILTER SYSTEMS"

(Conductus, Inc. Press Release; July 10, 2001)

www.conductus.com

ISCO International, Inc. (June 22, 2001)

ISCO International has completed a major field trial with Verizon Wireless. The trial was performed in the Chicago area and involved 37 CDMA sectors in 12 cell-sites of a high traffic region. The trial was held to evaluate the benefits of interference control on system capacity, minutes of use, and other measures of performance. Dr. George Calhoun, Chairman and CEO of ISCO, stated that "As far as we are aware, this was by far the most comprehensive and

rigorous test of an HTS filter system ever conducted in a live network." The trial involved the use of ISCO's superconducting front-end system and patented adaptive notch filter (ANF(TM)) technology to suppress both in-band and out-of-band interference.

News Source:

"ISCO International Reports Interim Results of Chicago Trial With Verizon Wireless"

(ISCO International press release; June 22, 2001)

<http://www.iscointl.com>

ISCO International, Inc. (July 17, 2001)

ISCO International has filed a suit against Conductus, Inc. and Superconductor Technologies, Inc. for the infringement of ISCO International's recently issued U.S. Patent (No. 6,263,215) entitled "Cryoelectronically Cooled Receiver Front End for Mobile Radio Systems". The suit alleges that all of Conductus and STI's current base station front-end systems containing cryogenically cooled superconducting filters infringe against ISCO International's patent. ISCO is seeking a permanent injunction that would restrain Conductus and STI from marketing, selling, and manufacturing these products as well as damages and attorneys' fees.

News Source:

"ISCO International Announces Patent Infringement Suit Against Two Competitors"

(ISCO International, Inc. Press Release; July 17, 2001)

<http://www.iscointl.com>

Superconductor Technologies Inc. (June 19, 2001)

Despite financial difficulties in the wireless industry, Superconductor Technologies (STI) announced that they forecast unaudited gross commercial product revenues of approximately \$3.5 million for the second quarter of 30th June 2001, up 120% from \$1.6 million in the same period of the same period of the previous year. Included in the second quarter revenues are sales of 3G prototype units to a major Japanese OEM. Unaudited net commercial revenues are forecasted to be approximately 2.9 million for the second quarter 2001 versus 1.2 million in the same period of the previous year.

News Source:

"Superconductor Technologies Inc. Expects Second Quarter 2001 Gross Commercial Revenues to increase Approximately 120% Versus Second Quarter 2000." (Superconductor Technologies Inc. June 19 2001)

<http://www.suptech.com>

Superconductor Technologies, Inc. (July 18, 2001)

Superconductor Technologies' senior management staff visited the People's Republic of China from June 25 to July 2, 2001, to discuss the use of high-temperature superconductors in mobile cellular telecommunications. The group was invited by the Chinese National Academy of Sciences, the prestigious Tsinghua University, and Sinocomm Limited to visit Beijing and Shanghai. Peter Thomas, STI's President and CEO, commented that "China is the world's fastest growing mobile cellular market, and STI has keen interest in establishing opportunities for cooperation and potential partnerships in China." The STI delegation also met with China mobile operators and the major Chinese manufacturers of cellular products, including China Unicom, Datung's Telecom Technology & Industry Group, and Huawei.

News Source:

"STI Invited by Chinese National Academy of Sciences, Tsinghua University, and Sinocomm LTD"

(Superconductor Technologies, Inc. Press Release; July 18, 2001)

<http://www.suptech.com>

Superconductor Technologies Inc. (July 25, 2001)

Boosted by strong sales of core HTS SuperFilter™ products and the recently introduced HTS Ready Duplexer, Superconductor Technologies Inc. announced that gross commercial revenues for the second quarter 2001 were \$3.5 million, an increase of 122% from \$1.6 million in the same period in the previous year. Total net revenues increased by 87% to \$4.2 million for the quarter ended July 1, 2001.

This helped to reduce the total net loss for the quarter ended June 30, 2001 from \$3.5 million vs. a loss of \$4.1 million for second quarter 2000.

Mr. Peter Thomas, President and CEO of Superconductor Technologies Inc. says that he believes that the company is still on track of reaching their goal of positive gross commercial margins later this year. Moreover, he expects continued progress in the future largely due to the ability of the company to provide attractive solutions to carriers looking to expand their capacity and capability.

News Source:

"Superconductor Technologies Inc. Reports Second Quarter 2001 Results; Gross Commercial Revenues Increase 122% Vs. Year Ago Quarter"

(Superconductor Technologies, Inc. Press Release; July 25)

<http://www.suptech.com>

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