

**International Superconductivity Industry Summit
ISIS-19
Sestri Levante, Italy
October 5-6, 2010**

Communiqué

Enabling Sustainable Solutions

More than 40 delegates mostly from CCAS¹, CONECTUS¹, ISTECH¹, KICS¹ and NZHTSIA¹ attended the summit. Considering some of the global megatrends (e.g. demographic & climate changes), the focus of this year's summit was on which sustainable solutions will contribute to a green world economy and infrastructure in the future.

There is no doubt that superconductivity will contribute significantly to this goal. The contributions of superconducting applications to sustainability, energy efficiency and energy savings were discussed, and also the challenges in building new partnerships worldwide between universities, institutes and private organizations. Some of these were illustrated by success stories.

The latter are of special importance when government funding is being reduced in many areas of the world. Nevertheless, Korea and Japan especially have extensive funding programs and support work addressing challenges in technical superconductors and their application in energy technology.

The participants are all aware that there will be the need to refurbish and upgrade the electric power grids to meet the requirements of an increasingly electrified society coupled with an increased contribution of decentralized, renewable energy to power generation.

New superconducting materials in varying forms (thin films, wires, tapes and bulk ceramics) will contribute to applications in energy technology, electronics and healthcare to improve performance and efficiency.

At ISIS-19, and indeed at the preceding WIAS² meeting, the delegates reported successful examples of applications (e.g. superconducting fault current limiters, superconducting power transmission lines, new MRI-magnets and applications, increased performance/ low power consumption superconducting electronics) and promising future solutions (e.g. SMES³, superconducting transformers, superconducting generators for off-shore wind power, high-field magnets for NMR⁴). The development of superconducting materials has progressed considerably enabling new performance levels (e.g. persistent current mode capabilities of films, long length high current wires and tapes, low ac-loss conductors, manufacturing and properties of bulk materials).

¹ Explained at end of document

² Workshop on Industrial Applications of Superconductivity

³ Superconducting Magnetic Energy Storage

⁴ Nuclear Magnetic Resonance

Also regarding the costs of the new high performance superconducting material and applications progress and positive projections are being made. Substantial R&D funding and large volume projects as well as applications are required to accelerate this process of cost reduction in order to get quickly to market penetration.

Large volume projects – such as the Korean Power Transmission Line project announced during the week of ISIS-19 and the plans for the superconducting applications demonstrations in the electric power grid for Jeju island, Korea – will help in this cost reduction process. The same is true for other funded projects – such as the SMES in the USA, electric-power equipment development programs in Japan and GENI⁵-like projects in Korea.

The future will increasingly use and benefit from superconducting applications.

At ISIS-19, Korea was unanimously approved as an official member of ISIS. ISIS-20 will be held in 2011 in Korea.

As this brief communiqué cannot possibly cover all aspects of the event, for further information, please contact the following parties:

CCAS

Coalition for the Commercial Application of Superconductors
<http://www.ccas-web.org/>

Conectus

Consortium of European Companies determined to use superconductivity
<http://www.conectus.org>
(host of ISIS-19)

ISTEC

International Superconductivity Technology Center
<http://www.istec.or.jp/index-E.html>

KICS

Korean Industry confederation for commercialization of superconductivity

NZHTSIA

New Zealand High Temperature Superconductor Industry Association
<http://www.hts.org.nz>

⁵ Green Superconducting Electric power Network at Icheon substation