



AIST, OKI, NS Solutions and Mitsubishi Electric to Form Consortium for Human-Centric Manufacturing Innovation

Aim is to develop and implement innovative new manufacturing methods

TOKYO, April 10, 2019 – The National Institute of Advanced Industrial Science and Technology (AIST), Oki Electric Industry Co., Ltd., NS Solutions Corporation and Mitsubishi Electric Corporation announced today that they established the Consortium for Human-Centric Manufacturing Innovation (HCMI Consortium), a new AIST consortium purposed to develop and implement manufacturing systems for new human-centric manufacturing, on April 10, 2019.

Participating organizations will be recruited going forward and Satoshi Sekiguchi, Vice-President and Director General of AIST's Department of Information Technology and Human Factors, will chair the HCMI Consortium's board of directors. A general meeting to officially establish the consortium will be held in June. A steering committee comprising participating organizations will be formed to promote activities, as described below.

Main Activities

- 1) Research and develop, verify and evaluate new systems for human-centric manufacturing
- 2) Manage data from R&D, verifications and evaluations and promote its use in manufacturing
- 3) Support introduction of related technologies and personnel in society and for business development
- 4) Organize groups to research, study and review issues related to human-centric manufacturing
- 5) Disseminate and share information to raise awareness

Background

Manufacturers in Japan are shifting from low-cost mass production centered on high-cost machinery to multi-product variable-quantity production that delivers products as needed. One of the keys to realizing this new system will be the development of production personnel who can respond flexibly to diverse tasks. As Japan's workforce shrinks due to falling birthrates and population aging, new measures are needed to utilize personnel in diverse ways and secure necessary human resources at production sites.

The HCMI Consortium will help to develop and deploy new manufacturing systems based on the concept of innovative human-centric manufacturing. The aim is to realize systems in which people become more flexible in their work. These flexible production systems will allow people to collaborate with machines effectively and facilitate the transfer of expert skills to newer generations of workers. Also, new environmental and management methods will enable employees to leverage their mental and physical abilities for higher quality work.

The consortium established "manufacturing innovation bases" where participating organizations will conduct research, verifications and evaluation. This initially will be carried out at a model factory scheduled to open at

the AIST Tokyo Waterfront’s Cyber-physical Systems Research Building. Model bases will be established regionally thereafter. The HCMI Consortium, as the operator of these bases, will support activities aimed at establishing new manufacturing systems as well as raise awareness and support the commercialization of these new methods.

Inquiries

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About AIST

The National Institute of Advanced Industrial Science and Technology (AIST), one of the largest public research organizations in Japan, focuses on the creation and practical realization of technologies useful to Japanese industry and society, and on “bridging” the gap between innovative technological seeds and commercialization. For this, AIST is organized into 5 departments and 2 centers that bring together core technologies to exert its comprehensive strength. AIST, as a core and pioneering existence of the national innovation system, has about 2000 researchers doing research and development at 10 research bases across the country, based on the national strategies formulated with the changing environment involving innovation in mind. AIST is also actively building a global network by, for example, signing memorandums of understanding for comprehensive research cooperation (MOUs) with 30 major research institutes around the world.

AIST endeavors to achieve a rich and eco-friendly society through “Green Technology,” healthy and safe living through “Life Technology,” and a super smart society through "Information Technology," with the hope of building a sustainable society.

About OKI Electric Industry (OKI)

Founded in 1881, OKI Electric Industry (TOKYO:6703) is Japan's leading telecommunications manufacturer in the Info-telecom field. Headquartered in Tokyo, Japan, OKI provides top-quality products, technologies, and solutions to customers through its info-telecom systems and printer operations. Its various business divisions function synergistically to bring to market exciting new products and technologies that meet a wide range of customer needs in various sectors. Visit OKI's global website at <https://www.oki.com/>.

About NS Solutions Corporation

Nippon Steel Corporation launched “System Solutions” in 1986, building on the system technologies it had accumulated through many years of operation in the steelmaking business, in which the company boasts the world's top-class technological capability. Since then, the company has reinforced the infrastructure for this business. In April 2001, Nippon Steel Corporation undertook a business merger between its “Electronics and Information Systems Division” and “Nippon Steel Information & Communication Systems Inc.” and established a new company, NS Solutions Corporation [NSSOL] (TOKYO: 2327).

Applying the extensive experience and advanced IT capabilities acquired in the steel manufacturing industry, NSSOL provides customer-oriented solutions to support a wide range of clients' global business activities and help their competitive edge with our overseas branches in six countries, including the US.,the U.K., China, Singapore, Thailand and Indonesia.

About Mitsubishi Electric Corporation

With nearly 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,444.4 billion yen (in accordance with IFRS; US\$ 41.9 billion*) in the fiscal year ended March 31, 2018. For more information visit:

www.MitsubishiElectric.com

*At an exchange rate of 106 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2018