Establishment of the Zeon-AIST Nanotube Industrialization Cooperative Research Laboratory ～Accelerating Development of Next-Generation Synthesis Technology～

June 3, 2016

Zeon Corporation (President: Kimiaki Tanaka) and the Incorporated Administrative Agency National Institute of Advanced Industrial Science and Technology (President: Ryoji Chubachi; AIST) reached an agreement on June 1, 2016 to establish the Zeon-AIST Nanotube Industrialization Cooperative Research Laboratory

The objectives for this joint laboratory are to further develop manufacturing technology that enables accelerated scaling of carbon nanotubes (CNTs) production. The laboratory will make use of basic research facilities, including the demonstration plant for the Super Growth Method (SG Method), developed by AIST for synthesizing CNTs. Researchers based at this laboratory will promote research and development related to the mass production of CNTs through the high-efficiency synthetic method, based on the SG Method, as well as a next-generation synthesis method. By working collaboratively between Zeon and AIST, it will also help to achieve increased efficiency, speed, and remove organizational barriers.

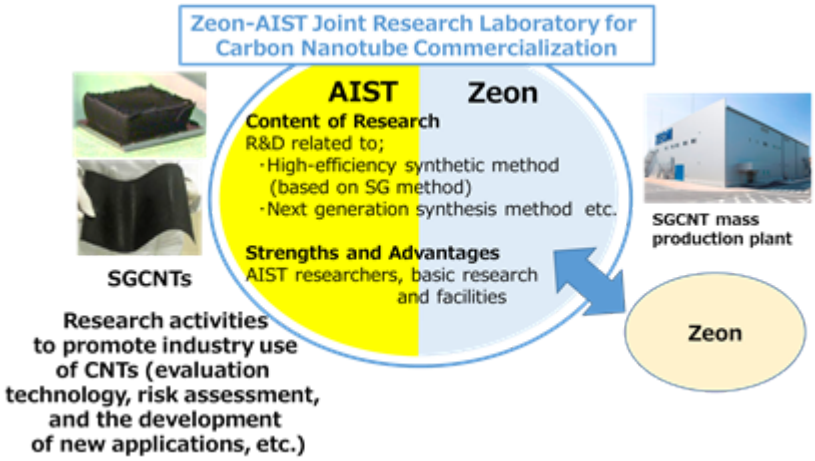
CNTs were discovered by Dr. Sumio Iijima, and Japan has led the world in developing the material.

AIST has developed the basic technology for the SG Method, an innovative CNT synthesis method created in 2004 by a team led by Dr. Kenji Hata. Subsequently, AIST participated with Zeon in projects that included the Carbon Nanotube Capacitor Development Project (FY 2006 to FY 2010), sponsored by Japan's Ministry of Trade, Industry and Technology and the New Energy and Industrial Technology Development Organization. Those projects were aimed at developing mass production technology for high-grade CNTs manufactured using the SG Method, or SGCNTs. Since 2011, Zeon has promoted the use of the technology by the technology by providing SGCNT samples. Incorporating the technology developed at the demonstration plant, Zeon completed the world's first mass production plant for SGCNTs within Zeon's Tokuyama facility in Yamaguchi Prefecture, Japan in November 2015 (see note below).

Characteristics of SGCNTs include a high aspect ratio, high purity, and a large surface area compared to other CNTs. The material is therefore promising, with potential for application in innovative materials that will have unprecedented functionality and performance, such as high-performance capacitors, highly functional rubber

materials, and materials featuring high thermal conductivity, as well as in next-generation devices. Demand for SGCNTs is expected to expand dramatically in the coming years.

Scope of Research at the Laboratory



At the laboratory, Zeon and AIST will conduct research and development related to the mass production of CNTs through the high-efficiency synthetic method, based on the SG Method, as well as a next-generation synthesis method. Our objectives will be to further raise production volume toward developing CNTs into various types of industrial materials.

Outline of the Laboratory

・Name: Zeon-AIST Nanotube Industrialization Cooperative Research Laboratory (Date of establishment: July 1, 2016)
・Location: AIST Tsukuba Center (Tsukuba City, Ibaraki Prefecture, Japan)
・R&D Organization: Cooperative Research Laboratory Manager: Mitsugu Uejima (Manager, CNT Laboratory, Zeon Corporation)
・Staff: about 10 people

Note:
World's First Mass Production Plant for Super Growth Carbon Nanotubes Begins Operations
Press release dated November 4, 2015
Zeon Holds Ceremony to Mark Completion of its Carbon Nanotube Manufacturing Plant
Press release dated November 11, 2015

For further information

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