



SECOND INTERNATIONAL NANOTECHNOLOGY CONFERENCE ON COMMUNICATIONS AND COOPERATION

Abstract

Commercialization of Nanotechnology in Japan: It's a Big Small World

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The keyword of R&D of nanotechnology in the latest Japan is “True Nanotechnology”. The Nanotechnology Working Group was established under the Council for Science and Technology Policy of Japanese Government, and they discussed the R&D strategy for the industrialization of nanotechnology. In Japan, the 3rd Science and Technology Basic Plan was started from this April. It is stated that much more promotion of true nanotechnology is needed to strengthen the industrial competitiveness.

True nanotechnology is the cutting-edge technology based on new phenomenon and new technology, which has not been in the existent technology. In other words, it is the breakthrough technology based on a phenomenon peculiar to nano-size. However, it is indeed the fact that micro-technology such as MEMS and DDS, is towing the market as nanotechnology at present. Based on the Delphi research to the chief technical officer of Japanese private sectors, the future market was analyzed for 11 high technologies. The market of a photonic crystal, molecular electronics, a next-generation memory, quantum communication and a quantum computer, and a brain-type device is estimated as zero at present. The market of the next-generation electronics field will be increased rapidly by 2010. The constant growth is expected for the nano-materials. On the other hand, although it is expected to the technology of dream, such as the bottom-up manufacturing techniques, the quantum communication, the quantum computer and the brain-type device, a big market might be appeared by 2015.

It is expected that true nanotechnology will lead the technical innovation for the next-generation. Especially the application to a bio-field has high attention using advanced nano material, such as a quantum dot and a photo-catalyst, in which Japan has high advantage. Strategic cooperation is indispensable to realize the industrialization in the true nanotechnology. As a result, a lot of great markets should be opened in future. It's a Big Small World.