

Some insights of NanoKorea 2009, 26-28 August 2009

Abstract

This article shares with the readers the exciting development in Korea nanotechnology observed during the recent NanoKorea 2009 held in Seoul during Aug. 26-28th, 2009. Key findings are

1. Korea has joint the world top 4 countries in Nanotechnology commercialization
2. The new feature of this year event is Green and Education. The popular topics attracted most attendants especially young scientists are nanoelectronics (SPRAM and III-V nanostructured devices), nanobiotechnology and nanomaterials
3. A number of Korea multinationals, SME and Start ups have become leaders in commercializing Nanocarbon (CNT and grapheme) and nanomaterials (metal and oxide nanoparticles) and devices for applications in transparent, flexible conductive thin film, strong composite materials, smart coating (antibacterial, self cleaning, reflective film), inkjet and screen printing ink, memory devices and others.

We continued our annual worldwide nanotech event tour. End of August, we are again in Seoul to attend the 7th national nanotech event in Korea, the NanoKorea 2009 held during Aug. 26-28th at good old KINTEX again (located 30km from Seoul). The event scale is similar to previous years with about 195 exhibitors although some of the large companies such as Samsung and LG shrank the size of their booth from the previous years. The conference and exhibition attracted over 6000 visitors worldwide. NanoKorea 2009 has been strongly supported by the Korean nanotech community including government, R&D institution and industry, and the industry participation has been growing with time.

We have been regular visitors of the NanoKorea event. Different from the previous event, NanoKorea 2009 has new theme on education. Similar to other nanotech events in the world, Green is a main theme. The key focus of Korea nanotechnology development at this stage is Innovation, Commercialization, and Education. The technical areas of focused include nanoelectronics (memory such as SPRAM and optoelectronics using III-V nanostructured materials) and nanomaterials (including nanocarbon and metal nanoparticles and oxide) and nanobiotechnology (biosensors for diagnostics, imaging, tissue engineering, toxicity). A number of talks in the nanomaterials session focused on solar cell applications including DSSC and OPV.

Korea is the most impressive country we know in terms of the acceleration of nanotechnology advancement, aiming to become of the world's top three nations in nanotechnology development (It targeted at the top 5 nanotech leaders in the world in 2002, but now it has become the 4th leading nanotech country). Currently South Korea ranked 4th in terms of the increase of No. of publication, ranked 2 in terms of increase of No. of US patent, ranked 4th in terms of level of nanotechnology

development (reached 75% compared with USA 100%).

We were most impressed by the advancement of Korea in commercialization of carbon nanotubes in composite materials, flexible conductive thin films and LED, and application of metal nanoparticles such as Ag in lighting and nanoink for RFID application. Samsung Cheil Industries Inc seems to have become one of the world leaders in making CNT based composite materials for Light Guide Retainer for automotive; Disk damper, FPC bracket, HGA Tray in Hard disk drive; Heat/Pressure roller brush in laser printer and others.

Details of the symposium program and exhibitors can be found at the NanoKorea website:
<http://www.nanokorea.or.kr/Eng>

Among the 195 exhibitors, there are 17 from Japan, Germany and elsewhere in the world. BMBF / VDI Technologiezentrum GmbH used their classic car to exhibit the amazing nanotechnology made in Germany. More than 10 nanotechnology-related technologies have been applied to their car for improving the scratch & corrosion resistivity, easy-to-clean & antimicrobial performance, LED lighting and others.



VIP opening ceremony of NanoKorea 2009



Snapshot of the exhibition



NanoGlobe visit to InkTec exhibition booth