

## **BRIEF ARTICLE ON RECENT MEETING OF ISO/TC 229 'NANOTECHNOLOGIES'**

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Over 100 delegates from 19 countries met last week in Seoul, South Korea, to consider the standardization needs (what needs to be standardized, how it should be tackled and in which priority) of the burgeoning area of nanotechnologies. This relatively new technology (nanotechnology) is really the application of many technologies, based on manipulating extremely tiny particles (at the molecular level) to produce materials that have amazing, new properties. Nano-sized particles are usually in the range of 1 – 100 nanometres (nm) in size. They are characterised by extremely large surface areas, which result in novel properties. They can be produced using the latest technology, 'seen' with newly-developed microscopical techniques, and then combined in different ways to produce materials and products that have never been made before, thus opening the door to exciting and new possibilities.

It is widely assumed to be 'the' new technology of the future, having the potential to change the way we do things to the same extent that the computer has done. Needless to say, it has applications in every sector and one of the most promising is in the area of healthcare. Examples are clever drugs and drug delivery mechanisms, advanced contrast imaging, tissue engineering, body sensors (in textiles), biosensors, lab-on-a-chip, pathogen-detection and more.

Three new standardization committees have been established in the last two years, two global committees (ISO/TC 229 and IEC/TC 113) and one European (CEN/TC 352) in response to the recognition that standardization underpins the advance of every technology in society. The UK has taken the lead in providing the secretariat and chairmanship of ISO/TC 229 and CEN/TC 352.

Last week, ISO/TC 229 met to consider its priorities and these include a focus on definitions (what is a 'nanoparticle', what are 'nanomaterials' and what is 'nanotechnology'?) all important for nano-commerce, patent applications and especially for future regulation (am I making a nano-device or nano-medicine that needs to be regulated differently than other products?) Soon to follow will be sector-specific terminologies, such as terminologies for health and consumer applications, and terminologies for the nano-bio interface. Another priority is the already-established 'Health, safety and the environment' group. Regulators from all over the world met to consider the first standardization project, 'Occupational safe practices in nanotechnologies'. Research is urgently needed to establish methods of testing for toxicity for the purpose of risk assessment and to further understand and define the characteristics and functions of the tiny particles. At present there is a widespread lack of knowledge about the potentials and possible cautions that are needed in the use of nanomaterials, although there are already more than 1,000 products on the market using this technology. There are also societal and ethical issues that need to be addressed, so that the amazing promise of this technology is fulfilled in a way that benefits all areas of society.