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Nanotechnology in Healthcare

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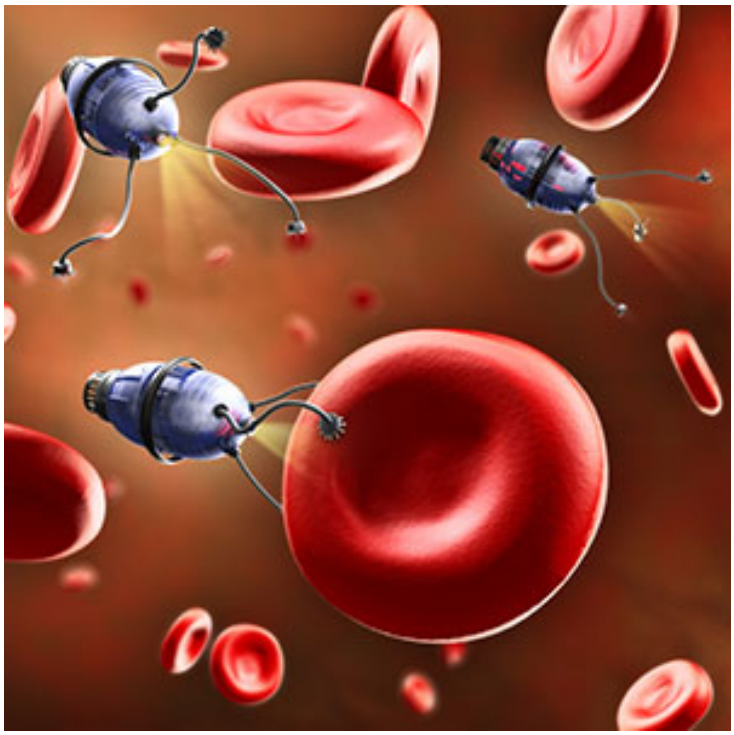

The scope of nanotechnology in healthcare is in finding applications in diverse areas such as tissue engineering, nanomedicines, diagnostic tools, image enhancement devices, nanorobots, implant technology, biosensors, biomarkers, bioactive surfaces, and as carriers of diagnostic and therapeutic modalities. According to Dr Tuhin Bhowmick, chairman, Pandorum Technologies, a Nano-tech start-up, there are five major applications of Nanotechnology in healthcare sector, i.e., drug delivery systems, therapeutics, medical materials and implants and analytical tools and instruments and diagnosis.

CKMNT carried out a detailed scientific analysis using the web of science database to identify major applications for nanotechnology in the healthcare sector worldwide during the period of 2000-2014. According to CKMNT analysis, the major applications of nanotechnology in the healthcare sector are in the field of biochemistry, followed by pharmacology. This is based on peer reviewed research publications in each area.

areas-of-nanotech

Market

Nanotechnology is a growing interdisciplinary technology seen as a new industrial revolution. It is increasingly attracting worldwide attention owing to its wide range of applications. The global nanotechnology market is anticipated to grow at a Compounded Annual Growth Rate (CAGR) of around 16.5 percent during 2014-2020 according to a Research and Markets

report.

Dr Purushottam further highlighted, "According to Lux Research, the estimated global market opportunity for nanotechnology-based products by 2015 is about $1.0 trillion and about 1,500 nanotechnology based products are in the market. However, the current market size of nanotechnology in India would be around Rs 10,000-15,000 crore."

CKMNT estimates that over the next 10-15 years, the domestic nanotechnology market in this segment will grow upto $ 1.6 billion at a CAGR of 47 percent, with the potential to reach $2.1 billion. It is expected that in the next 10-20 years, the market will be flooded with nano-based medicines and drug delivery systems as well as nano-enabled ultrasensitive and rapid detection devices for diagnosis and therapy.