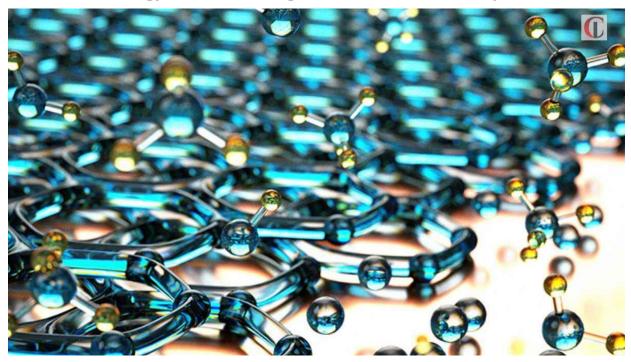
# Nanotechnology: Where Imagination Meets Reality



"Nanotechnology is the idea that we can create devices and machines all the way down to the nanometer scale, which is a billionth of a meter, about half the width of a human DNA molecule" – Paul McEuen

The ship of the science sailed through the imagination to reality. Science empowered every industry structure by improving their work efficiency, products, strength and by reducing cost expenses. The term of Nano-technology had been first coined by Norio Taniguchi in 1974, since then it is utilized to change the application of material. Every industry is now exploring the possibilities with this new technology. Industries like Healthcare, Sports, Automobiles, Electronics, and Environment are particularly witnessed fruitful benefits of nanotech.

# **Reforming Future of Healthcare**

Various industries are considering different aspects of Nano tech and employing this technology to generate more and more benefits. Medicinal industries are deploying the modern Nano tech fueled machines to provide exceptional health profits, like curing cancer and slowing down the natural aging. With the help of Nano-tech, cell walls penetrate easily and help cancer treatment. Nano bots can localize the disease site and deliver the drug precisely in right part of the body and releases the drug according to the schedule. The conventional treatments for cancer involve radiotherapy or chemotherapy, both the processes are very painful, changing the procedure and employing Nano bots the process becomes less painful for the patient.

"Nanotechnology in medicine is going to have a major impact on the survival of the human race". **Bernard Marcus** 

### **Automotive: Not Just a Four Wheel Thing**

In automotive industries Nano-tech considered as the game changer. Automotive Industry as whole relies on the compatibility and modern technology which can benefit in low fuel consumption, safety, comfort, eco-friendly and budget oriented in material. With the wide scope of this technology Nano tech offers the light weight, reduction in friction and emissions by the engine, reduced corrosion resistance, UV resistance, and advanced electronics and sensors. Automobile tires contain materials such as carbon black and Nano oxides (silica, alumina) fillers, Nano clay, carbon Nano fibers (CNF), and graphene as well as other additives (Polyhedral Oligomeric Silsesquioxanes and nanostructured Poly(alkyl benzene)-Poly(diene) (PAB-PDM). Nano-additives improve the lifetime of tires considerably as well as the rolling resistance, abrasion resistance, and wet traction. Nano tech enables the advance solution in dirt repellent, noise reduction and transpiration. The futuristic technology is offering sustainable solutions for automotive industry which are making vehicles more reliable and driving more safe plus secure.

# **Electronics: Enhancing the Durability**

Electronics is using Nano tech to improve display screens, circuits, memory chips, mobiles and even computers. With the use of Nano tech fabrication of chips is now possible. Nano wires and transistor assemble in flexible plastic films which leads display in glasses and in car's windshield. Thanks to the Nano Technology and its capabilities, companies are developing mobiles according to modern needs. Features like self-charging in sun light, flexibility, and dirt repellence are getting more attention. TV Screens are becoming light in weight, less thick and less power consumable.

In addition to this, memory devices are made with Nano wires coated with Titanium dioxide. With the help of Nano tech chips can achieve higher memory density than flash memory chips. Hence, Nano tech is enhancing the durability and capacity of electrical equipment's with less implementations and expenses.

"When a nanotech company matures and becomes a real business, it becomes something else. It becomes a biotech company or a cleantech company or a memory chip company. Nanotechnology has fueled the core innovations in electronics and energy"- **Steve Jurvetson** 

#### **Sports: Changing Human into Bionic**

Sports industry is growing enormously. Sports from tennis and skiing, to swimming, cycling, and golf have all experienced the benefits of nanotech revolution, mainly in the area of performance enhancement.

For professional cyclists, light weight cycles have proven advantages and understanding this Easton Bell Sports, Inc. is using Carbon nanotube in making cycle components. These bicycles are with Nano tech making difference of 6 to 10 seconds, as anyone can guess in sports it's enough time to change the game.

Science and technology is evolving with every passing second. Technology like Nano tech has the capacity to transform the whole world into a digital landscape. It will impact almost every industry. For the betterment of human race nanotech is the solution. With all the

positive impacts of Nanotech, there is the opinion that essentially shows the potential risk associated with the manufacturing and use of products related to nanotech. There is the concept of Grey Goo which describes the ability of Nano tech to clone itself, whether it is a cell or the advanced robot and this could be the dangerous. Surely, the s technology has an unparalleled ability to reform the benchmarks of any industry but it depends on the user where to use it, how to use it and how far to use it.

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