

Nanotechnology

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Nanotechnology is the process of modifying matter at a scale close to the atomic level to create novel structures, materials, and gadgets. The technology promises advances in science across a wide range of industries, including manufacturing, consumer goods, energy, and medicine. Engineered systems, gadgets, and structures are referred to as nanotechnology. The length scale of nanomaterials ranges from 1 to 100 nanometers. At this scale, materials start to show distinctive characteristics that influence their behaviour in terms of physics, chemistry, and biology. The core of novel technology is the investigation, development, and application of these properties.

Poorly soluble nanoparticles are more hazardous than bigger particles on a mass for mass basis, according to studies. Particle surface area & surface chemistry are reliable predictors of the reactions seen in animal and cell culture models. Some nanoparticles may be able to travel from the respiratory system to other systems, according to studies. Understanding how these distinctive properties may result in particular health impacts is still being researched.

Richard Feynman, a famous physicist, first addressed the ideas that gave rise to nanotechnology in 1959 in his lecture 'There's Plenty of Room at the Bottom', where he described the prospect of synthesis or through direct atom manipulation.

Although it was not widely recognised, Norio Taniguchi coined the phrase "nanotechnology" in 1974. K. Eric Drexler coined the term "nanotechnology" in his 1986 book *Engines of Creation: The Coming Era of Nanotechnology*, which put forth the concept of a nanoscale "assembler" capable of creating copies of itself and other objects of arbitrary complexity with atomic precision. Drexler was inspired by Feynman's ideas. In an effort to promote a better grasp of the ideas & implications of nanotechnology among the general public, Drexler also co-founded The Foresight Institute in 1986. He is no longer a party to the convention. Drexler's theoretical & public work, that also developed and popularized a conceptual model for nanotechnology, and high-profile experimental advancements, which attracted additional wide-scale attention to the prospects of atomic control of matter, came together to create the speciality of nanotechnology with in 1980s. The development of