­­Nanotech in National Defense

Nanotechnology started to be implemented into many fields as early as the 1980’s. IBM researchers developed technology that would perform bodily operations at the atomic scale. However, the use of the aforementioned technology for national defense protocols can be found all throughout history. The use of nanotechnology in “super soldier’s” has been a prevalent theme throughout the history of science fiction. However, this fictional type of nanotechnology is not what is being used in national defense protocols today. Nanotechnology is a new class of technology that is enabling a new class of sensors, communications, and information processing systems that are needed for everyday tasks dealing with national defense.

To further understand some of the implications and uses of nanotechnology, first we must understand the size and spectrum of nanotechnology. The size is approximately the equal to that of the head of a pin. Researchers are developing these technologies in order to help improve various functions that occur throughout humans and technology.

Nanotechnology is an emerging unique technology that has many promises that can benefit many fields, especially national security. In the near future, emerging nanotechnology will more than likely be funded through the government, rather than through big companies such as Apple, Google, or IBM.

Nanotechnology was estimated to be worth $25 billion in 2005i, and this amount is projected to reach $2.6 trillion by 2015. However, since nanotechnology is relatively new, government research is critical for developing applications of this new technology, particularly in the field of national security.  
 Research is quickly leading nanotechnology to converge with other fields, including biotechnology, information technology, and cognitive science. By developing this new technology, we are able to rapidly increase the amount of productivity within each space.   
 This research could also have a large effect on disease research and possibly change the medical response to national catastrophic disaster.

In 2000, the federal government established the National Nanotechnology Initiative (NNI) to promote nanotechnology research at the federal level.  
 The NNI is managed by the Nanoscale Science Engineering and Technology Subcommittee of the National Science and Technology Council, an interagency organization of 26 federal agencies that coordinates planning, budgeting, and program implementation among defense and national security stakeholders. This is done in order to help prevent any safety and regulation issues that may occur within the nanotechnology arena.   
 In addition to funding research, federal support through the NNI provides crucial funds for the creation of nanotech support infrastructure, such as nanoscale research labs, and for educational resources to develop a skilled workforce capable of advancing nanotechnology.

Many companies are using nanotechnology within their respective fields as well. Apple and Samsung are developing nanotechnology to decrease the weight and size of their flagship phones.

(n.d.). Retrieved April 01, 2018, from https://www.google.com/search?q=nanotech in national defense&oq=nanotech in national defense&aqs=chrome.0.69i59j0.3403j0j4&sourceid=chrome&ie=UTF-8