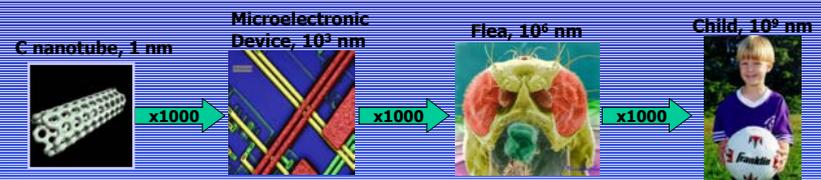




Carbon Nanotube Networks: A New Nanomaterial for DOD Applications

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C nanotubes are 1 nm-diameter "straws" of C atoms that exhibit amazing electronic and structural properties. However, their small size poses a barrier for integrating them into an electronic manufacturing process. A recent NRL invention offers a solution to this problem in the form of a macroscopically sized C nanotube network (CNN). CNNs represent a new manufacturable nanomaterial with many Navy and DOD electronic applications.



CNNs form electrically continuous thin films that can be deposited onto many different types of surfaces for electrically active coatings.

Lightweight and highly sensitive chemical and biological sensors



Intrinsically sensitive to chemical warfare agents and toxic chemicals

Curved Heads-Up Displays (HUDs)



Flexible and optically transparent, CNNs conform to any surface geometry



Avionics and navigational displays

Chemically Inert: Allows use in seawater



New material for thin-film transistors

Compatible with polymeric and flexible substrates

Property-Driven Applications

Underwater tracking based on chemical tags
Mine detection



Badge sensors



Lightweight, flexible electronics

