NanoComposites, Inc.
Commercializing NanoScience
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What does NanoComposites Inc. (NCI) produce?
NanoComposites doesn't directly manufacture products; it provides scientific formulations and master batch composite materials to corporate partners, who then manufacture final products and take then to market.

What are composite materials?
A composite is any material that is made up of more than one component; in this case, with nanomaterials. For example: car manufacturers use nanocomposites composite components in certain car parts, like bumpers. Another example is concrete, which is a composite of cement, gravel and sand.

What is nanotechnology?
Nanotechnology is about science at the 1 – 100 nanometer level. Nanotechnology can be used to manipulate materials on the molecular or the atomic level to give them new properties and functions. Nanotechnology creates and uses structures with novel properties (because of their small size and unique characteristics) to enhance and enable other materials and systems.

How are nanocomposites introduced into these materials?
Materials, such as plastic, are comprised of two components: matrix and filler. If we use our concrete example, the concrete is the matrix, and steel rebar running through it would be the filler. Carbon nanotubes would be the filler introduced into the matrix to make the material stronger, more flexible, more heat resistant, and other desirable qualities.

How is nanotechnology used by NanoComposites?
NCI integrates carbon nanotubes into polymer matrices using proprietary technology to produce composite materials that are superior for their resistance to high and low temperatures and pressures; acids, bases and noxious gases; oil, diesel and other fuels; chemicals and solvents; steam, compression setting and swelling. They offer exceptional sealing force retention, tensile strength, and ability to hold their shape.

What are the benefits of carbon nanotubes (CNT)?
Carbon nanotubes are 100 times stronger than steel, at one-sixty the weight. They offer excellent thermal & electrical conductivity, and tensile strength. CNT have an unusual aspect ratio, being very thin and very long, which gives them a very high surface area.

Why is NanoComposites's approach better than other companies'?
Carbon nanotubes tend to agglomerate, or "clump", which means the desirable properties of CNT's are not dispersed evenly in composites, thus limiting application use. NCI's proprietary technology solves this problem by:

1) Dispersing CNT evenly and completely
2) Permanently bonding CNT to the polymer
3) Enabling dramatic performance improvements
4) Scaling from research lab to pilot and commercial scale manufacture for clients

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