NanoSonic, Inc., Earns Coveted Research Award for its Metal Rubber™ Textiles

Blacksburg, Va. July 31, 2007 — *R&D Magazine* has named NanoSonic Inc., of Blacksburg, Va., a recipient of one of its coveted 2007 R&D 100 (research and development) awards. The award is for the development of Metal Rubber™ Textiles, a spin off of the company's patented Metal Rubber™.

The Chicago Tribune has called these R&D awards "The Oscars of Invention."

In announcing the award, R&D Magazine credited NanoSonic with creating one of the 100 "most technologically significant new products of the year" after it reviewed "entries from many of the most prestigious companies, research organizations, and universities in the world."

Metal Rubber™ Textiles are ultra-low weight, highly-flexible functional fabrics. "They are unique due to the nanotechnology manufacturing process that allows constitutive properties to be built in as they are produced," said Andrea Hill, one of the inventors, and the sensors group leader at NanoSonic, Inc.

"Different functionality needs, such as electrical conductivity, are met by using the molecule by molecule synthesis process," she added.

Consequently, Metal Rubber™ Textiles can act as electromagnetic shielding materials, sensors, smart clothing (e-Textiles), medical instrumentation devices, flexible solar arrays, and ultra-light weight flexible antennas, to name a few, according to Richard Claus, President and CEO of NanoSonic, Inc.

To date, NanoSonic has produced several types of flexible fabrics, foams and fibers that incorporate the properties of Metal Rubber™. And the company has met another challenge of the technology of working with nano-materials; under Hill's direction, it has

up-scaled production to macro-sized materials, as large as a 4’x8’ sheet of plywood one might buy at a local hardware store.

These fabrics can cover extremely large areas, including civil structures. They can conform to a wide variety of surfaces, including the human body while it's moving.

As these textiles can carry data and electrical power, they open up a huge new world of applications. Another advantage of NanoSonic’s novel e-textiles over its competitors is its durability to withstand repeated washings.

Hill, named Virginia Tech’s Outstanding Young Engineering Alumnus Award for 2005-06, is a 2003 graduate of its materials science and engineering department. Her name appears on five patents concerned with a new process for manufacturing in nanotechnology and the novel, groundbreaking material called Metal Rubber™.

Although Hill was not the primary inventor of Metal Rubber™, she has been instrumental in the further identification of Metal Rubber™ Textiles that have optimized Metal Rubber™’s unique qualities. Jennifer Lalli, vice president of business development for NanoSonic, and also a Virginia Tech graduate of the chemistry department, is one of the primary inventors of Metal Rubber™.

Hill is NanoSonic’s director of the Metal Rubber™ fabrication, development and sales. She believes the new material will be used in high technology applications, both in defense and in commercial ventures.

Metal Rubber™ is a highly electrically conductive and highly flexible elastomer. It can be mechanically strained to greater than 1000% of its original dimensions while remaining electrically conductive. Consequently, NanoSonic’s Metal Rubber™ Textiles can also be stretched and then return to their original shape. No damage occurs since there is no coating material to flake off. Other e-textile materials currently in the

marketplace typically incorporate normal metal wires that are woven into conventional cloth fabrics, but the wires are heavy and cannot be stretched without damage.

The official R&D 100 award will be presented Oct. 18, 2007 at Chicago's Navy Pier with a public daytime exhibit, followed by a private black-tie dinner and awards ceremony.

Another example of NanoSonic's leadership in the nanotechnology arena occurred a year ago when it emerged as the regional leader in terms of the overall dollar amount of contracts it received, as well as the number of grants awarded between 1995 and 2002 in a survey conducted by the Southern Technology Council and Georgia Tech. They surveyed the 13 Southern states on strength of small businesses in nanotechnology.

The report, Connecting the Dots: Creating a Southern Nanotechnology Network, released this summer, cited only five nanotechnology firms in the 13 states that received the upper limit of 14 to 39 Small Business Innovation Research (SBIR) program awards, totaling from $3.6 million to more than $10 million.

NanoSonic emerged as the leader in both categories with the 39 awards, totaling $10,347,956 in funding.

NanoSonic was founded in 1998 in cooperation with Virginia Tech, the state's leading research university. Claus, Virginia's 2001 Outstanding Scientist, holds the Lewis A. Hester Chair of Engineering at Virginia Tech and is currently on leave from the University.