



For information or interview requests: news@frontiernano.com

Frontier NanoSystems Selected by Red Herring as a 2016 North America Top 100 Most Disruptive Startup

Company's high productivity manufacturing nanotechnology can efficiently produce ultra-high performance materials for use in microelectronics, aerospace, energy, transportation, oil and gas, and other sectors.

AUSTIN, Texas (May 18, 2016) – Frontier NanoSystems, LLC, a privately financed company based in Austin, Texas, has been selected as a finalist by Red Herring in its North America Top 100 Most Disruptive Startups for 2016. The competition and awards ceremony will be held June 6-8 in Newport Beach, California. Red Herring is a media company that hosts events for technology leaders, comprises an online daily technology news service, technology newsletters, and an innovation magazine. It is best known for its Red Herring Top 100 technology awards that highlight startup companies and private ventures in Asia, Europe, and the Americas, as well as the annual international conferences it hosts.

Frontier NanoSystems' global IP estate claims the ability to manufacture ultra-high performance materials with a simplicity, precision, reliability, and speed to profitably displace commodity material constructions in the marketplace. Its technology was originally developed in three U.S. national laboratories under a project managed by L. Pierre de Rochemont, the company's Founder and General Manager.

"This selection to the Red Herring Top 100 is as much of a surprise as it is an honor. We have been purposefully keeping a small digital footprint and a very low public profile", de Rochemont commented, "as we worked to secure a patent estate that unambiguously claimed applications of the technology that are truly disruptive."

At the heart of Frontier NanoSystems' global IP estate is a new phase of matter the company calls *Big Nano*. *Big Nano* is a material that is physically large enough to have economic value, yet, at the same time, still manifests the properties of its nanoparticle equivalent. Despite their enormous promise and early hype, nanotechnologies have disappointed as financial investments.

"The attractive physical properties available with nanotechnology are only observable when you shrink a material down in size to a dimension where quantum scale effects become manifest," de Rochemont said. "At these dimensions you are dealing with objects you can only see through the world's more powerful microscopes. When you look around you, the items that hold economic value are useful, which means they have to be big enough to be used somehow by consumers. The practical use of an invisible particle is limited, not broad. Therein remains

the time-tested dilemma for nanotech. Prior to our innovation, it was not possible to have your cake and eat it too, since “big” and “nano” were at opposing ends of the spectrum."

Prior efforts to meld or glue tiny nanoparticles together into a larger body defied the ability to retain those unique quantum scale properties. Frontier NanoSystems pioneered a contrarian approach by first forming a large glass body having extreme chemical uniformity. The "big body" is then crystallized for a very short period of time. This produces a vast matrix of nanoscale grains suspended in a solid body of arbitrary dimension. Because Mother Nature does not produce physically large materials that hold nanoscale properties, this novel phase of matter was patentable.

"We knew the implications of our breakthrough and fortunately had private investors that allowed us to mine this rich vein. So rather than focusing on the material itself for others to exploit, we directed our attention to what would be possible by integrating these near ideal properties into finished products," said Richard F. Hobbs, financial advisor to the CEO. "This strategy not only allows us to fully integrate microelectronics, but to vertically integrate our operations and push up the value chain."

Frontier NanoSystems has established international claims to *Big Nano* in the form of a ceramic, an electroceramic, a metal, metallic alloy or superalloy, and a semiconductor. The company's global patent estate now comprises issued claims to product designs and embodiments that promise order of magnitude performance improvements to nearly all microelectronic circuits having large commercial value, from RFID to quantum computing.

"Red Herring has a remarkable team of due diligence experts that scour the tech space," de Rochemont said. "We received an invitation to participate in the 2016 competition within days of receiving formal notification of allowance from the U.S. Patent and Trademark Office on the first of what will likely be a dozen patents that apply Big Nano to modern computing systems. I guess you can't hide forever!"



About Red Herring

Red Herring is a global media company which unites the world's best high technology innovators, venture investors and business decision makers in a variety of forums: a leading innovation magazine, an online daily technology news service, technology newsletters and major events for technology leaders around the globe. Red Herring provides an insider's access to the global innovation economy, featuring unparalleled insights on the emerging technologies driving the economy. For more information, visit redherring.com.

About Frontier NanoSystems

Frontier NanoSystems, LLC, based in Austin, Texas, is commercializing an advanced additive, high productivity manufacturing technology that can efficiently produce ultra-high performance materials, including metals/alloys/superalloys, ceramics/electroceramics and semiconductors at unmatched rates and integrate them into high-value products with applications in the microelectronics, aerospace, energy, transportation, oil and gas, and other industry sectors. Visit frontiernano.com for more information.