## NANOCLARITY LLC

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## 9/9/04 Press Release (continued page 2)

## "Nanotechnology Industry Approaches Massive Growth Phase." Says NanoClarity Newsletter publisher. (Continued)

"What is so apparent in the fall of 2004 is that the billions of dollars of government funds and corporate investment efforts worldwide ... I emphasize worldwide (with two thirds of all investment outside the US) ... are beginning to show *many tangible results*. Monitoring the expanding numbers of discoveries and announcements every day tells us that something exciting is happening in nanotechnology. Parallel effort exists all over the world. Not only is one lab working to solve specific bottleneck problems, but also many fully funded labs and companies are racing to solve a myriad of impedimenta blocking the commercialization of nanotechnology in their specific industries ... all at the same time. This parallel competitive development environment is very positive for the industry and is rapidly leading to breakthroughs, inventive products and a race to market those products commercially.

For example, in every market, one can identify the one or two technical or manufacturing barriers slowing down nanotech's active exploitation or commercialization. Many of these are now beginning to fall because of the massive investment and parallel efforts. A year ago, we had only one acceptable method for making useful quantities (tons) of single walled carbon nanotubes. Now, there are four. All were announced within the last six months, half from outside the United States. A year ago, liquid could not be moved across a nanoarray. Now there is a proven methodology with more methods coming. One year ago, nanobot movement was only modeled. Today, rudimentary nanobot movement has been performed using DNA segments and complements. Antibodies and proteins have been linked to nanotubes. Nanodots (quantum dots) are being manufactured in multiple locations and applied to identification and tracking uses that will shortly come to market ...especially in the medical and pharmaceutical industries. Patents are being non-exclusively sub-licensed throughout the nanotech industry to spur commercialization. Progress is tangible and specific. Identifiable commercial applications of nanotechnology are in the final stages of testing for introduction as products next year. With these product introductions, private companies with "real" presence in markets will surface ... *making next year, potentially, a good nanotech IPO year*.

A word of caution. Not all is rosy. We are still in the early development phase of the industry. We have yet to begin to create those designer molecules so often envisioned. We have yet to show physically the self-assembly of designer molecules needed to mature the industry broadly. We have yet to create new ways of implementing those major applications of nanotechnology that lead to disruptions of entire industry segments. *We have yet to touch the toxicological, ethical and moral questions inherent in the application of nanotech to the world we live in.* All that is yet to come. We are only in the enabler and integrator segments of market growth. There is much to accomplish.

In sum, we should all be pleased with the state of nanotech in the fall of 2004 and the speed with which developments and commercial applications are occurring. We should be even more pleased with the acceleration and momentum of the industry. The economic stakes in nanotechnology are very high ... billions of dollars in market after market. All the commercial opportunities are still available. There are no clear winners in any economic segment of nanotechnology now. This is a right place to be for the future.

One a final observation ... the timetables for nanotechnology implementation, except possibly for those with FDA approval requirements, are excessively long. They ignore human nature. Because of the massive amount of funding and worldwide competition, nanotechnology's applications will occur far more rapidly and more broadly than predicted. Stake out your positions now ... next year may be too late. "

NanoClarity is published by high technology entrepreneur Alan Shalleck, a graduate of MIT and Harvard Business School, who has had a 40-year creative commitment to the leading edges of technology and business and who is a recognized expert in the immediate and long-term prospects for nanotechnology.