VCs to Nanotech: Don't Call Us!

January 2006
VCs to Nanotech: Don't Call Us!

Seven years away from being a projected trillion dollar industry, nanotechnology scarcely registers on the radar of most venture capitalists. Despite US$18 billion of public funding there is an almost total lack of interest among investors, and those that have put in money are having an increasingly difficult time getting a return.

![Graph showing nanotechnology as a percentage of North American Venture Capital Spending](image)

**Figure 1 Nanotechnology as a percentage of North American Venture Capital Spending**

2005 was a good year for investments in nanotechnology, attracting US$375 million, almost double the previous years funding. However, the picture is less rosy than the numbers alone would imply with US nanotech companies accounting for less than one seven hundredth of all VC cash invested and much of the money invested so far being trapped in illiquid companies with little short term chance of an exit.
2005 also saw the closure of two more high profile nanotech companies.

Optiva, despite attracting US$41.5 million for its for flat panel display polarizers technology was finally liquidated, with its assets being sold to Nitto Denka, one of the companies whose market they were supposed to disrupt for a paltry US$2 million.

Meanwhile, on the other side of the Atlantic, another great hope for industry wide disruption, Nanomagnetics, finally closed its doors after US$15 million and several changes of direction taking it from data storage to water treatment.

What both companies have in common is that they were attempting to break into a large, well-funded market by using nanotechnologies. In both cases, major industries with a significant portion of revenues available for research and development were able to solve their own problems faster than the nanotech companies could develop their own technology.

Even companies such as Molecular Imprints and Obducat whose technologies have been written into the ITRS semiconductor roadmaps are losing money while they wait for their markets to emerge in 2012.

**Nanotech Dinosaurs on the Verge of Extinction?**

What all of these companies have in common is that they were funded in the first flush of nanotech enthusiasm, where getting a piece of a company that would create a new industrial revolution was more important than technical due diligence, and when the lessons of the dot com era were too fresh to be properly understood. Nobody stopped to ask whether a trillion dollar chemistry market would have the same appeal. Five years later, with no exit in sight, investors are feeling increasingly nervous.
The majority of funding raised in 2005 has been to fund further development, pushing the median deal size up to US$ 8.25 million. As a result we expect investors to continue to lose patience with first mover nanotech companies, leading to rich pickings for patent trolls and companies looking to acquire IP in fire sales, as well a slew of attempted trade sales ad IPOs in 2006.

**Nanotech VCs are diversifying fast**

The past five years has seen a number of funds with a focus on nanotechnologies, but lack of quality deal flow and difficulties in defining either market strategies or exit routes have led many to diversify.

One of the most widely publicized nanotrech funds, Draper Fisher Jurvetson with long held stakes in Zetacore, Nantero and Molecular Imprints, among several others, has yet to see an exit and has made better returns from its investments in ‘traditional’ companies leveraging new business models enabled by the internet, such as Hotmail and Skype.

Another specialist ‘nanotech VC’ firm, Harris and Harris, has in recent years made increasing numbers of investments in non-nano companies such as Clorogen and Metabolon.
European VCs remain to be convinced

US VCs outspent their European counterparts by a factor of six in 2005 despite operating in a similar sized market and with similar amounts of nanotech funding.

![2005 Nanotech VC Activity By Region](image)

**Figure 4 European VCs show a traditional aversion to risk**

While a more general US/EU ratio for technology VC investing is 5:1, European investors tend to have a far lower appetite for risk than their US counterparts, and significantly fewer angel investors to shoulder the early risks. The risks associated with nanotechnologies such as unknown markets, consumer resistance, and lack of investor understanding have pushed this ratio closer to 6:1 in the case of nanotechnologies.

**Conclusion: Don’t Invest in Nanotech!**

It is becoming increasingly clear to investors that the returns from nanotech will not come from companies producing nano materials such as carbon nanotubes, but from companies using them to create new paradigms in existing major markets such as health, energy, food and textiles. In 2005 we also saw a continuing shift in the trend from technology push, such as materials companies, to areas exhibiting significant market pull such as healthcare.
Figure 5 Breakdown of 2005 venture capital investments by sector

The past five years has seen investors backing a variety of nanotechnologies, and then attempting to foist them on an unwilling and uninterested market. A new wave of smart sector based investors, who understand their markets well, will see nanotechnology as a key to unlocking further value within those markets, rather than a whole new market in its own right.