

# TAKING THE NANOPULSE

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## Nano-boom? Or nano-bust?

**Life, death and resurrection in the nanosphere.**

BY SCOTT E. RICKERT

Times are tough all over. Banks, carmakers, retailers – they're all taking body blows in this economy. And everyone in my business knows a nanotechnology company or two that's struggling. Still, it was a punch in the stomach when I read six news stories in one afternoon about seemingly healthy nano-companies being suddenly in trouble. Deep trouble. Chapter 11, Chapter 7, delistings, layoffs, locked doors.

Some media pundits were quick to announce the death of nanotechnology. And there were shock waves that rolled through the industry.

But these are companies whose technology and leadership I know. The sound bites weren't enough. Is it any wonder I wanted to get to the bottom of the story?

Turns out, there's not just one story. And the sky isn't falling. Some of it was just bad timing. Investor money just dried up, like it did everywhere else in the economy. And, unfortunately, some of the brightest potential for nanotechnology – green energy, biosciences, electronics – has big start-up costs, and those sectors lose their luster when an economy goes back to basics. But some of the companies made their own bad luck – in big ways.

So where did those companies go wrong? I see three classic problems. The biggest company killer? Ideas that couldn't be commercialized fast enough. I've written before about the importance of not confusing lab results with commercial products. It's a discipline that eager researchers and hungry investors apparently haven't learned. And in cash-strapped times, there are only the quick and the dead. Get to market quick, or you're dead.

Intellectual property disputes have taken down several other nano-companies recently. Quite frankly, patent law has become a nightmare as technology becomes more complex and intertwined. I'm not in the know about any particular cases, but I often find that the winners are the folks with the deepest pockets. Start-ups beware. Even larger companies, like mine, may be better off bypassing the expensive and questionable protection of patents and instead sticking with trade secrets that you share with only the most trusted partners.

The third company-killer? Call it positive thinking. Or maybe the more accurate word is hubris. Some companies expanded in the good times like the money would never stop. They built multiple factories that weren't

producing anything. They bought patents they couldn't build into anything. They hired large staffs without a clear plan for results. It all caught up with them.

So is it time for the nanotechnology eulogy? Hardly. There are still plenty of sound companies and smart researchers out there. Companies well along the commercialization curve are doing just fine. Others are hunkered down now and will come back strong with the economy. Still others will be part of a convergence in the industry, with mainstream companies absorbing nanotech start-ups, some mergers, and a new dependence on partnerships. Even some of the deceased companies will be resurrected into second lives. Their smartest scientists and business builders will be absorbed by competitors, or their intellectual property will find a new home.

I'm also hopeful that the industry will get its fair share of stimulus support, and I commend John Kerry who recently introduced the Senate's National Nanotechnology Bill to pair with a similar house version. The bill's focus is on funding commercial nanotechnology applications that benefit consumers and create jobs.

So what's the final word on the health of nanobusiness? Let's borrow a comment from Mark Twain after he learned his obituary had been published in a New York newspaper. "The reports of my death are greatly exaggerated." Enough said.

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