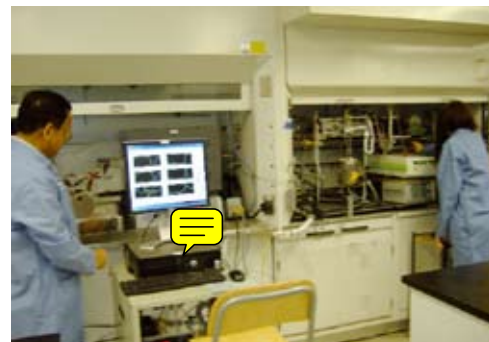


# Breakthrough Catalyst Materials for the Automotive Market

BUSINESS  
MAGAZINE FOR  
INTERNATIONAL  
ENTERPRISES zillion

1

*Having engineered a revolutionary methodology to design and test catalysts, Nanostellar addresses the serious threats posed to the environment by pollution from automobiles, trucks and stationary engines. These threats are encouraging governments in the United States, in the European Union, and in other industrialised nations to pass legislation that sets incrementally stricter standards for emissions reduction. In return this calls for a quick evolution of the chemical catalysts used to lessen emissions. Zillion spoke with Mr. Pankaj Dhingra, President and CEO of Nanostellar, Inc. "Our methodology will change the way chemistry gets done," he says.*



Mr. Dhingra joined Nanostellar, which was founded in 2004, in December 2005. "They were getting ready for commercialisation of their Rational Catalyst Design methodology and they were looking for someone with automotive experience to guide the company to commercialisation," he explains, adding that he was won over by their design methodology. "When considering that methodologies in chemistry generally haven't changed in a hundred years, Nanostellar's Rational Catalyst Design Methodology is revolutionary. Its impact can be compared to the impact that electronic design automation has had on circuit design, enabling computers to design and test complex circuits at a fraction of the time and cost previously required. Our methodology speeds up the process of designing catalysts in a similar fashion." The company employs thirty people and is headquartered in Redwood City, California.



Catalyst products by Nanostellar

Nanostellar's Rational Catalyst Design methodology combines two disciplines, computational nano science and advanced synthetic chemistry, in order to speed up development for nano-engineered catalytic materials for diesel emissions control. Rational Catalyst Design allows Nanostellar to gain a fundamental understanding of the surface chemistry and properties of nano-materials, enabling it to develop new nano-engineered alloys at record speeds.

Recently Nanostellar announced that the World Economic Forum (WEF) has selected it as a 2008 Technology Pioneer. The company is one of 39 visionary companies from around the globe to receive this esteemed honour as nominated by leading technology experts from the academia, media, venture capital, and corporate technology communities. Mr. Dhingra: "It does give us credibility and validation, which we find very exciting. We hope to capitalise on this achievement and find more applications for our technology."

The company's main target for 2008 is to win OEM contracts. "Having spent 25 million US dollars on research and development over the past four years, we are convinced of the benefits of using computer based models in

catalyst design. The industry spends close to USD 100 million dollars on designing catalysts each year, so for us to be able to come up with materials that are different and better than what the industry has been able to develop so far promises to have a huge impact," states Mr. Dhingra. In the longer term, Nanostellar aims to use Rational Catalyst Design for other design applications, including catalysts for bio fuels. ■



Nanostellar Inc.  
3696 Haven Avenue  
Redwood City, CA 94063  
Phone: +1 650 368 1010  
Website: [www.nanostellar.com](http://www.nanostellar.com)