

TECH DIGEST

Nissan heads toward a safer, smarter car

JAPAN To make driving safer, Japanese automaker Nissan Motor Co. is developing a car that swerves back into its lane on its own and features a video system that makes parking a breeze. "Lane Departure Prevention" combines a camera and computerized devices that control braking for front and rear wheels, nudging the car in the right direction. The feature disengages when you hit the turn signal, so you can change lanes and make turns.

Nissan has a system to make squeezing into parking spots easier. Four cameras in the front, back and on the side-mirrors relay live video. Images from all sides are shown as they would appear from above, the car displayed as a computer graphic in the middle.

The automaker has yet to decide on when it will offer either system, and rival automakers have similar smart-car features in the works. Nissan also showed a computerized system that controls the steering of front and rear wheels to stabilize driving when a car switches directions quickly.

Sony online players can send for pizza

NEW YORK Demonstrating a deep understanding of what its computer-gaming audience wants, Sony has built the ability to order pizza into its latest online multiplayer game.

Type the command "pizza" while playing Everquest II, a fantasy game with 330,000 active players, and get the Pizza Hut Web site, where you can place orders for delivery. Chris Kramer, spokesman for Sony Online Entertainment, said he believes this is the first time a game accepts orders for real-world items. Sony plans to integrate the pizza function more tightly into the game, so players can charge pizza to their monthly game subscription bill. "The goal for the future is to eventually let people do more things like this," Mr. Kramer said. "They could type /harry potter and get the new Harry Potter book delivered or /star wars and get the new Star Wars DVD."

Hard-drive makers expand storage

SAN JOSE Two hard-drive makers have expanded the capacities of their 1-inch drives to 6 gigabytes, catering to consumers' growing appetites for more storage in tiny packages.

The new drives by Seagate Technology LLC and Hitachi Global Storage Technologies put the world's top two hard-drive manufacturers in head-to-head competition. Hitachi, which supplies components for Apple Computer's iPod mini portable music players, previously made its "Microdrives" with a maximum capacity of 4 GB. Seagate introduced its first line of 1-inch-diameter disk drives last fall in 2.5 GB and 5 GB flavors. Its market entry helped spark a crop of iPod rivals.

Early cyberspace files fetch \$700,000

NEW YORK Documents from the early days of computing cataloged as "The Origins of Cyberspace" brought in more than \$700,000 at auction, though nearly half the items didn't find a buyer.

Top sellers in the Christie's auction included a 1946 business plan with designs for the first electronic computers. It sold for \$72,000 to a private buyer. J. Prepper Eckert and John Mauchly, who wrote the document, were the engineers behind the Electronic Control Co., the world's first electronic computer firm.

— Associated Press



ASSOCIATED PRESS

Many radio listeners are switching to iPods. Gabriel, left, and Ari Lewenstein listen to the devices outside the Apple Store in Palo Alto.

Wall Street turned off by radio

Advertising growth is slowing down, listeners are tuning out

By **SETH SUTEL**
ASSOCIATED PRESS

NEW YORK — For years, investors loved the radio business. Its sky-high profits margins were among the best in the media industry and changes in ownership rules a decade ago triggered a wave of merger deals. Prospects for growth seemed great.

These days, Wall Street would rather hear something else. Growth in advertising has slowed, listeners seem to be switching off their radios in favor of iPods, and a new threat is emerging

from commercial-free channels offered by satellite radio.

Last week, media giant Viacom Inc. disclosed that it wrote down the value of its radio business by \$11 billion and the nation's largest radio chain, Clear Channel Communications Inc., said it lost \$4.7 billion in the fourth quarter, mostly due to an accounting charge.

Industry observers say many of the problems reflect the industry's focus on profits and Wall Street, rather than consumers. Specifically, they point to cost-cutting that compromised the quality of programming, and a

tendency to put more advertising on the air, alienating listeners with what's known as advertising "clutter."

In the boom years of the late 1990s, radio stations benefited from the surge in advertising from Internet companies, and many increased the amount of ad time, or "inventory," as it's called in the industry, to accommodate the surging demand.

"It was a boom time," said Tom Taylor, the editor of Inside Radio, an industry magazine owned by Clear

Please see **RADIO** on **B4**

High-tech protective coatings company holds global conference for prospective customers

Inovati has the world at its doorstep

By **FRANK NELSON**
NEWS-PRESS STAFF WRITER

High-tech protective coatings company Inovati has hit upon a novel way of getting its message out to the world — inviting potential customers from around the globe to an annual conference at its Goleta headquarters.

The first such conference took place a few days ago and attracted about 30 people from as far afield as China, Japan and Finland, said Inovati's sales engineer, Ryan Mitchell.

These guests were able to interact with others from across the United States, sharing ideas and information, networking, listening to expert speakers and looking at displays of Inovati's unique coatings.

Mr. Mitchell says the conference created visibility for Inovati. "We learned a lot and our customers and potential customers learned a lot, too," he said. "We'll definitely be doing this again next year."

The company deals primarily with the aerospace and aircraft industries, although Mr. Mitchell says there are widespread applications including automotive, industrial equipment, telecommunications and medical devices.

Inovati is offering an alternative to traditional coating methods such as electro-plating and thermal spraying that have been around for half a century or more.

Based on Hollister Avenue, Inovati has patented the process and equipment, known as "kinetic metallization," for adding coatings, usually metal or metal composites, that prevent corrosion, wear and tear, abrasion and oxidation of other metal surfaces.

Mr. Mitchell says Inovati's system is not only cheaper and better but provides a much more environmentally friendly option than using toxic coating agents like cadmium, chrome or zinc.

Cadmium is the preferred protective coating for aircraft landing gear, but Mr. Mitchell says it is being banned because of its adverse environmental impact. Inovati, he said, is able to supply an aluminum-based alternative.

The secret with Inovati lies in the method for applying the coatings — the metal coating, in powder form, is suspended in warmed helium gas which is then pumped under pressure through a narrow nozzle.

The gas flow accelerates to about 980 meters per second and the metal powder particles, traveling at this speed, hits the surface being coated, flatten out on impact and form a solid



RAFAEL MALDONADO / NEWS-PRESS PHOTOS

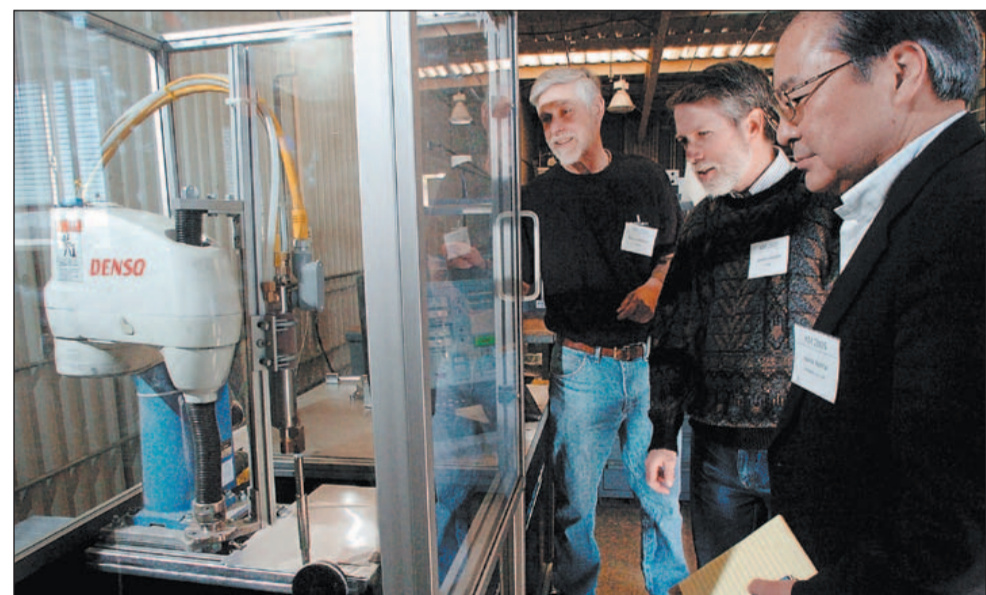
bond with the surface.

Inovati develops and sells this equipment, which Mr. Mitchell says costs around \$220,000 for a standard unit. However, the company is also looking at developing a smaller field unit which could one day end up in the hands of do-it-yourself enthusiasts at places like Home Depot.

The company has been around about 15 years and is owned by president Howard Gable and Ralph Tapphorn, vice president of technology.

Inovati employs five full-time and two part-time staff, plus three interns, and Mr. Mitchell says if a couple of expected military contracts come through they may be looking for another three or four engineers and more office staff.

e-mail: fnelson@newspress.com



President Howard Gebel, right, shows Jaime Cleland of Raytheon how Inovati's coatings are applied. Below, the firm's Rich Frickman, left, shows James Nesbitt of NASA and Akira Narita of Japan's Startack one of the applicators. About 30 guests from around the world visited the company last week.

Time to recap the megapixel race, now at milestone 8

On life's final exam, the section intended to gauge your maturity and wisdom will probably look like this: "Mark each statement true or false: More money always makes you happier. A larger strawberry always tastes better. More megahertz always means a faster computer."

Too easy? All right, then, answer this: Why are so many people convinced that more megapixels means a better digital camera?

Within three years, camera companies rolled out 4-megapixel cameras, then 5, then 6 and 7. Now, if you can believe it, 8-megapixel consumer cameras are available for less than \$600.

Let's get one thing straight: The number of megapixels is a measure of how many dots

make up a digital photo, not its quality. An 8-megapixel photo can look just as bad as a 3-megapixel one — just much, much bigger.

The problem with this digicam arms race is that more megapixels mean bigger files. You need a much bigger memory card, you'll pay more for the camera (for its faster processing circuitry) and you'll have to wait a lot longer for those giant files to download to your computer. Once there, they also take longer to transfer, open and edit.

All right. Now that you've been given the lecture, it's only fair to acknowledge that more megapixels do come in handy in three situations. First, an 8-megapixel photo has enough resolution for giant prints — 20-inch-by-30-inch posters, for example. Second, more megapixel

els give you the freedom to crop out a huge amount of a photo to isolate the really good stuff, while still leaving enough pixels to make reasonably sized prints.

Third — let's be honest here — it's fun to blow people away by telling them you have an 8-megapixel camera.

Five big-name camera companies make 8-megapixel models for less than \$800: Nikon, Olympus, Konica Minolta, Canon and Sony. (Sony declined to provide a camera for evaluation in this roundup, saying that its entry has reached the end of its life cycle. Memorial services have not yet been scheduled.)

Fortunately, these companies didn't just slap 8-megapixel sensors into so-so cameras. Each company also incorporated excellent lenses,

fast circuitry and other hallmarks of high-end cameras. In other words, these cameras give you eight good megapixels.

All of these cameras are heavyish, black and fairly bulky; if you want one of those slim, silver credit card cams, forget it. Each offers full manual controls, a pop-up flash and a detached, easy-to-lose lens cap. Each can capture photos in either the JPEG format or what advanced shutterbugs call RAW format — huge, 13-megabyte files that when transferred to a program like Photoshop or iMovie can be miraculously "reshot" with different exposure, white balance and other settings, right on the computer.

Three models in this review — the Nikon,

Please see **CIRCUITS** on **B4**

CIRCUITS
David Pogue