



By Marsha Walton
CNN

Friday, February 18, 2005 Posted: 2059 GMT (0459 HKT)

SCOTTSDALE, Arizona (CNN) -- The elite in the technology world got a glimpse this week of everything from better-fitting jeans to a better way of de-icing aircraft before takeoff.

The annual DEMO technology conference often brings a sneak preview of "the next big thing." DEMO Executive Producer Chris Shipley said the 15th anniversary of DEMO had a practical theme.

"I wanted to find some products that had broader implications than just our ability to send e-mail faster or share photographs," said Shipley.

"I think I'm fortunate that so many people talk to me about the products they're developing, the technologies they are working on, the ideas they have," said Shipley.

Ice Camera

MD Robotics showed a prototype of their Ice Camera, which can detect millimeters of ice on aircraft wings.

"We were surprised to find there was no way of physically measuring ice on aircraft: Everyone just uses their eyes," said Frank Teti, manager of product development. "And even a tiny amount of ice on an aircraft can bring a plane down."

The challenge in designing the device was differentiating between identifying water and ice.

"Ice and water have very different 'signatures,' and we've managed to locate the ice signature with this camera," said Teti.

The company is working with the Federal Aviation Administration and Transport Canada to test the system. Teti added that the cameras also have proved accurate on roads and bridges, even attached to moving cars.

Australia's QRSciences demonstrated another aviation security product using low-frequency radio waves to detect plastic explosives.

"With our technology we are actually looking at the chemical structure of the atom, ranging from different molecules of nitrogen, chlorine, beryllium, antimony, arsenic and others," said CEO Kevin Russeth.

"There is no easy way to detect a whole host of explosives. ... I think as time moves on, technologies will be married together to minimize the danger to the public and to secure facilities," said Russeth.

The company is working with the U.S. Transportation Security Administration to commercialize the device.

Smart shopping

Perhaps the hottest booth on the show floor used low-power radio waves for a far more commonplace task: helping shoppers find clothes that really fit.

"We've put this in department stores already and consumers love the convenience of finding out what brands will fit them best and what size they are in various brands," said Ed Gribbin, president of Intellifit.

DEMO attendees stood in line to enter a clear, round booth for the full body scan.

The shopper stays fully clothed, and it took just 10 seconds for 196 antennas to complete the scan, capturing about 200 different body measurements. The shopper can then go to the company Web site and add specifics, like whether they like their jeans baggy or tight. Data only is kept by the company, and no pictures are retained.

Buzz Bruggeman was among those who got "intellifitted."

"Men are such terrible shoppers, and they are so unwilling and so impatient about shopping, so if this solves a problem for a man who is looking to shop, every guy would do it!" he laughed.

Along with that consumer side, there's also a business interest.

"The online implications are huge," said Gribbin. "Returns on online shopping run over 30 percent, so if people knew what size they were it would save the industry a lot of money."

Sense of touch

A tech conference like DEMO is an easy place to find people with cramped thumbs and stylus-challenged fingers after typing too much information on devices that are too small.

The virtual keyboard from VKB will definitely get you noticed in the coffee shop or the train station. A small device projects an infrared image of a full-sized keyboard on just about any flat surface. A detection system follows the keystrokes the fingers are making on that virtual keyboard, sending that information back to the cell phone or PDA.

"For people like me, on the move all the time who have longer e-mails and longer SMS (text messages), a virtual keyboard makes sense," said VKB's Mario Neves. "It's portable, it's convenient, it's really fun."

The device may also find a home in operating rooms or industry "clean rooms" where a physical keyboard can harbor dirt and germs.

Haptics -- the sense of touch -- may not yet be a household word, but for the video game industry it may be as dramatic a change as moving from black and white to color was for television.



VKB's cell phone and PDA accessory projects a standard sized "virtual keyboard" on just about any flat surface.

"Touch is one of the most difficult senses to simulate on a computer," said Tom Anderson of Novint Technologies. "With our eyes it's passive, with our ears it's passive, with touch, it is two ways, both in and out of the computer, so you need something mechanical."

The Novint "Falcon" is a device that adds a high-fidelity sense of touch to the gaming experience.

"You can feel surfaces, you can feel textures, you can feel dynamics and momentum," said Anderson.

And while those sensations are difficult to describe with words, getting one's hands on the device translated to the weight of a golf club, the pull of an arrow on a bow -- even the gooiness of molasses.

For players tired of online gaming with strangers, the company XFire merges gaming and Instant Messaging so players can join their buddies.

"It is very easy to join your friends. You can see where they are playing and you click their name and instantly you are playing on the same server they're playing," said Mike Cassidy of XFire.

Other products reflected millions of consumers "settling in" to a digital lifestyle.

"I don't know anyone who is old enough to walk and talk who is not embracing technology in some fashion," said DEMO's Shipley. "Whether it's children who are using iPods, or grandparents who are using e-mail to stay in touch with their children and grandchildren."

Friends and family

A product called Photoleap can send hundreds of digital photos at a time, with the ease of sending an e-mail.



"There's almost a billion active e-mail users today, and just in the last two years a hundred million digital cameras [were] sold. We just want people to be handed the pictures, not have to go anywhere to get them," said Paul Colton, founder of Photoleap.

Colton says other photo services re-size or re-format pictures, or require users to go to a separate Web site.

Photoleap lets users send hundreds of pictures at a time via their e-mail. said. "We took every hassle we could out of the recipient's experience."

"You can send, you can receive, you can reply, you can forward ... everything you can do with e-mail you can do with Photoleap with your photos," he

The fears and frustrations of baby boomers trying to monitor aging parents and young children inspired a couple of new forays into home-networking technology.

A system from Lusora uses sensors and personal pendants to remotely monitor a loved one's activity.

"You put them on various household items such as a door or refrigerator so if your mom didn't open the fridge by 10 o'clock in the morning we would call you or send you a text message," said Lusora's co-founder Dan Bauer.

A personal pendant, the Lusora Intelligent Sensory Architecture, or LISA, contains technology that detects a fall, so if the wearer is unable to press a button, family members and emergency services still are notified.

"We are very focused on the senior market. I don't think there is a business in here that is more mission critical," said Bauer.

I-Control uses individual Web-based monitoring that it says goes beyond what commercial security companies offer.

"We have solved a lot of the key problems that have prevented this market from taking off," said iControl President Reza Raji. "It has to do with pricing, ease of use, and ease of installation."

The company offers a "starter kit" of sensors, cameras and other devices that can be installed on anything from windows to medicine cabinets to doggie doors so homes and businesses can be monitored.