



# TECHNO

THE BIG IDEAS THAT  
ARE CHANGING EVERYTHING

# TRENDS

## VIDEO CAN STRENGTHEN RELATIONSHIPS

BY DANIEL BURRUS, CEO OF BURRUS RESEARCH



A major challenge today is that many companies are going into crisis mode. Because air travel and gas costs are high, they're using video and Web conferencing, as well as the new high-end videoconferencing called telepresence offered by Cisco and HP, to save travel money and meeting costs. However, if their only motivation is to save money on travel, rather than the more important goal of enhancing communication and collaboration throughout the enterprise, then they're simply creating another fad. Video conferencing has evolved tremendously over the past few years, and companies need to use the technology of today to pave the path to future profits, all of which hinge on relationships.

To add fuel to the fire is the fact that rising gas prices and travel costs are not cyclical this time; they're permanent. Major social changes are taking place worldwide in such places as China and India, and the increased global energy consumption affects everyone. In other words, fuel costs will fluctuate but will not go back to the low levels we once enjoyed.

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## VIDEO RELATIONSHIPS *(continued from page 1)*

Therefore, smart companies are changing how they think about meetings and the new video conferencing technology, and they're realizing that it offers business something more powerful than they've had in the past. These companies are thinking in terms of "visual communications" rather than simply video and Web conferencing.

Visual communications heighten the bond you have with someone when you cannot see them face-to-face. It's about adding dimension to the communication. There's a reason why you shake someone's hand when you meet them: The more senses you involve, the higher the connection. Those companies that can enhance their communication, both internally and externally, are the ones who can cause change faster and stay competitive longer.

Despite the current conditions of gas prices, transportation costs, and airline cuts, the need to meet, share knowledge, and develop relationships will not only continue, it will accelerate. Therefore, successful interactions will depend on your ability to master the concept of visual communications and develop guidelines that leverage both old and new tools to build trusting relationships that foster greater communication, collaboration, and community.

## TECHNOLOGY NEWS HIGHLIGHTS

### A BETTER FLUORESCENT BULB

Japanese researchers have developed a white fluorescent material that contains no toxic rare metals and can be easily molded into a variety of shapes. A hybrid of an organic compound that glows white when exposed to UV light and an inorganic glasslike compound that gives it structural integrity, it is also highly resistant to heat. It's estimated that the new material will use only half the power of a standard fluorescent bulb, generate only one quarter as much heat, and have a useful life as much as ten times longer. Potential applications include everything from signs to headlights.

*For information: Nikki Chemical Co. Ltd., Solid Square, East Tower, 16 F, 580 Horikawa-cho, Saiwai-ku, Kawasaki 212-0013, Japan; phone: +81-044-540-1211; Web site: [www.nikki-chem.co.jp/eng/index.html](http://www.nikki-chem.co.jp/eng/index.html)*

### PORTABLE 3D MOUSE

Exploring today's 3D Web with yesterday's 2D mouse can be cumbersome at best. But the Space Navigator enhances 3D applications and makes the experience more lifelike. The new controller allows a user to bypass keyboard commands by incorporating a cap that can be lifted, depressed, tilted, twisted, and slid from side to side to move in any direction. It's also pressure sensitive to control the rate of movement. The device is totally portable and universally compatible with Windows, Mac and Linux operating systems. The ability to navigate a three-dimensional, virtual environment will not only assist gamers in exploring virtual worlds (such as Second Life), but will also allow designers to more easily create and manipulate 3D objects.

*For information: 3DConnexion, 6505 Kaiser Drive, Fremont, CA 94555; phone: 510-713-6000; Web site: [www.3dconnexion.com](http://www.3dconnexion.com)*

### BRIGHT FUTURE FOR BIOGAS

Results of a recent study show that the use of biogas digesters can improve respiratory health among people living in rural areas of India. The devices, which convert decomposing manure from family-owned cows and buffaloes into fuel, have been shown to reduce the use of wood and kerosene by 60 percent. The cleaner burning gas produces less pollution, thereby cutting down on smoke-related health conditions and reducing the number of doctor visits by half. At a cost of only \$250 per unit, it is estimated that the biogas converters pay for themselves within two years.

*For information: Givondasamy Agoramoorthy, Tajen University, 20, Weishin Road, Yanpu Shiang, Pingtung, Taiwan 907, Republic of China; phone: +886-8-7624002; fax: +886-8-7623924; Web site: [www.tajen.edu.tw/etj/index\\_e.htm](http://www.tajen.edu.tw/etj/index_e.htm)*

### SOLAR STEAM GENERATOR

A new 177-megawatt solar thermal energy (STE) plant is due to open in 2010 in California. Like other STE systems, it will use mirrors to reflect sunlight onto elevated water pipes, producing steam. The steam is then used to drive turbines,

which generate electricity. What's unique about this system is that, instead of curved mirrors, which are expensive to manufacture, it utilizes an array of 8-foot by 1000-foot flat mirrors that track the sun to maximize heat transfer to the water-filled pipes. The mirrors can also be rotated to protect them from hail or debris in threatening weather. It's estimated that the one-square-mile solar collector array will produce enough electricity to power 120,000 homes.

*For information: Ausra, Inc., 2585 East Bayshore Road, Palo Alto, CA 94303; phone: 650-424-9300; Web site: [www.ausra.com](http://www.ausra.com)*

## SPEEDY CANCER DETECTION

Researchers in Japan have developed a biochip that can diagnose cancer and a variety of other diseases using only a single drop of blood. During an illness, protein levels in the blood are slightly elevated or depressed, and current diagnostic methods can take days to confirm such changes. The chip, which is about the size of a business card, contains protein markers that will react with these proteins if they are present. Using a special analyzer, the compounds can be detected in an average of 15 minutes. In clinical tests, the biochip accurately diagnosed blood poisoning in 100 percent of the patients tested. The system may be commercially available to hospitals as early as the end of this year and will cost about 1 million yen (less than \$10,000).

*For information: Toray Industries, Inc., Nihonbashi Mitsui Tower, 1-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo 103-8666, Japan; phone: +81-3-3245-5111; fax: +81-3-3245-5555; Web site: [www.toray.com](http://www.toray.com)*

## HOLOGRAM GLASSES

A prototype of a new wearable display allows the wearer to view holographic images. The device, which fits like a pair of eyeglasses, produces a beam of thousands of points of light vibrating at high speed. A plastic panel located next to the left eye reflects the light directly onto the retina. The resulting image appears to be floating right in front of the eye. A commercial version of the display is expected to be available by 2010 to be used in factory applications, for example to view instructions for assembling machinery.

*For information: Brother Industries Ltd., 15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561, Japan; phone: +81-52-824-2072; fax: +81-52-811-6826; Web site: [www.brother.com](http://www.brother.com)*

## NOISE-CANCELLING CHIP

A major problem with speech recognition technologies is the fact that their accuracy is greatly affected by background noise. But recent developments in intelligent voice processing promise to improve the performance of voice-activated systems, even in noisy environments. The A1010 Voice Processor is based on the process of human hearing. Computer models of the inner ear, which have been distilled into algorithms and programmed onto a chip, group sounds together based on their source. They then eliminate any sounds that are categorized as noise, leaving only the sound of the speaker's voice. The technology can instantaneously reduce noise (whether it's from the environment or from the cellular network) by up to 25 decibels, offering powerful noise suppression capabilities for cell phones. The chips are currently selling for \$5 to \$7.

*For information: Audience, 1330 Villa Street, Mountain View, CA 94041; phone: 650-254-2800; Web site: [www.audience.com](http://www.audience.com)*

## SUPERCONDUCTOR MOTOR

Engineers recently announced that they have developed the world's first electric car to be powered by a superconducting motor. In comparison to copper wire coils, the new superconductors allow electrical current to flow 200 times faster, improving energy efficiency. The prototype emits about 25 percent less carbon dioxide than a typical hybrid car. It also requires no transmission because the torque of the new motor is twice that of a standard car engine. The company is targeting to commercialize the technology for large vehicles (such as trucks and buses) within ten years.

*For information: Sumitomo Electric Industries Ltd., 5-33, Kitahama 4-chome, Chuo-ku, Osaka, Japan; Web site: [www.sei.co.jp/](http://www.sei.co.jp/)*

## TWITTER TRACKER

Officially launched in October 2006, Twitter has become a widely popular method of linking friends, clients, colleagues

and/or customers via cell phone or computer, using text-based posts of 140 characters or less. In less than two years, the social networking and microblogging service has grown to over 2 million personal and business accounts. Now, several real-time search engines have been developed to index those messages and allow them to be searched by keyword or author. The services are designed to help users (called "twits") more easily locate the messages (also known as "tweets") that they are most interested in. They will also allow marketers and Web designers to more closely monitor trends.

For information: [www.tweetscan.com](http://www.tweetscan.com), [www.twhirl.org](http://www.twhirl.org), [www.quotably.com](http://www.quotably.com), [www.friendfeed.com](http://www.friendfeed.com)

## DISCREET SECURITY SCREENING

A new security imaging technology was recently unveiled that can detect concealed objects (such as explosive, liquids, narcotics, or weapons) up to 25 meters away. Best of all, it can do so without revealing a person's body details or exposing them to harmful radiation. The T5000 operates in the Terahertz (or T-Ray) region of the frequency spectrum. These low-level energy rays are naturally emitted from all materials and can pass through smoke, clouds and clothing. The system works by collecting T-rays from its surroundings and processing them to form images. The technology can be used on moving objects or people, indoors or outdoors, to enhance surveillance at airports and sporting events without creating security bottlenecks.

For information: ThruVision Ltd., Central 127, No. 18, Milton Park, Abingdon, Oxfordshire OX14 4SA, United Kingdom; phone: +44-(0)1235-433130; fax: +44-(0)1235-433140; Web site: [www.thruvision.com](http://www.thruvision.com)

## ADVANCED TOILET SEATS

Two new products recently hit the market, which are designed to make bathrooms more environmentally friendly. EcoFlow reduces water consumption by giving the user the option of flushing with half the normal amount of water, while the Swash EcoSeat incorporates a warm water bidet to eliminate the need for toilet paper. Both can be retrofitted for existing toilets.

For information: Brondell Inc., 2183 Sutter Street, San Francisco, CA 94115; phone: 888-542-3355; Web site: [www.brondell.com](http://www.brondell.com)

## LEAPIN' ROBOTS!

Wheeled robots typically have a difficult time navigating around obstacles like stairs. But the ScoutRobot uses a modern version of an old technology – the pneumatic ram – to “jump” over obstructions in its path. First, an onboard computer uses data from stereoscopic cameras and ultrasonic sensors to calculate the height of the step and how far away it is. It then uses measurements of the robot's speed to determine how far it will need to jump, and fires compressed air (stored in two 2-liter plastic bottles) into the ram, launching it to the desired height. A motorized stabilizer arm prevents the robot from tipping forward when it reaches its destination. A toy manufacturer already has plans to develop a smaller version, about the size of a soda can, which runs on the CO2 cylinders used in toy air guns.

For information: Dong Hwan Kim, Seoul National University of Technology, 172 Gongreung 2-dong, Nowon-gu, Seoul 139-743, Korea; phone: +82-2-970-6114; fax: +82-2-970-6088; Web site: [www.snut.ac.kr](http://www.snut.ac.kr)

## COMPUTERS THAT HEAT HOMES

IBM researchers have designed a “heat sink” for computer chips that could recover as much as three-quarters of the energy consumed by data center processors and use it to heat homes. The key is a network of microchannels drilled into the silicon that circulates water through the chip to cool the computer. It's estimated that a data center using 1 megawatt of electricity would produce enough waste heat to warm as many as 70 homes. In addition, the system is far more efficient at keeping processor temperatures down than typical air-cooled methods.

For information: Bruno Michel, IBM Corporation, 1 New Orchard Road, Armonk, NY 10504-1722; Web site: [www.zurich.ibm.com](http://www.zurich.ibm.com)

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