



# TECHNO

THE BIG IDEAS THAT  
ARE CHANGING EVERYTHING

# TRENDS

## NEW MARKETING STRATEGIES

BY DANIEL BURRUS, CEO OF BURRUS RESEARCH



Today, audiences move to new locations. For example, advertising on MTV was the best way to reach the teen market - at least it used to be. What happened? They moved. They now get their music videos from a variety of sources including iTunes. Of course, many teens continue to watch MTV, but not in the numbers of the past. And many eliminate the commercials using their DVR.

Teenage girls spend a lot of their time communicating with their friends using instant messaging – at least they used to. Now they are spending much more time using FaceBook, and much less time sending instant messages. As a marketer, how can you find the audience that you are looking for? The answer is to look on-line.

### AUDIENCE TARGETING

Advertisers can purchase the same targeted audience on-line that they do with other media; however, they can be guaranteed 100% composition and better rates. This method creates an overwhelming math advantage when linking advertising to results.

Demographic Targeting: A major media agency recently compared broadcast, cable and Internet for a major retailer's ad campaign based solely on demographic targets. *Continued on page 2*

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## MARKETING STRATEGIES *(continued from page 1)*

The research team recommended that 75% of the budget should go on-line. Behavioral Targeting: Cadbury-Schweppes buys audiences for their sports drink, *Accelerade*, that are 100% composed of people who search exercise related topics and/or visit fitness groups. Engagement Targeting: Pepsi creates custom audiences who engage with its advertisements. Ask Yourself: Could we use audience targeting to increase the effectiveness of our on-line ad campaigns?

### AUDIENCE PYRAMID SEGMENTATION

An audience pyramid segments a marketer's audience into mass market on the bottom, purchase intent in the middle, and passion at the top. For example, Yahoo! has over 500 million users at the bottom of the pyramid, 80 million on-line group members who are discussing intent to purchase and 6 million group moderator/owners at the top who are focused on a passion. Marketers can target any of these groups with relevant ads and should expect 100% composition and customization when it comes to planning and buying the appropriate audience. Audiences made up of on-line communities are as big as TV, far better targeted, and much less expensive to reach. Ask Yourself: Could we use selected parts of the audience pyramid to increase the effectiveness of our on-line ad campaigns?

## TECHNOLOGY NEWS HIGHLIGHTS

### COMPUTING TAKES A GIANT STEP

The Penryn processor, due to be released by the end of the year, may represent the biggest breakthrough in transistor technology in nearly four decades. Made of hafnium (the new "high-k plus metal"), the new transistor gates are more electrically efficient than traditional silicon transistors. This means that the number of transistors per chip (410 million) is nearly double that of current dual-core and quad-core systems (280 million). All of this will translate into big benefits for the user, including better performance (up to 3GHz or more), lower power consumption, and longer battery life. The new processors are intended to speed up performance for video and 3-D graphics applications. The company is also working on making them compatible with existing silicon chip systems.

*For information: Intel, Robert Noyce Building, 2200 Mission College Blvd., Santa Clara, CA 95054; phone: 408-765-8080; Web site: [www.intel.com](http://www.intel.com)*

### ROLL-UP DISPLAY

The leading mobile telecommunications company in Italy will soon be rolling out a new mobile device with flexible display technology. When closed, it's smaller than a typical cell phone, but it opens up to a five-inch touch-sensitive screen that displays high quality text and graphics. Users can easily read newspapers, books, and emails. The device is also capable of downloading podcasts, audio books, and music. Under normal use, the battery life is estimated to be as much as ten days.

*For information: Polymer Vision, High Tech Campus, P.O. Box 80036, 5600 JW Eindhoven, The Netherlands; phone: +31-40-27-44-420; Web site: [www.polymervision.com](http://www.polymervision.com)*

### ROBOTIC BRAIN SURGERY

A new device called neuroArm is expected to make its operating room debut this summer, performing operations on the brain with microscopic precision. It works in conjunction with magnetic resonance imaging (MRI) to provide neurosurgeons with a detailed 3-D picture of brain structures, including even the smallest nerves. Using handles that allow a surgeon to feel pressure and texture, the robotic arm is controlled from a cockpit-like room. The neuroArm is also programmed to eliminate unwanted movement, making it steadier than even the most practiced surgeon.

*For information: Dr. Garnette Sutherland, University of Calgary Medical School, 2500 University Drive NW, Calgary, Alberta, Canada T2N 1N4; phone: 403-944-4403; email: [garnette@ucalgary.ca](mailto:garnette@ucalgary.ca); Web site: [www.ucalgary.ca](http://www.ucalgary.ca)*

### BROADBAND LIGHT RAYS

Japanese engineers are working on a system that will use visible light rays to transmit data. The technology could represent the next generation of broadband connectivity. The system will be undergoing feasibility testing as early as this fall, and would allow

users to access the Internet by placing their computers in the path of light rays. The system consists of a special lighting device and a high speed Internet adaptor. Special tuners for reading the light rays would be connected to PCs and PDAs, allowing them to download content at speeds of up to 100 Megabits per second. One of the benefits of such a system is enhanced security. For example, simply closing the curtains could block access to data within a room. And unlike radio-based signals, the technology would not interfere with other electronic equipment, making it ideal for use in hospitals.

*For information: Nippon Telegraph and Telephone Corporation, 3-1, Otemachi 2-chome, Chiyoda-ku, Tokyo 100-8116, Japan; Web site: [www.ntt.co.jp](http://www.ntt.co.jp)*

## AFFORDABLE 3-D HOLOGRAPHY

Researchers at MIT have developed a holographic video system for personal computers and gaming consoles. Called Mark III, the display module runs on a standard graphics processor and produces holograms with resolution equivalent to standard analog television. It will cost only a few hundred dollars to produce. The unique design of its modulator keeps the size of the device down by minimizing the number of mirrors and lenses required. And, although the current system can only generate a monochromatic display about the size of a Rubik's Cube, the next generation is already in the works that will create 3-D images as large as a PC monitor with a full range of colors. In addition to gaming and virtual reality simulations, the system could be used for viewing medical images, such as a beating heart.

*For information: V. Michael Bove, Jr., Massachusetts Institute of Technology, Consumer Electronics Lab, Wiesner Building E15, 77 Massachusetts Avenue, Cambridge, MA 02139; phone: 617-253-0334; fax: 617-253-7240; email: [vmb@media.mit.edu](mailto:vmb@media.mit.edu); Web site: [www.media.mit.edu](http://www.media.mit.edu)*

## NANOCRYSTAL LASER

A new type of nanocrystal that can amplify light may be the key to developing inexpensive, tunable lasers. Unlike gas or diode lasers, which are only capable of emitting a single wavelength of light, nanocrystals can amplify a broad range of light from violet to green. They can also be manipulated very easily. Since nanocrystals are fabricated in solutions, they can be sprayed or dropped onto a variety of surfaces to produce chemical or medical sensors, or even be built into optical fibers. Currently, these quantum-sized lasers require a \$300,000 laser to function, but the researchers are working on ways to power them electrically and vary the color by simply tweaking the size of the crystals.

*For information: Victor Klimov, Los Alamos National Laboratory, 1619 Central Avenue, Los Alamos, NM 87545; phone: 505-665-4400; fax: 505-665-4411; email: [klimov@lanl.gov](mailto:klimov@lanl.gov); Web site: [www.lanl.gov](http://www.lanl.gov)*

## BACTERIA AND VIRUS BLOCKER

A new technology has been developed for surgical masks that is 100 percent effective at blocking at least 200 strains of bacteria and viruses, including SARS, anthrax, legionnaires disease, and flu. It's based on a chemical agent that forms a molecular bond with polyester or PVC fibers that not only blocks the microorganisms from passing through, but kills them as well. In comparison, traditional polypropylene hospital masks allow nearly ten percent of bacteria and viruses to pass through. Although the multi-layered masks are more expensive, they can be washed up to 100 times and still retain their antimicrobial properties. The agent can also be used on furnace filters to rid the air of harmful bacteria and viruses in hospitals and other high-risk areas.

*For information: Alain Bolduc, Noveko International, Inc., 3171 Louis A. Amos, Lachine, Quebec, Canada H8T 1C4; phone: 514-344-3030 fax: 514-344-3131; Web site: [www.noveko.com](http://www.noveko.com)*

## ENHANCED NAVIGATION SYSTEM

Toyota recently introduced its new G-BOOK mX navigation system for new vehicles being sold in Japan. It's the first system to offer "Map on Demand" – a technology that automatically updates map data through a standard cell phone connection. G-BOOK mX also gathers data from other cars equipped with the device and analyzes their speed and position every ten meters to provide highly accurate feedback on the best routes to avoid traffic congestion. It even provides advanced warning of potentially dangerous intersections, and an optional operator service provides access to optimal route information at the touch of a button.

*For information: Toyota Motor Corp., 1 Toyota-cho, Toyota City, Aichi Prefecture 471-87-1, Japan; phone: +81-0565-26-2121; Web site: [www.toyota.co.jp](http://www.toyota.co.jp)*

## INSULIN-PRODUCING COWS

Genetically modified cows, capable of producing human insulin in their milk, may be a source of cost-effective treatment for diabetes. To date, four genetically engineered calves (born in February and March) may become the first to successfully produce human insulin in their milk. To carry out the experiment, the appropriate human genes were inserted into embryos and then implanted in surrogate mothers, producing the engineered calves. When the cloned calves are old enough to begin producing milk, it will contain high levels of insulin. The insulin can be extracted from the milk by purifying and refining the milk. The new insulin could be available for patients in as little as two to three years.

*For information: BioSidus S.A., Constitucion 4234, Buenos Aires C1254ABX, Argentina; phone: +54-114-909-8000; fax: +54-114-909-8055; Web site: [www.sidus.com.ar](http://www.sidus.com.ar)*

## ARTIFICIAL PHOTOSYNTHESIS

An innovative material that replicates photosynthesis could provide an efficient and inexpensive means of removing excess CO<sub>2</sub> from the atmosphere. Scientists recently discovered that manganese plays a key role in photosynthesis, leading them to develop a method to produce extremely small and pure particles of manganese dioxide. By reducing their size and increasing the exposed surface area, the material becomes more reactive, and when exposed to sunlight, it is capable of converting carbon dioxide into sugar and alcohol.

*For information: Kyoto University, Institute for Chemical Research, Gokasho, Uji City, Kyoto Prefecture, 611-0011 Japan; fax: +81-774-38-3369; email: [uji.sien@mail2.adm](mailto:uji.sien@mail2.adm); Web site: [www.kuicr.kyoto-u.ac.jp](http://www.kuicr.kyoto-u.ac.jp)*

## MICROSCOPIC METAL SPRINGS BEND LIGHT BACKWARDS

Japanese researchers have developed an optical device that bends light in the opposite direction of what would occur naturally. In addition, when light is shined on it at certain angles, none of it is reflected, suggesting that the new device could be used to build optical communications components with zero signal loss. The device consists of an array of microscopic springs – approximately 800 of them, each two microns square and placed five microns apart. Because they are composed of materials with different refractive indices, including glass and resin, some bending of the light would be expected. However, the spring-like shape of the structures and the fact that they are stacked in a grid changes the overall refractive index so that it becomes negative, bending the light in the opposite direction.

*For information: Riken Institute, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan; phone: +81-48-462-1111; fax: +81-48-462-4608; Web site: [www.riken.jp](http://www.riken.jp)*

## DIGITAL “WATERMARK”

A new technology that embeds information into recorded audio messages could change the face of mobile marketing. The goal is to seamlessly and automatically drive traffic to Internet sites by extending special offers to users in the form of product information, discount coupons, etc. The “watermark” consists of inaudible sounds that are spaced within an audio clip, such as a television or radio broadcast. The user captures the information on a smart phone by simply recording the message from a speaker. The captured audio is then emailed to a specified server where the “watermark” is extracted and decoded. An email is then sent back to the user with the desired information. Up to 80 bits of data per second can be embedded in the audio file. No special software is required in the phone, since all of the decoding is done at the server end. The company plans to begin leasing software to TV and radio broadcasters by 2009.

*For information: Dai Nippon Printing Co., 1-1-1, Ichigaya Kagacho, Shinjuku-key, Tokyo 162-8001, Japan; phone: +81-3-3266-2111; Web site: [www.dnp.co.jp](http://www.dnp.co.jp)*

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