



# TECHNO

THE BIG IDEAS THAT  
ARE CHANGING EVERYTHING

# TRENDS

## TRANSFORM...OR PERISH

BY DANIEL BURRUS, CEO OF BURRUS RESEARCH



In my new book *Flash Foresight*, I share seven principles that can make invisible opportunities visible. Within the next five years, technology will transform

how we sell, market, communicate, collaborate, innovate, train and educate. Therefore, being able to transform, rather than merely change, is one that every organization needs to embrace.

According to the New Oxford American Dictionary, change means "to make something different," while transform means "to make a thorough or dramatic change." It is a difference of degree, but that degree is so extreme that it becomes a qualitative difference. Today, embracing change is no longer enough; we need to transform.

Remember the 1990s when everyone was touting the phrase "think outside the box"? It's a neat image, evoking creativity and unconventional thinking as a way to arrive at ingenious new paths and solutions. But here's the problem with thinking outside the box: we all know that no matter how creative we get during the weekend seminar, come Monday morning we're going to have to crawl back into the box again and deal with our current reality. The problem isn't that we need new ways to simply step outside the box—we need to completely transform the box itself.

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### A NEW YORK TIMES BESTSELLER...

*Flash Foresight* has already been named a New York Times, Wall Street Journal and USA Today Bestseller. Daniel Burrus' new book was also #1 in hardcover and Kindle sales on Amazon.com You can get your hardcover or digital version of *Flash Foresight* at [www.FlashForesight.com](http://www.FlashForesight.com)

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## TRANSFORM *(continued from page 1)*

In fact, whatever your box is—your job, company, career, situation—it is going to transform whether you like it or not. There is no field or profession, no business or organization, no country or society that is not going to transform dramatically and fundamentally over the years ahead.

From our vantage point, though, it's easy to assume that the biggest changes have already happened: the Internet has already turned our world upside-down and changed everything. But that's hindsight, not foresight. The proliferation of the Internet throughout the last decade has been the prologue, not the unfolding story itself. It was not the transformation—it was only the foundation that laid the groundwork for the transformations to follow, the overwhelming majority of which are still ahead of us.

Even the Golden Rule of business has transformed. The old Golden Rule in business was to find out what your customers wanted, and give it to them. Today, if you ask your customers what they want and you give it to them, you're missing a huge opportunity, because their answers will never give you more than a fraction of your potential. Our capabilities are changing far too rapidly for this old rule to be useful. Customers today don't know what they want, because the things they most want are things they don't yet know are possible. Customers did not know they wanted an iPad until Apple gave it to them—they had no idea a tablet computer and its thousands of uses were possible.

The new Golden Rule in business is this: Give your customers the ability to do what they can't currently do but would want to if they only knew it was possible. To survive and thrive, look into your customers' visible future, look at their hard trends, at what you're certain about regarding their future. See what problems they are going to have and solve them before they happen, so that by the time they're just starting to experience the problem, you already have the solution.

And if you don't? Then you will become increasingly irrelevant to your customers. Transformation will not wait, pause, or stand aside while you think about it. There are three critical truths about business in this new era that you cannot afford to ignore; we might call them corollaries to the Golden Rule:

1) Transformation will happen. 2) If it can be done, it will be done. 3) If you don't do it, someone else will.

The message is clear: in the days, weeks, months, and years ahead, expect radical transformation.

## TECHNOLOGY NEWS HIGHLIGHTS

### DATA TRANSFER RATE REACHES NEW RECORD

The use of lasers has transformed light-based telecommunications in recent years. By using multiple lasers, scientists have been able to boost transmission speeds to the 100 terabit milestone. The problem in the past was that it requires hundreds of lasers consuming many kilowatts of power to reach those levels. But German researchers recently discovered a way to achieve very high transfer rates (up to 26 terabits per second) using only one laser. By creating extremely short pulses of light from a single laser, they generate what is known as a "frequency comb" – a number of discrete colors that can be mixed together to create 325 different colors. Each of these colors is encoded with its own data stream. At the receiving end, an optical fast Fourier transform is applied to the input beam, which extracts the individual colors and organizes the data from each. The technology could be integrated onto a single silicon chip, making it an excellent candidate for scaling up to commercial levels.

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### FREE DATA MINING TOOL

Google recently unveiled an extraordinary new system that puts the power of data mining into the hands of literally everyone. Called "Correlate," it allows you to mine virtually any kind of search data, compare trends, and analyze correlations over time. For example, marketers can evaluate the effectiveness of an advertising campaign by mining the search history for their brand (and their competitors) and correlating it with the timing of their ads. The idea that it was

possible to model real-world events based on people's search patterns came about during the 2008 flu epidemic, when it became apparent that a correlation existed between particular search terms and actual flu activity. The Flu Trends warning system was launched at that time based on those statistics. The new system simply makes it easier and faster for industries to take advantage of this powerful tool. And best of all, it's free!

*For information: Google Inc., 1600 Amphitheatre Parkway, Mountain View, CA 94043; phone: 650-253-0000; fax: 650-253-0001; Web site: [www.correlate.googlelabs.com](http://www.correlate.googlelabs.com)*

## AUTO BODY PARTS THAT STORE ENERGY

In the quest for a full-scale electric vehicle with acceptable range, developers are continually looking to increase battery capacity and reduce weight. Now, a group of researchers has found a way to do both at the same time by employing what is known as structural power technology. Using carbon composites laced with lithium ions, they have combined mechanical structure with energy storage capabilities to create body components that double as capacitors. Although the parts do not generate electricity as a battery would, they can store a charge until it's needed, thereby reducing demands on the battery.

*For information: Emile Greenhalgh, Imperial College London, Department of Aeronautics, Roderic Hill Building, Room 362B, South Kensington Campus, Exhibition Road, London SW7 2AZ; phone: +44-020-7594-5070; email: [e.greenhalgh@imperial.ac.uk](mailto:e.greenhalgh@imperial.ac.uk); Web site: [www3.imperial.ac.uk](http://www3.imperial.ac.uk)*

## SMART EARPHONES

Noise-induced hearing loss is a growing problem, and often people neglect to wear protection because it interferes with their situational awareness. But a new type of earplug (from the original inventor of in-ear earphones) allows the wearer to block loud noises while maintaining the ability to localize quieter sounds. Electronic Blast PLG™ Earplugs were originally designed to protect soldiers from hearing damage due to loud machinery and blasts. They contain adaptive attenuation circuitry which selectively blocks loud noises while allowing faint sounds (such as conversations) to be heard and even amplified. The high fidelity earplugs are available in two versions – one for people who operate continuously around loud noises (e.g. construction workers) and one for those who need to hear normally (e.g. hunters) but still need protection against unexpected blasts. They retail for \$450 to \$500 a pair.

*For information: Etymotic Research, Inc., 61 Martin Lane, Elk Grove Village, IL 60007; phone: 847-228-0006; fax: 847-28-6836; Web site: [www.etymotic.com](http://www.etymotic.com)*

## CAR SEAT HEART MONITOR

As a part of their in-car health and wellness initiative, Ford recently announced the development of a car seat that can monitor a driver's heart rate. They're betting on the fact that increasing life expectancy, growth of the over-65 population and interest in personal health will spur an interest in technology that helps people with chronic conditions (including allergies, diabetes and heart-related ailments) manage their conditions on-the-go. The seat contains six sensors that detect electrical impulses, without the need for electrodes or cables. It's still in the development stage, however, as the technology continues to be enhanced to accommodate different size drivers and various types of clothing.

*For information: Pim van der Jagt, Managing Director, Ford European Research and Innovation Center. Susterfeldstrasse 200, 52072 Aachen, Germany; phone: +49-0241-94210; Web site: [www.ford.com/technology/](http://www.ford.com/technology/)*

## FLEXIBLE SUPERSCREEN

A new display technology was recently unveiled that allows large format televisions to flex, bend, and even wrap around columns without distorting or elongating the image. The sealed, waterproof and dustproof screen is made from arrays of discrete light emitting diode (LED) pixels – called nixels – that are connected by a flexible polymer substrate. Each contains a red, blue and green substrate to generate 33 million colors with a contrast ratio of 3000:1. The 112-inch display is less than two inches thick and weighs less than 90 pounds, so it requires no special mounts. The energy-efficient nixels draw much less power than plasma or LCD TVs, and because it emits light rather than reflecting it (like projection TVs) the display stays bright even in sunlight. It also accepts DVI, VGA, Composite and S-video

inputs. Initial applications will likely be as digital banners in public areas.

*For information: NanoLumens Inc., 6625 The Corners Parkway, Suite 100, Norcross, GA 30092; phone: 678-421-9694; Web site: [www.nanolumens.com](http://www.nanolumens.com)*

## MOBILE IMAGING

A new application for iPad, iPhone and iPod Touch allows physicians to read CT, MRI and PET scans even when they don't have access to a workstation. Called MobileMIM, the free app offers many features to enhance remote diagnostic imaging such as zoom, annotation, and measuring tools. Security of encrypted medical data is ensured by requiring users to upload and download information using MIMCloud, a cloud-based, HIPAA-compliant service for storing and sharing images. The system will allow easier access to radiological data for teleradiology and multi-institution reading as well as sharing images with partner institutions or referring physicians.

*For information: MIM Software Inc., 25200 Chagrin Blvd., Suite 200, Cleveland, OH 44122; phone: 866-421-2536; fax: 216-455-0601; Web site: [www.mimsoftware.com](http://www.mimsoftware.com)*

## ALUMINUM SIDING CLEANS THE AIR

Self-cleaning building products have been around for some time, but a new coating for aluminum siding not only cleans itself – it cleans the air around it. Called Reynobond®, the new architectural panel is coated with titanium dioxide which breaks down organic matter on and around the surface when exposed to sunlight. In addition, water doesn't bead when it hits the surface, so pollutants are washed away every time it rains. It's been estimated that 10,000 square feet (about 1,000 square meters) of the material will offset the pollution output of four cars every day. That's the equivalent air-cleaning power of planting 80 trees. Reynobond is due to be released nationwide this summer and will cost about 5 percent more than similar aluminum building panels.

*For information: Alcoa Corporate Center, 201 Isabella Street, Pittsburgh, PA 15212; phone: 412-553-4545; fax: 412-553-4498; Web site: [www.alcoa.com/ecoclean](http://www.alcoa.com/ecoclean)*

## SMARTER SMART PHONES

Today's mobile devices are pretty smart. They can tell if you're holding them vertically or horizontally, where you're located, whether you're moving and in what direction – all thanks to electronic sensors which get more and more advanced every day. But get ready...there are more new sensors under development that will make your mobile device even smarter. For example, altimeter sensors will be able to detect not only what building you're in but what floor you're on. Physiological sensors that monitor your heart rate, skin temperature or perspiration will be able to assess your excitement level and mood as you play video games. And software algorithms that characterize how you hold and interact with your phone may act like a motion fingerprint to increase security of your personal information.

*For information: ST Microelectronics, 39, Chemin du Champ des Filles Plan-Les-Ouates, Geneva CH 1228, Switzerland; phone: +41-929-2929; fax: +41-929-2988; Web site: [www.st.com](http://www.st.com)*

## PAPER THAT'S STRONGER THAN STEEL

Researchers have developed a new material that's as thin as a sheet of paper yet it's twice as hard as steel with ten times higher tensile strength. Called graphene paper, it's made from graphite that is arranged in hexagonal lattices only one layer thick, giving it exceptional mechanical electrical and thermal properties. In addition, the new material is recyclable, sustainable, eco-friendly and economical to manufacture. Applications include automotive and aviation industries to reduce weight and increase fuel economy without sacrificing strength.

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