



# TECHNO

THE BIG IDEAS THAT  
ARE CHANGING EVERYTHING

# TRENDS

## GO OPPOSITE TO SEE INVISIBLE OPPORTUNITIES

BY DANIEL BURRUS, CEO OF BURRUS RESEARCH



In my new book *Flash Foresight*, I share seven principles that can make invisible opportunities visible. Going opposite is one technique that may seem implausible at first, but it tends to pay off handsomely.

Last month we explored the idea that our biggest challenges are often quite different from what we think our biggest challenges are. But in searching for the real problem we want to address, it's not always easy to know where to look. One way to help tease that insight to the surface is to note where everyone else is looking—and then look in the opposite direction.

It is often breathtaking how quickly this strategy makes the invisible visible and reveals surprisingly practical solutions to problems you didn't even realize you were facing.

For example, Dell looked at the PC industry's reliance on retailers and did the opposite: direct marketing. All the other personal computer manufacturers created their own line of models and then offered them to consumers to buy through retail outlets; Dell showed its consumers the full range of options, on the Internet, and then invited them to design the models they wanted themselves.

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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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## GO OPPOSITE *(continued from page 1)*

Here's another example: What's the opposite of fancy leather shoes? Ugly plastic shoes. Crocs has done quite well by going opposite.

Doing the opposite has always been a smart strategy for breakthrough. Today, though, it has special implications, because in so many ways our entire world and everything about it is going through an intensely rapid and comprehensive reversal. The acceleration of digital technology is turning conditions on their heads, creating a profound shift in the core nature of what works. What was slow has become fast; what was static is now dynamic; tools that were "dumb" are now "smart; anything isolated is now integrated...the list goes on. So how can you create your own flash foresight by using the principle of Go Opposite? Here are some suggestions:

Make a list of everything your competitors are doing. Look at each item on the list and ask yourself, "How can I gain an advantage by doing the opposite?" What is the current way of thinking regarding any subject in your industry? Then think the opposite to see new opportunities. With any particular project, goal, or objective, break that into its component parts and then look at each part, asking yourself: "Is there a way to gain advantage by turning that one step, component or aspect on its head and doing the opposite?"

List the key elements or steps that everyone in your field does and ask of each one in turn, "Is there some creative way to do the exact opposite of what everyone else already does?" The future always wins. Know that "the way we've always done it" is almost certain to become obsolete—and soon. The pathway that will be most profitable in the years ahead is the pathway nobody is taking yet. If it can be done, it will be done—and if you don't do it, someone else will.

Collaboration creates a bigger pie. Look at every action you are taking now in your work and ask yourself: "Is there a way I could be more effective in this area by collaborating with others?" No matter what industry you're in, you can go opposite and reap rewards. So take note of where everyone else is looking, and then look in the opposite direction. Looking where no one else is looking helps you see what no one else is seeing—and then do what no one else is doing.

## TECHNOLOGY NEWS HIGHLIGHTS

### PREDICTING TRAFFIC

A new system is being tested in California that goes beyond providing commuters with information about current traffic conditions. Using a network of sensors embedded in the roads and information about historical traffic patterns, it can actually predict what driving conditions will be like up to an hour in the future.

The system is designed to run on medium- to large-size networks in real time. The sophisticated algorithm combines adaptive statistics with automated error correction along multiple time horizons to give drivers an idea of what to expect along their commute. It can even use the GPS coordinates from cell phones to "learn" their daily route and offer alternate suggestions when traffic is going to be backed up. Although it can't yet predict accidents, the developers believe that they may someday be able to predict the likelihood of one happening, based on the data they are collecting. In the future, the technology could also be applied to other transit data to provide a complete picture of a city's transportation infrastructure.

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### CHINESE SPACE STATION

The China Astronaut Research and Training Center recently announced plans to build a new multi-module space station to be completed over the next decade. Known as Tiangong – or "heavenly palace" – the project represents a major step forward in China's developing space program. The station will be constructed in three phases. Tiangong-1, due to launch later this year will serve as a platform for rendezvous and docking technologies. This central module measures about 60

feet (18 meters) in length and have a maximum diameter of about 14 feet (4.2 meters). Tiangong-2 and 3 will consist of two space laboratories, each measuring about 48 feet in length. These modules will focus on technologies to provide long term living conditions in space. At a total of 60 tons, the space station will be considerably smaller than the International Space Station (419 tons) or Russia's Mir space station (137 tons). Upon completion, it will support three astronauts for up to 40 days.

*For information: China Astronaut Research and Training Center, Yuanmingyuan West Road, Beijing 100094, People's Republic of China; Web site: [www.space.com/11-48-china-space-station-plans-details.html](http://www.space.com/11-48-china-space-station-plans-details.html)*

## MALARIA-FIGHTING MOSQUITOES

Despite the fact that it's completely curable (with the proper vaccines and drugs), malaria still kills more than one million people every year. The problem is getting the treatment to remote areas where the disease thrives. So scientists are taking a different approach to slow the spread of the parasite by genetically modifying the mosquitoes that carry it.

The first step was to create a gene that would survive generations of reproduction. When it was inserted into male mosquitoes, every sperm they produced carried the gene and passed it on to their offspring. When a few of these genetically modified insects were introduced into a population, the modification effectively spread to more than half of the population in just twelve generations. The next step will be to "weaponize" the gene itself to inhibit the malaria parasite at its source. The only question that remains, and it is a big one, is what unintended consequences might be brought about by releasing GM organisms into the wild.

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## PAY WITH CASH – EVEN ONLINE

For millions of Americans who don't use bank accounts or credit cards, shopping online has been virtually impossible. Until now. A new service called PayNearMe makes it easier for people who prefer cash-based transactions to buy things online, add minutes to prepaid cell phone accounts, transfer money and even pay utility bills. Free account cards are available at 7-Eleven stores across the U.S. and can be reused for multiple purchases. When the clerk swipes the card and takes the cash payment, the transaction is automatically sent to the seller. The start-up has also signed deals with Greyhound Lines and Ria Financial Services.

*For information: Danny Shader, PayNearMe, 100 View Street, Suite 203, Mountain View, CA 94041; phone: 650-469-1301; fax: 650-396-7401; Web site: [www.paynearme.com](http://www.paynearme.com)*

## LOW COST FUEL CELL

One of the biggest roadblocks to the widespread adoption of fuel cell technology is the cost of the catalysts needed to drive the oxygen-reduction reaction. Traditional designs use platinum, which currently sells for about \$30,000 per pound. But a new breakthrough utilizes carbon nanotubes (at a cost of about \$45 per pound) to greatly reduce cost while improving performance. The key is coating the surface of the nanotubes with a polymer solution for a couple of hours. This partially pulls an electron from the carbon, giving it a positive net charge, and catalyzes the electrochemical reaction between oxygen and hydrogen. In initial laboratory tests, the carbon catalyst performed as well as its platinum counterpart. Over time, as the process is optimized, the energy output can be increase even further.

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## iPAD DOCTOR

A new iPad application is aimed at streamlining doctor-patient interaction by eliminating a lot of the paper associated

with traditional patient records. Known as DrChrono, it also gives medical practitioners a mobile platform for gathering and accessing data, rather than requiring them to sit in front of a computer. The app allows doctors to schedule appointments and send out patient reminders, issue prescriptions electronically, take notes using speech-to-text transcription, and research drug interactions. Lab tests, EKGs and X-rays can also be uploaded and viewed. Since the app syncs with a Web-based health care platform, records can be viewed using an iPhone, Android, or from any Web browser. All data is HIPAA-compliant and updated in real time.

*For information: DrChrono; phone: 516-784-4825; fax: 212-208-6881; Web site: [www.drchrono.com](http://www.drchrono.com)*

## SELF-HEALING POLYMER

Researchers have developed a new type of polymer that can rejuvenate itself in minutes – a breakthrough that could increase resilience and even safety in wide range of applications. The new material makes use of a mechanism known as supramolecular assembly in which short polymers are assembled into polymer-like chains using metal ions as bonds. Unlike the molecular bonds that hold together thousands of molecules to form normal polymers, the metal ion “glue” comes undone under intense ultraviolet (UV) light, allowing the material to flow. When the UV source is removed, the polymer chains reform to create a solid coating. The process can be repeated over and over without leaving evidence of damage.

*For information: Stuart J. Rowan, Case Western Reserve University, Rowan Research Group, Laboratory for Supramolecular Materials, 2100 Adelbert Road, Cleveland, OH 44106; phone: 216-368-1842; Web site: [www.case.edu](http://www.case.edu) or [www.supramolecular.case.edu/index.html](http://www.supramolecular.case.edu/index.html)*

## NATURAL GAS FARMING

Coal contains micro-organisms that break it down into methane, and for years, coal-bed methane wells have been used to generate large amounts of natural gas. But existing extraction methods are only capable of producing at peak levels for short periods of time before the organic matter needed to support microbe activity is depleted and gas production stops. Recently, energy companies have turned to a new technique that may enable them to double or triple production of already existing (but depleted) wells. By replenishing the nutrients through the addition of calcium, magnesium, phosphate and glycerol they can help establish a new subsurface habitat to support the growth of micro-organisms and bring natural gas production back to economically significant levels. The gas is harvested and distributed using existing infrastructures, and with a balanced cycle of restoration and harvesting, production should be able to continue for many years to come.

*For information: Luca Technologies, 500 Corporate Circle, Suite C, Golden, CO 80401; phone: 303-534-4344; fax: 303-534-1446; Web site: [www.lucatechnologies.com](http://www.lucatechnologies.com)*

## 3-D TRANSISTOR

How do you get a computer chip to process data more quickly using less power in less space? Build up! The truth is, the basic building blocks of all electronics – integrated circuits – still basically consist of silicon wafers on top of an insulator. But as electronic devices have gotten smaller and smaller, so have the integrated circuits that run them, and in today's computer chips the space between switches is down to the level of a few atoms. A new three-dimensional design incorporates small pillars, or fins, of silicon rising above the surface of the chip. The manufacturer expects that it will speed up performance in low-voltage applications by as much as 37 percent while cutting power consumption by up to 50 percent. Production is scheduled to begin later this year.

*For information: Intel Corporation, 2200 Mission College Blvd., P.O. Box 58119, Santa Clara, CA 95052; phone: 408-765-8080; Web site: [www.intel.com](http://www.intel.com)*

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