



TECHNO TRENDS

THE BIG IDEAS THAT ARE CHANGING EVERYTHING

Futureview™: A Roadmap For Growth And Prosperity

By Daniel Burrus, CEO of Burrus Research



We just passed a milestone that should have been a thunderclap heard round the world. Instead, it slipped past with barely a whisper.

This May 25 was the semicentennial of a great moment in history. In his 1961 “Special Message to the Congress on Urgent Needs,” a young president painted an insanely bold picture of our future in the language of a dare: We’ll put a man on the moon and get him back safely—within the decade.

The truly crazy thing, of course, is that we did.

What JFK employed there was what I call futureview, and right now it may be our most pressing national challenge.

Futureview is your ability to project yourself into the future and then look back at your present position from that future point of view.

Futureview is not the same thing as a goal, plan, ambition, or aspiration. It is not something you hope for or try for. When Martin Luther King stood on the steps of the Lincoln Memorial and spoke to a great people about their greater future, he didn’t say, “I have a plan.”

Futureview is the picture you hold, for better or for worse, of what you expect and believe about your future.

How you view the future shapes how you act in the present; how you act in the present shapes your future. Your futureview determines the future you.

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- ANTIMATTER IN A BOTTLE
- FISH FRAUD DETECTION
- GUESS MY AGE?
- LED DATA TRANSMISSION
- WINNING THE BATTLE AGAINST HIV
- PUBLIC TEACHING ROBOTS
- NO-POWER STANDBY
- UV BLOCKER
- VIRTUAL SUPERMARKET
- ELECTRIC FLYING CAR

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

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continued on page 2

Futureview *(continued from page 1)*

My concern is that for many Americans today, the futureview is bleak. In India and China, the prevailing futureview is positive. Young and old alike are actually excited about their future. The atmosphere crackles with an optimistic, can-do energy. Visit the airport in Beijing and ride the train that transports passengers from terminal to terminal. On its walls you'll see posters highlighting Chinese entrepreneurs, their dreams and accomplishments. Get off the train and into the city: everywhere you look, you'll see evidence of seemingly impossible ideas becoming reality. Dreams are everywhere.

The result? These people are moving forward, proactively building their future. They see a bright tomorrow. So they're creating it. And here in the U.S.? The American futureview is mostly negative, filled with apprehension and fear. This is the first generation of parents since World War II who do not believe their children will have a better, richer life than they did.

MAKING THE IMPOSSIBLE POSSIBLE

A few years ago, I had the opportunity to converse with Neil Armstrong, the first man to set foot on the moon. He said that in the years following Kennedy's articulation of that goal, NASA engineers would periodically hit a major roadblock and declare the goal impossible. Each and every time, the response from those in charge was the same: "We're going to the moon." So the engineers would go back to their benches with a renewed determination to do the impossible. Every time they hit a snag, that unshakable futureview held them to their task.

"They kept solving those unsolvable problems," Armstrong added, "until one day, there I was—walking the lunar surface." And here we are, fifty years later. Who is standing up to paint us an insanely bold picture of our future? Who is calling out that impossible dare, naming it so we can all go about the great work of achieving it? So far, the answer is, "nobody." Everyone seems too busy casting blame and keeping their eyes glued to the problems.

Here's the good news: the potential for real innovation, growth, and new prosperity in the United States is vastly greater than the prevailing futureview suggests. We are in a time of massive, technology-driven, transformational change, pregnant with opportunity. Realize it or not, we have an unprecedented ability to create new products, new services, new markets, and new careers — provided we exercise the futureview it takes to see them. If we don't, they will remain invisible. And you can't build what you can't see. The problems we face today are not economic or technical in nature. They are largely in our minds. We need to take a fresh, close look at what it is we're looking at. The sooner we start looking at the extraordinary opportunities before us and seeing a picture so insanely bold that we feel compelled to reach for it, the sooner we can get about the business of seizing those opportunities and transforming our society—for generations to come.

TECHNOLOGY NEWS HIGHLIGHTS

Antimatter In A Bottle

Canadian physicists recently announced that they have succeeded in storing antimatter atoms – the stuff of science fiction and what some consider to be the "lost half of the universe" – for more than 16 minutes. In previous attempts to generate the elusive substance, researchers have only been able to keep it intact for fractions of a second, since matter and antimatter annihilate each other on contact. So the team developed a "magnetic bottle" which not only suspends the antimatter atoms in a vacuum, but also uses magnet forces to keep the anti-hydrogen atoms from touching the walls of the container. The breakthrough will allow scientists to study the properties of antimatter and perhaps one day solve some of the greatest mysteries of science.

For information: Makoto Fujiwara, TRIUMF, Canada's National Laboratory for Particle and Nuclear Physics, 4004 Westbrook Mall, Vancouver, BC V6T 2A3, Canada; phone: 604-222-1047, fax: 604-222-1074; email: fujiwara@triumf.ca; Web site: www.triumf.ca

Fish Fraud Detection

The European Commission Joint Research Council has developed a plan for using DNA-based techniques to detect fraudulent labeling of fish products. The goal is to ensure traceability of products from "ocean to fork" and eliminate illegal fishing practices, which currently represent an estimated \$15 billion per year in fraudulent profits and threaten the

future of sustainable fisheries. The expense of using methods like genetics, genomics and forensics has fallen sharply in recent years, prompting the council to analyze the costs and benefits more closely. The proposed protocol would make it possible to identify where a product comes from, where it was caught, and whether it was wild or farmed.

For information: European Commission, Joint Research Centre, 1049 Brussels, Belgium; phone: +32-2-297-4181; fax: +32-2-299-6322; Web site: www.ec.europa.eu

Guess My Age?

A new device may soon be used to collect additional demographic information every time you use an ATM or vending machine. Unlike current systems that are large and require high-performance servers (not to mention lots of power) this image sensor fits in the palm of your hand so it can be easily built into just about any kind of terminal. The system does not save pictures, but analyzes images and stores the information as numerical data. It extracts a small number of facial features – including outline and the corners of the eyes – to estimate age within a range of 6 to 7 years. The system also identifies gender. The data collected will be shared over a network for the purpose of enhancing market research. The company plans to have a commercial version available later this year.

For information: NEC Corporation, 7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001, Japan; Web site: www.nec.com

LED Data Transmission

The explosive growth of data-hungry mobile devices in recent years has many people worried that we will soon run out of radio-frequency bandwidth. But a new technology known as visible light communication (VLC) may solve that problem. Also known as Li-Fi, the new technology uses high brightness light-emitting diodes (LEDs) that are switched on and off so quickly the human eye can't even detect it. Binary data (strings of ones and zeros) are encoded by varying the modulation rate, and arrays of LEDs can be used to transmit data in parallel. Data rates of over 500 megabytes per second have already been achieved using standard white-light LEDs. Altering the frequency by using mixtures of red, blue and green LEDs also permits multiple channels to be encoded simultaneously. Applications for the technology include hospitals and aircraft where Wi-Fi could potentially interfere with other communications devices. It can also be used underwater where Wi-Fi doesn't work at all. Although Li-Fi only functions in direct line of sight, that can be a tremendous advantage in terms of security. It's also cheaper than Wi-Fi by a factor of ten, and could be rolled out simply by replacing existing light bulbs with LED-type bulbs.

For information: Harald Haas, Chair of Mobile Communications, University of Edinburgh, The King's Buildings, Edinburgh EH9 3JL, United Kingdom; email: h.hass@ed.ac.uk; Web site: www.ed.ac.uk

Winning The Battle Against HIV

At a scientific conference on HIV last month, two studies provided detailed evidence that antiretroviral (ARV) drugs could transform the fight against AIDS. In fact, in one case the results were so groundbreaking that the trials were stopped early so that placebo patients could begin taking the real treatments. The first study used an approach known as pre-exposure prophylaxis (PrEP) in which uninfected individuals were placed on low doses of ARVs in the hope that maintaining a constant level in the bloodstream would kill the virus before it could become established. The results showed that one 25-cent pill per day reduced the incidence of HIV by 63 to 68 percent. Another trial covering 13 countries and 1763 heterosexual couples used a "treatment as prevention" (TasP) model, administering ARVs to infected patients earlier than would normally be indicated. They found that this reduced the spread of HIV to uninfected partners by 96 percent. Although many questions remain unanswered – including issues with drug resistance, cost, and the possibility of encouraging unsafe behaviors – researchers are hopeful that HIV can someday be eliminated in some parts of the world.

For information: Robert Grant, Associate Professor in Residence, University of California-San Francisco, 1650 Owens Street, San Francisco, CA 94143; phone: 415-734-4810; email: rgrant@gladstone.ucsf.edu; Web site: www.ucsf.edu

Public Teaching Robots

When we think of robots performing tasks, we normally think of complex programs giving them explicit instructions to perform very specific actions. But a new approach uses learning-from-demonstration (LfD) to program robots implicitly through human

demonstration. Also known as Crowdsourcing, the technique uses data from trial experiments in which people pilot real or simulated robots over the Internet. By logging information on how humans tackle a task and looking for common patterns, researchers can recreate behaviors that are effortless for humans but would normally be difficult to program in robots. Two robots – Rosie and James – have already been taught how to make pancakes using this method. A new experiment in which the public will be invited to help robots perform other common household tasks is due to be launched by the end of this year.

For information: Chad Jenkins, Brown University, Department of Computer Science, Box 1910, 115 Waterman Street, 4th Floor, Providence, RI 02912; phone: 401-863-7600; fax: 401-863-7657; email: cjenkins@cs.brown.edu; Web site: www.brown.edu

No-Power Standby

The amount of electricity consumed by electronic devices in standby is estimated to be up to 6 percent of total household power consumption. But a new technology, known as spin memory, can store data without the need for standby power, while maintaining the “instant start” capability that users have come to expect. Spintronics takes advantage of the fact that, in addition to their electrical charge, electrons possess magnetic properties by virtue of their spin. Data can be read and written by changing the direction of this magnetic moment, and will be retained even if the flow of electricity is cut off. In addition to enabling high speed data retrieval, the new content addressable memory (CAM) can reduce the number of transistors needed by 50 percent in comparison with existing memory technologies.

For information: NEC Corporation, 7-1, Shiba 5-chome, Minato-ku, Tokyo 108-8001, Japan; Web site: www.nec.com

UV Blocker

A new material was recently unveiled that blocks 100 percent of ultraviolet rays with a wavelength of 375-400 nanometers. Also called Ultraviolet A, these rays are the ones responsible for causing sagging and wrinkles by stimulating skin cells. The key to its effectiveness is the fact that the new compound combines nano-level zinc oxide particles with a UV absorber. In addition to obvious applications as a sunscreen additive, the material could also be used in auto glass and food packaging films.

For information: Sumitomo Osaka Cement Co., Ltd., 6-28, Rokubancho, Chiyoda-ku, Tokyo 102-8465, Japan; Web site: www.socnb.com

Virtual Supermarket

A new virtual grocery store makes use of time that would otherwise be wasted by allowing commuters to shop while waiting for the subway. Recently launched in South Korea, more than 10,000 customers have already taken advantage of the service. The walls of a subway station have been transformed into virtual grocery aisles with visual recreations of store shelves. Each item has a corresponding code that is read using the Home Plus smartphone app and then placed in a virtual shopping cart. When they're finished with their shopping, customers simply check out (also via their smartphones) and their order is delivered to their home at whatever time they specify, saving them a trip to the store.

For information: New Tesco House, Delamare Road, Cheshunt, Hertfordshire EN8 9SL, United Kingdom; phone: +44-1992-632-222; Web site: www.tesco.com

Electric Flying Car

A new “roadable aircraft” has hit the scene causing many aviators to take notice. The twin fuselage vehicle is known as the BiPod, and features two half-liter internal combustion engines which charge lithium-ion batteries. Four 15-kilowatt electric motors power the propellers when the vehicle is in flight. On the road, the wings are stowed and the lithium-ion batteries power a single 15-kilowatt motor to drive the rear wheels.

For information: Burt Rutan, Scaled Composites, Hangar 78 Airport, 1624 Flight Line, Mojave, CA 93501; phone: 661-824-4541; fax: 661-824-4174; Web site: www.scaled.com

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