

# MIT Technology Review

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HAS QUANTUM  
COMPUTING  
FINALLY  
ARRIVED?

Upfront p24

HOW  
TOMORROW'S  
STARTUPS WILL  
BE FUNDED

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TECH  
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MUSIC, ART,  
AND PROSE

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**Buzz Aldrin,**  
*Apollo 11*  
moonwalker,  
would like a  
word with you.

## You Promised Me Mars Colonies. Instead, I Got Facebook.

We've stopped solving big problems.  
Meet the technologists who refuse to give up. p26

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# From the Editor



We look different. What's changed?

Readers hope that redesigns should work and flatter their eyes. They worry that things they liked have been lost, and they dislike additions at odds with their sense of a publication.

Rest assured. The changes are meant to enhance your experiences. We've taken away nothing except a small section called "From the Labs," a not-very-useful summary of recent academic publications. We added "MIT" to "Technology Review," because our authority derives in part from our ownership by the world's leading technological institution.

Rather than writing about fonts and graphic design, or about the navigation of different sections (which I hope is self-evident), let me tell you what we believe, care about, and hope to do.

Name a problem. Any will do: pick one from the section beginning on page 26. We believe that for any big, difficult problem, technology is at least part of the solution. At the same time, new technologies are providing entrepreneurs and businesses with opportunities that can grow prosperity and expand human possibilities.

We're not uncritical boosters of new technologies, recognizing that any revolution has losers as well as winners; but we are disposed to think technology a powerful force for good.

Ours is a technological civilization. Given the number and urgency of the world's problems, it has never been so important to understand how technologies can overcome apparently intractable difficulties. It has never been so important to understand how technologies can overturn existing markets and create entirely new ones.

Yet no earthly activity is so badly served by the journalism that seeks to explain it. Nothing humans do is so

obscured by hyperbole, jargon, and inaccurate reporting. Technology matters, but you can't understand it by reading most technology sites and magazines. We want to change that by applying an authoritative filter to the overwhelming flood of information about technology.

We're committed to informing our readers about important new technologies by explaining the practical impact of these advances, describing how the technologies work and how they will change our lives. Our main criterion in choosing what to write is our judgment as to what will best serve our audiences. To fulfill our mission, we make accuracy and independence our highest priorities. We do everything in our power to publish correct information. Our coverage is independent of any corporate relationships, including our ownership by MIT, or any business arrangements, such as agreements with advertisers.

We mean to publish smart, literate, originally reported journalism and useful information in a variety of beautifully designed media, both digital and print; we want to produce thought-provoking events that make that journalism live and breathe on stage; and we hope to provide the world with a badly needed example of an innovative, commercially sustainable, digitally oriented global media company.

We've been doing something like this since 1899, when MIT began publishing *The Technology Review*. But starting today, we're going to do it better, with more impact, and in new ways. We want to lead the global conversation about new technologies because nothing is more important.

Write to me and tell me what you think of our designs at [jason.pontin@technologyreview.com](mailto:jason.pontin@technologyreview.com).

The Siemens logo is displayed in a teal, sans-serif font within a white rectangular box in the top left corner. The background of the entire advertisement is a photograph of a worker in a hard hat and safety glasses standing on a blue industrial platform in a factory setting, with large turbine components visible in the background.

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## Big Solutions ISSUE

*Has technology failed us? Over a billion people still have no electricity, millions lack clean water, education is inaccessible to many, the climate is changing rapidly, traffic snarls cities, and dementia and cancer can strike any of us. In this issue we'll introduce you to the technologists who haven't given up trying to solve problems like these.*



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**ON THE COVER:** Buzz Aldrin photographed by Dan Winters for MIT Technology Review

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# Feedback

## WHY CHEAP NATURAL GAS IS GOOD, AND ALSO TERRIBLE

IN OUR LAST ISSUE, editor David Rotman (in his review “King Natural Gas”) examined how a glut of natural gas is hindering green energy. Putting a price on carbon dioxide is often suggested as a way to boost green energy, but the review noted that natural gas is now so cheap it could be offset only by a carbon price that is too high to be politically viable. This annoyed **Neil Frazer**, a geophysics professor at the University of Hawaii at Manoa: “I’m tired of hearing economists saying that a carbon tax isn’t politically feasible. Their job, surely, is to tell us what would work, not whether it is politically feasible. Taxes on alcohol and tobacco were both politically infeasible before they were enacted.”

One online commenter, **intarz**, lamented the lack of ingenuity when it comes to clean energy: “I would hate to see a bust in the wind area. I just drove out west and the number of wind farms in Iowa, Nebraska, Wyoming, Colorado, and Kansas is staggering. But scattered wind farms will never be effective as long as the industry wants to distribute the power through lines. They should think of alternative distribution schemes. Trains loaded with batteries. Can the electrolyte be charged and pumped in plastic lines from the charging source to the discharging point? I don’t have the answers, but I am surprised the industry seems to consider it efficient to produce power on the plains but ignores the cost to distribute it.”

**Rajat Sen**, another online commenter, felt the new glut of cheap fossil fuels was fine, but we shouldn’t dupe ourselves into thinking it will last forever. “Shale oil and gas are changing our energy economy for the better. Some say these resources can last as long as 100 years, while other estimates are much lower. No matter which side is correct, the resources are limited. They do give us some breathing room to develop sensible energy policies and develop new technologies that are less harmful to the environment. We should use that time wisely.”

## THE INTERNET IS ABOUT TO GET CONFUSING

ICANN, THE BODY THAT oversees Internet domains, wants to make all sorts of new domains available: instead of just .com, .net, and so forth, it wants to consider the likes of .book, .restaurant, and .carinsurance. Writer Wade Roush took a critical look at the possibilities (in his review “ICANN’s Boondoggle”) and saw a world of confusion and greed. Many readers agreed. “The apologists of this new program are happy to use words like competition and choice,” wrote **Dylanj** in an online comment. “However, you’ll notice that most of the rhetoric comes from those who stand to directly benefit from it. When you see all those involved in the program, they are seldom people who seem genuinely there for a good cause. Instead, you see smart people working hard to ensure they make a lot of money while producing almost no real value to the Internet ecosystem and probably a lot of unnecessary confusion.”

**Natcohen** was similarly bothered: “For whose benefit is ICANN overseeing the Internet? The main beneficiary of ICANN’s decisions seem to be—big surprise—ICANN itself. Is ICANN responding to a huge public clamor for



more domain extensions? No. They just decided to create huge new territories on the Internet and auction off the rights to that territory, keeping all the money for themselves.”

Not everyone is outraged, however. “The basic premise of this article is all wrong,” wrote **Tom Barrett** in an online comment. “Who are you or anyone else to decide if there is a good reason for the Internet expansion? We should be encouraging startup activity, not trying to hold it back.”

## YOU CALL THESE PEOPLE INNOVATORS?

OUR SEPTEMBER ISSUE featured our annual list of “35 Innovators Under the Age of 35.” **Gary Calabrese** of Corning, New York, wrote to say that although he enjoyed the feature, he had a quibble with our use of the term “innovator.” “Although all of these folks are certainly very creative and inventive, many cannot be declared ‘innovators’ until their inventions deliver tangible economic or societal value. The promise of a breakthrough from an idea or even a patentable invention does not make it an innovation until someone somewhere actually finds it valuable enough to use.”

As for our Entrepreneur of the Year, Ren Ng, creator of a camera whose images can be refocused even after the shot has been taken, one commenter, **Mahonj**, felt the innovation in question was a neat trick

### JOIN THE DISCUSSION, OR CONTACT US

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