

## Why the United States Needs an Innovation Strategy

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# Why the United States Needs an Innovation Strategy

Author John Kao diagnoses America's ills as a continuing loss of innovation capacity. But, he says, there is a way to reverse that trend.

by Amy Bernstein

Is the United States losing its global preeminence, and if so, why? John Kao, a former professor at Harvard Business School, the MIT Media Lab, and the U.S. Naval Postgraduate School, answers an unequivocal “yes” and blames the country’s diminishing passion for innovation. In his new book, *Innovation Nation: How America Is Losing Its Innovation Edge, Why It Matters, and What We Can Do to Get It Back* (Free Press, 2007), Kao argues that the capacity to innovate lies at the heart of any society’s ability to address its greatest challenges, including education, health care, and national security. Allowing that capacity to erode, he says, puts the entire society at tremendous risk. In an interview in September with strategy+business, he called on the U.S. to become “a nation that has learned how to practice innovation systematically and develop those capabilities in pursuit of world-changing goals.”

**S+B:** How is the United States losing its innovation edge?

**KAO:** There are two complementary narratives at work here: what’s happening in the rest of the world and what’s happening inside the U.S. After World War II, the U.S. was the big mountain peak on the landscape of innovation. Our productive capability was unmatched. Our consumer products marched around the world. We invented the platforms for innovation, linking public

and private resources in university settings. We innovated financing, inventing the concept of venture capital. We had demonstrated our prowess in top-down, large-scale efforts like the Manhattan Project, but had also excelled with emergent bottom-up, large-scale innovation models like the Lockheed Skunk Works.

But then we had our Sputnik moment in 1957 and we realized that we weren’t so smart after all. The Soviets had surpassed us not only with the first satellite but with the first animal in space, the first man and first woman in space, the first space walk, et cetera. This was a big wake-up call for America.

I think we’re at a Sputnik moment today, except that it’s a silent Sputnik. There is no obvious inciting incident such as an adversary putting up an object in space that is taunting us for not being first. Look at where we stand in comparison to the rest of the world. Look at our approach to human capital, which boils down to education, and to our ability to attract and keep talent. Look at our idea-generating capability and our approach to research and development. Look at our financial capital. We have real deficits in each of these areas, while other countries are gaining strength.

**S+B:** What essential quality did we have at the last Sputnik moment that we don’t have now?

**KAO:** There’s always been an ethos of exploration in our

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country — that frontier mentality that led first to westward expansion and later to mapping the genome and to cyberspace. But we no longer have much of a sense of why we're pursuing new fields of exploration. The American idea is in need of review in the 21st century. What do we stand for as a country? It's analogous to a company. A company can be very good technically at innovating in the sense of having smart policies for hiring and incentivizing smart people to tackle interesting problems. But if it doesn't stand for something great, if it doesn't have a purpose, if its culture isn't animated by powerful values that get people really excited about coming to work, it won't be the kind of company that can continuously transform itself in service of world-changing goals.

**S+B: What country does innovation right?**

**KAO:** So many countries are now racing for the high ground of innovation, and many are explicitly looking at innovation as an organizing principle for national policy. Finland, for example, was rated recently by the World Economic Forum as the world's number one economy; the country's high school students, not coincidentally, rank at the top of comparative studies of academic performance. It has a breathtakingly sophisticated ecosystem of public and private players in the innovation effort. The Finnish government makes a conscious investment in the social capital around education infrastructure — teachers, curriculum, and things of this kind. Teachers are paid very well in Finland and get great respect. There's active competition for each vacant teaching position.

But it's not just little countries. It's big countries like China. Beijing recently promulgated its 11th five-year plan, and this one names innovation as the top

national priority. There's plenty of money there, and China now produces significantly more Ph.D.s in science and technology than the United States does. Beijing has actually reframed the academic enterprise and the R&D enterprise as elements of the national agenda. They've established very ambitious scientific and technical goals, along with metrics for productivity. They've got a national vision.

**S+B: How can the U.S. regain its innovation edge?**

**KAO:** There are three ingredients for innovation — human capital, idea generation, and financing — each of which is in a state of erosion in the U.S. We have to understand that this isn't just a one-note problem, such as “our schools aren't working well” or “we should put more money into science.” Those are knee-jerk, politically expedient answers to a complex problem. We need to address the systemic nature of the problem with a strategy. And our nation's leaders need a way of telling the story around that strategy to create alignment throughout the stakeholder groups in society.

We need a leader who can articulate the importance of this agenda and our ability to do something meaningful about it, and lay out a road map. This is what Dwight Eisenhower did in 1957. Eisenhower didn't say, “We're going to bomb the hell out of the Soviets.” He came up with the National Defense Education Act. He came up with NASA. He came up with the Defense Advanced Research Projects Agency [DARPA]. And when we finally launched a satellite into orbit, it contained a tape-recording of Eisenhower declaring that space would not be militarized and would be used for peaceful purposes for the benefit of all mankind. It was a very elegant piece of leadership.

It made people feel empowered. It helped them conquer their fear. And it gave us hope. Today we need a new narrative. We need a sense of urgency. We need to reinject an awareness of the importance of science and technology into the government's executive branch.

As a country, we need to place smart bets on technologies of the future. There are fields that require billions of dollars of coordinated investment over long periods of time. Energy, for example, is one of our most urgent challenges. I'm excited about the idea of an energy DARPA. We, as a country, could fund a new platform for large-scale innovation in energy, with government working to build knowledge and encourage collaboration by convening, creating policies, and of course channeling funding. Obviously the final result would depend on cooperation between the private and public sectors, the involvement of both entrepreneurs and policy makers, and efforts that are bottom-up as well as top-down.

**S+B:** Ultimately, *Innovation Nation* isn't just about the U.S. You're saying it's good for the world to have many innovation nations.

**KAO:** I'm all for a world that, in general, is smarter about innovation. Ultimately, I think that's going to be a good thing. The innovation capability, no matter what nation it belongs to, is key to addressing the greatest challenges of the day. The logic use to be that what's good for America is good for the world. That was part of our "we're number one" syndrome. In the 21st century we would do well to consider reversing that logic and say that what's good for the world is good for America. Innovation can provide us with the means to reengage with the world in a positive manner. +

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## Resources

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Kevin Dehoff and Vikas Sehgal, "Innovators without Borders," *s+b*, Autumn 2006: For companies that want to build a global growth engine, offshoring innovation is both a challenge and a necessity. [www.strategy-business.com/press/article/06305](http://www.strategy-business.com/press/article/06305)

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C.K. Prahalad, "The Innovation Sandbox," *s+b*, Autumn 2006: To create an impossibly low-cost, high-quality new business model, start by cultivating constraints. [www.strategy-business.com/article/06306](http://www.strategy-business.com/article/06306)

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