

# The Crossroads of Innovation

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**EDITORS' NOTE** In 1988, Laurence Fink, along with seven other co-founders, started BlackRock, an investment management firm. Fink started his career at First Boston Corporation after graduating from the University of California, Los Angeles (UCLA), and earning an M.B.A. at the UCLA Graduate School of Management in 1976. Fink also serves on the Board of Trustees of New York University and the NYU Langone Medical Center.



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**COMPANY BRIEF** BlackRock ([blackrock.com](http://blackrock.com)) is a global leader in investment management, risk management, and advisory services for institutional and retail clients. At June 30, 2015, BlackRock's AUM was \$4.721 trillion. BlackRock helps clients around the world meet their goals and overcome challenges with a range of products that include separate accounts, mutual funds, iShares® (exchange-traded funds), and other pooled investment vehicles. BlackRock also offers risk management, advisory, and enterprise investment system services to a broad base of institutional investors through BlackRock Solutions®. As of June 30, 2015, the firm had approximately 12,400 employees in more than 30 countries and a major presence in key global markets, including North and South America, Europe, Asia, Australia and the Middle East and Africa.

FOR THE PAST SEVERAL HUNDRED YEARS, the world has grappled with the ramifications of technological change, which includes the movement from farms to factories, from factories to assembly lines, and now, from assembly lines to robots. Perhaps not since the Industrial Revolution have the transformations been so extensive or occurred so rapidly.

The changes we are seeing today are not relegated to one sector of the global economy. The "sharing economy" is exploding, with companies like Uber or China's Kuaidi upending the way we think about car ownership and transportation, creating new sources of income for some and eliminating the need for car ownership for others.

Industries like oil and gas are being revolutionized through new extraction technologies, those which over the past year or so turned the

oil market on its ear and took the oil oligopoly by surprise.

One of the biggest shifts is in automation. Increasingly, tasks on the factory floor (and elsewhere) are being handled by machines, improving productivity but also eliminating significant numbers of jobs.

Technology is even gobbling up tasks that had long survived the shift to automation. Garment work, for example, has been relatively insulated because it is actually quite difficult to get a machine to sew clothing prop-

erly. But recent advances in technology, which show no sign of slowing, may soon enable machines to do the work, which could ultimately eliminate a crucial source of employment for millions of the world's lower-skilled workers.

As we confront the side effects of technology, along with its absolutely tremendous potential, there are two questions that political leaders, CEOs, educators, and parents should be asking: First, how do we prepare ourselves and our children for a changing world? And, second, how do we harness the power of technology to solve some of our more intractable problems?

The answer to the first question is anything but simple, but there are a few key aspects. First, many nations are experiencing a skills mismatch in which they can't find workers who are well-trained enough to do the complex tasks that a more technologized economy requires. The countries that are most aggressive about improving education and training for the new economy will see an outsize benefit.

But what about the workers who cannot or do not get the training they need? There is a fortunate match between displaced workers and one of the world's greatest needs: infrastructure. *The Economist* has estimated that the world needs nearly \$60 trillion in infrastructure investment by 2030, with the greatest need in the least developed countries – those that will also lose the most workers to automation.

The benefits of infrastructure investment accrue to a wide variety of parties: investors in need of new sources of return, workers displaced by technology, commuters, and businesses. This isn't just about roads and bridges – it's about sewer systems, broadband networks, energy delivery, school facilities, and

more. All of those combine to increase lifespan, broaden economic opportunity, and attract further investment.

But why are we behind? Part of the shortfall is understandable – governments are strapped for cash, and investors are wary of political instability and loss of capital. But increased cooperation can help encourage more private capital into the infrastructure market and also help governments use resources more efficiently. We need to do a better job of broadening financial incentives through public/private partnerships such as infrastructure banks or infrastructure bonds that combine various projects.

This will be the true test of our technological revolution. We are creating a new world – the question is, can we apply the same vigor (and same technology) to solve our most difficult problems, such as drought, energy, or food production? California is the center of the tech industry, yet it's suffering from a prolonged drought. It sits on the coastline, yet desalination plants sit idle, and the current state of the technology itself is not wildly encouraging. Similarly, healthcare employs some of the most advanced technology in the world, but is absolutely plagued by inefficiency, poor record-keeping, and a frequently unscientific approach to standardizing care.

We are seeing some such boldness. Tesla recently released its concept for a new battery, which helps address one of the weakest points of solar power: that excess power has nowhere to go. Dow Chemical has developed a new technology to help fertilizer bond with soil, which could both dramatically decrease fertilizer use and increase food production. If we are living in a world profoundly changed by technology, we can also be in a world dramatically improved by it.

But that will take the most important sort of leadership – a view towards the long term. We need a willingness to forgo short-term return on investment to reap the benefits of a truly important undertaking. We need our governments to solve short-term disputes so that they can focus on building partnerships for the next century. And we need CEOs to brush off quarterly earnings hysteria by developing solid long-term plans – plans that invest in research and development, human capital, and harnessing technology for many years to come. ●