

# Forging transatlantic cooperation on the next wave of innovation



***4.0 innovation is something both sides of the Atlantic should not only welcome, but do everything possible to accelerate***

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There is considerable buzz about the imminent '4th Industrial Revolution' that purportedly is set to transform the American and European economies and labour markets. New technologies, such as machine learning, robotics and autonomous machines are undoubtedly improving and being more widely adopted. But as I write in my book 'The Past and Future of America's Economy: Long Waves of Innovation that Power Cycles of Growth', such technologically-based transformations have been a regular part of American and European economic history, to the point where the next wave will not be the fourth, but rather the sixth.

While a new wave of technologically-powered innovation, whatever number we give it, is coming, it's not here yet. And it won't likely be for at least another decade. If it were here now, one would expect global labour productivity growth to be at much higher levels. Instead, since the end of the Great Recession, productivity growth has been at near all-time lows. This is because the '4.0' technologies are not yet cheap enough or good enough to replace existing technology systems en masse.

Take the case of autonomous vehicles (AVs), the source of much consternation in terms of the

threat to jobs. AVs are neither cheap enough nor good enough now. And while they might eventually get good enough, it will probably be a while before someone would be willing to ride in a driverless taxi, particularly in a complicated urban setting in bad weather.

But the fact that this next wave of technology is not ready for prime time has not stopped a groundswell of techno-utopianism and dystopianism from sweeping both sides of the Atlantic. You cannot attend Davos, a G20 summit, or a TED talk without being told that the pace of technological change is accelerating and the days of ‘work’ as we know it are numbered. Yet these alarmist claims are either inconsequential (as when Klaus Schwab, head of the World Economic Forum, warned that robotics and artificial intelligence will destroy five million jobs by 2020, a loss of just 0.25% of jobs) or simply wrong – as when Oxford researchers Carl Benedikt Frey and Michael Osborne warn that new technology will destroy 47% of American jobs in 20 years, including fashion models, manicurists, carpet installers, barbers, and school bus drivers. (Even if we could produce school buses that didn’t need a driver, no parent would let their primary school child ride to and from school unaccompanied by an adult.)

The reality is more along the lines of what the McKinsey Global Institute and the Information Technology and Innovation Foundation (ITIF) have independently found: only between five and ten per cent of jobs are at risk of elimination from these technologies. But poor research and even poorer media coverage fans the flames

of technology-based job destruction, leading to calls to slow down automation, including by taxing and regulating robots.

So, one place where the United States and Europe could cooperate is to actively work to reject this new Ludditism and instead work together to share information on how our firms and governments are working to advance the next wave of innovation and automation. It’s important, because both regions will need productivity growth to cope with looming demographic challenges. For example, the number of working people in the EU for every old person drops from 3.5 to 2.2 by 2040. Unless we want lower per capita incomes, speeding up productivity will be crucial. This means, first and foremost, avoiding a rush to regulate.

Unfortunately, the European Parliament has already jumped the gun, passing legislation to regulate robots, including establishing a code of ethics. (Does this mean Roomba vacuum cleaners will no longer be able to have cats ride on them anymore?) It is way too early in the evolution of these 4.0 technologies for policymakers to fully understand all the implications, and while there is almost no risk from waiting to intervene, if that is even necessary, there is considerable risk of regulating prematurely before we see how the technologies and business models emerge.

But one place policymakers can and should act now is with regard to labour market disruptions. Notwithstanding the fact that this next wave will take a while to come upon us – and when

it does, it will likely be more gradual than most pundits and ‘futurists’ would have us believe – these technologies will produce some labour market disruption. Working now to ensure that workers are prepared will be important.

Even if the technological changes will be more gradual than most predict, some occupations will be negatively affected, as they have been throughout European and American history. And so both Europe and the United States can and should do a better job at helping dislocated workers make transitions to new work. One

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place to look is to the Scandinavian nations with their well-developed programs of ‘flexicurity’. These nations understand that it is the role of government to provide their citizens with ‘skills security’ not ‘job security’.

There are other key areas where cooperation is needed between the United States and Europe. One area is standards. Companies using these new technologies, including the industrial internet (such as ‘Industry 4.0’) will be interacting with customers and suppliers across the Atlantic. We will be moving to a world where machines will need to be able to talk to one another seamlessly. This means that having different standards in Europe and the United States would significantly limit the spread and benefits of Industry 4.0.

Imagine if there were two internet standards and email in Europe didn’t work with email in the United States. That’s what is at risk with Industry 4.0 if policymakers on both sides of the Atlantic do not commit to embracing voluntary, industry-led standards for 4.0. Yet the European Commission’s Digital Single Market

plan includes ambiguous language regarding technology standards when it warns that “industry stakeholders decide ‘bottom-up’ in which areas to develop standards and this is increasingly taking place outside of Europe, undermining our long-term competitiveness”. Does this mean Europe wants its own 4.0 standards? If it means developing European-based standards for European-based products, it would mean fragmented rather than integrated markets. This would hurt, not help, European machine builders, who could no longer easily sell their products in North America.

A second and related key factor will be to enable the free flow of data across the Atlantic. As more devices are enabled by data and machine learning, the importance of data flows increases. For example, the Swedish truck producer Scania offers a service called ‘ecolution’ that monitors a driver’s habits behind the wheel, analyses that information, and sells it back to the driver or to their employer. This service is designed to help coach the driver to better operate the vehicle in a more efficient, environmentally-friendly and safer manner. Ecolution is operated out of Sweden and involves cross-border data flows if the driver is operating his or her vehicle outside of Sweden.

Finally, progress in this next wave will depend on companies making risky investments in innovation, whether it is German robot manufacturers, American software firms or French sensor companies. If these companies cannot make an adequate return they will invest less. Adequate returns depend on two

key factors: the ability to protect intellectual property; and markets based on private-sector competition, not government-subsidised champions. Why invest in risky innovation if a competitor can easily copy it? Likewise, why invest in innovation if you have to compete against companies subsidised by their national governments and who are able to consistently price below costs to gain market share?

In this sense, a major challenge for the development of 4.0 in Europe and America is Chinese ‘innovation-mercantilist’ policies, including forced transfer of technology and intellectual property theft, development of China-only technology standards, subsidies to domestic Chinese 4.0 companies and acquisition of European and U.S. 4.0 firms by Chinese firms relying on government funds. Chinese IP theft and massive subsidies have already harmed global innovation in the solar panel industry because China has been a copier, not an innovator, and its policies have either bankrupted or driven down margins of European and American solar innovators. As China doubles down on its ‘Made in China’ 2025 plan, the risks to 4.0 innovation are equally as great.

As ITIF has written, it will be critical for the United States and Europe to work closely

and resolutely to roll back Chinese innovation mercantilism. Failure to do so will not only cede leadership in the industries critical to the next wave (such as artificial intelligence, robotics and the ‘internet of things’), it will slow the overall pace of global innovation in these areas.

In summary, 4.0 innovation is something both sides of the Atlantic should not only welcome, but do everything possible to accelerate.

Rather than focus on regulating or slowing down the spread of robotics, Europe should put the pedal to the metal and accelerate the rate of progress, in part so that they can dominate the global robotics industry. One key way to do that is for the European Commission’s Directorate-General for Research and Innovation to establish a new directorate focused on supporting research and development in robotics and artificial intelligence. This would bring not only needed increased resources but also focus for the Commission in this critical emerging technology area.

More widely, close cooperation, coupled with an embrace of the innovation principle rather than the precautionary principle, and stronger efforts to help workers make needed labour market transitions, will help ensure that 4.0 comes sooner and helps more people. ●