

Skilled Trades Will Enable The Future Of Canada's Economy

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Canada seems perpetually fixated on the "knowledge economy," no matter the political stripes of the government in power. Budget 2017 will roll out the [Innovation Agenda](#), where significant funds will be dedicated to supporting "super clusters" around the likes of aerospace, cyber security, or nanotechnology.

Policy-makers wish to prepare job markets for disruptions that will stem from automation, artificial intelligence, 3D printing, and the industrial internet. The skills for the future? If you believe the pundits, they are [coding](#), [sales talent](#), and [everything digital](#). Is Canada's economy of the future a place where the skilled trades will survive, let alone thrive?

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This is an important question, especially at a time when the trades are facing a [demographic deficit](#) -- the number of those about to retire far exceeds the number of new entrants into these vitally important professions. If our economy is shifting, how much emphasis do we really need to place on filling predicted shortages and attracting more young people to the trades?

If Canada is going to invest heavily in infrastructure, we must ensure we make equally strong investments in training talent that is going to build it.

The answer might surprise you. In Canada's future economy, the skilled trades are going to matter more than ever. So we need to make significant and sustained investments in attracting our best and brightest talent to these professions, the same way we do for the best and brightest knowledge workers.

Why the skilled trades will matter more than ever in the future.

While we focus so much on the digital space, we can't forget that Canada is about to make massive investments in physical infrastructure. The newly proposed [Canadian Infrastructure Bank](#) will see our federal government put up \$35 billion dollars in hopes of attracting at least four to five times that amount from the private sector -- global or national, to be invested in large infrastructure projects across the country.

Yet, it's unclear whether or not we have the human capital capacity to complete these projects at present. Some estimate that within ten years [Canada will face a shortage of 250,000 individuals in the construction trades](#) alone. If Canada is going to invest heavily in infrastructure, we must ensure we make equally strong investments in training talent that is going to build it.

We may also see a push for Canada's infrastructure of the future to be "smart." That is, built with integrated information and communication technologies (ICT) and internet of things (IoT) capabilities. For example, streets could be embedded with sensors that speak to smartphones optimizing commute times and traffic flow. Making cities smarter is going to require much skilled talent: heavy equipment operators, electricians, and concrete finishers. And these folks are going to have to be able to collaborate with other professionals from a range of disciplines: engineers, architects, and environmental scientists.

The digital environment

Be it through the adoption of automated technologies, [moving our work to virtual spaces](#), or the increased use of cloud based software, our work environments are increasingly digital. The skilled trades are inherently physical, but we can't forget that we are flesh and blood and live in a built environment. The digital and the virtual don't preclude a built environment. For example, the servers needed to house cloud-based information require the construction and maintenance of physical servers. With [the trends toward big data](#), one can imagine the needs for such spaces are going to intensify.

| *A diversifying energy landscape will create intensified demand for skilled labour.*

Microsoft is in the midst of testing the feasibility of housing large data centres [underwater](#). At the same time, Google is building [floating data centres](#) in San Francisco Bay on specially fitted barges. These projects, and others similar, require the use of underwater welders, electricians, and HVAC technicians. The digital always requires the support of the physical, so as our digital needs grow, so too will the need to have a skilled workforce in place that can build and maintain the accompanying infrastructure.

Our changing energy future

The future of energy in Canada is green. Non-renewables will be extracted through [less carbon-intensive means](#), and the use of renewables is quickly expanding. A diversifying energy landscape will create intensified demand for skilled labour. Take for example two renewables that are gathering traction: solar and wind.



[Solar is officially the world's cheapest form of energy](#) and start-ups are quickly emerging to capitalize. [SolarCity](#), an American firm owned by Elon Musk, specializes in solar energy services -- one of their most recent conceptions is an entirely solar roof. The expansion of similar projects to Canada will see the creation of skilled labour demand across the whole value chain -- from the production solar cells, to wiring, to installation.

For its part, [wind could fulfill 20 per cent of Canada's energy needs by 2025](#); this growth of wind energy in Canada will increase demand for wind turbine technicians, electricians, and crane operators. Further, even our traditional energy economy will support job creation in the near future. [Oil prices are mending](#), and with recent approvals for

[new pipeline projects](#) the demand for skilled trades is certain to rise.

Canada is well positioned to stake its claim as an [innovation leader](#). However, even as our economy shifts to embrace emerging technologies, digital spaces, new infrastructure, and renewable energies, have we overlooked the integral role the skilled trades will play in all of this industrial change?

Through the onslaught of articles about [automation](#) and digitization of work, it is worth remembering that we haven't left the physical world, at least not yet. More importantly, it will be the trades professions that can enable the future of work -- here and around the world.

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