

Industry 4.0 Holds Hope for Canada's Productivity Challenge

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Canada has a productivity challenge. Numerous reports and annual data consistently highlight that Canada's productivity is falling behind the leaders. There are several factors that mask the impact of poor productivity including an advantageous currency exchange rate, reasonable energy costs and competitive labour costs but eventually the perils of poor productivity will impact our global competitiveness, and our standard of living. Industry 4.0, also known as Digitization, holds hope for improving our productivity performance.

Industry 4.0 is the next phase of the industrial revolution. The first phase of the revolution involved mechanization, water and steam power over a period in the late 1700's through to the later 1800's. Industry 2.0 was born with mass production, electrification and assembly lines, the third phase started in the 1970s with computerization and automation. We are currently entering the 4th phase, digitization.

Industry 4.0, or Digitization, allows for smart factories, resulting in an ability for business to be more agile, offer more personalized products, and make significant productivity and efficiency improvements. The internet, wireless sensors, software, robots, machine vision systems and artificial intelligence are primary tools of digitization. While some of these tools have been available for years, improved affordability, ease of use and the integration of multiple technologies has led to Industry 4.0.

RPC is building capabilities to facilitate Industry 4.0. RPC's automation lab has been equipped with robots, machine vision cameras, specialized lighting and conveyors, control systems and sensors. We incorporate solid modelling and 3D printing into our design processes. We are developing products that are connected to the internet (Internet of Things or IoT). We are collecting and monitoring data to improve processes. These are some of the fundamental building blocks of Industry 4.0. Our clients have already seen benefits from applications including improved quality, reduced waste, overcoming

labour challenges, and ultimately improved productivity. To the business owner, improved productivity means improved competitiveness and increased profitability.

If you are ready to improve productivity, a good first step is to benchmark your current performance. BDC has worked with the Province of New Brunswick to offer the New Brunswick Productivity Challenge. It is easy and free.

<https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/business-assessments/canadian-business-productivity-benchmarking-tool/pages/free-productivity-toolkit-new-brunswick.aspx?ref=shorturl-nbproductivitychallenge>

Once you know how you measure up, consider having an assessment of your operations to identify the potential projects that will have the most significant impact on productivity and develop an implementation plan. Apply and implement the tools of Industry 4.0. Implement and re-measure your productivity.

The benefits of Industry 4.0 are not reserved for large businesses. Technology has become more affordable and there have been significant advances in user friendliness. Industry 4.0 should be part of the business strategy for all manufacturers from startups to small and medium-sized businesses through to large corporations. It is perhaps one of the most lucrative opportunities to restore our manufacturing and productivity competitiveness since the 1970's; let's take full advantage of Industry 4.0.

Eric Cook, P.Eng., is the Executive Director of RPC, a research and technology organization mandated to support the science and technology needs of business. Eric is an advocate for business-led innovation emphasizing that discoveries remain invention until there is economic or social value achieved for them to become innovation.

