

Over the years, we have been trying to understand Canada's position in the global economy. There is an underlying question that we need to ask ourselves as Canadians: how do we instill a proactive mindset?

The Article, *Homegrown ideas need our support*¹, discusses the need for adopting new technologies created in Canada.

We have great incentives in this country which lower taxes and provide financial support such as SR&ED and NRC-IRAP. However, to lead the global economy in any sector, we must first support our new technologies right here in our own backyard.

Countries that have been dependent on **developing new industries as a main source of their GDP** are more receptive to new technologies. This in turn results in the creation of a proactive mindset. This includes nations that are not solely dependant on natural resource economies, which also design and manufacture their own technologies. Yes, 10% of Canada's GDP is in manufacturing², but do we own all the designs, or are we mainly operating based on "build to print"?

In *Homegrown ideas need our support*, Germany, South Korea and the United States are listed as nations that are supportive of homegrown technologies. Let us overlay our consensus, after years of experience in the automotive industry.

Germany, having a strong automotive market, and is home to leading OEMs and manufacturers, has been designing and manufacturing automobiles for over a hundred years. They are not dependant on natural resources for GDP. For that matter, our company, Kepstrum Inc., has had great success promoting our technology in Germany, as they are receptive to new technologies.

South Korea - home to auto OEMs including Hyundai and Kia Motors, is also a major player in the consumer electronics markets. Their leading brand, Samsung, is competing in Apple's playing field. Let us not forget Samsung's automotive segment, which is now Renault Samsung Motors.

USA, despite its large oil reservoirs, is not solely dependant on natural resources for GDP. The country is a leading automotive market and is home to influential technology companies that have reshaped our day to day lives, such as Apple and Microsoft.

Japan, although not mentioned, is home to several leading auto OEMs, such as Toyota, Honda, and Nissan. As they are known to build reliable and long- lasting vehicles, it has allowed their brands to develop the world's top selling models, such as the Toyota Corolla³. The nation is not rich in natural resources, and as a result, they are now leaders in automotive and consumer electronics.

The same way that Hydrostor, the world's leading developer of Advanced Compressed Energy Storage, piloted in Canada but looked to Australia to scale¹, Kepstrum experienced the same in the past, finding initial projects in our own backyard, but looked to Germany and Austria to scale.

The question still lies, how do we instill a shift in mindset?

Let us examine a controversial topic of our global economy; the leap towards reducing carbon emissions. Various industries are adopting this change regardless of the impact on the bottom line, as we progressively battle climate change.

In automotive, the industry is looking to reduce emissions heavily by introducing new electric powertrain components. Although Canada is home to several major parts manufacturers, our nation needs a stronger investment in Canadian OEMs, in other words, domestic usage. In return, reducing the need for auto designs and strategic directions to be controlled from outside the nation. This allows our country to be less vulnerable to shifts in global consumer demands, or else we will experience the same episodes as the closures of GM in Oshawa and FCA in Windsor, which leaves thousands without jobs. We must encourage our parts manufacturers to focus on controlling designs and leading new development technologies. But without the counterparty usage

1. Wu, Y. "Homegrown ideas need our support". 2020. Toronto Star

2. Statistics Canada. Table 36-10-0434-03 Gross domestic product (GDP) at basic prices, by industry, annual average (x 1,000,000)

3. Focus2Move. "Global Auto Market. The ranking by manufacturer in 2019". 2020. Focus2Move

from Canadian OEMs, we are not supporting our ecosystem for homegrown technologies. It is time we close this loop and invest in domestic collaboration and usage.

As mentioned previously, our government is providing the programs and financial support in place to facilitate this collaboration amongst Canadian peers. But it is up to us to take that initiative. SR&ED and NRC-IRAP are providing research funding. Next Generation Manufacturing Canada (NGen) is providing the marketplace to facilitate collaboration between manufacturing companies and technology providers. This helps support our ecosystem for the adoption of new technologies. With their commitment to invest \$192 million into the sector within a few years, it encourages matchmaking to drive new technologies forward, and hopefully provide birth to automotive OEMs.

This does not imply to cease all international trade. Exports are needed to maintain global recognition, but we must focus on exporting as OEMs. If we are solely reliant on exporting to foreign OEMs, without domestic usage, we are vulnerable to free trade disruptions (i.e. tariffs). In such a case, where do we look to sell?

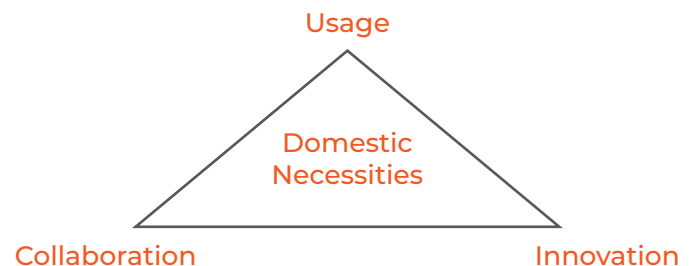
Why couldn't Canada's balance of trade recover since the 2008 recession? The days of a healthy trade surplus have not been experienced in over a decade. Our dependence on natural resources as a main driver of exports must be diversified with high technology products, with strategic decision making taking place in our nation.

The underlying message here is to create a change in behaviour, which must be supported by every individual in our workforce, and not simply a few business leaders with a vision. Innovation cannot be forced exclusively through transactional rewards, such as high financial compensation. Creativity is the result of intrinsic motivation and relational rewards, such as recognition from peers

and a sense of one's internal worth, beliefs and attitude. Innovation is not a goal; it is a process and a mindset. Performance and productivity for 'knowledge workers' is measured by meaningful work and daily progress. By encouraging domestic usage and collaboration, it will result in high measures of control, curiosity, and recognition within our workforce. This will build Canada's credibility amongst its global trade partners, which will ultimately help in regaining a favourable trade balance.

Kepstrum is the thought leader in deterministic reliability. As a technology provider to parts manufacturers in various industries, our risk- reduction methodology is used to qualify new product developments without history. Our brand is our promise to the Canadian economy: to support and build the adoption for homegrown technologies in the automotive industry.

We have the intellectual capacity and the desire to advance our sector. We have the financial support and the mediums to collaborate. But we need to invest in domestic usage. It is time for a shift.



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