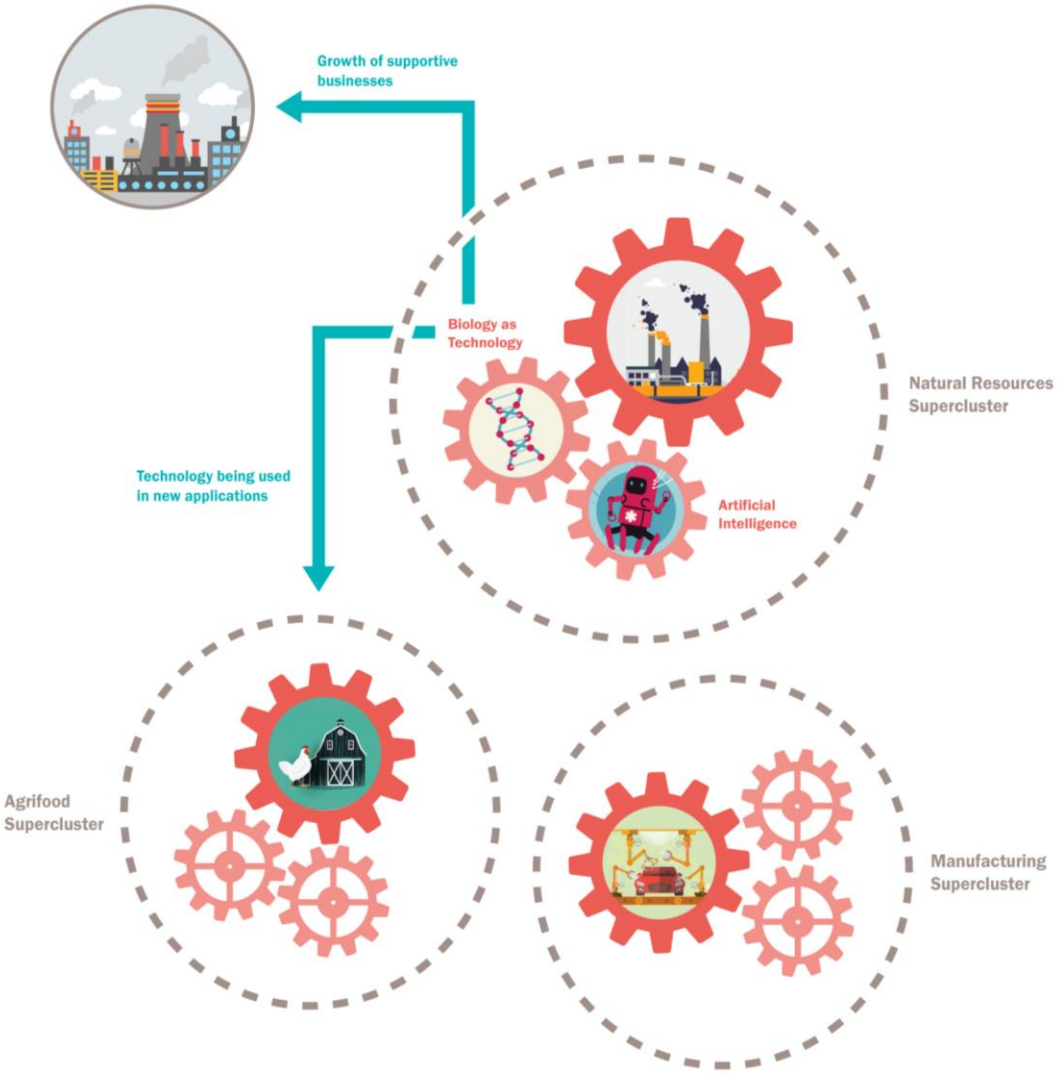
950 Million Dollars Spent Right Could Make All the Difference for Canada's Leap into the Innovation Economy



Government is on high alert about the future of Canada's economy as a new wave of technologies we saw in sci fi movies of the 1990s are here in real life and promising to change the way we work and live. One of these technologies is biology. Nature is an intricate, interconnected set of programs coding for complex engines that do extraordinary things. In recent years scientists have been able to harness these programs to human kind's advantage to increase the efficiency and efficacy of traditional industrial processes. We can now engineer bacterial cocktails and deploy them as miniature, cost-effective factories to produce fuels, make drugs, combat climate change or clean up oil spills and mine tailings.

The question is how is Canada going to take advantage of these advancements in science to grow its economy and have something of value to offer to the global market?

Like other developed nations, we are at a cross roads: investing in the sustainability and growth of our bread and butter sectors (agriculture, energy, natural resources, manufacturing etc.) in the face of globalization and climate change, or investing in these new generation knowledge-based technologies to diversify our currently extractavist economy. The federal government's announcement of a $900M "supercluster fund" aims somewhere in between these two roads. The idea behind the program is to inject new capital into an interconnected ecosystem of companies and innovative ideas (and all the players in between) to ignite or boost economic productivity in a particular sector.

Indeed if we are thoughtful and pragmatic about it, the supercluster fund could transform that cross roads between old and new industry into an incremental path to job creation and prosperity. The first success factor is to build the clusters around existing, internationally active companies that are invested and have a stake in Canada. We can't put new industry at the centre of an ecosystem that's expected to increase jobs and enhance exports in a tangible way and quickly. The second factor is to focus on operational innovation—specifically with the use of emerging disruptive solutions like artificial intelligence, biology as technology etc. In this way, nascent emerging technologies will hitch onto the needs and challenges of big companies and have a safe nest to become validated and demonstrate value. At the same time, their cheaper, more efficacious solutions will give the slow-moving machinery of Canada's core industries a jolt of operational renewal–allowing them to reinvent their products, their infrastructure, their practices and their processes to sell and grow in the 21st century global market. In a few years, those knowledge-based industries we are keen to see will also appear: small revenue-generating companies from one supercluster will begin validating their products in new applications and eventually start to service and draw from a network of upstream and downstream businesses.

Structured in this way, the supercluster fund will pull innovative ideas out of the academic realm and focus them toward applications that will make a difference in the bottom line of Canada's employers and exporters. Imagine an academic with a life time of work developing techniques for analyzing DNA. Her university becomes part of a new supercluster focused on disruptive innovation in mining and an RFP is released looking for new methodologies for accurately, inexpensively and quickly detecting at-risk species in proposed extraction sites. She might become inclined to test some of her lab's techniques in this application—something that would not have occurred to her before. Down the line, her methodology will transform the way the mining industry scopes and manages environmental impact and hence its costs and operations. The academic's invention will spin out into a company that offers a novel, soon to become industry-standard product in the mining sector. And since the company has revenue and legs, it can now contemplate new applications for its core technology, like fast, cost-effective detection of pathogens in drinking water. In a few years, DNA-based detection of organisms becomes a powerful industry of its own, having transformed many of Canada's core sectors and now contributing in its own right to the country's economy.

The supercluster fund provides a forward-looking framework for fostering Canada's leap into the new age of business and could give our home-grown sci-fi inventions legs to compete in the global arena.