Prime Minister Justin Trudeau visits the Centre for Commercialization of Regenerative Medicine in Toronto on Jan. 13, 2016, to which the government is giving a $20-million grant. *Photograph courtesy of the PMO*

Observers urge care in earmarking funds for innovation clusters

Hubs that bring together academia, private sector, and government are 'a long-term petri dish,' for skills needed to boost growth, says one academic.

BY DENIS CALNAN

People who study innovation appear cautiously optimistic the government's plan to funnel hundreds of millions of dollars into innovation networks and clusters will succeed, but they warn the devil's in the details.

In its 2016 budget, the federal government promised up to $800-million over four years, starting in 2017-18, to boost innovation networks and clusters. These are groupings of firms or firms, government actors, and academic institutions that collaborate to their mutual benefit to, for instance, expand their market reach, or tap into a broader set of ideas and technology.

The government has not yet announced where the $800-million will go specifically.

It's spent the last several months consulting on what it calls its Innovation Agenda, a broad plan on how to boost innovation in the country. In a summary of its consultation findings, it calls the promise "a significant investment with the potential to accelerate concentrated areas of expertise in industry, academia, and government and make the most of our best assets across regions and sectors."

It goes on to say: "many Canadians favour an approach in which government makes targeted, high-value investments in areas of greatest promise. Investments should draw on regional, technological, and sector-based expertise," and "this country must do a better job of translating our science and technology strengths into commercial activities, including stronger, more co-ordinated partnerships among university-based researchers, industry, and government."

> **"Innovation isn't something you can do top-down."**
>
> *—Simon Fraser University's Sarah Lubik*

As the government prepares to lay out its plan for boosting innovation in Canada and putting meat on the bones of the $800-million promise, some in the sector say the funding promised is not a significant enough amount for what it wants to achieve, while others say the government is taking the proper steps to achieve success.

'A long-term petri dish'

"I am hopeful. Absolutely," said Sarah Lubik, director of entrepreneurship at the Beedie School of Business at Simon Fraser University. She was also one of the experts appointed by the government to lead its consultations on developing its plan.

"What needs to be understood is that clusters [are] about more than just short-term economic opportunity. They're about creating a long-term strategy for growth. [They're like] a long-term petri dish, if you will, for all of the different capabilities and talented skills that you need that are both going to grow and attract economic activity, scientific activity, social activity," she said.

Prof. Lubik said the government's investment needs to ensure an environment that facilitates innovation, not one that determines it.

"Innovation isn't something you can do top-down. Innovation is something where you have to get people on board, you have to catalyze champions. And people have to see what they want and see their own vision reflected back in your strategy," she said.

"By having those consultations, by hearing what Canadians had to say I think the innovation agenda is going to be something that a lot of Canadians can get behind," she said.

But she notes one of the major challenges that the government faces is getting people to communicate with each other.

"A lot of what we do in innovation and a lot of what we do at SFU comes around de-siloing. And with Canada I think we need to realize we also have to do some de-siloing with these different communities," she said.

This includes various different sectors, like human resources, the food industry, and health care. Prof. Lubik said these sectors might not seem like they are grounded in innovation, but they all benefit from it.

David Wolfe, a professor of political science and co-director of the Innovation Policy Lab at the Munk School for Global Affairs at the University of Toronto, said he expects more investment will go toward nurturing university and industry partnerships.

Prof. Wolfe said he is happy that the government seems to be interested in investing in "moonshots," which are investments in potentially transformative technologies, but are also risky and may not provide short-term gain, such as driverless cars.

"I think it's a good thing, but, as always, the devil is going to be in the details. It depends on how they structure it, how they locate it, how much activity they can leverage. It needs a lot of private sector buy-in to really be effective. Can they achieve that?" he said.

The importance of government investment in innovation in commercial products cannot be stressed enough said Cooper Langford, a professor of chemistry at the University of Calgary, and who studied innovation and as of January was sitting on the board of the Calgary-based not-for-profit Centre for Innovation Studies.

He said public-sector investment has delivered some of the most innovative commercial products today, including several aspects of smartphones.

Where to funnel the money is politically loaded

Others say the federal government's place in clusters may not be so clear.

"In theory, it's wonderful," said Dan Breznitz, a professor, Munk chair of innovation studies, and the other co-director of the Innovation Policy Lab at the Munk School at U of T.

"I am not sure the government in Ottawa...actually knows what needs to be done in order to make [the clusters] successful," he said.

Prof. Breznitz said a lot of the knowledge and resources needed are at the local level. He sees this more of a place for provincial and municipal governments than for Ottawa.

Another big problem he sees is in the amount of money that is being promised. Eight hundred million is not very much money to spread around many high-tech clusters, he said.

He noted that some of the clusters that need money are manufacturing hubs that will need expensive infrastructure.

"This is not at all a lot of money. It's actually, with all due respect, compared to what we hoped for...you're talking about, at best, peanuts," said Prof. Breznitz.

While many who study innovation are happy to see the investment, the question of where the clusters are that get this investment is already proving to be politically loaded.

"It looks like the Liberals only want to give the funding to the super-clusters in big cities like MaRS [in Toronto]. If that turns out true, there are hundreds of clusters across Canada that will get nothing," wrote Alex Nuttall, (Barrie-Springwater-Oro Medonte, Ont.) the official opposition deputy critic for innovation, science, and economic development, in an email to *The Hill Times*.

Mr. Trudeau was at the MaRS Discovery District last year announcing a $20-million federal grant to the Centre for Commercialization of Regenerative Medicine, a network whose board members include a MaRS Innovation representative.

Prof. Lubik says that the money should not be equally distributed across the country geographically, but rather strategically invested.

"What will not work is spreading money across the country like peanut butter on toast. Which means you do need to concentrate your investment in certain places and hope that that will also create spillover," she said.

Prof. Lubik said that if one cluster does not get money this time around, it could be up for future government investment.

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Conference Board of Canada's 2015 report card on innovation indicators

Canada	Grade
Scientific articles	B
New-firm density	B
Public R&D spending	B
Top-cited papers	B
Ease of entrepreneurship	B
Government online services	B
Knowledge-intensive services	C
Export market share: Aerospace	C
ICT investment	D
Patents by population	D
Patents generally	D
Venture capital	D
High- and medium-high-technology manufacturing	D
Business enterprise R&D spending	D
Export market share for electronics	D
Patenting firms Lless than five years old	D
Export market share for office machinery and computers	D
Export market share for pharmaceuticals	D
Connectivity	D
Export market share for instruments	D
Trademarks	D
Overall Grade:	C

International Ranking Country	Grade
Sweden	A
Denmark	A
Finland	A
United States	B
Switzerland	B
Netherlands	B
Austria	B
Norway	B
Canada	C
Germany	C
Japan	C
Australia	C
Belgium	C
United Kingdom	C
France	C
Ireland	D

Source: Conference Board of Canada