Advanced technology institute – Q&A

Why do we need an advanced technology institute?

The lack of a national capability to work with and stimulate the high-tech manufacturing and services sectors is the most obvious weakness of our current innovation system.

Our larger research institutes, like AgResearch and Plant & Food, are focused squarely on the primary sector, and they have been very effective in driving innovation and productivity.

We need to do something similar for our high-tech sectors, and the *Powering Innovation* report had this as its number one recommendation.

Advanced technology institutes have been very successful in countries like Denmark, Finland and Singapore, which have used them as a catalyst to diversify and increase exports, and increase high-value jobs.

Who will it support?

We already have a number of successful companies in this sector, involved in areas like ICT, biotechnology and medical technology.

The TIN 100 report this year noted that our 100 biggest high-value manufacturing and IT companies did over $7 billion of business last year. They exported over $5 billion, and employed 17,000 people in New Zealand, and many more New Zealanders offshore.

We need more companies like this, and we need them to grow faster and get bigger.

Thriving high-tech sectors would mean more skilled jobs for New Zealanders, higher export revenues, and greater productivity across the economy.

These companies don't require resources like land and water. They do need smart people, investment and R&D support.

What will it do?

An advanced technology institute links science and business. It can identify science that is relevant to business needs, and help firms access and use that science to create new products and transform existing ones.

It will have infrastructure companies can use for testing, certifications and compliance, and rapid prototyping. These are facilities that are uneconomic for individual companies to own.

It will be a catalyst and magnet for overseas collaborations and investment into New Zealand high-tech firms and sectors.

Here are some specific examples of how this works:

- IRL currently has expertise in the use of automation in product handling, processing and sorting. It has developed robotics that have been picked up for commercial application by specific companies, and will save the meat industry millions of dollars by automating the early stages of sheep meat processing.

- IRL ran a competition called 'What's your problem New Zealand?' to highlight the R&D support it could provide. The winner was paint company Resene. IRL has worked with Resene to develop high-performance paints based on resins made from sustainable raw materials, rather than gas and oil.

- In terms of cross-sector collaboration, the Danish Technological Institute (Denmark's advanced technology institute) drew together experts from social sciences, design, engineering, architecture and physics to solve problems in sustainable housing and urban design.

Where does IRL fit in?

IRL currently has 317 FTEs, which makes it only a medium-size CRI.

The transformed advanced technology institute, with 600–700 staff, will be on a par with AgResearch, NIWA and Plant & Food in size, scale and resources.

It will have a nationwide remit, and will have facilities in Auckland and Christchurch, as well as the existing Gracefield facility in Lower Hutt. This brings it closer to where many of our high-tech businesses are located. It also will make it easier to build stronger links with the two major engineering schools.

How will this be funded?

The advanced technology institute will be funded in the same way as our other CRIs.

Its revenue will include core funding from the government, contestable funding, and income from business. We expect funding through business collaboration and fees to grow significantly over time.

The institute will also be able to explore commercial opportunities consistent with its core purpose to grow the high-tech manufacturing and service sector in New Zealand.