

Scientific innovation vital to securing our prosperity

By Australia's Chief Scientist Professor Ian Chubb

THERE are two ways we could develop our scientific and innovative capability: one is just to let it find its place among all the competing claims; the other is to make a strategic investment so we can take account of both national needs and competitive advantage.

If we go down the first path and presume the market will provide what we need, we would be one of few countries willing to take the risk. Whether it is the US, Britain, the EU and countless other countries in Europe and in Asia, there is a widespread view that being strategic about science and its development is a key part of building future prosperity and national wellbeing.

There are good reasons. It has been estimated that in the US, for example, the science (meaning science, technology, engineering and mathematics) workforce accounts for more than 50 per cent of the nation's sustained economic growth while comprising 5 per cent of the workforce. Maybe as a consequence, there is action to ensure that the pipeline in science is enhanced: from school to university, research to innovation, innovation to the marketplace. The home of the free market is not leaving it to chance; it has policies and strategies in place to ensure that it does what it can to influence its future.

And takes into consideration the whole length of the pipeline, not just bits of it, developed separately by agencies within their own remit.

Australia does not have an overarching strategy within which a suite of policies can be focused and driven. Instead we have multiple budget lines with the purpose of each determined by the department within which it sits. It is time to learn from others and to take a different approach from what we have become used to: that it will be OK because it was OK.

Mine is not a novel observation: in 2000, one of my predecessors as chief scientist, Robin Batterham, commented in his report *The Chance to Change: Our Competitors in Other Countries are Showing the Way*. It wasn't novel then, either. There are countless reports over the years that urge action.

Meanwhile, our competitors continue to show the way, and we continue to avoid change on a scale that will bring about the big differences we see emerging in their countries.

It depends on our ambition.

Is our ambition that in 2025, Australia will be strong, prosperous, healthy and secure and positioned to benefit all Australians in a rapidly changing world?

If it is, we must concede that Australia lacks the national urgency found in the US, East Asia and much of Western Europe. More than that, we must do something about it.

If we wish to avoid being left behind, we must identify how we change and what we change.

The Business Council of Australia has identified a strategy for science, technology, engineering and maths as critical to growth.

As BCA chief executive Jennifer Westacott and I wrote last year, we're talking about a 50-year agenda to build Australia's capacity to innovate, adapt and value-add in traditional sectors. We wrote how the transformation must include a change of mindset.

Since then, no one has disagreed that we need a strategy. And we know it must include an action plan to turn talk into reality. We can be certain that there is no miracle in the wind, blowing our way to help us.

It will take work. If it were easy we would have already done it.

Science, technology, engineering and mathematics are the foundation upon which the pillars supporting Australia's national interest rest. Those five pillars -- education, new knowledge, innovation, international and community engagement -- must all be strong in their own right and strategically aligned, focused and of sufficient scale to build a strong Australia.

In 1998, the US House of Representatives committee on science released a document entitled *Unlocking Our Future: Toward a National Science Policy*.

It said: "No entity as vast, interconnected and diverse as the science and engineering enterprise can successfully operate on autopilot perpetually."

The committee members understood then, as we must now, that when you have a chance to change you must grasp it. They don't come often enough to ignore them when they do.