

**BILL FERRIS AC,  
CHAIR,  
INNOVATION AND SCIENCE AUSTRALIA**

**EUROPEAN AND AUSTRALIA BUSINESS COUNCIL**

**“THE NATIONAL INNOVATION AND SCIENCE  
AGENDA ... AND YOU”**

**SYDNEY**

**6 PM, THURSDAY, 11 FEBRUARY 2016**

## **Acknowledgements:**

- The Hon Nick Greiner
- Members of the diplomatic corps
- European Australian Business Council board members
- Distinguished guests

## **Opening**

Thank you for your invitation to speak at tonight's reception and the opportunity to talk about the topic of innovation.

I particularly welcome your intention to make innovation a key priority for this year's Business Mission to Europe and during your boardroom forums.

High quality research is an important driver of innovation and as you know Australia performs strongly on international measures of research excellence.

However, this cannot be said of Australia's record in translating publicly funded research into commercial outcomes.

The OECD statistics have Australia near the very top in terms of research excellence but at number 33 out of 33 countries in terms of collaboration.

Indeed, less than 5% of Australian businesses collaborate with universities.

Improving our translation of research into commercial outcomes will help drive innovation in Australia to grow Australian businesses and ensure global competitiveness of the Australian economy into the future. This is core to the framework and ambitions of the National Innovation and Science Agenda announced by the PM just 8 weeks ago.

The NISA is an ambitious blueprint intended to transform Australia into a leading innovation nation. NISA establishes Innovation and Science Australia (ISA), which I chair, as a new independent statutory board charged inter alia, with providing strategic whole-of-government advice to the government on all science, research and innovation matters.

Let me say a few things about NISA;

It recognises that innovation and science are absolutely critical for Australia to deliver new sources of growth, maintain and expand high wage jobs and catch the next wave of economic prosperity. It has been constructed on four 'pillars':

- Culture and capital, initiatives to help businesses embrace risk and incentivise early stage investment in start-ups;
- Collaboration, to increase the level of engagement between businesses, universities and the research sector to commercialise ideas and solve problems (domestic and international);
- Talent and skills, to train Australian students for the jobs of the future and attract the world's most innovative talent to Australia; includes accelerated emphasis on STEM subjects and also exchange programs between academia and industry;

- Government as an exemplar, to lead by example in the way Government invests in and uses technology and data to deliver better quality services, and also ways in which Government procurement proceeds.

Australia's Chief Scientist, Dr Alan Finkel, will be Deputy Chair of ISA and one of our first tasks will be auditing Australia's science, research and innovation system and developing a rolling 15 year National Innovation and Science Strategic Plan. This will identify investment priorities and specific areas for policy reform for the government to consider.

I'd like to share with you two or three of the major puzzles that I'm wrestling with as I think about Australia's innovation and science system.

#### 1. The "Riddle" of collaboration

Why is our research and industry collaboration so poor? And how do we dramatically improve it?

There are many successful examples of individual universities and industry collaborations throughout Europe.

##### *UK Model*

The Cambridge Science Park is built on the foundation of scientific research undertaken at the University of Cambridge. Today, it includes 1,400 firms which employ over 53,000 people and turn over £13 billion a year.

Durham University in the UK is actively promoting innovation through industry-academia partnerships. Durham's collaboration with Proctor and Gamble has resulted in more than 50 joint international research projects which are creating new molecules for applications in homecare and personal products.

##### *The German Model*

The Fraunhofer –Gesellschaft is the largest organisation for applied research in Europe and is a highly successful model for industry-focused research programmes. The Fraunhofer conducts 6,000 to 8,000 research projects annually on more than 250 business focus areas and core competencies. Most of the R&D projects are small and short, rarely lasting longer than two years i.e. they are market driven.

I am looking forward to visiting some of these Institutes in June this year.

##### *Australian examples*

Of course there are some encouraging examples of collaboration we can point to in Australia.... It's not all doom and gloom.

The development of the polymer banknote, through collaboration between the Reserve bank and the CSIRO, has changed the face of banknotes worldwide.

To cite a more specific example, Cleopa GmbH (Germany) and the Department of Electrical and Electronic Engineering at the University of Melbourne have established a collaborative relationship in the smart grid and energy efficiency areas.

And, while very early stage, science it is excited to see both Telstra and CBA in collaboration with the UNSW lead project on quantum computing.

We can all cite other examples of what collaboration has and can achieve in Australia, but with less than 5% of Australian businesses collaborating with research, overall the engagement between Australian businesses, universities and other PFRO's is, to use a scientific term, ... WOEFUL!

*What is the Answer?*

Internationally, innovation has flourished in locations where researchers and industry have come together, such as Silicon Valley and the Cambridge Science Park.

So is greater co-location the answer?

Countries with high collaboration rates between research and business also often have third-party intermediaries helping connect research and business.

For example, Germany's Fraunhofer 60 or so Institutes, the UK's Technology Strategy Board and Catapult Centres, and the Netherlands' Organisation for Applied Scientific Research are all examples of successful third party intermediary strategies.

So do we need more of this?

Within the remit of ISA we do have the well regarded Cooperative Research Centres programme supporting industry led collaborations – including international collaborations – bringing industry and researchers together to solve commercial, environmental and social challenges. And the recently formed industry-led Growth Centres programme intended to drive innovation, productivity and competitiveness. John Grill, ex WorleyParsons, is now doing national service as chair of the Growth Centres Advisory Council and I know John is very focussed on collaboration and commercialisation.

What else could Australia be doing to improve collaboration? I am keen to hear your thoughts.

## 2. The "Riddle" of incentives

The Government has tasked me, Alan Finkel (Chief Scientist) and John Fraser (Head of Treasury) ... the 3F's ... with reviewing the research and development tax incentive programme – to report in the first half of this year. Our task is to ensure that the Government can improve the programme's effectiveness and integrity, and to sharpen the focus on additional R&D activity i.e. on R&D that would not otherwise happen anyway.

The Australian Government spends about \$3 billion a year on R&D tax incentives. Is this the best way to encourage business led research? Could it be tweaked like the French tax to especially reward collaboration? Is it complex administratively leaving it open to costly professional fees? Would much

or most of the R&D happen anyway? And is there a difference between the effect the incentives has on small businesses versus big businesses?

I welcome and am keen to hear your views.

### 3. The “Riddle” of the Role of Government

My final question (for tonight that is) is what should be the role of government?

Should it be the hands off role and just establish the market conditions, or do we have a market/cultural failure? The Government has clearly decided it does need to do something – as expressed: to move from the resources boom to the ideas boom. And I don’t think the Australian Government is alone in that thinking.

The European Union is implementing Horizon 2020 as a means to drive economic growth and create jobs. It is coupling innovation and research to ensure Europe produces world class science, removes barriers to innovation and makes it easier for public and the private sectors to work together in delivering innovation.

Following the Global Financial Crisis, the UK Government announced the *Plan for Growth*, which included an ambition to make the UK the best place in Europe to start, finance and grow a business. During a tight fiscal period, the *Plan for Growth* increased funding to encourage private sector investment in small innovative businesses, such as the Business Angel Co-Investment Fund.

The German government set priorities for its national innovation system through its *High-Tech Strategy 2020*. The German strategy focusses on improving conditions for innovation by addressing challenges in key sectors. Indicators suggest the strategy has been extremely successful in encouraging increased R&D investment by industry.

In my view, structured government support is an important element of any innovation system. It can facilitate the development of new technologies and help establish them in the market and encourage their adoption, drive economic growth and deliver other spillover benefits such as the development of new skills.

As I mentioned earlier, a key responsibility of the ISA Board is to assess Australia’s innovation and science system and develop a long-term strategic plan to the year 2030, including to further consider and define the role for the Government in supporting the innovation and science system.

I welcome your thoughts, particularly in this important establishment phase for the ISA Board.

Thank you.