

15 May 2017

Mr Bill Ferris AC  
Chairman  
Innovation and Science Australia Department of Innovation, Industry and  
Science  
10 Binara Street  
CANBERRA ACT 2601

Business  
Council of  
Australia



**Re. 2016 Performance Review of the Australian Innovation,  
Science and Research (ISR) System**

Dear Mr Ferris

Thank you for the opportunity to comment on the 2016 Performance Review, and to offer preliminary views on the questions you have framed to start your 2030 Strategic Plan consultation.

The Review is an important step in gauging Australia's performance and setting policy direction. Most important, to capitalise on Australia's potential, the Government's innovation policy settings must be supported by broader policy settings and architecture, embedding innovation in a systematic approach to improving program and budget outcomes. That condition deserves emphasis. Policy settings must encourage an ecosystem that invests in R&D and commercialisation, and enable the adoption of technology across the economy including in Government services and procurement.

From the perspective of our 2030 strategy there are many opportunities for Australia, and particularly the growth of China in the global innovation ecosystem. Our ties with North American and European institutions and firms will continue to be important, but we would urge your 2030 Strategy to articulate a clear path through this changing landscape to make the most of China's accelerating investment in education and technology.

Equally, there are threats to the Australian economy if we do not adapt, or if we make policy choices at odds with our focus on innovation. For example, the 'global war for talent' continues and recent changes to the 457 visa are a deep concern to firms aiming to compete globally using the best global talent, and using that global talent to skill up Australians.

For many economies worldwide struggling with flat productivity growth, sluggish trade and ageing populations, becoming a globally competitive, innovative economy is the answer. The global innovation league is the code we are competing in and we are slipping down the ladder, and it's not a performance reflecting our capabilities or potential.

2017 must be the year we go hard on the settings that will enable us to compete.

***Performance Review of the Australian ISR System***

The Review confirms many of the views from earlier reviews and reports, which does not make it any less valuable: agreeing and setting a baseline to review progress is an essential step. The Business Council has commented previously on areas such as intellectual property, open data, the regulatory environment, and the skills agenda. We share many of the conclusions of this Review. We also support the view that the Government's implementation of NISA since December 2015 has been an essential first step to bring innovation policy back into focus.

For a true stock-take we are impelled to add that the 2016 election created more concern than clarity about the implications of an innovative economy, and diverted debate and the public's attention away from the best path for innovation policy. The pressing need for a bipartisan innovation agenda is emphasised every day, as dynamic economies and technologies reshape the global economy and Australia's future.

*The first priority for Government is leading the innovation narrative. We need community support for considered and consistent policy to focus our innovation capability, with timeframes beyond electoral cycles. The global economy will continue to evolve significantly and swiftly. As individuals and as a community we must embrace the challenge of an innovative economy as a path to prosperity*

### **Measuring Australian Performance**

The introduction of the scorecard, by taking a macro perspective and using international comparisons, is a good step. The proposed measures are values and outcomes that we currently record, so they are accessible and transparent.

However, we would argue that the global benchmarks are in some cases misleading in their current application. We need measures specific to and focused on the Australian system. Consequently, we believe greater effort needs to be made to measure the health of our ecosystem, and to be more precise and considered in our targeting.

Firstly, the Report's conclusions regarding incremental vs radical innovation need to be explored further. The sole proposed Output measure – the percentage of firms that introduced new-to-market product innovation – takes Australian data from our existing Business Characteristics survey that looks at innovation across product, service, organisational design and marketing. We then compare our performance against the OECD+. The EU, for example, undertakes a specific survey that measures only product and service innovation, so our denominator in this comparison is larger than most other respondents; and as the OECD report notes in the commentary, new-to-market innovation in organisational design and marketing is typically more challenging than new-to-market innovation in products and services.

The Business Council is not arguing against the conclusion, but believes that stronger evidence and a more precise measure are warranted to drive the right policy design and outcomes.

Secondly, on the Knowledge Application measures, the strength of the conclusion concerning business expenditure on R&D – “Australian business expenditure on R&D is low relative to expenditure in other countries” – is exaggerated. We rank in BERD (16 out of 37) at about the same level as GERD and GOVERD (both at 15 out of 37). Even in the table presented on page 52 of the Review, as a percentage of GDP Australia's BERD sits about level with Singapore and ahead of the Netherlands, the UK, and Canada – countries we consider leaders in innovation.

Again this is not to suggest we should be complacent about business expenditure on R&D or satisfied with our standing. And the barriers identified in the report – particularly our industrial structure and the smaller size of our SMEs in a global context – help to frame the policy debate. However, the optimal level and composition of BERD is unclear from this presentation.

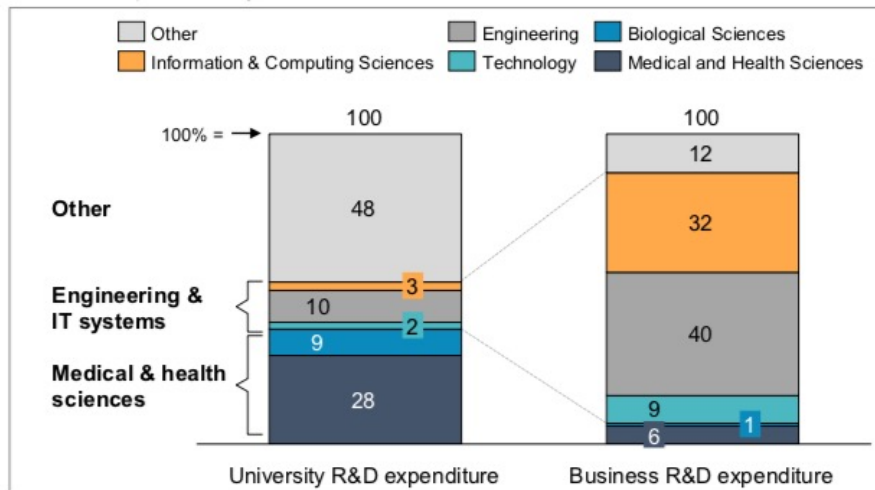
*International measures are an important guide, but only if applied consistently and focused on factors that will have the greatest impact on our performance.*

### **Focus on R&D: Retain, Grow, Deepen**

The Report's findings conclude that there is “substantial evidence that Australia is poor at translating and commercialising its strong research base. International data suggests that collaboration between the research and business community is weak...”

AlphaBeta compared research spending by industry and universities by fields of research. According to that research, 48% of university R&D expenditure is targeted towards “other” as characterised by industry; and 81% of business R&D expenditure is targeted at ICT, engineering and technology, which corresponds to 15% of university R&D expenditure.

**Universities spend most on medical sciences; business on engineering**  
% of R&D expenditure by fields of research, 2014



Source: ABS series 8111.0 'Research & Experimental Development, Higher Education Institutions'; ABS series 8114.0 'Research & Exp'

Clearly the challenge of collaboration is amplified when the actors are pursuing different agendas.

*Collaboration is essential. We need targeted collaboration measures, including between levels of Government, focused on the areas with the greatest potential.*

This is not intended as a normative judgement about university R&D expenditure or an argument to direct funding away from pure research. Instead, the Business Council would argue that mixing our decisions regarding pure research with an aspiration for collaboration in every industry is counterproductive.

In some sectors, collaboration at the pure research level may occur through chance or invention, but it should not be the focus of our efforts to improve collaboration. Judging our performance on the commercialisation of university research in the humanities in the same way as the sciences is not sensible. One very successful university, as an example, would tell you that 90% of their revenue from collaboration comes from 10% of their researchers in only three fields (engineering, IT and medical).

Our success will come from deepening the channels of collaboration with the greatest potential.

We should focus first on optimising the behaviour of actors within the existing system in the industries where we have overlap. Or create conditions for private capital to seek to exploit substantial university R&D expenditure where there is commercial potential, which NISA has in medical and health sciences for example. While we acknowledge measures like the ARC changes to Research Block Grants, these are unlikely to be sufficient (though in fact the process of deciding on the changes was so opaque, we cannot comment with confidence). We need direct and precise measures of collaboration between researchers and industry in sectors where there is the greatest potential for translation.

So we would argue strongly that the Government should focus on the potential of the sectors represented by the Industry Growth Centres. Described in the recent Budget as a flagship initiative, all the Growth Centres have published their competitive plans and are implementing their strategies. There is widespread support that the choice of industries reflects Australia's comparative advantages. Government should announce a 10-year funding commitment for the Industry Growth Centres, which will give business the confidence to engage and invest,

and then focus our assessment of collaboration around those sectors. The defence sector is an example of where the Government's commitment over a long timeframe can mobilise private sector interest and investment.

### **This presumes business investment in R&D remains at current levels.**

Given the increasing fluidity of global research investment and application, and the competitive environment we face as countries seek to attract R&D into their economies, reducing support for existing R&D in Australia is undesirable. We remain concerned with the direction of the R&D Tax Incentive, particularly the introduction of an intensity measure.

We would argue that the desired outcomes from the R&D Tax Incentive should be threefold: to retain the R&D investment we currently have; to grow that investment; and in the process, to deepen the collaboration between industry and the research community. And we also would argue that it would be more practical and productive to think of intensity as a company's commitment to R&D in Australia, as evidenced by the purpose and duration of their research investment, rather than through the estimation of additionality.

An outcome that purported to double the additionality of the R&D Tax Incentive but resulted in half the level of R&D spend in Australia would be a poor outcome. It might initially appear to be a better budget outcome, but the implications in the long-run would be dire. What could be lost now, would be lost forever. When a firm opens a new R&D function overseas, it tends to shift increasing resources and staff there as the newest facility, working on the most recent product. What might start as 20 engineers in Singapore will grow, and eventually the balance shifts offshore.

Finally, the Review's conclusions concerning the structure and alignment of Commonwealth and State programs is unaddressed in the benchmarks.

There is tremendous potential to improve market and program efficiency without detracting from market competitiveness. From the Report, "around two-thirds of Australian Government programmes are small in scale; 91 of 139 Australian Government programmes in 2016-17 will be less than \$10 million in size...". In economic terms the search costs to engage with these programmes, and the administration costs for Government, must be considerable.

Also, "around 90% of Australian Government funding is delivered through programmes that have been operating for over five years. However, name changes and changes to eligibility and other criteria make it hard for actors across the ISR System to plan for or rely on long-term government support across the life of innovation, science and research projects."

There is clearly the scope for rationalisation at the Commonwealth level, and to establish consistent programmes and criteria in that consolidated set for many years. Once that consolidation has been achieved, there should be a high barrier to the introduction of new programme structures and a bias to adapting existing programmes if there is a clear and compelling case for change.

Beyond the Commonwealth, the Report observes that State and Territory Governments intend to spend an additional \$1.1 billion on R&D in 2016-17. The fragmentation and sub-scale issues confronting Commonwealth programmes are magnified at this level.

Furthermore, as far as we can tell from public records, the Commonwealth, State and Territory Advisory Council on Innovation has not met for some years, so the alignment and consistency within our national framework could be presumed to be minimal.

*The results for the EU reflect the need for members to harmonise their approaches to attract EU level funding for firms and researchers. And these systems have been growing and deepening for decades.*

The Business Council is not advocating the harmonisation of Commonwealth and State programmes. We appreciate the competitive dynamics between States. However, some level of consistency is desirable. We should aspire to have a degree of harmonisation within

Australia that provides a globally competitive platform, articulate where we intend to harmonise, and measure and report our progress.

This includes initiatives under the theme of Government as an exemplar. Commonwealth and State policies to innovate service delivery and contract innovative firms will achieve the greatest impact if Australian firms can see the potential to sustainably scale their offerings across the country. Our potential for success will be bounded by the progress we make in presenting a sensible, consistent approach across Governments.

### *The 2030 Innovation, Science and Research System*

The Report presents some framing questions and we would offer some preliminary remarks, and propose a further discussion with Business Council members.

#### **What should a fit-for-purpose ISR System look like in 2030?**

The questions you pose in this section include “Should we do more?” and “Could we do more?”

The answer to both questions is ‘yes’, but we need to focus on something less aspirational and more pragmatic, framed in the reality of our research potential, commercial capabilities and industry structures, and competition globally.

There is a tension in Government policy around the debate of “picking winners”, which we support from the perspective of picking individual firms, but in business you make choices about investment based on a granular understanding of the potential and then align your efforts accordingly. We have made choices around the Industry Growth Centres; arguably those industries should continue to be our focus.

This section also includes the statement that “the System is dominantly producing incremental innovation: is that enough?” - and the answer is ‘yes’ in some cases. Our economic potential would improve even if global best practice technologies and approaches were quickly adopted and diffused through our economy. Practically there is no simple answer to an aspirational, normative statement that we should be producing more ‘new-to-world’ innovation without the granular appreciation of the potential, including through a commercial lens.

There has been ample research into the innovation system over the past decade, which has not been matched in implementation. Above all we need a practical, consistent policy framework focused on implementation.

*A fit-for-purpose ISR system needs above all an execution capability: clear decision-making structures and accountabilities, across Governments and Departments, with aligned priorities and shared, measurable objectives that transcend electoral cycles.*

From the perspective of capability and investment, we should anticipate a fundamental realignment of the global research and commercialisation landscape. While continuing to cultivate and engage our traditional partners, we need to contemplate how our system and the actors within our system adapt. Individual universities and firms are embracing the potential; the question is whether the resources and focus of the system (including enablers like language training, for example), are clearly oriented to this aspect of our future.

*The most pressing challenge in creating a fit-for-purpose ISR system for 2030 will be adapting to China’s advances in education and technology.*

If by 2030 China were simply to match the advances they have made in education and technology over the past decade, they would be a formidable influence in the global innovation environment. It is likely they will more than match their previous performance, and the global innovation ‘heat map’ will be strikingly different. We need a clear road-map and policies to help Australian industry to make the most of Chinese investment in education and technology, in the same way our resources sector benefitted from Chinese economic growth.

Thank you again for the opportunity to comment on the 2016 Performance Review. We would be pleased to continue our engagement in the consultation process for the 2030 Strategic Plan. Accordingly, I would like to propose that we organise a workshop with our Innovation Taskforce to highlight the different perspectives we might bring to your deliberations.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Jennifer Westacott', written in a cursive style.

**Jennifer A. Westacott**  
Chief Executive