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**G08 GENOMICS AND PRECISION MEDICINE COLLABORATION AND
COMMERCIALISATION SUMMIT**

THURSDAY 26 JULY 2018

Thank you Vicki Thomson for the invitation to participate today and to Dr Peter McKenzie for the warm welcome to country.

U.S Corporations commonly elect professors to their boards. Something like 40% of Standard and Poor's 1,500 firms have at least **one** professor in their boardrooms.

A 2015 research paper by Grant Thornton recently caught my eye because it looked at the impact of professors in the boardroom and found that firms with academic directors show higher firm performance. Inter alia, the paper found these firms have lower cash-based CEO compensation, more patent and citation numbers, higher acquisition performance, and greater earnings quality. How many boards in Australia would boast professors? I wonder how many professors in this room and around Australia would actually be interested.

Directors with literacy in and passion for embracing digital technology, and other directors with deep, engineering and domain strengths relevant to the company's sustainable future will offer significant strategic advantage to firms navigating the 21st century digitising economy. Such skills are no longer "nice to haves" – they are core to operational effectiveness. Prioritising seats around the table for people who can offer these insights is a key challenge facing Australian boards. I believe the GO8 faculty could play an important role in this, if they were allowed and wanted to do so?

Show of Hands? [Note: Only 3 or 4 had served on a public company board; but approximately two-thirds indicated yes they would welcome the opportunity to do so].

In recent years, our publicly funded research entities including universities have been roundly criticised for failing to get more of their research into the market place. ISA's review of the nation's innovation performance identified our very high ranking excellence in research but also the disappointing position of Australian universities in the OECD rankings for industry engagement and commercialisation.

The good news however is that we are now witnessing big behavioural changes underway. While still early too objectively measure, our universities including G of 8 are responding to the new architecture of research block grants and the requirement to evidence greater industry engagement. Importantly, this response is being driven both top down from the Vice-Chancellors and bottoms-up by students.

A recent ABS survey evidences approximately 16,000 companies now collaborating with universities. We would need to lift that number by 50% to 24,000 companies before our business – university collaboration rates resemble those of innovation powerhouses such as Israel and the US.

How do we do that?

I have frequently opined that universities are actually doing more to **reach out** to industry than industry is doing to **reach in**.

- One of the reasons for ISA recommending a collaboration premium to be added to the RDTI was to stimulate business engagement with publicly funded researchers. I appreciate the strong support provided by Professor Ian Jacobs and by the HE sector for this recommendation, but so far this idea has not been taken up by policy makers.
- Australian industry has one of the lowest take-up of PhD students among OECD nations. We will need to accelerate exchange programs and industry placement programs like the Australian Mathematical Sciences Institute one which will fund 1,400 PhD interns in industry by 2030.
- I think the UQ and Boeing partnership provides an exemplar of collaboration for innovation. Now with 30 of its own staff on UQ's St Lucia campus, Boeing has a very active and successful PhD scholarship and recruitment program with more than 25 PhD's now employed by Boeing on a variety of projects including: cabin disease transmission; unmanned aircraft and autonomous systems; and environmental monitoring technologies.

I have seen many other GO8 initiatives including; Melbourne University Carlton Connect Innovation Precinct, and, both University of Sydney and University of NSW with their industry engagements on campus in quantum computing and nano-science R&D.

I hope that within the next few years the GO8 will boast many more start-ups and spin-offs, increased revenues from the sale and licensing of its IP, increased investment in CRC and other projects with industry, big and small The visible outcomes of all this collaboration will be many more new and better products and services introduced into domestic and international markets.

In our Australia 2030 Report: Prosperity through Innovation, we identified five imperatives to be tackled before Australia can become a top tier innovation nation. One of these imperatives was the absence of an embedded innovation culture in Australia. Inter alia, we called for adoption of large scale national missions to address major challenges and opportunities now faced by the Australian economy and society.

..... Missions of scale and significance which if achieved would demonstrate to all Australians the excellence of our own science and implementation skills; to stimulate a culture of innovation.

..... Missions to be tackled by the collaboration of our BEST and BRIGHTEST scientists, entrepreneurs and innovators.

As the first of such ambitious missions, we recommended a Government lead project to expand and integrate a genomics and precision medicine capability into our national healthcare system. We judged such a mission as suitably ambitious and requiring very deep pockets, but one which was relevant to all Australians and which would assist Australia to one day become **the healthiest nation on earth**.

In the lead up to this project definition I reached out to a good friend to help workshop the idea with key experts and practitioners in the sector. Those of you who know Professor Ian Frazer will know that he is not very busy and has few demands on his time So that's why I asked him if he would join me to co-chair a round of workshops. Ian generously agreed to do so and provided wise counsel not only about the science but also about the responsibilities for governance and ethics, and the need for inter-connectedness among state and Federal departments of Health and indeed among stakeholders nationally.

Ian will be the first to say that this Genomics and Precision Medicine project owes its momentum and credibility to many people he is right about that including several of them in this room today like the indefatigable collaborator and superbly inclusive leader and advocate, Professor Kathryn North but I do wish to publicly acknowledge Ian Frazer for his sage advice and leadership with respect to this wonderful project.

The Government's announcement of the Australian Genomics Futures Mission (AGFM) with \$500 Million funding from the MRFF over 10 years was welcomed by ISA as a bold and inspired initiative. And it is one taken at a time of extraordinary changes and opportunities in the Australian healthcare sector..... Almost in parallel came the announcement by Minister Hunt of the Australian Digital Health Strategy, the core of which is the \$400 Million roll-out of MyHealth Record (MHR). This digital replacement of non-integrated paper records has huge potential for reduction in currently high error rates in medications, improvement in clinical trials data, improvement in prevention and much more.

The integration of genomics and existing medical data will ultimately provide a new and rich repository of data for researchers, clinicians, patients and GP's, and biomedical entrepreneurs. [You can probably guess I am not one who will be opting out!].

I look forward to hearing more today about GO8 participation in the ongoing design and implementation of this exciting project of Genomics and Precision Medicine.

My concluding reflection is this: Excellence in basic research is not mutually exclusive with excellence in translation. Greater translation and commercialisation of university research will accelerate national productivity and prosperity, and it will underwrite and secure your long-term licence from Australian tax payers and their elected policy makers.

Thank you.

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