

# Response to 'Boosting the Commercial Returns from Research' - an SME Perspective -

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*from*

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## **Format of this response:**

In this response document, I provide:

- General comments (p. 1); and
- Comments in response to the Federal Government's specific proposals (pp. 2-6), as outlined on pp. 22-24 of the document '*Boosting the Commercial Returns from Research*'.

## **General Comments:**

Australia has a larger proportion of SMEs than most countries and these companies have a high failure rate compared to other companies. SMEs are, however, successful innovators. An SME is very likely to be under the radar of government support programs due to a low turnover and while an SME may benefit from the R&D Tax Incentive, in our experience, both state and federal governments find it hard to engage with SMEs.

I suggest, therefore, that there be a *Program to Target Innovative SMEs* so that these companies can be better supported to help grow our economy.

The efforts to promote business development by helping industry engagement with academia seem always to benefit the universities more than industry. There are some SMEs that conduct their own research, but need access to taxpayer-funded university equipment to pursue this work. This is an expensive exercise for a tiny company and some collaborative effort would be appreciated. SMEs need an engagement that is a balanced partnership in which the industry knowledge of the market and ability to understand commercial risk are respected along with research capacity and innovative thinking.

Research Directions Pty Ltd is an innovative SME with 80% of our staff having PhDs in organic chemistry, and a track record of research and innovative product development. Despite our well-developed capability and expertise, Australia currently has no significant high-value fine chemical manufacturing industry with its concomitant opportunities to earn major export income for our nation. Our international competitors have current advantage in being low wage countries.

However, the advent of new flow chemistry techniques offers the opportunity for Australia to engage in this very high-value fine chemical manufacturing industry.

To this end, we have made strenuous collaborative efforts to date with META (Manufacturing Excellence Taskforce Australia), the MIICRC (Manufacturing Industry Innovation) bid, and the IMCRC (Innovative Manufacturing) bid to promote targeted flow chemistry projects as worthy projects for support. Our efforts, together with the Federal Government's proposed strategies outlined in the paper **'BOOSTING THE COMMERCIAL RETURNS FROM RESEARCH'**, have left us hoping things will improve rapidly so we may take advantage of the current window of opportunity to develop significant competitive advantage for Australia.

### **Comments in response to the Federal Government's specific proposals:**

On p. 24 of the document, **'BOOSTING THE COMMERCIAL RETURNS FROM RESEARCH'**, the Government has invited the input of both industry and the research sector on proposed policy and programme changes, the approach and mechanisms for implementation, and interdependencies where change in one area could affect another.

For ease of reading, my comments below are offered under the same sub-headings and text the Government has used in its document. To readily differentiate between the Government's text and my comments, the Government's text appears below in *blue font*.

#### **Creating stronger incentives for research-industry collaboration**

The Government will identify opportunities to adjust funding mechanisms to provide greater incentives for collaboration between researchers and industry. To achieve this outcome the Government is seeking input from the research and end-user community on opportunities to:

##### **(a) Modify rules for competitive research grants to appropriately recognize industry-relevant experience**

Key performance indicators, and the main drivers, for universities are peer-reviewed publications and competitive grants. Innovation through translation of research, or commercialisation of research, is currently not a significant criterion in guidelines for promotion of university academic staff, nor in university rankings, nor in ERA (Excellence in Research for Australia) metrics. As such, with few exceptions, there is no compelling incentive for universities or university researchers to meaningfully engage in the process of translating research into innovative new products, services, or processes. Based on my experience, there appears to be reluctance by universities to meaningfully engage with industry and an inability to properly understand commercial imperatives, or to regard the commercial activities of businesses with respect (despite the presence of '*offices for commercialisation*' at universities). None of these considerations are consistent with, and indeed are counter-productive to, innovation through translation of research for the benefit of Australia's prosperity.

Simply recognising industry-relevant experience of some university researchers is likely not to go far enough towards changing university culture so that they meaningfully engage with industry in translating research into innovations. In my view, to provide the necessary level of incentive, there needs to be appropriately strong weighting given to industry-focused research in relation to promotion processes for individual university research staff (individual incentive) and in relation to block grants, university rankings, and ERA metrics (institutional incentive).

In regard to grant programs themselves:

**ARC Linkage:** Opening up ARC Linkage grants to enable industry-led applications would seem a sensible and straightforward step. Industry is best placed to understand commercial imperatives and thereby evaluate commercial prospects of translating research into proposed innovations. For those ARC Linkage applications which are university-led, I suggest that, as part of the application process, the lead applicant must be able to clearly demonstrate evidence of appropriate consultation with relevant industries/SMEs well before completing detailed planning of the proposed research project so that realistic consideration can be given to potential for translation of research into innovative new products, services, or processes.

**CRC Program:** In line with my recent submission to the Miles Review of the CRC Program, I support the Canadian model described on p.6 of the CRC Program Review Discussion Paper which includes industry-sector specific programs, and an industry advisory board to provide additional perspective on proposals by evaluating their potential for strategic long-term national economic advantage.

**Industry Growth Centres initiative:** As the only recipient of an Industry Collaboration Fund grant in advanced manufacturing under the former government's Industry Precincts program, I have bona fides demonstrating that I embrace and support grant initiatives targeted towards innovative translation of collaborative research. The Government's decision to terminate this program as part of the 2014-15 budget was disappointing, but the new Industry Growth Centres initiative is a welcome decision.

**Program to target innovative SMEs:** I strongly recommend that the Government give consideration to establishing a grants program specifically targeted to innovative SMEs. The perception that universities, and other organisations such as CSIRO, are the research-providers and that SMEs are simply end-users of that research is wrong. There are many Australian SMEs engaging in research and commercially-driven innovative translation of that research. However, in the current Australian funding landscape, it is difficult for SMEs to access and compete for appropriate levels of government funding support to fully develop SME's R&D.

**(b) Develop research block grant arrangements that retain a focus on quality and excellence while supporting greater industry and end-user engagement**

Performance-based block grant funding needs reform in my view. Quality and excellence metrics need to embrace industry-university collaborative research outputs including translation of that research into innovative new products, new services, or new processes. In

regard to greater industry and end-user engagement, please refer to my comments under part (a), above.

**(c) Leverage greater collaboration between publicly funded research agencies and industry**

To fully utilise Australia's research capability and foster productivity growth through innovation, the role of industry/SMEs in government-funded collaborative research partnerships between universities and industry (including SMEs) must be strengthened. Industry is better able to evaluate commercial prospects.

In regard to greater collaboration between publicly funded research organisations and industry, please refer to my comments about various grant schemes under part (a), above.

**(d) Consolidate existing programmes that focus on collaboration with industry to increase their scale and effectiveness**

At the time of writing this response document, the briefing session about the new Industry Growth Centres initiative is still a week away. At present, the relationship between CRCs and Industry Growth Centres is unclear to me; will CRCs come under the umbrella of an appropriate Industry Growth Centre or should the CRC program be rolled into Industry Growth Centres, or will they be separate entities with some cross-collaboration?

I am strongly opposed to the Commission of Audit's suggestion that funding for the CRC program be rolled into the ARC Linkage program (as it currently stands) to encourage collaboration between universities and the private sector; the Commission of Audit suggested consolidating these programs to gain efficiencies. At present, only universities are eligible to be lead applicants on ARC Linkage grant applications and, if awarded, universities administer those grants. If eligibility to apply for ARC Linkage grants is not extended to industry and SMEs, then the Government appears to expect that universities are best able to drive innovation in Australian industry through this grants scheme. As the Government points out in its paper **'BOOSTING COMMERCIAL RETURNS FROM RESEARCH'**, there is a range of statistics clearly pointing to this not being the case.

**(e) Consider whether the R&D Tax Incentive sufficiently encourages collaboration between industry and researchers**

From my perspective as an SME CEO, the R&D Tax Incentive (as it currently stands) does not provide sufficient encouragement for collaboration between industry and researchers.

**Supporting research infrastructure**

The Government will take steps to ensure that research infrastructure facilitates increased collaboration between researchers and industry. To achieve this outcome the Government is seeking to:

**(a) Strengthen the existing focus of the NCRIS on outreach to researchers and industry.**

While I was previously aware of NCRIS, neither my SME nor other companies/SMEs with whom we collaborate have accessed NCRIS research infrastructure. I welcome the Government's intent to strengthen the existing focus of NCRIS, particularly in regard to industry.

**(b) Undertake a reassessment of existing research infrastructure provision and requirements, in line with the recommendations of the National Commission of Audit.**

I support this reassessment.

**(c) Develop a roadmap for long-term research infrastructure investment, in consultation with the research sector and industry.**

I support a widely consultative process to develop a roadmap for long-term research infrastructure investment.

### **Providing better access to research**

The Government will put in place arrangements to provide industry and other end-users with better access to research. To achieve this outcome the Government is seeking to:

**(a) Strengthen IP guidelines for researchers.**

This proposal appears to assume that industry/SMEs do not themselves engage in research and innovation. This assumption is demonstrably incorrect. For example, my SME engages in our own innovative research in advanced chemical manufacturing to produce novel chemical compounds in response to market needs; our SME is commercially successful but needs government funding assistance to expand growth and development in response to needs of our domestic and international customers.

Also, we have entered into bilateral arrangements with some universities and with CSIRO to provide access to specialist equipment and/or complementary scientific expertise as needs have arisen. In these circumstances, IP issues (where relevant) have been negotiated and resolved amicably in most instances.

However, in my experience, rigid application by some universities of their IP ownership policies has been a strong disincentive in building effective collaborative R&D relationships with industry (and not simply because the university process is unjustifiably slow in my view).

Anything the Government can progress in regard to resolving some of these IP problems would be welcome.

**(b) Examine the potential to link research funding to the dissemination of IP.**

This proposal implies that research providers will be provided with strong incentive to disseminate their IP (presumably Project IP, as licensing of background IP to facilitate a project is normally a very straightforward matter) by linking this IP dissemination with research funding. This approach seems to assume that most research providers resist negotiations concerning Project IP. In my experience with universities, their willingness to enter

negotiations over Project IP is not the issue; rather, it is the frustrating, almost inflexible, approach they adopt during the negotiation process which contributes to slow timeframes before resolution is eventually reached. As this proposal stands, it may well be too punitive.

**(c) Establish an online point of access to commercially-relevant research for business.**

This is an admirable proposal in-principle. However, before offering any further opinion, I would prefer to see details of the proposed framework and mechanism for how '*commercially-relevant*' research would be made accessible to business.

**(d) Develop a whole-of-government policy to open up access for business and the community to publicly-funded research.**

I strongly support this proposal.

**(e) These proposals will be supported by the release of an IP toolkit which will provide guidance to simplify discussions relating to IP between researchers and industry.**

This proposal seems a sensible starting point. I recommend that key stakeholders be consulted and provide feedback about IP toolkit contents before a final version of the toolkit is widely made available.

### **Increasing industry relevant research training**

The Government will take steps to ensure that the research workforce is equipped to work with industry and bring their ideas to market. To achieve this outcome the Government is looking to provide greater opportunities for industry relevant research training, provision of industry and business relevant skills, and recognition of PhD candidates with existing industry experience. These issues will be a focus of a review of research training arrangements which will be informed by consultation with the research sector and industry.

I support the Government's proposals to:

- provide greater opportunities for industry relevant research training;
- provide appropriate PhD candidates with industry and business relevant skills during their studies; and
- recognise PhD candidates with existing industry experience.

I also strongly support the proposed consultation with industry and the research sector in regard to these issues being the focus of a review of research training arrangements in Australia.

### **Measurement of outcomes**

The Government will work with the research sector and industry to improve assessment of the research system, including improved metrics on engagement and knowledge transfer with industry, as well as research outcomes and impact.

I strongly support the Government's proposal to consult and work with industry and the research sector to improve assessment of Australia's research system, including:

- improved metrics on engagement and knowledge transfer with industry; and
- research outcomes and impact.

### **Capitalising on the Medical Research Future Fund**

The Government will ensure that the new Medical Research Future Fund supports collaboration between researchers and industry and drives the uptake of Australian medical research.

Unquestionably, strong funding support for Australian medical research is merited and deserved given the nation's track record of successes in medical research and its application to patient care and advances in treatment. However, given the current impasse in the Senate over the Government's Medicare co-payment legislation that is meant to fund the MRFF, I believe the Government should seriously consider a contingency plan (if it has not already) in the interests of ensuring that public funding of medical research is boosted.

The Australian public strongly supported an increase in the Medicare levy to help fund the National Disability Insurance Scheme. I believe the Government can successfully prosecute a similar case for an additional increase in the Medicare levy to help boost funding for Australian medical research.