

Australian Institute for Commercialisation

**Review of the National Innovation System
Submission to committee reviewing:**

IV. Culture Change for Australia – Market Based Services

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1.0 INTRODUCTION

Innovation is a key driver of long term productivity and growth for a nation. Innovation is the value created by a firm in developing new products and services, introducing new efficient processes and implementing new management and organisational systems. Underpinning a firm's innovation framework is a culture conducive to achieving innovative outcomes that ultimately contribute to productivity and growth for the nation. This submission specifically focuses on the culture change that is essential to Australia achieving long term productivity and growth through innovation and the market-based services that are required to stimulate the innovation ecosystem.

2.0 DECLARATION OF INTERESTS AND AFFILIATIONS

The Australian Institute for Commercialisation (AIC) is a national, not-for-profit organisation established in 2002 to assist in the commercialisation of Australian research and know-how. Its vision is to enhance Australia's future economic prosperity, environment and lifestyle by improving our national ability to take innovative ideas to market.

The AIC's sole shareholder is the Queensland Minister for Tourism, Regional Development, and Industry. Reporting to an independent board of directors, the AIC works nationally with Australian industry, research organisations and governments to create high value jobs, exports and wealth by taking innovative ideas to market.

The AIC is chartered to work within the innovation system, and as a predominantly publicly-funded body generally operates in areas of market failure. In 2008, the AIC will deliver services for the Australian, Queensland, South Australian, Victorian and Tasmanian governments. The AIC declares its interest to continue to see strong government support for strengthening the innovation system in order to build a more prosperous future for Australia.

3.0 VISION 2015

The AIC's vision for Australia's innovation system for 2015 involves the following elements:

- Industry and academia working collaboratively in an open innovation environment
- Increased business investment in R&D stimulated through greater collaboration
- Industry able to access a range of knowledge and infrastructure from the research sector by engaging through a single point of entry
- A business culture conducive to creativity and innovation adopting not only product innovation strategies but also organisational innovation systems, including innovative business models to adapt to the changing global environment
- Fast growing technology and knowledge based SMEs able to adapt and compete in the global arena through high value products and services aligned with international market needs.
- Government support programs that address market failure in Australia's innovation system and that are aligned with the needs of the market to stimulate innovation in Australia.
- A minimum of 3% of public R&D expenditure allocated to commercialisation activities
- A tax environment conducive to stimulating innovation and collaboration in Australia
- New commercial opportunities and ideas assessed through early stage technical and commercial feasibility studies supported through the availability of market research information
- Australian entrepreneurs provided with a range of professional development programs to maximise commercial success of new opportunities
- Early stage proof of concept funding and seed investments provided through existing superannuation funds (that have at least \$100m under management)
- A steady pool of available knowledge-based skilled labour (technology, science, engineering, creativity, entrepreneurship) to support innovation
- Industry led innovation through market-pull strategies complementing existing technology-push initiatives

4.0 KEY PRIORITY AREAS

The key priority areas of focus for this submission are related to creating a culture of innovation and creativity within industry, research and the government sectors. This can be achieved by establishing the appropriate frameworks, developing specific models and delivering initiatives to:

- Provide early stage assessment and decision making processes and tools for new opportunities
- Deliver market research services for early stage decision-making
- Enhance skills in creativity, innovation and entrepreneurship
- Provide simple industry access to commercialisation expertise and networks, including the national research sector
- Facilitate an interdisciplinary approach to the application and commercialisation of intellectual property

Some suggestions for each of these initiatives are discussed in turn in Section 5.0.

5.0 RECOMMENDED INITIATIVES AND SOLUTIONS

Determine early stage feasibility of new opportunities to reduce risk and maximise value from downstream government funding programs and private investment

The AIC has developed online assessment tools, guides and templates, available through the AIC's Gateway Enterprise and Commercialisation Management System (CMS) that systematically assess early stage opportunities and help to de-risk intellectual property to facilitate the innovation process. The assessment tools consist of a series of questions that guide the prospective entrepreneur through the innovation process to assess the feasibility of a new opportunity or piece of intellectual property. The tools, guides and templates have also been used to educate individuals considering a new enterprise or commercial project. The assessment evaluates the market potential of an opportunity through a number of stages and gates:

- Feasibility of the technology and intellectual property (freedom to operate)
- Market feasibility (does a market exist or can a new market be easily developed)
- Strength of the management team
- Potential collaborations and resources required
- Investible business model and route to market
- Financial analysis (funding required and return on the investment)

The AIC believes that if these tools were used routinely during the early stages of considering the commercialisation potential of a new opportunity, then this would quickly determine a “Go” or “No go” decision to maximise the value from downstream government funding programs and private investment.

Successful innovation requires a **disciplined** approach to ensure effective implementation of a new opportunity or intellectual property. The ability to quickly determine the commercial potential for a new opportunity, identify the most promising opportunities and encourage “fast failure” at the inception stages of an innovation would reduce the opportunity costs and burdens placed on the innovation system. Projects that have the highest probability to achieve a successful outcome should be those awarded funding.

Market research service for early stage decision making for new opportunities

The AIC has identified, through its programs and services, that many entrepreneurs dive right into a new venture without undertaking adequate up-front homework to assess or evaluate a new opportunity. A typical scenario that the AIC observes on numerous occasions is that the entrepreneur has significantly progressed their project and committed significant funding, time and resources, without understanding that an identifiable market need does not exist, or that the market for the product or service is very small. The start-up business then finds itself in a dormant or waning state that imposes a burden on the innovation ecosystem.

To help innovators – entrepreneurs, SMEs, research organisations, universities and government agencies – the AIC has established a dedicated and independent market research service. This service provides comprehensive, quality and cost-effective intelligence to assess an opportunity; no matter what stage it's at. With access to over 130 information providers covering more than 30 global industries, the AIC provides critical intelligence that is up-to-date, in-depth and customised to the clients' needs, saving valuable time, money and resources.

Market research provides critical intelligence on target markets, customers and existing and potential competitors. In particular, market research provides innovators with the information and knowledge to:

- ➔ Better identify and understand their target markets
- ➔ Know who their competitors are and what they do
- ➔ Gather information for business planning and commercial feasibility assessments
- ➔ Discover potential partnership or distribution opportunities
- ➔ Convince investors and grant bodies to invest in the company.

The AIC proposes that market research should be undertaken at an early stage for all innovation projects, especially if they are to receive government funding. This will ensure that all opportunities are de-risked to maximise value from downstream government funding programs and private investment.

The AIC's professional development and skills programs

In Australia, the relatively low level of commercialisation knowledge and entrepreneurial skills is one of the major barriers to successful commercialisation of research and development (R&D). The AIC's professional development and skills programs, such as its Commercialisation Bootcamps for the research sector, or Ideas2Market for business entrepreneurs provide a number of different modules to enhance creativity, innovation and entrepreneurial skills.

The Commercialisation Bootcamps, specifically delivered for the research sector, assist researchers and academics to better understand the value their research could have in the marketplace. The workshops have been delivered to hundreds of researchers and academics and have started to influence the culture across the sector, providing broad skills ranging from structuring a research program through to realising the potential of commercial outcomes in the market. The program, delivered nationally, encourages multidisciplinary participation to reflect the broad nature of research, ranging from information and communications technology to the creative industries, biotechnology and engineering sectors.

The various modules deliver cultural change and provide an introduction to practical tools and resources providing the following learning outcomes:

- ➔ Increased awareness and understanding of commercialisation and its long-term benefits
- ➔ Learn how to design research programs to achieve commercial outcomes
- ➔ Ability to make commercial outcomes an acceptable personal and professional goal
- ➔ Introduction to the tools and resources available to assist in research commercialisation
- ➔ Improved quality and quantity of commercial outcomes arising from research.

The AIC's Ideas2Market program provides innovators and entrepreneurs with education, advice, ideas, learnings and linkages that can assist them in commercialising their ideas and turning those ideas into a strategic approach to build and grow sustainable businesses. The program is delivered in four different formats to assist innovators and entrepreneurs at different stages of their innovation:


1. Considering a Business
2. Starting a Business
3. Growing a Business
4. Improving a Business

The Ideas2market program has helped hundreds of innovators and entrepreneurs to achieve the following learning outcomes:

- ➔ Learn how to develop a concept plan for taking an idea through the initial stages of the commercialisation pathway
- ➔ Introduction to the resources and tools needed for planning a new business venture
- ➔ Meet and listen to like-minded innovators who have had previous market success in launching their ideas
- ➔ Receive tips from commercialisation experts and access mentors
- ➔ Learn how to turn a smart idea into a rewarding business
- ➔ Get advice on 'where to from now?'

The AIC's experience of equipping people to be creative and innovative is through its flagship Commercialisation Bootcamps and Ideas2Market programs, through the numerous innovation workshops it is asked to address, and through working alongside SMEs daily to help achieve their innovation outcomes. The creativity and innovation modules provide entrepreneurs with specific idea generation and problem solving skills that are essential for success in the modern competitive environment. These skills equip entrepreneurs to adapt to the changing business environment and develop new innovative business models.

These programs help in the knowledge application and deployment process of the innovation cycle. The AIC has built a substantial file of testimonials that attest to the need for such programs, and the outcomes that result. The following are two recent testimonials.



*“Thank you for the most stimulating two day workshop / bootcamp I think I have attended / been part of: you have a great approach and I’m sure you’ve helped remove some of the mystique of the commercialisation process for all the workshop participants.” **Peter Sniekers** (Agribusiness Development Manager, NSW Department of State and Regional Development) – **UNE Bootcamp***

*“I can’t thank you enough for the Bootcamp you ran for the AB-CRC students last week. It was a huge success with the students who not only found it very challenging, but a lot of fun. Many thanks again for an extremely professional workshop.” **Peta Edwards** (Education and Training Program Coordinator, Australian Biosecurity CRC for Emerging Infectious Disease) – **ABCRC Bootcamp.***



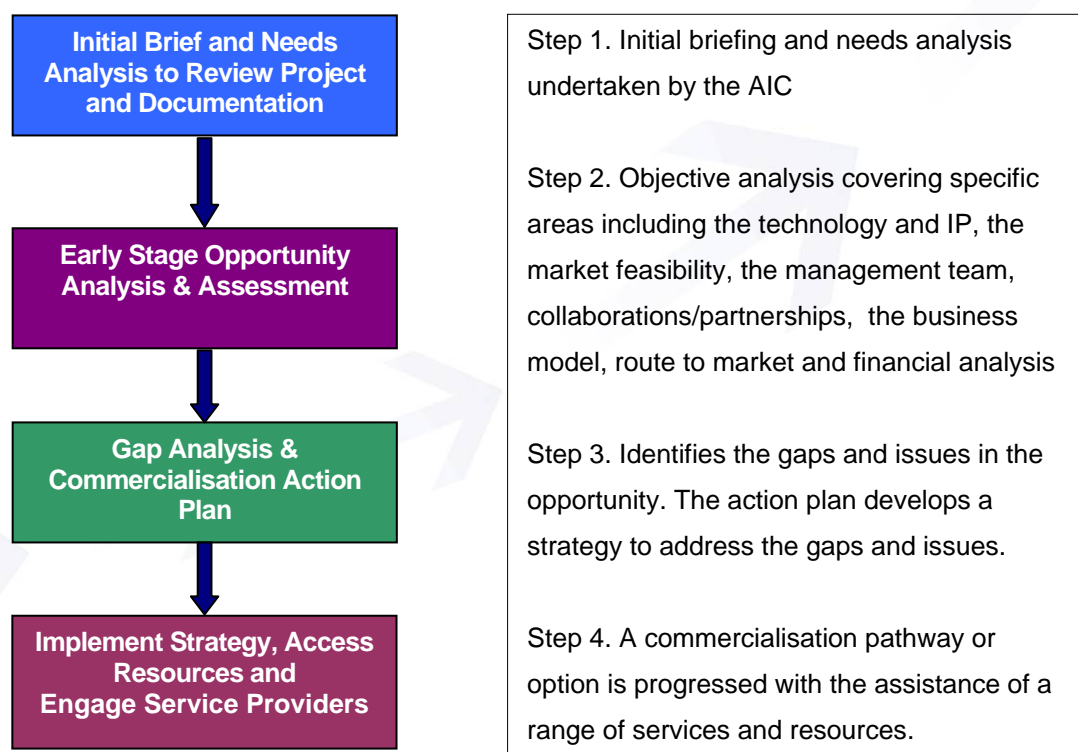
A case study from the Ideas2Market Program is presented in Appendix 1.

The AIC as a national point of entry for entrepreneurs and SMEs seeking to commercialise their opportunities

The AIC is an independent third party that has no vested interest in commercial projects and understands commercialisation options and strategies. It is well positioned to assist knowledge-based entrepreneurs and SMEs (typically those with less than \$2 million in revenue; in many cases with no revenue) commercialise their opportunities and access national and global resources. The AIC through its established networks can quickly identify intellectual property or capability that resides in other organisations or bring together elements of the value chain for a given innovation project.

Currently between 50 and 60 entrepreneurs and/or SMEs are screened by the AIC for general enquiries each quarter; many of the enquiries originating in Queensland from both regional and metropolitan locations. Through the provision of additional funding through the Commonwealth government the AIC could establish a national point of entry for other entrepreneurs and SMEs seeking to commercialise their opportunities. The model would be similar to two notable international examples: the Torino Wireless initiative from Italy and the Innovationbron initiative in Sweden. The AIC would lead entrepreneurs and SMEs through a systematic process to de-risk the

opportunity and maximise the value of their innovation. The following approach is currently taken:



However, intake is limited by the ability of the entrepreneur or SME to pay. The AIC proposes that the Commonwealth government allocates competitive funding for entrepreneurs and SMEs to access up to \$8,000 to undertake an evaluation of their opportunity, identification of gaps or issues, and the development of a commercialisation action plan to progress the project. This approach could then feed into other State and Commonwealth Programs such COMET to maximise value from these programs. Given the potential transaction costs of accessing and managing this funding, it would need to be kept administratively simple.

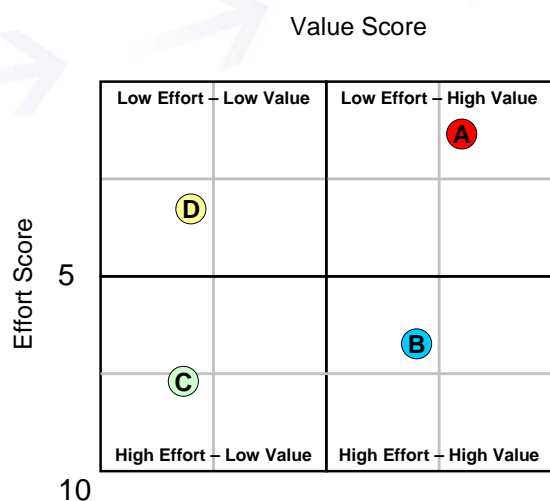
An interdisciplinary approach to the application and commercialisation of intellectual property

Open innovation implies that value in an organisation can be created through the external use of IP (IP is licensed out to other markets or fields of use), in addition to the licensing-in of external IP to advance the organisation's existing business model. Locking up IP does not generally add value to the economy. We have seen examples where IP has been completely locked up by an organisation and by the time the

patent was due to expire the value generated within the industry sector was comparatively low.

The AIC believes that IP held by a particular organisation for a specific market application could be licensed to other organisations in other fields of use or geographic regions to leverage and maximise the value in the local innovation system.

The IP generated by publicly-funded research organisations (PFROs) is one example, as this knowledge and know-how is generally difficult to access by Australia's entrepreneurs and SMEs. The AIC believes that publicly funded IP should be reviewed using a portfolio approach as outlined in the following diagram:



The IP portfolio for each PFRO could be evaluated for commercial uptake based on two sets of criteria: the effort (capital, people, resources, time) to commercialise versus the value (strategic fit, return on investment, competitive advantage) to the organisation. IP falling into Quadrant A becomes the high priority for the PFRO and would be managed by its Commercialisation or Technology Transfer Office. IP falling within Quadrant C could be divested or assigned and made available to external entrepreneurs and SMEs to commercialise through their operational infrastructure. It would be beneficial to quickly transfer such IP from PFROs to industry through programs such as TechFast so that the value can be realised in the wider community. IP falling in Quadrants B and D would require additional development to determine the best approach for commercialisation.

An open innovation approach to IP management is currently not done well for a number of reasons:

- The concept is difficult to understand and implement
- The market for interdisciplinary application of IP may be perceived to be small or non-existent
- The Commercialisation and Technology Transfer Offices of PFROs may not have the motivation to work with IP falling within Quadrants C, B and D and usually focus on high value, low effort IP falling within Quadrant A.

The AIC recommends that IP residing in PFROs that is not considered of a significantly high value for the organisation should be quickly transferred to industry or the wider community through appropriate mechanisms such as TechFast or the establishment of a central IP office (IP repository), similar to that managed by the AIC for its ICT commercialisation program.

6.0 CONCLUSION

This submission has presented a vision of Australia's innovation system for 2015 and has suggested a number of practical initiatives and solutions that would contribute to achieving this vision. In summary the initiatives and solutions recommended by this submission include:

- A Commonwealth funding program for entrepreneurs and SMEs to access up to \$8000 to undertake an evaluation of their opportunity, identification of gaps or issues and the development of a commercialisation action plan to progress the project.
- Determine early stage feasibility of new opportunities to reduce risk and maximise value from downstream government funding programs and private investment. This includes the provision of market research services for early stage decision making for new opportunities
- The wider availability of the AIC's professional development and skills programs, such as the Commercialisation Bootcamp and Ideas2Market programs, to provide Australian innovators with creativity, innovation and entrepreneurship skills to increase their chance of achieving successful outcomes with their ventures
- IP residing in PFROs that is not considered of a significantly high value for the organisation should not be locked up but quickly transferred to industry or the wider community through appropriate mechanisms such as TechFast or the establishment of a central IP office (IP repository) similar to the AIC's ICT commercialisation service for Queensland government IP.

7.0 APPENDIX 1 – CASE STUDY: NO.1 AUSSIE HANGOUT

Ideas2Market helps commercialise Townsville's number 1 invention

The Idea

Ken Anderson, inventor of the No.1 Aussie Hangout, came up with the idea when he was setting up for a party at his house. Ken wanted a fuss-free urinal trough for the males coming to the party and after exhausting the names of hire businesses in his local phonebook and getting responses such as “there’s nothing like that, anywhere” and “you’d be better off making your own,” he decided to do just that.

Traditional port-a-loos were often costly and difficult to keep clean and smell-free. Besides being useful for household parties, Ken also knew that his idea had multiple real world applications, not only for hire purposes but also for the military, major events, festivals and the mining industry. In the near future, mining laws will be tightened to ensure all mining sites have a regulated washroom facility, a role that Ken’s product can fulfill.

The Opportunity

When market research showed there was nothing in the marketplace like his idea, Ken decided to make his own portable urinal. The idea was simple, however creating the design was significantly harder. In order to protect his intellectual property, he chose to keep his idea a secret, which made creating a design a lot harder. After more than 12 months of work Ken took his design to a rotational moulder, where he was told the design was way off where it needed to be. So, taking their comments on board Ken returned four hours later with a new concept; it was workable.

A prototype was made and just when Ken thought the hard work was over, he was wrong. After making the initial mould, the moulders pulled out of the project to focus on making water tanks, which left Ken with a prototype and no mould. For the next 12 months Ken and his team searched around Australia for a new moulder to make his product. The first finalised product was made in Sydney, which was very expensive and time consuming but ultimately worth it. His products are now made locally from the mould attained from the Sydney factory.

The Outcome

After nearly two years of progressing with his idea Ken attended a local Ideas2Market workshop, where he learned a number of valuable lessons and met a range of industry contacts including Mentoring for Growth, who offered further advice. Ken said his only regret was not having attended the workshop 12 months earlier.

“Ideas2Market was just what I needed, if I’d attended sooner it really would have saved me a lot of time and money. It did give me a clearer direction for where I had to go in the future,” Ken said.

“I had already progressed down the path and made some simple mistakes that were expensive to correct.”

Over the past 12 months Ken has put those lessons to work and has been utilising the networks he established from his 20 years’ of experience within the mining industry. He has developed working business relationships with several high profile mining companies including Rio Tinto, BHP and Xstrata.

While building these relationships Ken was also busy promoting his product at mining expos and at the Xstrata Mount Isa Mining Expo 2007, the No.1 Aussie Hangout won an award for the “Most Innovative Design”.

The design is truly innovative as the No1. Aussie Hangout is now a waterless, portable urinal requiring no plumbing or mounting and with a 220 litre holding capacity, it capably holds more than 400 uses. It doesn’t produce bad odours because the waterless seal cartridge contains a sealant gel, which allows fluids to pass through and prevents the return of odours from the waste holding tank. This environmentally friendly unit comes fitted with hand wash, soap and paper towel dispensers, a rubbish compartment and foot pump servicing hand wash, thus making the No.1 Aussie Hangout a hygienic washroom unit.

The award gave Ken the backing he needed and truly helped him further his working relationships – he has since sold his product to Rio Tinto and Xstrata and is leasing it to BHP. BHP is in the process of putting the No.1 Aussie Hangout on its vendor list, which will lead to it being listed on the best work practice website so that then the product can be exported globally.

For further information visit www.no1aussiehangout.com/

8.0 APPENDIX 2 - AIC CAPABILITY BRIEF

IP Discovery and Opportunity Assessment	IP Auditing and IP Portfolio Analysis
	Conducting technical and commercial feasibilities, including IP searches, literature reviews and technical assessments
	Early stage feasibility assessment – using the AIC internally developed on-line Opportunity Assessment tools
Market Research	Preliminary market assessments and feasibilities – the AIC has access to over 130 international information databases including Frost and Sullivan
	Business Intelligence and Environmental Scanning
Commercialisation and Business Planning	Developing Commercialisation frameworks
	Commercialisation options and pathways for new product opportunities
	Business modelling and selecting the most appropriate route to market
	Developing commercialisation plans and business plans
	Development of commercialisation strategies and IP policies
New Venture Funding	Sourcing capital for new ventures through its Funding Access Program – the AIC has excellent links into the venture capital and investment community, including experience in AusIndustry funded grants
	Sourcing market comparable deal parameters and deal negotiation
	Development and review of Information Memoranda for capital raising
Professional Development and Developing Entrepreneurial Capability	Providing Innovation Coaching and Mentoring
	Professional Development Programs eg Commercialisation Bootcamps, Ideas2Market
	Foresighting and Technology Clinics
Innovation Intermediary	Facilitating collaborations between industry, academia and government
	Linkages and networks
	Technology brokerage
	IP farming across the research sector
Thought Leadership	Developing Innovation Policy
	Innovation Strategy