

Submission to the Australian Government paper,
“Boosting the commercial returns from research”.

IMNIS Project, ATSE

This submission responds to one of the four overarching ambitions of the Governments Competitiveness agenda, specifically “A more skilled labour force”.

It introduces an inexpensive program that will be part of the solution to address the lack of entrepreneurial scientists and engineers within Australia. This is a volunteer mentoring program for later year PhD students in STEM disciplines, exposing them directly to commercial viewpoints, practices and methods, under the auspices of the Australian Academy of Technology Science and Engineering (ATSE). It is named the Industry Mentoring Network In Stem (IMNIS).

Preamble

As stated in several sections of the discussion paper, Australia has a serious problem with the lack of cooperation between research and industry and entrepreneurship. That the discussion paper sees the research establishment as being separate to industry, rather than being a component of industry activity, highlights the severity of the issue.

As noted, Australia has a higher education sector that does not significantly reward industry interactions, and a low level of commercial engagement. Hence our academics can provide little in the way of training for their PhD students in how to work with industry.

There are several statements in the discussion paper that are important to highlight with respect to issues that IMNIS seeks to address.

Page 13: A lack of person to person and institution to industry links can prevent knowledge, skills, and resources from being shared.

Page 15: Currently, most PhD programmes place limited focus on the skills and training – such as IP awareness, business management and entrepreneurship.

Page 19: This suggests a lack of entrepreneurial culture within research organisations.

Page 20: The Government should consider ways to recognize entrepreneurship and the translation of research into commercial outcomes.

The IMNIS mentoring program aims to change the culture of academic/industry interactions by focusing on PhD students in STEM. Our aim is to run several pilot programs in different States and Industry sectors in 2015 while we attract the financial support to make this a National program.

The key principles of IMNIS are:

- A national mentoring program, linking PhD level students with qualified industry mentors, who can provide advice and role models for industry based STEM careers.
- Directed at 2nd year and above PhD students, as this is a manageable group size, the site of greatest bias away from industry, and theoretically the best and brightest.
- The long-term goal would be to have 10% of PhD STEM students in Australia in this program.
- The mentors are derived from professional groups and university alumni, recruited as individuals, not as company sponsors.
- An ATSE Governing Council provides oversight to an Operational team.
- IMINS involvement is pro bono, it is a not for profit initiative.

- IMNIS will seek funding for its operational needs from involved Government agencies and philanthropic sources.

IMNIS is Not:

- An industry secondment program – IMNIS aims to show that research entrepreneurship is a lifetime choice
- An employment program – although it is likely networking will lead to improved employment and recruitment.
- A program seeking corporate involvement – it is about individual arrangements.

Expected Outcomes.

Overall the program is expected to encourage PhD level graduates to develop long-term interactions with industry, as employees, collaborators, entrepreneurs, and consultants. Such interactions are designed to address the cultural gap between business and academia, leading to significant national benefits.

Assessable outcomes will be:

- 1) Increased PhD employment in industry of mentored students c.f. unmentored.
- 2) Positive Student feedback and follow-up in questionnaires as to the benefits of being through the mentoring program.
- 3) Expansion of Mentors in the program and positive feedback on the perceived outcome of the student interaction.
- 4) At least 10% of all STEM PhD will have an industry mentor.
- 5) The gap between Academia and Industry started to narrow.
- 6) The movement of staff between Universities, Industry and Government becomes the norm rather than the exception.

It is proposed the assessable outcomes will be effective proxies for the overall national benefit outcomes.

While this program may appear to be ambitious, by creating a program module that can be taken up by any Industry sector or University, it can be rolled out Nationally. It can be adopted on a state to state basis, and can be incorporated in to the enhanced training of PhD programs that Universities are currently building.

The Chief Scientist has stated in several of his papers that we need to build programs with the scale to actually make a difference. We have spent the past year examining what mentoring programs currently exist in this space and talking to University and Industry groups. The response has been universally positive and hence why ATSE has agreed to back this program.

This submission introduces the scheme to the current discussion on enhancing Australian competitiveness, to allow interested persons and parties to be aware of the program.

Backgrounds of the IMNIS team.

Paul Wood PhD, has held senior R&D roles in CSIRO, CRC's, CSL and Pfizer. His final role in the USA was as Executive Director Global Discovery Pfizer AH. He was Interim GM for On Farm Innovation and Adoption at MLA for 3 months, runs his own consulting company working with start-up companies and is an Adjunct Professor at Monash University.

Tony Radford PhD, Dip CM, is a senior Biotech executive with 30 years experience in pharmaceuticals and diagnostics, and was founding Managing Director and CEO of the ASX listed company Cellestis Limited until its acquisition by QIAGEN NV in 2011.

Ronnie Wood B.Ec., Dip Ed, has more than 30 years experience in the education and training sector, predominantly in business development, consulting, recruitment and project management with the corporate and government sectors.

John Kirby AM, B.Ec., Deputy Chairman and Non-Executive Director Village Road Show Ltd. Over 40 years experience in Australian and international entertainment and creative industries and community organisations, Deputy Chairman of The Conversation Media Group and Director, The Sony Foundation.

Paul Wood and Tony Radford were two recipients of the Clunies Ross Award in 2013 for their work in improving Tuberculosis diagnosis in cattle and humans.

<https://submissions.education.gov.au/Forms/higher-education-research/pages/form>