Australian Government
Department of Industry and Science

# Innovation Policy Report

August 2015

The Innovation Policy Report is produced by the Department of Industry and Science, and aims to highlight developments in the innovation policy area. It also includes reference to relevant innovation documents and events.

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# Strategic policy initiatives and new developments

## Australia - Government

### Science and Research Priorities

The Prime Minister, the Hon Tony Abbott MP, and the Hon Ian Macfarlane MP, Minister for Industry and Science, announced the Science and Research Priorities and associated practical research challenges on 26 May 2015.

The nine cross-disciplinary priorities are food, soil and water, transport, cybersecurity, energy, resources, advanced manufacturing, environmental change and health.

The priorities will help our world-class science and research efforts to reflect the needs of industry, the national economy and the community.

The Australian Government has tasked the National Science, Technology and Research Committee to map Australia's science and research capability against the priorities, identifying any gaps in our activities.

The Science and Research Priorities and associated practical research challenges will ensure that appropriate levels of public funding are allocated to research that addresses the most immediate problems facing the nation. They are neither exclusive nor exhaustive.

The implementation of priorities is expected, over time, to result in an increased proportion of Australian Government research investment allocated on a strategic basis to areas critical need and national importance. This does not mean that funding should be directed to applied, mission-based research to the exclusion of other forms of research. Even in the priority areas, a significant amount of the research will need to be early-stage, basic research.

The Science and Research Priorities and practical research challenges will be reviewed every two years to allow for new initiatives to take effect and to ensure that issues being addressed are still the most pressing for the nation.

### Science, Technology, Engineering and Mathematics (STEM)

The Australian Government released *Vision for a science nation. Responding to Science, technology, engineering and mathematics: Australia's future* in June 2015. It sought feedback from industry, the research and education sectors and the wider community on a long term strategy for boosting Australia's capability in science, technology, engineering and mathematics (STEM), in response to the recommendations made by the Chief Scientist in his STEM report.

The Australian Government also undertook a series of roundtables with key stakeholders to discuss the proposed actions and consider where the Government could focus further effort to improve Australia's STEM effort. The consultation period closed on 31 July 2015. The results of the consultation will inform Government consideration of actions and initiatives that will support the Australian Government's vision for a future in which Australia is a leading nation in STEM.

## Entrepreneurs' Programme

The Entrepreneurs' Programme (the Programme), sets out a new policy direction to provide strategic support to small and medium businesses, bring research and business together to develop and commercialise ideas, and equip small and medium businesses with the management and business skills needed to lead change and expansion.

The Programme consists of three elements: Business Management, Research Connections and Accelerating Commercialisation.

### Programme Offerings

- Business Management – advice and facilitation services to improve business management, capabilities and networks. This may include a matched funding grant (up to a maximum of $20,000 for eligibile applicants) that supports business capability improvements
- Research Connections – a facilitation service providing expert advice and solutions for business to knowledge -related issues and a brokering service to link businesses with appropriate knowledge providers and research organisations. This may include a matched funding grant (up to a maximum of $50,000 for eligible applicants) that assists direct access to research capability
- Accelerating Commercialisation – an advisory service providing guidance and connections to assist Australian entrepreneurs, researchers, inventors, start-ups, commercialisation offices and small and medium sized businesses find the right commercialisation solutions for their novel product, process or service. This may include a matched funding grant (up to a maximum of $1 million for eligible applicants) that provides support for commercialisation activities.

### White Paper on Developing Northern Australia

The White Paper, *Our North, Our Future: A Vision for Developing Northern Australia*, was released on Thursday, 18 June 2015.

Two specific measures relating to the Entrepreneur's Programme are outlined in the White Paper:

- provision of services to more small businesses in the north by lowering the minimum turnover or operating expenditure threshold to $750,000 (down from $1.5 million)
- provision of management advice and other business support services to businesses in the northern tourism industry.

Further details can be found at business.gov.au.

## Cooperative Research Centres Programme

The Cooperative Research Centres (CRC) Programme is a competitive, merit-based grant programme designed to deliver economic, environmental and social benefits to Australia by supporting Industry-driven multi-year research collaborations. It is one of six Industry Policy flagships supporting Australia's Industry Innovation and Competitiveness Agenda. The government has committed more than $4 billion to the CRC Programme since 1991 and has supported over 200 CRCs.

In late 2014, the Commonwealth commissioned a review of the programme. Mr David Miles AM was appointed ot lead the review and engaged with key stakeholders. On 19 May 2015, the Minister for Industry and Science released the CRC Programme Review report and announced the Commonwealth would implement all 18 recommendations.

Following the review, the Minister established a new, smaller, CRC Advisory Committee to oversee the programme. Mr Philip Clark AM chairs the group, working with Dr Megan Clark AC, Dr Michele Allan and Professor Ian Chubb AC. The Committee will review all existing CRCs in 2015 to ensure they are achieving their stated outcomes. The Committee will also determine potential linkages between existing CRCs and Industry Growth Centres.

The CRC Programme Guidelines will be revised to implement the findings and recommendations of the recent review. The Department of Industry and Science is holding discussions in six Australian cities with stakeholders on proposed changes in August 2015, with a view to finalizing revised Guidelines by end 2015. Further details can be found at business.gov.au.

## Significant Investor Visa and Premium Investor Visa

New arrangements for investor visa applicants that will help to encourage investment into innovative Australian companies came into effect on 1 July 2015.

### Significant Investor Visa (SIV):

- at least $500,000 in eligible Australian venture capital or growth private equity fund(s) investing in start-up and small private companies. The Australian Government expects to increase this to $1 million for new applications within two years as the market responds
- at least $1.5 million in an eligible managed fund(s) or listed investment companies that invest in emerging companies listed on the Australian Securities Exchange (ASX)
- a 'balancing investment' of up to $3 million in managed fund(s) or listed investment companies that invest in a combination of eligible assets that include other ASX listed companies, eligible corporate bonds or notes, annuities and real property (subject to a 10% limit on residential real estate)
- introduction of the option for the partner of a SIV visa holder to meet the residency requirement (either the primary meets 40 days per year or their partner can meet 180 days per year)
- the investment and the provisional visa must be held for 4 years
- applicants may be nominated by a state or territory government or Austrade on behalf of the Australian Government.

### Premium Investor Visa:

The Premium Investor Visa (PIV) is a separate visa stream that will target talented entrepreneurs and innovators with a minimum $15 million to invest and will offer a 12 month pathway to permanent residence. Nominations for the PIV are by Austrade only on behalf of the Australian government.

The programme will be rolled out over the next year, focussing on attracting a small number of highly talented and entrepreneurial individuals to Australia who can contribute those skills and talents into areas which deliver a long term economic benefit to the country.

## Tax Arrangements for Employee Share Schemes

The Industry Innovation and Competitiveness Agenda announced the Australian Government's proposed changes to the taxation of Employee Share Schemes (ESS). These amendments aimed to reverse some of the changes that were introduced in the 2009-10 Budget to the existing ESS, and also better align the interests of employers and their employees, and stimulate the growth of high technology startups in Australia.

The following reforms came into effect on 1 July 2015 and apply to all companies:

- Employees who are issued with options will generally be able to defer tax until they exercise the options (convert options to shares), rather than having to pay tax when these options vest
- The maximum time for tax deferral will be increased from seven years to 15 years
- The maximum individual ownership limit will be increased from five per cent to ten per cent
- The government will also address the red tape burden, to make ESS more accessible and more practical for employers and their workers by issuing standardised employee share scheme plans and updating the safe harbour valuation tables.

An additional startup concession is also available, eligible startups are defined as less than $50 million aggregated turnover (with a carve out for businesses funded with Venture Capital Limited Partnership (VCLP) and Early Stage Venture Capital Limited Partnership (ESVCLP) vehicles), less than ten years old, and unlisted. Eligible startups are able to issue options or shares to their employees at a small discount, and have that discount exempt (shares) or further deferred (options) from income tax.

## New science.gov.au web site

In April 2015 the Department for Industry and Science launched a new website at science.gov.au. The site hosts information and news items on science and research activities across the portfolio. It is supported by a Twitter account – @sciencegovau – and a quarterly newsletter.

In addition to providing information to science stakeholders and the wider community, the site is also being used to support consultations and to obtain feedback on key issues.

Future plans for the site involve bringing in science and research content from across the Australian Government.

## Digital Transformation Office

The Digital Transformation Office (DTO) has been allocated $254.7m over four years from 2015-16 to support the initial implementation of the Digital Transformation Agenda. Paul Shetler, a former Executive with the UK's Government Digital Service, has been appointed as CEO of the DTO.

## Public Sector Innovation Agenda

Secretary Glenys Beauchamp PSM has announced a number of commitments from the Australian Public Service Secretaries Board for supporting public sector innovation. These include:

- identifying and supporting SES level innovation champions within each agency, and allowing ideas to be developed and tested
- ongoing support for Innovation Month and other innovation events
- supporting the involvement of staff in the Public Sector Innovation Network, both in Canberra and in chapters in other major cities
- supporting an existing multi-agency trial of a collaboration platform for staff to share ideas and lessons learned, and agree to consider next steps after the trial is evaluated
- agreeing to the development of an ideas 'incubator' (a fast track process for proving novel but untested ideas that may have been identified through the above platform)
- supporting and participating in a new set of annual APS innovation awards to be run by the Institute of Public Administration Australia (more general and inclusive than their existing Australian Awards for Excellence in Public Sector Management).

## Questacon and Singapore

The longstanding relationship between Questacon – Australia's National Science and Technology Centre – and the Singapore Science Centre has been strengthened with a new memorandum of understanding (MoU) that will build the capacity of each centre and have flow-on benefits to the region.

Under the MoU the two science centres will develop a ten-year work programme focussed on mutually enhancing their capabilities by sharing resources, expertise and best practice in developing learning programmes and in interactive exhibition design. They will also collaborate on projects to build skills and capacity for other science centres in the region.

## Design For Place, free 7 star house plans

The Department of Industry and Science commissioned and developed Design For Place, a suite of free house plans to help demonstrate the practical design elements that can be used to improve the quality and energy efficiency of current mass-market housing.

The Design for Place intitiative was designed to address information barriers to the uptake of more efficient home designs by providing for free information that can be used as part of a design brief for an architect or builder, and is fully adaptable to meet the needs of specific projects and climates across Australia.

Design For Place comprises a set of floorplans and elevations for a single storey house, available in three different versions depending on block size. The designs showcase the use of sustainable design principles for domestic home design and construction.  It includes specifications and construction techniques for a range of climate zones across Australia to achieve a minimum 7 star energy rating.

The plans are available to download from YourHome.gov.au, the Australian government's guide to environmentally sustainble housing. Your Home was created following research with homeowners, architects, designers and builders to find out what information they needed most and how they wanted it presented. It is used extensively by home renovators, tradespeople, builders, architects and in vocational education and training.

## ARC 2015 Future Fellowships scheme

On 13 May 2015, the Minister for Education and Training, the Hon. Christopher Pyne announced that the Australian Government would offer 50 four-year Future Fellowships in 2015.

The Australian Government recognises the importance of research and supports the ARC Future Fellowship scheme which attracts and retains the best and brightest mid-career researchers. Future Fellowships are awarded to outstanding Australian mid-career researchers with Fellowships running for a four year period.

The Future Fellowships scheme aims to significantly boost Australia's research and innovation capacity in areas of national importance. This scheme is designed to ensure Australia retains outstanding mid-career researchers.

On 23 June 2015, the Minister for Education and Training, the Hon. Christopher Pyne announced the release of the funding rules for the 2015 ARC Future Fellowships scheme. Applications for the 50 Fellowships round opened on 30 June 2015 with proposals closing on 11 August 2015.

## Announcement of new funding—ARC Industrial Transformation Research Programme (ITRP)

On 20 May 2015, the Minister for Education and Training, the Hon. Christopher Pyne, announced almost $40 million in new research funding for the Australian Research Council's (ARC) Industrial Transformation Research Programme (ITRP). Of this, $18.7 million will fund four new Industrial Transformation Research Hubs over the next five years with research in sustainable agriculture, offshore oil and gas and the future fibre industry. While $20.9 million will see five new Industrial Transformation Training Centres commence operations and cover research in areas such as mining, forestry and biosecurity.

ITRP offers two funding schemes Industrial Transformation Research Hubs (ITRH) and Industrial Transformation Training Centres (ITTC), aimed at both university based researchers and industries. It funds research hubs and training centres as well as supporting Higher Degree by Research (HDR) students and postdoctoral researchers in gaining real world practical skills and experience through the industry placements.

ITRP is currently in its third round where the key priorities for Industrial Transformation Research Hubs (for funding commencing in 2014) and Industrial Transformation Training Centres (for funding commencing in 2015) include manufacturing; food and agriculture; oil and gas (including petroleum); mining and mining services as well as medical devices and biotechnology.

## Announcement of new funding—Australian Laureate Fellows 2015

On 23 June 2015, the Minister for Education and Training, the Hon. Christopher Pyne announced 15 outstanding recipients of Australian Laureate Fellowships, a funding scheme administered by the ARC. The 15 Fellows will receive a total of $42 million over the next five years as they commence research programmes exploring fields including, harnessing intellectual property to build food security; translating 'big data' to meet challenges in industry, environment and health; and exploring a new 'Pharming' industry that uses plants to deliver medicine.

This prestigious scheme is designed to support Australian and International researchers to build Australia's research capacity, undertake innovative research programmes and to mentor early-career researchers. It is an integral part of the ARC's Discovery Programme which supports high quality research that is essential to

the development of ideas, employment, economic growth and enhanced quality of life in Australia.

The scheme reflects the commitment of the Commonwealth to support excellence in research by attracting researchers of international repute and creating new awards and incentives for the application of their talents within Australia.

## Announcement of new funding—Linkage Projects 2015

On 7 July 2015, the Minister for Education and Training, the Hon. Christopher Pyne announced 252 new research projects awarded a total of $86.9 million through the ARC's Linkage Projects scheme.

The Linkage Projects scheme provides funding support to research and development projects that are collaborative between higher education researchers and other parts of the national innovation system.

The Linkage Projects scheme provides opportunities for researchers to pursue internationally competitive research in collaboration with organisations outside the higher education sector, targeting those who have demonstrated a clear commitment to high-quality research.

## ARC Research Integrity and Research Misconduct Policy

On 13 April 2015 the Australian Research Council (ARC) released an updated Research Integrity and Research Misconduct Policy. Research Misconduct procedures were previously embedded in the ARC Complaints Handling Policy and Procedures.

Noting that instances of research misconduct have the potential to undermine public confidence in ARC processes, funding recommendations or research outcomes the purpose of the policy is to:

- safeguard confidence in the value of publicly funded research
- make transparent the ARC's role in research misconduct matters
- safeguard the integrity of the ARC's grant application, peer review, grant selection and research evaluation processes, funding recommendations and research outcomes
- raise the awareness of the importance of research integrity and of the possible consequences for institutions and for individuals if appropriate standards are not maintained.

A review of the Research Integrity and Research Misconduct Policy will be undertaken annually. The policy will also be reviewed immediately after any changes are made to the Code, which may delay or bring forward an annual review.

## ACT: Confident and Business Ready

The 2015-16 ACT Budget will deliver $11.75 million in new funding to support Confident and Business Ready: Building on Our Strengths, the ACT Government's new business development strategy. This new funding over two years includes $6 million for programs and initiatives to accelerate business innovation, trade and investment.

## ACT: New Business Incubator Programme

A new business incubator programme was launched by Chief Minister Andrew Barr and the CBR Innovation Network, the Griffin Accelerator, and ATP Innovations. The new programme, KILN incubator, is a business programme that aims to support budding Canberra entrepreneurs through a range of services including coaching, mentoring, business advisory and office space. Designed in consultation with the local innovation community, the KILN Incubator will help to grow innovative and high-growth potential Canberra companies.

## NSW: 2015-16 NSW Budget announcements

The 2015-16 NSW Budget, announced on 23 June 2015, features $49 million in 2015-16 to help grow jobs and the State's economy, as part of a total $678 million commitment in funding and incentives over the next four years.

Annoucements include establishing a $25 million Jobs of Tomorrow Scholarship Fund providing 25,000 scholarships for students undertaking qualifications towards technology and growth jobs.

The Government is investing $2.3 billion in the vocational education and training system and will provide $48 milion in fee-free scholarships for 200, 000 15-30 year olds to undertake government subsidised vocational education and training courses.

Other highlights include:

- $18 million in funding for the Research Attraction and Acceleration Program during 2015-16
- Ongoing support for the Innovate NSW program which supports small and medium enterprises to collaborate with industry and end-users to develop leading edge products and services

- Ongoing support in 2015-16 for five industry-led Knowledge Hubs to deliver new projects to drive collaboration and innovation in key industry sectors
- Ongoing support and evaluation of outcomes for five Government supported Smart Work Hubs, which enable residents in Western Sydney and on the Central Coast to work remotely.

The 2015-16 NSW Budget also announced that NSW will invest $159 million over four years to advance medical research.

Key medical research initiatives in the 2015-16 NSW Budget include:

- $40 million over four years ($10 million in 2015-16) for a new Health Services Research Support Program to support health and medical research by NSW Health services
- $25 million to expand and improve paediatric research facilities
- An extra $20 million over four years ($5 million in 2015-16) for the Medical Research Support Program to support independent medical research institutes
- $12 million over four years to support additional research into medical cannabis
- $10 million for Neuroscience Research Australia (NeuRA) to complete refurbishment of the Margarete Ainsworth building at Randwick and enhance the work of NeuRA and the Schizophrenia Research Institute
- $10 million to the University of Sydney Westmead precinct redevelopment to create an innovation hub connecting research, education and health services
- $9 million over the next four years ($3 million in 2015-16) for medical cannabis trials for children with severe epilepsy, terminally ill adults and chemotherapy patients suffering from nausea and vomiting
- An additional $4.8 million for medical devices funds and commercialisation initiative.

The 2015-16 NSW Budget is also announced support for initiatives to boost Government data sharing, allocating a total of $21 million to support the NSW Government's digital innovation agenda. Relevant funding within the new Department of Finance, Services and Innovation, which commenced operation on 1 July 2015, includes:

- $64 million over four years to consolidate data centres into purpose-built facilities where private providers supply cloud services to government
- $23 million over four years for a whole-of-Government service to combine multiple applications into one common area delivering $50 million in benefits
- $10 million over two years to integrate the OneGov System Platform with Service NSW to enable the availability of more than 150 self-service transactions on mobile phones and tablets 24/7.

## NSW: Knowledge Hubs

The NSW Government announced the launch of the Transport & Logistics Knowledge Hub in June 2015. The hub, known as the Transport & Logistics Living Lab, will be led by NICTA and its industry partners. It is the fifth of five industry-led Knowledge Hubs to be launched in NSW, following earlier launches of Knowledge Hubs for Digital Creative, Energy Innovation, Financial Services and MedTech.

The Transport and Logistics Living Lab will seek to better connect the large yet fragmented transport and logistics industry, which supports at least 500,000 jobs in NSW, to allow improved innovation and growth. The new |Transport & Logistics Living Lab will build on the foundations laid by NICTA's Future Logistics Living Lab.

The NSW Government is providing funding of $1.7 million over two years to support projects across the five industry-led hubs. For example, the NSW Government is providing project funding to the Transport and Logistics Living Lab to explore how high-tech solutions could help exporters cut down on quarantine waiting times and get their goods into the market faster whilst still safe-guarding our reputation in delivering secured products. This project aims to increase visibility and trust in supply chains for local exporters and their customers and better inform the development of the Commonwealth's Trusted Trader Programme.

The Financial Services Knowledge Hub is helping to establish a new fintech accelerator, Stone & Chalk, which announced new and larger premises in June 2015. The change of premises ahead of a planned August 2015 opening follows overwhelming demand from fintech entrepreneurs – more than 350 applied for the initial 150 places on offer. The new premises at 50 Bridge Street in Sydney’s CBD will utilise more than 2300 square metres of agile office space, almost double the original plan.

In its larger premises, Stone & Chalk will now accommodate up to 200 entrepreneurs through a combination of dedicated labs, full and part-time desks, secure offices and casual ‘drop in’ spaces. Stone & Chalk will also offer an events space to host master classes, meet-ups and conferences. Once opened, start up co-creation programs

leveraging APIs and technology platforms will also be launched to maximise acceleration potential.

The Digital Creative Knowledge Hub, known as Piivot, hosted key players in the Digital Creative startup scene in June 2015 to participate in a mapping exercise, marking the places they frequent for work and play. The mapping exercise was part of a workshop run by Piivot to gain community insight into the current landscape of the industry. Piivot's virtual digital creative map can be found online.

## NSW: New Smart Work Hub opens

A new Smart Work Hub for Gosford officially opened its doors in May 2015, giving Central Coast commuters the chance to work close to home and slash commuting time.

The new Smart Work Hub, located in Gosford's Kibbleplex building, is the second for the Central coast, with the other hub at Wyong already open.

A 'Smart Work Hub' is a facility or space that offers workers an alternative to working in their normal place of work or working from home. The NSW Government is collecting data and feedback on the pilot projects' user demand, successful operating models and the benefits for business and the NSW economy.

## NSW: Open Data Thinktank Report

On 30 April representatives from across government and industry attended the 2015 NSW Government Open Data ThinkTank. 191 participants from both government and industry participated and were put into teams. The teams were given one of nine commonly-held myths around open data, and were challenged to come up with evidence-based responses to effectively 'bust' the myth. Out of nine myths, six were 'busted', identifying three myths where more work was needed.

## NT: Business Innovation Support Initiatives Grant Round 2 Open

Open from Monday 18 May 2015 to Tuesday 18 August 2015, innovation grants under the Business Innovation Support Initiatives (BISI) program are now open via a competitive application process, that provides up to 50% support for eligible projects, with a limited number of grants worth up to $60,000. Read and download the full guidelines and apply online.

## NT: "Best in the World"

A Darwin based technology startup company "Effusion" has been supported by the Norther Territory Government Department of Business' Business Innovation Support Initiatives (BISI) Program to develop and test key components of their technological innovations in 3D Printing.

In June 2015, Effusion was one of fourteen startup companies from around the world, invited to present their new technology ideas to the senior management of Robert Bosch Venture Capital in Stuttgart, Germany. Effusion was named the top startup of 2015.

## QLD: Advance Queensland

The Queensland Government announced that it will invest $180 million in the Advance Queensland programme, a comprehensive suite of reforms that will create jobs now, and jobs for the future. The programme includes a number of initiatives.

A $50 million Advance Queensland Best and Brightest Fund, which will develop, attract and retain world-class talent - both scientific and entrepreneurial:

- Fellowships and Scholarships to strengthen the research base
- Global Partnership Awards, allowing outstanding Qld talent to gain experience with major universities or companies overseas
- Knowledge Transfer Partnerships, allowing Qld SME's to have postgraduate students contribute to their businesses
- Future Schools review, expanding STEM, coding, computer science and robotics in schools.

A $46 million Advance Queensland Future Jobs Strategy, which will open the door to new industry/research collaborations, tackle the big innovation challenges, focus on translation, and deliver 10 year roadmaps for industries with global growth potential:

- Three major partnerships designed to commercialise discoveries: UQ and Emory University (Atlanta, US), Siemens and Translational Research Institute, and Johnson and Johnson and QUT
- Innovations Challenge, incentivising researchers and entrepreneurs to tackle the world's biggest challenges
- 10 year roadmaps for emerging industries.

A $76 million Business Investment Attraction package, which will encourage a new wave of Queensland startups, support proof-of-concept projects, and attract co-investment through the Business Development Fund.

- Startups Queensland, to encourage a new wave of startup businesses
- Queensland Commercialisation Program, encouraging proof of concept discoveries

- Business Development Fund, co-investment in investment ready businesses.

And $8 million will be set aside to provide flexibility to respond as new opportunities arise.

## WA: Inquiry into technological and service innovation

The Western Australian Legislative Assembly is conducting an "Inquiry into technological and service innovation in Western Australia". The Economics and Industry Standing Committee will inquire into and report upon how technological and service innovation can be encouraged to expand and diversify the Western Australian economy.

The Committee will focus on the following sectors of the Western Australian economy: agriculture and food; mining and energy; and advanced manufacturing.

In particular, the Committee will consider:

- what drives innovation
- collaboration between government, universities and business
- how research can lead to the development of new products, services and jobs
- the challenges associated with financing and commercialising new technologies, products and services
- models of development by which technological and service innovation could be encouraged in Western Australia.

## WA: Pawsey Supercomputing Centre

The Western Australia Premier and Science Minister Colin Barnett announced $21.6m of funding in the 2015-16 State Budget for the Pawsey Supercomputing Centre. The operational funding, which runs until 2020-21, allows the Pawsey Supercomputing Centre to continue providing world-class resources and expertise in supercomputing, data and visualization.

## WA: Open Data Policy

Western Australia's first whole of government Open Data Policy aims to improve the management and use of public sector data to deliver better value and benefits for all West Australians.

# International

## Australia-China Science and Research Fund

The Minister for Industry and Science, the Hon Ian Macfarlane MP announced the priority areas for the next round of Joint Research Centres (JRCs) on 2 July 2015, following a meeting with his counterpart Dr Wan Gang, Chinese Minister for Science and Technology. The JRC priority areas are:

- Food and agribusiness
    - Sustainable food production and processing
    - Biosecurity
    - Soil analysis, technologies and remediation
- Mining equipment, technology and services
    - Sustainable use of sedimentary basins
    - Sensing, automation, robotics and data analytics for resource extraction, processing and waste management
- Marine science
    - Sustainable marine resource management
    - Marine environments and marine ecosystems
    - Maritime engineering.

This round of JRCs will focus support for activities that can demonstrate a clear path to utilisation of the research outcomes. To this end, applications are required to have an industry or other end user partner, in addition to a Chinese partner. Guidelines for this round will be released shortly with applications for funding due in September, The department will be holding information sessions in capital cities between 5 August and 21 August 2015.

The Australia-China Science and Research Fund (ACSRF) supports strategic science, technology and innovation collaboration of mutual benefit to Australia and China.

## Australia-India Strategic Research Fund – Round 9

The next competitive grants round for joint research centres under the Australia-India Strategic Research Fund (AISRF) is expected to open for applications in August 2015, with each successful Australian recipient to receive between $500,000 and $1 million over three years in one of the nominated priority areas. Each of these virtual centres will involve Australian and Indian research institutions as well as industry or other end-user partners. Funding will be aimed at projects that can demonstrate a

clear path to end use in support of economic growth and development in Australia and India.

The programme guidelines and application instructions, including priority areas for this round, will be available on the AISRF website following requisite approvals.

The AISRF helps Australian researchers to collaborate with Indian scientists in leading-edge scientific research projects, as well as supporting workshops and fellowships, and is Australia's largest fund dedicated to bilateral research. In September 2014, the Prime Minister announced a $20 million extension to the fund, bringing the Australian Government's total commitment to $84 million since 2006, which has helped to support more than 230 collaborative activities to date.

## Canada: Governor General's Innovation Awards

Canada has announced the establishment of the annual Governor General's Innovation Awards to celebrate excellence in innovation across all sectors of Canadian society; to inspire Canadians, and in particular Canadian youth, to be entrepreneurial innovators; and to foster an active culture of innovation that produces meaningful impacts on our lives. Awards will be presented to young innovators, and accomplished innovators. The first awards will be presented in 2016.

## Google: Patent Purchase Promotion

Google has established the Patent Purchase Promotion, an experimental marketplace for patents. From May 8, 2015 through May 22, 2015, Google opened a streamlined portal for patent holders to tell Google about patents they were willing to sell at a price they set.

## India: Crowdsourcing large scale digitisation

The Indian government, through its citizen-centric MyGov platform, is asking citizens for advice on how to build a content management system and tools that will allow it to crowdsource records transcriptions/digitisation. Platform members would be rewarded for every word/phrase that they transcribe through a points system.

## Israel: National Authority for Technology and Innovation

The government of Israel has approved a proposal to establish a National Authority for Technology and Innovation. The authority will function as the executive arm of the Office of the Chief Scientist at the Israeli Ministry of Economy. It "will have the professional capabilities and maximum flexibility to allow it to take initiatives and efficiently promote technological innovation in industry at a pace that befits the market. The additional goals of the authority are encouraging growth, increasing productivity and promoting technological innovation in various fields of industry in Israel."

## Malaysia: Digital Government Lab

The Malaysian Government has launched a government lab to analyse data from across agencies and to test new ways of using the data to improve public services.

## Philippines: National Innovation Centre

The Philippines has announced a plan to build a national innovation center. The Philippine innovation center will foster technology advancement and startup ecosystem growth. The center will also serve as a venue for government agencies and academic institutions to promote products, facilitate transfer of their R&D results, and establish connections with the investment community.

## Sweden: Co-Labs

Sweden is trialling a series of Co-Labs to look at societal challenges."In 2015 we will build, test and evaluate two or three Co-Labs with leaders from the Department of Arts, Culture and Communication (K3) and the Department of Urban Studies at Malmö University."

## UAE: Investing in Public Sector Innovation

The Prime Minister of the UAE, Sheikh Mohammed, shared on Twitter a Cabinet decision to increase investment in public sector innovation. "We approved a decree to allocate 1% of federal budget to support innovation in public sector, make it daily practice throughout government."

## UK: Fixing the Foundations

The UK Government has released *Fixing the foundations: creating a more prosperous nation*, a plan of government action to increase UK productivity growth across the next decade. Some commitments of note include:

- that the government will invite universities, cities, Local Enterprise Partnerships (LEPs) and business to work with the government to map the strengths of different regions through a series of science and innovation audits
- The government will work to ensure that business support access is simplified and customer-focussed
- The government will use its Challenger Businesses Programme to identify and address barriers to expansion for early-stage disruptive businesses
- The government will require departments to work with regulators to publish Innovation Plans by spring 2016, setting out how legislation and enforcement frameworks could adapt to emerging technologies and disruptive business

models

- The government will publish a Digital Transformation Plan before December 2015 that will set out concrete actions the government will take to support the adoption of digital technologies across the economy, and the ways in which the government will assist in tackling barriers to new businesses entering and creating new markets.

## UK: MOOC on Contract Management

The UK Civil Service has rolled out a Massive Open Online Course (MOOC) on contract management to help improve understanding of, and skills in, commercial negotiation for public servants.

## US: NASA Journey to Mars Challenge

NASA has sought public input on ideas contributing to the challenge of putting and sustaining a human presence on Mars. “NASA is embarking on an ambitious journey to Mars and Tuesday announced a challenge inviting the public to write down their ideas, in detail, for developing the elements of space pioneering necessary to establish a continuous human presence on the Red Planet. This could include shelter, food, water, breathable air, communication, exercise, social interactions and medicine, but participants are encouraged to consider innovative and creative elements beyond these examples.” NASA expects to make up to three awards at a minimum of $5,000 each from a total award pool of $15,000.

# Assessment of Innovation Performance

## Tax White Paper: Review of R&D Tax Incentive

The Tax White Paper discussion paper, *Re:think – Better tax, better Australia*, was released for public consultation on 30 March 2015. The review of the R&D Tax Incentive will form part of the Tax White Paper, and the R&D Tax Incentive was consequently a feature of the discussion paper.

A total of 55 submissions to the discussion paper included stakeholder views on the R&D Tax Incentive. Submissions supported the R&D Tax Incentive, with several submissions noting that the programme assists firms to be globally competitive. However, a number of submissions expressed concerns over the lack of stability in the programme, noting the consequential impact on the programme's effectiveness.

The submissions will inform the review of the R&D Tax Incentive which is being established and will conclude early in 2016.

# Events and Conferences

## Upcoming

### ISPIM Innovation Summit

Organised by ISPIM, and hosted by Queensland University of Technology, this event is for innovation researchers, industry executives, thought leaders and policy makers. It will be held 6-9 December 2015.

### ARC launch events

A number of events are scheduled for the remainder of 2015 relating to the official opening or launch of ARC Special Research Initiatives and ARC Industrial Transformation Training Centres and Research Hubs.

### Australia-China Science and Research Fund

Information sessions for the next round of funding for the Australia-China Science and Research Fund will be held in capital cities between 5 August and 21 August 2015.

### Australia-Japan Joint Science and Technology Committee Meeting

The 15th Australia-Japan Joint Science and Technology Committee meeting supports the objectives of the treaty level Agreement between the Government of Australia and the Government of Japan on Co-operation in Research and Development in Science and Technology (entered into force in 1980).

The joint meeting will take place on 25 August 2015, in Sydney. The meeting will focus on initiatives to promote Australia-Japan science and technology cooperation, incuding driving industry-research partnerships.

### Australia–Korea Joint Committee on Science and Technology Meeting

The third meeting of the Australia–Korea Joint Committee on Science and Technology is scheduled for 3 September 2015 in South Korea. The meeting supports the Agreement between the Government of Australia and the Government of the Republic of Korea on Scientific and Technological Co-operation.

It will provide a key opportunity to discuss mutual science and research priorities and new collaboration opportunities. The focus of the meeting will be on industry research linkages.

## Australia-Viet Nam Joint Committee Meeting on Science and Technology

The purpose of the treaty level Agreement on Scientific and Technological Cooperation between the Government of Australia and the Government of the Socialist Republic of Vietnam is to promote the development of the science and technology relationship between the two countries. It replaces the 1992 Memorandum of Understanding on Science and Technology. The treaty primarily enables Vietnamese researchers to access Vietnamese Government funding for collaborative research with Australia.

The first joint committee meeting under the treaty is scheduled for December 2015 in Australia, and will be co-chaired at deputy secretary (Vietnamese vice minister) level.

## Australia-US Joint Committee Meeting on Science and Technology

The biennial US-Australia Joint Committee Meeting on Science and Technology supports the objectives of the treaty level Agreement Relating to Scientific and Technical Cooperation between the Government of Australia and the Government of United States of America.

This year, the meeting will be held in the US in November. Planned discussion topics include enabling technologies, marine and Earth observation and research-industry linkages.

# Past

## Launch of the ARC Centre of Excellence for Robotic Vision

On 9 March 2015, the Minister for Education and Training, the Hon. Christopher Pyne officially launched the Australian Research Council (ARC) Centre of Excellence (COE) for Robotic Vision at Queensland University of Technology.

This Centre brings together the best researchers in computer vision and robotics to investigate new technology that will create the next generation of robots that can see and respond as humans do. The Centre received $19 million in Australian Government funding to drive development of the underlying science and technologies to enable robots to see and comprehend their environment.

The ARC Centres of Excellence scheme provides highly innovative and potentially transformational research that aims to achieve international standing in their fields of research. These Centres strive to develop relationships and build new networks with major national and international centres to help strengthen research and gain recognition for Australian research.

## Launch of the Australian Research Council Industrial Transformation Training Centre in Innovative Wine Production

On 20 May 2015, the Minister for Education and Training, the Hon. Christopher Pyne opened the ARC Industrial Transformation Training Centre for Innovative Wine Production at The University of Adelaide. The Training Centre is dedicated to developing new production techniques and technologies to strengthen the Australian Wine Industry.

The Training Centre received $2.4 million in Australian Government funding over three years to develop integrated whole-of-production-chain approaches to managing flavour and alcohol in wine production, i.e. from the 'grape to the glass'.

ARC Industrial Transformation Training Centres are developed to foster opportunities for Higher Degree by Research candidates and postdoctoral fellows to pursue industrial training and to strengthen Australia's Industrial Transformation Priorities to supplement the needs of industries and other research end-users.

## Investing in the Future - 2015 OECD Forum

OECD Week, 2-4 June 2015, was organised around the theme of 'Investing in the Future: People, Planet and Prosperity'. At the OECD Ministerial Council Meeting, French President François Hollande and Dutch Prime Minister Mark Rutte, together with Ministers from OECD and partner economies, explored the role of innovation in fostering productivity growth. They noted that new technologies and innovations are critical to boosting global growth and creating new jobs.

At the OECD Forum, STI Director Andrew Wyckoff and Deputy Director Dirk Pilat participated in a number of events that explored how to best prepare economies for the next production revolution, how investing in knowledge-based capital can help reduce unemployment and inequality, the policy challenges inherent in the sharing economy, and why data-driven innovation matters. They were also involved in various G20 and B20 events, including the OECD-G20 Stocktaking Seminar on SMEs and Low-income Countries (LICs) in the International Marketplace, where they highlighted a forward-looking policy agenda that involves framework polices, the digital economy, and innovation as levers for SMEs and LICs to better integrate in global value chains.

## BIO 2015

The Biotechnology Industry Organization of USA (BIO) International Convention was held in Philadelphia, Pennsylvania, USA on 15-18 June 2015.

The Hon Nick Minchin, Consul-General New York, led the Australian Government delegation. He was accompanied by the Department of Industry and Science

representatives; Mr Michael Schwager, Minister Counsellor (Industry & Science) and Laura Rahn, Deputy Director (Science & Technology) from the Embassy in Washington DC.

Australia has typically had a strong presence at the annual BIO convention and this year was no different.  More than 200 Australians attended the world's largest and most influential global biotechnology meeting, BIO 2015. There was strong State Government representation with the Premier of Queensland, the Hon Annastacia Palaszczuk MP and the Governor of Victoria, His Excellency the Hon Alex Chernov AC QC in attendance and both leading large delegations from these States. Throughout the week the States supported various events to promote the industry's capabilities in their regions.

The Hon Nick Minchin met with pharmaceutical and biotech companies to discuss Australian government policies and industry issues. This included, GlaxoSmithKline, Merck, Pfizer, Johnson&Johnson, Amgen and Patheon Biologics.

## Launch of Innovation Month

On 6 July, Secretary Glenys Beauchamp PSM launched Innovation Month 2015. Innovation Month 2015 had the theme 'Dream, Dare, Do' and involved a range of events around the country including GovHack, the Innovation Summit, and the GovCamp Innovation Dialogues series.

The Launch included a video of eight innovative initatives from across the Australian Public Service. Further information about Innovation Month and the events held can be found on the Public Sector Innovation Toolkit.

# Publications and Articles

## StartupAUS Crossroads 2015 Report

An update to StartupAUS Crossroads report. “Crossroads 2015 has been fully updated to reflect changes in the Australian startup ecosystem over the last twelve months, and to note significant developments in the rapidly evolving startup landscape internationally.The recommended actions have been updated to reflect the current challenges facing Australia as it seeks to support the growth of high-value technology-based businesses, and incorporate input from many of the key figures in Australia’s startup community.”

## Financing SMEs and Entrepreneurs 2015: An OECD Scoreboard

This fourth edition monitors SMEs’ and entrepreneurs’ access to finance in 34 countries over the period 2007-13, across an expanded array of indicators, including debt, equity, asset-based finance and framework conditions. These are complemented by an overview of recent developments in public and private initiatives to support SME finance, and a special focus on non-performing loans. The report aims to provide a comprehensive framework for policy makers and other stakeholders to evaluate the financing needs of SMEs.

## Australia’s future workforce?

CEDA's major research report for 2015, *Australia's future workforce?* focuses on what jobs and skills Australia will need to develop to ensure the economy continues to grow and diversify. “Australia is on the cusp of the next wave of the new industrial revolution. Like previous technologically driven transformation, this revolution has the potential to radically upend business practices, change economic arrangements and dramatically reshape the workforce.”

## A smart move – future proofing Australia's workforce

PwC released ‘A smart move – future proofing Australia's workforce by growing skills in science, technology, engineering and math (STEM)’. In the report, PwC argue the case for growing the STEM workforce and identify the benefits and impact on businesses and the Australian economy broadly. It identifies that 44% (or 5.1m) jobs are at risk from digital disruption and suggests that innovation and STEM education are key to future growth, with a possible $57.4bn increase in GDP if 1% of the workforce is shifted into STEM roles.

## Australia’s Digital Pulse

Deloitte Access Economics and the Australian Computer Society released *Australia’s Digital Pulse: Key challenges for our nation – digital skills, jobs and education*. “Productivity growth in the Australian economy will be increasingly driven by digital

technology in the future, particularly as the mining boom wanes. The rapidly growing digital economy means that ICT skills will play an increasingly important role in future economic growth. Australia needs to ensure that its education system, policy settings and business practices are all working towards equipping the country's workers with the required technological skills. This will ensure that the Australian workforce is well-placed to meet the future challenges associated with digital disruption."

## Research Engagement for Australia

The Australian Academy of Technological Sciences and Engineering has released Research Engagement for Australia: Measuring Research Engagement Between Universities and End Users. "This report focusses on developing metrics from existing data collections of Australian university research that can serve as indicators for research engagement, knowledge transfer and/or collaboration. The key and simplifying principle used in this report is to use external dollars attracted to support research from industry and other ends users, as a direct measure of research engagement."

## OECD Innovation Strategy 2015: An Agenda for Policy Action

The OECD released the Innovation Strategy Synthesis at OECD week, the full release of the 2015 Innovation Strategy will occur later this year. "New sources of growth are urgently needed to help the world move to a stronger, more inclusive and sustainable growth path following the financial crisis. Innovation – which involves the creation and diffusion of new products, processes and methods – can be a critical part of the solution. While not a goal in itself, innovation provides the foundation for new businesses, new jobs and productivity growth and is thus an important driver of economic growth and development. Innovation can help address pressing social and global challenges, including demographic shifts, resource scarcity and the changing climate. Moreover, innovation can help address these challenges at the lowest cost. Innovative economies are more productive, more resilient, more adaptable to change and better able to support higher living standards."

## OECD Working Paper: Mobility of research scientists

'Which factors influence the international mobility of research scientists?' investigates the factors that influence the international mobility of research scientists using a new measure of mobility derived from changes in affiliations reported by publishing scientists in a major global index of scholarly publications over the period 1996-2011. Scientific collaboration appears to be a major factor associated with the mobility of scientists. The analysis shows that the mobility of scientists particularly relies on flows of tertiary-level students in the opposite direction, from destination to origin country. The analysis also shows that mobility can be positively influenced by convergence in economic conditions and resources dedicated to R&D, as well as reduced visa-related restrictions.

## World Corporate Top R&D Investors: Innovation and IP Bundles

This report, from the OECD and the European Commission, looks at the innovative output of top Research and Development (R&D) investors worldwide using patents and trademarks as proxy indicators. Essentially descriptive in nature, it presents statistics about the technological profiles of companies, their trademark strategies for new products and services and the extent to which these two forms of Intellectual Property Rights (IPR) are bundled to protect and appropriate the returns from investment in knowledge-based assets. An analysis of these statistics provides interesting insight to the innovation strategies of this sample of world leading corporate R&D investors.

## Use of Prizes and Competitions by the US Government

The Office of Science and Technology Policy has released its fourth annual report detailing the use of prize competitions and challenges by Federal agencies to spur innovation, engage citizen solvers, address tough problems, and advance their core missions. The report details the 97 prize competitions and challenges offered by 30 agencies and finds a trend towards increased sophistication and use of prize competitions and challenges in the public sector.

## Fostering Innovation Through Public Procurement – Northern Ireland

*Fostering Innovation Through Public Procurement: A research study* examines how public procurement in Northern Ireland can better encourage innovation – the creation of new processes, products, ideas and services. The report makes a number of findings and recommendations. “The public sector buyers interviewed experience a number of barriers to procuring innovative products and services. The most critical is the risk of legal challenge by a supplier and the financial and professional implications of this. This threat has largely led to public sector buyers choosing more structured procurement procedures and setting restrictive tender specifications, which in turn limit a supplier’s ability to offer more innovative products and services.”

## OECD Review of Innovation Policy: Luxembourg 2015

The OECD’s Review of Innovation Policy: Luxembourg 2015 recommends the country now enhance co-ordination across ministries and agencies and strengthen linkages between public research centres and the University of Luxembourg. The report encourages the country to introduce a national innovation strategy that ensures public investments in research contribute to the government’s goals to diversify the economy, increase social well-being, and improve sustainability.

## Social Enterprise Manifesto

The Social Innovation Entrepreneurship and Enterprise Alliance has released a manifesto, 'Social Enterpise: Doing business differently for a more inclusive society' outlining a vision and pathway to enable the growth of the social enterprise sector in Australia.

## Creativity Vs Robots

The Nesta report *Creativity Vs Robots* explores future automation and creativity in the UK and US workforces. The report finds that creative jobs will be much more resistant to automation than most other jobs.

## Why we kept our Startup in Australia

Alan Downie from BugHerd shares some thoughts about why keeping the company in Australia has been important. "Matt (my co-founder) and I started BugHerd more than four years ago. In startup terms, we're not a successful company yet and we're certainly no unicorn. But we're still alive, and we still have a dream we want to deliver. It's been a hard road, and I have to honestly say, we would never have lasted this long if we weren't still based here in Melbourne. If you subscribe to the notion of 'Fail Fast', then perhaps that's a bad thing. But for us, the decision to stay here in Australia was the best decision we ever made."

## Startups … inside giant companies

This article examines the practice of establishing internal startups within large companies. "Unlike special skunkworks projects of the past, intended to hive off a single project into its own unit, these efforts are intended not only to nurture profitable new entities, but also to infuse entrepreneurism into venerable operations filled with layers of middle managers."

## How innovation labs are helping organisations think like startups

This article looks at the use of innovation labs to help organisations think like startups. "At their heart, innovation labs exist to experiment with new ideas in ways their parent organisation can't, which often means thinking and acting more like a startup. As a result, they borrow the language and processes of startups such as Agile development, design thinking and lean manufacturing principles."

## Zappos adoption of Holocracy

This blog post considers whether the company Zappos made the right move by providing staff that were uncomfortable with its adoption of the Holocracy approach at least three months severance pay if they quit. "Any time you try to change things, there are three groups within an organisation. There will be the bunch that loves the new idea (usually around 20% of people). There is another bunch that hates the new

idea, or often any new idea (usually also around 20%). And the majority in the middle is usually indifferent.

Whether or not a change management initiative succeeds depends on which way the 60% in the middle decide to go. This usually involves a long, drawn-out political process of negotiation, power, influence and everything else that goes into moving a bureaucracy.

Here's what Tony Hsieh might have just accomplished at Zappos: knocking nearly all of the change-resistors out of the company in one quick action."

## When and How to Use Design

This article looks at when and how to use design. "Organizations have a range of core competencies and a handful of competitive advantages in their quiver to aid them in their quest for sustainable progress. So, when does it make good business sense to invest in design capabilities and at what level on the design ladder?"

## Cisco CEO Predicts 40% of companies will be dead in 10 years

Outgoing Cisco CEO John Chambers says more than one-third of businesses today will not survive the next 10 years. The only ones that will survive will turn their companies into digital, techie versions of themselves, and many of will fail trying. At the Cisco Live customer conference he told the 25,000 attendees "40% of businesses in this room, unfortunately, will not exist in a meaningful way in 10 years," adding that 70% of companies will "attempt" to go digital, but only 30% of those that try it "will be successful."

## Digital Vortex: How Digital Disruption is Redefining Industries

This report from the Global Center for Digital Business Transformation looks at the impacts of digital disruption. "The impact of digital disruption can best be understood through the construct of a vortex. A vortex exerts a rotational force that draws everything that surrounds it into its center. The Digital Vortex is the inevitable movement of industries toward a 'digital center' in which business models, offerings, and value chains are digitized to the maximum extent possible."

## Responsible innovation: A primer for policymakers

Technical change is advancing at a breakneck speed while the institutions that govern innovative activity slog forward trying to keep pace. The lag has created a need for reform in the governance of innovation. In this Brookings paper, the authors argue for a different approach to innovation policy that they call "Responsible Innovation" because it seeks to imbue in the actors of the innovation system a more robust sense of individual and collective responsibility.

## Economic Analysis of the Digital Economy

*Economic Analysis of the Digital Economy*, edited by Avi Goldfarb, Shane M. Greenstein, and Catherine E. Tucker, is a new volume in the National Bureau of Economic Research Conference Report series published by the University of Chicago Press. The volume presents early insights on the functioning and impact of the digital economy and explores how digital communication, online commerce, and the growing importance of markets that rely on them have affected the behavior of consumers, firms, and governments.

## Frugal Innovation

Nesta looks at frugal innovation. “Frugal innovation is about far more than just cost-cutting. Rather, it is about creative ways of doing more and better with less. This often requires ingenuity so that the company and its customers can move from one, suboptimal solution to another, more optimal equilibrium. Frugal innovation is intended to make products cheaper or less environmentally costly – but not at the expense of customer welfare. The approach aspires to giving consumers more value at the same or lower price.”

## Private Equity Can Make Firms More Innovative

This article examines the evidence for how private equity can make firms more innovative. “This suggests that the positive effects of buyouts are concentrated in private firms where financial constraints might be more pronounced, as publicly listed firms often have better and cheaper access to external finance. Further proving this, the researchers found that PE firms had the largest impact on innovation in industries and companies most likely to be financially constrained—industries, like manufacturing and pharmaceuticals, that are highly dependent on large outside investments, and firms that have a relatively low credit rating.”