Australian Government

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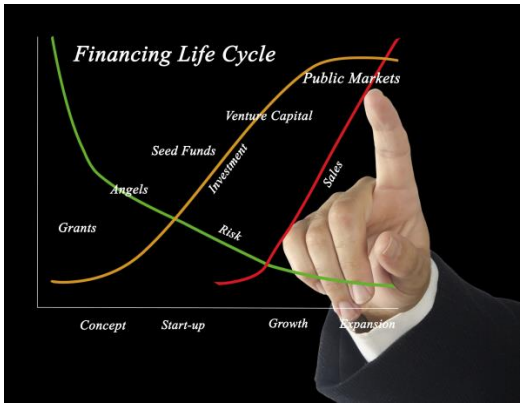
New arrangements for Venture Capital Limited Partnerships

The initiative

The Australian Government is making changes to the tax treatment of Early Stage Venture Capital Limited Partnerships (ESVCLPs) to attract more investment into our high potential startups. Under the new arrangements:

- partners in a new ESVCLP will receive a 10% non-refundable tax offset on capital invested during the year
- the maximum fund size for new ESVCLPs will be increased from $100 million to $200 million
- ESVCLPs will no longer be required to divest a company when its value exceeds $250 million

Eligibility and investment requirements for ESVCLPs and Venture Capital Limited Partnerships (VCLPs) will also be relaxed to allow managers to undertake a broader range of investment activities and to enable a greater diversity of investors to participate.



Source: iStock, 2015

How it will work in practice

Jessica's startup, PaySmart Pty Ltd, is moving to the next stage of development. Jessica has successfully developed a working prototype of her on-time bill payments software application with assistance from Alex, her early stage (angel) investor. She is now looking to commercialise her software and needs a further injection of capital. She is hoping to raise $5 million in equity funding.

Jessica receives funding from a range of venture capital funds, including a new ESVCLP (called A-OK Ventures). Moores Trust invests $500,000 into A-OK Ventures (alongside other investors) and A-OK Ventures invests this capital in the same income year. The 10% non-refundable tax offset available under the new arrangements will reduce the tax payable by the beneficiaries of Moores Trust by $50,000.

Three years later Moores Trust receives income from the disposal of investments and is exempt from capital gains tax and from tax on any share of income derived by the ESVCLP.

Why this is important

ESVCLPs and VCLPs are investment vehicles that provide tax exemptions for those investing in innovative companies at the early and growth stages of the startup life-cycle.

At these stages of development, companies will typically have received one or more rounds of initial funding (e.g. from early stage (angel) investors) but do not yet have the scale and track record needed to go public or attract buy-in from institutional investors.

Reforms to ESVCLPs and VCLPs will make them more internationally competitive and attract greater levels of venture capital investment. These reforms take into consideration recent reviews, including by the Board of Taxation (2011), and the Treasury and the Department of Industry, Innovation, Science, Research and Tertiary Education (2012).

Implementation

The new arrangements will apply from the date of Royal Assent and are expected to commence from 1 July 2016.

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Increasing access to company losses

The initiative

The Australian Government is reforming inflexible rules that prevent companies from claiming losses when they seek out new opportunities to innovate and grow. Under the new arrangements:

- the current 'same business test' will be relaxed to allow businesses to access past year losses when they have entered into new transactions or business activities
- a new and more flexible 'predominantly similar business test' will be introduced
- under this 'predominantly similar business test' companies will be able to access losses where their business, while not the same, uses similar assets and generates income from similar sources

Source: iStock, 2015

How it will work in practice

RePoly Pty Ltd has developed a way to turn algae into biodegradable plastic. It incurs large initial expenditure on manufacturing equipment. In the first three years of operation, RePoly makes a loss.

To ensure its viability, RePoly brings in an early stage (angel) investor who contributes additional capital. This results in a majority change in ownership.

After this change, RePoly seeks to expand its business in an effort to reach profitability. This expansion allows RePoly to make a profit in year four. RePoly seeks to offset its past losses against current year profits.

Possible treatment under existing law

RePoly would fail to meet the 'same business test' and access to past losses would be denied.

Possible treatment after new measure introduced

RePoly would pass the 'predominantly similar business test' because it makes use of the same assets, generates the majority of its income from the same business, and took advantage of an opportunity a similarly placed business would take advantage of. As a result, RePoly would be able to access past year losses.

Why this is important

Loss making companies can be deterred from seeking out new business opportunities for fear that they will lose access to valuable past year losses.

The ability to offset losses against other profits is particularly important for small innovative companies because they are often cash-poor and have less diverse income streams in comparison to well established businesses.

This measure will encourage entrepreneurship by allowing loss making companies to 'pivot' and seek out new opportunities to return to profitability.

Implementation

Legislation is expected to be introduced in the first half of 2016. The 'predominantly similar business test' will apply to losses made in the current and future income years.

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Intangible asset depreciation

The initiative

The Australian Government will provide businesses with a new option to self-assess the tax effective life of acquired intangible assets that are currently fixed by statute. This will better align tax treatment of the asset with the actual number of years the asset provides an economic benefit.

This means that the same tax treatment will be available for these intangible assets as is available for other types of assets.

This faster depreciation will make startups' intellectual property, as well as other intangible assets, a more attractive investment option.

Businesses will continue to have the option to use the existing statutory effective life.

Source: iStock, 2015

How this will work in practice

Dane is the founder of InstaFilm Pty Ltd, a startup that is developing a new app that allows users to easily edit and share high-definition movies taken with a smartphone. Dane purchases a patent over a new method for compressing data on a mobile phone.

The statutory life of the patent is 20 years but industry analysis provides evidence that the processor will only generate net cash inflows for five years.

Under the current law, the patent must be depreciated over 20 years.

Under the new arrangements Dane can self-assess the patent's effective life to be five years. This allows Dane to claim a larger tax deduction over a shorter period than he would have been able to under the old arrangements.

Why this is important

Investments in intangible assets, such as intellectual property, are crucial to innovation and growth. Innovative companies are also more likely to hold a high proportion of intangible or knowledge-based assets.

However, unlike most tangible assets, intangible assets with a statutory effective life cannot be self-assessed to bring the tax life in line with the economic life of the asset. This can reduce the depreciation benefit and increase the cost of investment in these assets.

This proposal brings the treatment of statutory intangible assets into line with tangible assets.

Faster depreciation of intangible assets will decrease the cost of investment in these assets, enabling smaller innovative companies to better market their intellectual property.

Implementation

The new arrangements will apply to assets acquired from 1 July 2016.

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CSIRO Innovation Fund

The initiative

The Australian Government is supporting commercialisation of research from the Commonwealth Scientific and Industrial Research Organisation (CSIRO), other research organisations and universities through an early stage innovation fund.

Source: CSIRO, 2015

The CSIRO Innovation Fund will have two parts:

- an early stage innovation fund of $200 million to support co-investment in new spin-off and startup companies, products and services created by Australian research institutions
    - The early stage innovation fund will be funded by $70 million in new Government funding, as well as new revenue from the WLAN licensing and private sector investment
- a $20 million expansion of CSIRO's accelerator programme to include other publicly funded research organisations to more rapidly prepare their research for commercial adoption

PolyNovo

In 2004, CSIRO formed the spin-off company PolyNovo Biomaterials in a joint venture with Xceed Biotechnology in order to commercialise the NovoSorb™ technology developed by CSIRO.

NovoSorb is a biodegradable material that can be used to aid the repair of bone fractures and damaged cartilage, and in skin grafts, particularly for treating wounds and burns.

Since its formation, PolyNovo has successfully completed a clinical trial of NovoSorb Biodegradable Temporising Matrix (BTM) and is in the process of securing regulatory approval in the USA.

In 2015 the company was awarded a $11.8 million contract and a further $25.9 million in funding from the US-based Biomedical Advanced Research and Development Authority to complete a 150 patient trial with BTM.

In 2006, Acil Allen estimated the totals costs of the R&D contributing to this spin-off was $15.7 million. PolyNovo now employs 15 staff in Melbourne and has a market capitalisation of $73 million.

Why this is important

As the Australian economy transitions from the mining investment boom, a key driver of prosperity will be turning research into commercial outcomes to grow businesses and boost productivity.

There is a gap for very early stage funding to translate research into commercial outcomes.

The CSIRO Innovation Fund will further support the early stage development of spin-off and startup companies with high commercial potential. This fund, coupled with the CSIRO Accelerator Programme, will give our researchers the support they need to develop their ideas, test them and take them to market.

The Fund will work with the new Industry Growth Centres to identify and align opportunities for collaboration to increase the productivity and competitiveness of our key industry sectors.

Implementation

The early stage fund will be implemented by CSIRO in 2016, with oversight by the CSIRO Board. Commercial returns will be reinvested in the Fund. Expansion of CSIRO's existing accelerator programme will commence in 2016–17.

Australian Government

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Biomedical Translation Fund

The initiative

The Australian Government is establishing a new $250 million independent body that will invest in promising biomedical discoveries and assist in their commercialisation.

It will do this by drawing on fund managers selected through a competitive process. Those fund managers will bring at least matching funding from the private sector for investment.

The Biomedical Translation Fund is based on a recommendation of the Government's McKeon Review – *Strategic Review of Health and Medical Research – Better Health through Research*.

Source: iStock, 2015

Patient investors needed for biomedical businesses to cross the 'valley of death'

A gap between early and late stage research — often called the 'valley of death' — exists between biomedical research and when the medical product is ready for commercial deployment by doctors and hospitals.

The commercialisation process for medical research and innovation is lengthy, involving clinical trials, regulatory and marketing approvals that can require hundreds of millions of dollars and often take a decade or more.

Early stage innovative biomedical businesses have faced declining venture capital equity investment over the past three years.

With the exception of the Medical Research Commercialisation Fund, there are very few early stage investors willing to wait the decade to realise a return. Patient venture capital investors have potential for significant return.

CSL Limited looks at over 100 opportunities each year. Of these, 5-10% are chosen for full evaluation and then only a handful are selected for licensing.

Why this is important

Australia is a world leader in health and medical research. The challenge has always been to take research from the laboratory to the hospital bedside and to deliver better health outcomes for Australians.

The Biomedical Translation Fund will help Australian biomedical businesses when they need it most – to cross the 'valley of death'.

Through stimulating private sector investment during the early stages of commercialisation, the Fund will accelerate translation of more of Australia's great medical discoveries.

Commercialisation of medical research will unlock the benefits of research for better long term health benefits and national economic outcomes.

Implementation

A new Commonwealth body for the Biomedical Translation Fund will be established in 2016.

Investments in biomedical businesses will commence once the new body is established.

It will be funded by reducing the capital contributions to the Medical Research Future Fund (MRFF) by $125 million in each of 2015–16 and 2016–17. The MRFF will still be fully capitalised by 2019–20. This means that investment will be available for medical innovation earlier than it would have been from the MRFF.

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The Incubator Support Programme

The initiative

The $8 million Incubator Support Programme will grow the next generation of innovative and high performing Australian businesses.

This new component of the Entrepreneurs' Programme will offer competitive matched funding to:

- support development of new incubators and accelerators in regions or sectors with high innovation potential
- boost the effectiveness of high performing incubators, including support to expand their services and engage a Commercialisation Adviser to facilitate access to other government services and programmes
- provide access to top quality research and technical talent through 3–12 month secondments of national or international expert advisers

Source: iStock, 2015

The Programme will also coordinate and promote support for entrepreneurs and startups through the Australian Innovation Network. This online portal will help entrepreneurs access information on startup support opportunities, activities and events across Australia.

Key role of incubators in startup success

Incubators are a vital part of any effective innovation ecosystem. Australia already has over 30 incubators and accelerators, with many of them located in capital cities or focussed on information and communications technology. This compares to 1250 incubators in the United States, around 130 in Europe and 24 in Israel.

For example, Australia's ATP Innovations has helped more than 300 software, hardware and life science startups since its establishment in 2000.

By providing mentoring, office space, professional services and finance, the incubator has helped many startups validate their ideas and achieve success.

Some of the successful businesses ATP Innovations has provided essential support to include the Ingogo taxi booking and payment system, which launched in 2011, and Breathewell, a technology that assists cancer patients in breathing predictably during a course of radiotherapy.

Why this is important

Incubators help innovative startups to rapidly transform their ideas into globally competitive businesses of tomorrow.

They boost startups to realise their economic potential faster by mentoring them and providing funding, resources, knowledge and facilitating access to business networks.

Startups may not have access to the benefits of incubator support if they are located in a regional area or need specific sectoral expertise. Support for new regional and sectoral focussed incubators will catalyse new economic activity and local jobs.

There are also opportunities for high performing incubators to help more startups and to take on a greater role growing their local ecosystem.

This initiative will complement efforts by state and territory governments and the private sector.

Implementation

Support for new and high performing incubators will start from 1 July 2016.

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Insolvency reform

The initiative

The Australian Government is improving insolvency laws to encourage entrepreneurship and innovation. This includes:

- reducing the current default bankruptcy period from three years to one year
- introducing a 'safe harbour' for directors from personal liability for insolvent trading if they appoint a restructuring adviser to develop a turnaround plan for the company
- making 'ipso facto' clauses, which have the purpose of allowing contracts to be terminated solely due to an insolvency event, unenforceable if a company is undertaking a restructure

Source: iStock, 2015

How this will work in practice

Minivit Pty Ltd produces multivitamins. In light of the growing demand for its products, the company buys new machinery to upgrade its factory and expand its production capacity. Unfortunately, the ship due to carry the new machinery has technical difficulties and is delayed by nine months. The company develops an acute but temporary cash flow problem. The directors are concerned that they may breach the insolvent trading rules.

Scenario under existing law

The directors are so concerned about personal liability and reputational damage from breaching the law they place the company in voluntary administration. A key supplier terminates a contract exercising an ipso facto clause, effectively destroying the company's business and resulting in liquidation.

Scenario after new measures introduced

The company appoints a professional restructuring adviser who arranges new credit facilities to address the temporary cash flow problem, and restructures the company to focus on online sales. There is protection for directors because of the safe harbour and because ipso facto clauses are unenforceable. Minivit is able to continue its business successfully.

Why this is important

The changes will strike a better balance between encouraging entrepreneurship and protecting creditors. Over time, these changes will help to reduce the stigma associated with business failure.

Concerns over inadvertent breaches of insolvent trading laws are frequently cited as a reason early stage (angel) investors and professional directors are reluctant to become involved in a startup.

Making ipso facto clauses unenforceable during a company restructure will prevent other parties terminating contracts which can destroy the company's business and lead to liquidation.

Implementation

The Government will release a proposal paper in the first half of 2016 with a view to the introduction and passage of legislation in mid-2017.

Australian Government

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Reforms to employee share schemes

The initiative

The Australian Government is limiting the requirement for disclosure documents given to employees under an employee share scheme (ESS) to be made available to the public. The Government will also consult with industry on options to amend the disclosure requirements to make ESS more user-friendly.

Source: iStock, 2015

Under an ESS, shares or options to buy shares in the company are provided to an employee in relation to their employment. An ESS aligns employee interests to those of the company, as they share in the company's success. Given the potential to share in profits down the track, an ESS may offer more attractive remuneration than a traditional salary.

Earlier this year the Government introduced generous tax concessions for ESS issued by startups. This measure builds on these earlier reforms.

How this will work in practice

ABC Pty Ltd is a startup that wishes to attract the best programmers by offering them an opportunity to share in its success through an employee share scheme.

The company proposes to issue more than $5,000 per person per year, which means they are not eligible for existing ASIC disclosure relief.

Scenario under existing law

ABC must lodge disclosure documents with ASIC, with the documents then becoming publicly available. A competitor is able to determine that ABC is not in the financial position to respond if it engages in a sustained period of discounting and raised marketing expenditure. ABC loses the race to become the primary app in their market and fails to reach profitability.

Scenario after new measures introduced

ABC's financials are not disclosed and competitors do not respond accordingly. ABC's app gains greater market share and the firm becomes profitable.

Why this is important

If a company seeks financing from members of the public, it is generally required to prepare a disclosure document and lodge it with the Australian Securities and Investments Commission (ASIC). These documents are made available to the public.

Stakeholders have advised that these disclosure requirements are discouraging small companies and startups from implementing an ESS, because it may result in the release of commercially sensitive information and it is costly to produce the documents.

While ASIC has published class orders providing partial relief from disclosure requirements, these do not apply in all circumstances.

Implementation

Legislation is expected to be introduced in the first half of 2016.

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Building world-class national research infrastructure

The initiative

The Australian Government will invest $2.3 billion over the next 10 years in cutting-edge national research infrastructure:

- $1.5 billion for the National Collaborative Research Infrastructure Strategy (NCRIS)
- $520 million for the Australian Synchrotron
- $294 million for Australia's commitment to the Square Kilometre Array (SKA)

This initiative delivers funding certainty for our research infrastructure, which is critical to maintaining our world-class research capability and capacity for innovation in our industries. In 2016, Australia's Chief Scientist will chair an expert group to undertake a road-mapping process to identify specific future research infrastructure capability requirements.

The NCRIS funded Australian Plant Phenomics Facility providesniversity the art infrastructure to address food security, nutrition, sustainable agriculture and biofuel feed-stocks. Source: Australian Plant Phenomics Facility, 2015

Advance warning of extreme weather events

High quality, cutting-edge research requires advanced, computational and data-intensive methods and infrastructure. The NCRIS-funded National Computational Infrastructure (NCI), launched in 2007, gives Australian researchers this capacity.

NCI, with CSIRO, the Bureau of Meteorology and ARC Centre of Excellence for Climate System Science, has improved the weather and climate model for Australia (ACCESS) which provides information on weather forecasts, tropical cyclones, fire weather forecasting, flood warnings and climate information. Investment in ACCESS is already paying off. It is now possible to forecast the weather three days ahead with the same level of accuracy as for two-day forecasts previously. Improved forecasting of tropical cyclone tracks allows for better planning of emergency events and decision making. Predicting the path of tropical cyclone Yasi in 2011 allowed communities, industry and emergency management agencies to make decisions and plan several days ahead of the event.

NCI has also worked with researchers to provide geological modelling and a virtual astronomical observatory, as well as a simulation of blood flow around the human body.

Why this is important

NCRIS drives research excellence and collaboration between 35,000 researchers, government and industry to deliver practical outcomes. Ongoing funding will enable continued operation of critical super-computer capacity and world-class research infrastructure in areas such as nanofabrication, food production, health, environment and sustainable cities.

The SKA is a unique opportunity to co-host a globally significant mega-science project in Australia. The SKA will be the largest and most capable radio telescope ever constructed. It will deliver significant economic, science and technology benefits and advance human capital.

Around 4,000 researchers access the Australian Synchrotron — an accelerator technology platform that reveals the innermost structures of materials. The Synchrotron delivers benefits to diverse scientific and industrial communities, with applications in health, energy manufacturing, food, environment and bio-security.

Implementation

Synchrotron and SKA funding commences in 2016–17. NCRIS funding is ongoing from 2017–18.

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Driving greater collaboration through university research block grants

The initiative

The Australian Government is driving greater research-industry collaboration by introducing new research block grant funding arrangements for universities that will give equal emphasis to success in industry and other end-user engagement, and to research quality. We will also provide an additional $127 million to university research block grants over the forward estimates.

These changes are in direct response to the Review of Research Policy and Funding Arrangements, led by Dr Ian Watt AO.

The new arrangements will replace the existing six research block grants with two streamlined programmes:

- Research Support Programme (RSP) will provide around $885 million in 2017 to Australian universities as a flexible funding stream to support the systemic costs of research
- Research Training Programme (RTP) will provide around $948 million in 2017 to support the training of the next generation of researchers and innovators

These programmes will help support some 50,000 researchers and 43,000 higher degree by research students across Australia's 42 universities.

I am a researcher at an Australian university. How will these changes affect me?

These changes will encourage your university to broaden and deepen its engagement with industry and other research users, while still retaining a focus on academic excellence.

The new arrangements will provide your university with more flexibility than ever to support its researchers to deliver world-class outcomes in both pure and applied research, and develop the next generation of research talent.

Over time, more researchers will have the opportunity to form meaningful collaborations with industry and other users of research, pursue entrepreneurial opportunities and help transform our economy.

Students will have the chance to research real-world issues and develop a broader appreciation of career opportunities available to them in both the public and private sector.

Many researchers and universities are already heading down this path, and these changes better recognise and reward that effort. The new research block grant arrangements create a better environment for universities to achieve both academic excellence and deliver meaningful outcomes for Australia.

Why this is important

While Australia's research ranks highly in the OECD on indicators of quality, we rank last for business collaboration with researchers.

The changes create simpler, more transparent research funding arrangements that continue to focus on quality, while increasing incentives for industry and end-user engagement.

Research income from competitive grants will continue to drive funding allocations to support excellent research. Research income from industry and other end-users will now be equally rewarded. Simple publication counts will not be used for funding allocations. Publication record remains an important indicator of research quality, which is recognised in competitive grants and rankings. Research student completions will remain in the RTP funding formula.

University researchers will be encouraged to work with industry and other end-users to produce outcomes with commercial and community benefit.

Implementation

New arrangements will commence 1 January 2017. The Government will consult with universities and other stakeholders on new guidelines in 2016.

Australian Government

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Establishing an industry-led Cyber Security Growth Centre

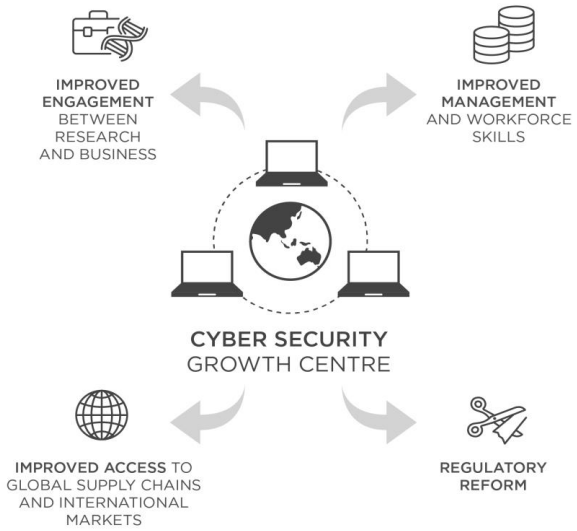
The initiative

The Australian Government will provide funding of $30 million through to 2019-20 to establish an industry-led Cyber Security Growth Centre to create business opportunities for Australia's cyber security industry.

This new Growth Centre will bring together industry, researchers and governments to create a national cyber security innovation network.

The Growth Centre will develop a national strategy for Australia's cyber security industry to become a global leader and attract investment from multinationals. It will also coordinate cyber security research and innovation to reduce overlap and maximise impact.

It is the first initiative to be delivered under the Government's Cyber Security Strategy, which will be released in 2016.



World leading cyber security from Australia

In November 2015, Australian company QuintessenceLabs was named one of the top emerging security companies by the Global Security Innovation Network for its quantum cyber security technology. It has already attracted interest in its products from companies such as Westpac, IBM and Northrop Grumman.

A key to its success is working closely with Australian National University researchers to draw on cutting edge quantum networks research when developing solutions to significant cyber security challenges. Cooperation between businesses and researchers is critical to building a highly successful cyber security industry in Australia.

QuintessenceLabs' technologies leverage the quantum properties of lasers to strongly safeguard sensitive data — personal, commercial or classified — as it is collected, communicated and stored.

Why this is important

The global cyber security market is currently worth US$71 billion and is growing at around 8% a year. We have a significant opportunity to capitalise on this business opportunity.

Cyber security requirements change rapidly as new threats constantly emerge. To develop world-class products and services, the cyber security industry requires close cooperation between industry, researchers and governments.

International experience has demonstrated that government involvement in this area is central to facilitating collaboration and providing national leadership to guide strategic outcomes.

A strong local cyber security industry will also help all Australians be safer and more secure online.

Implementation

The Growth Centre will be delivered in line with the established Industry Growth Centre model and be operational by mid-2016.

Growth Centres are independent companies led by a board of industry leaders. They work to identify and address industry needs and priorities.

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Innovation Connections - Connecting industry to innovation infrastructure

The initiative

The Australian Government's new Innovation Connections programme will invest $18 million to expand and relaunch the existing Research Connections scheme to:

- provide additional facilitators so that more businesses can access Australia's innovation infrastructure, particularly in regional Australia
- make matched grants available to support graduate and postgraduate researchers being placed in businesses
- make matched grants available to support business researchers to be placed in a publicly-funded research organisation
- identify opportunities to access research and development and testing facilities and develop specialised training options by working more closely with the vocational education and training sector

Source: iStock, 2015

Diagnosing diseases on the spot

Victorian medium-sized business Universal Biosensors (UBI) manufactures hand-held medical devices which are used by health professionals and patients to undertake blood tests. Using UBI's biosensor test strips, the devices are able to diagnose and monitor diseases on the spot.

Seeking to grow their export business, UBI set out to improve the sensitivity of their test strips, which would allow them to test for a broader range of diseases. Supported by Research Connections, UBI was introduced to CSIRO's Dr Helmut Thissen, an expert in bio coatings and surfaces. Together they began developing an improved coating for the UBI test strips to support a new range of tests and help UBI to expand its product range and increase its client base and exports. "By helping [UBI] improve their products, we're helping Australia's manufacturing industry grow into the high-end technology market," said Dr Thissen.

"Our close collaboration with CSIRO will enable us to further develop the research and create superior products that can be taken into the international diagnostics market," said Dr Alastair Hodges, UBI's Chief Scientist.

How this will help

Australia's collaboration on innovation between industry and the research/higher education sector is the lowest in the OECD. Australia is missing out on world first innovation, local jobs growth and global competitiveness opportunities that are stimulated by greater collaboration and workforce mobility between the industry and research sectors.

Innovation Connections will drive new industry-led collaborations between researchers and small and medium businesses so that they can develop new ideas with commercial potential and identify knowledge gaps that are preventing business growth.

Implementation

The Entrepreneurs' Programme is currently running and will expand from 1 January 2016 to progressively offer these expanded services.

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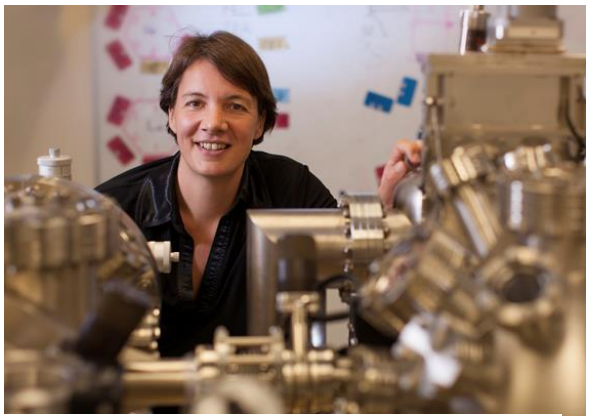
Advancing quantum computing technology in Australia

The initiative

The Australian Government will invest $26 million over five years to support the development of silicon quantum computing technology in Australia.

The Centre for Quantum Computation and Communications Technology (CQC2T), headquartered at the University of New South Wales, is a global leader in silicon-based quantum computing research.

The Government's investment in CQC2T will help to fund the development of a silicon quantum integrated circuit — the first step in developing a practical quantum computing system.



Professor Michelle Simmons, Director of CQC2T and winner of the 2015 CSIRO Eureka Prize for Leadership in Science
Source: CQC2T, 2015

What is quantum computing?

Imagine a medical drug designed to match your own personal biochemistry. Or being able to undertake sophisticated analysis of traffic patterns to prevent gridlock and cut down on travel time in major cities.

Quantum computers have the potential to solve problems in minutes that would take conventional computers centuries. This would have a transformational impact on Australian and global businesses, from banks undertaking financial analysis, transport companies planning optimal logistic routes, or improvements in medical drug design.

The advantage of a quantum computer is that information can be stored in a large number of different states at the same time. Classical computers store information as bits that represent either a '1' or a '0', but relying on the effects of quantum physics, qubits (quantum bits) in a quantum computer could be '1' or '0', or '1' and '0' at the same time.

The CQC2T was the first team to build a quantum logic gate in silicon, which is a critical step towards making silicon quantum computers a reality.

Why this is important

Technology and science are changing the way we live more rapidly than ever before. Many of the technologies we use today did not exist a generation ago, and will change again by the time children born today enter the workforce.

Australia needs to take advantage of the rapid pace of technological change. If Australian researchers are successful in developing a quantum computing capability, it would mean the development of a valuable domestic high technology industry, providing jobs and economic growth for Australia.

By investing in the work of CQC2T, the Government will not only affirm Australia as a world leader in quantum computing research, but ensure that our deep strengths in science position Australian innovation for the future.

Implementation

Funding will commence in 2016-17.

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Measuring impact and engagement in university research

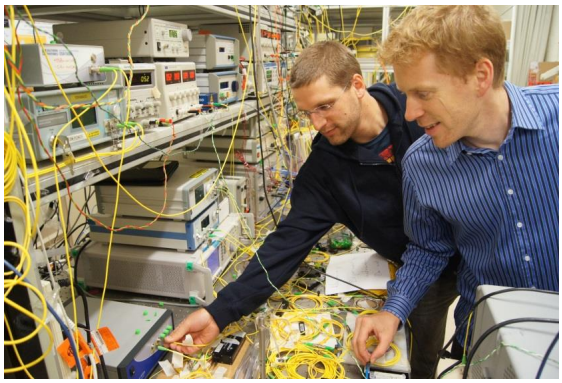
The initiative

Australia will introduce, for the first time, clear and transparent measures of non-academic impact and industry and end-user engagement in a national assessment of university research performance.

The assessment will report on impact and engagement at a university level by discipline and the evaluations will be conducted by university and industry experts.

The exact measures will be determined through extensive consultation with university, industry and community stakeholders. This will build on the work that has already been done by the Australian Academy of Technological Sciences and Engineering.

The impact and engagement assessment will be conducted by the Australian Research Council, as a companion exercise to Excellence in Research for Australia (ERA).



Dr Michaël Roelens (Finisar) and Dr Jochen SchrenDr (University of Sydney) working with the WaveShaper in the CUDOS Tbit/s laboratory at the University of Sydney. Source: Yvan Paquot, 2015

Research in Australian universities delivers benefits for all Australians

Professor Graeme Clark is a world-renowned researcher, responsible for the development of the bionic ear. Clark began his work in 1967, creating the world-famous bionic ear in 1978. He has continued to improve his invention. Hundreds of thousands of people worldwide have benefited from his life-changing cochlear implant technology.

ARC-supported researchers from the University of Tasmania released 19 immunised Tasmanian devils into Narawntapu National Park as part of the quest to save the devil from extinction. For the first time a vaccine against the deadly cancer threatening the species was tested in the wild, and 18 of the devils produced an immune response to the vaccine.

A national impact and engagement assessment will encourage and reward researchers for this kind of work. All universities will have stronger incentives to develop research that directly benefits Australia.

Why this is important

In 2015–16, the Australian Government is investing approximately $3.5 billion in university research.

The national assessment will show how universities are translating their research into economic, social and environmental impacts.

While Australia's research ranks highly in the OECD on indicators of quality, we rank last for industry-research collaboration.

This initiative will incentivise universities to improve their collaborations with industry and focus on research that delivers direct benefits for Australia.

Together with ERA, this initiative will promote high quality research and drive innovation.

Implementation

In 2016, the Government will work with the higher education research sector, industry and other end-users of research to develop quantitative and qualitative measures of impact and engagement.

A pilot assessment will be undertaken in 2017. The first national assessment and report will be in 2018.

Australian Government

NATIONAL INNOVATION & SCIENCE AGENDA

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innovation.gov.au

Faster research-industry collaborative project grants

The initiative

The Australian Government is making industry-focussed research project funding available faster to stimulate more collaboration between universities and business.

From 1 July 2016, the Australian Research Council's (ARC) Linkage Projects scheme will be open to continuous applications and decision-making will be fast tracked.

Linkage Projects brings together researchers, business, industry and other end-users to solve problems that help generate more products and services for Australia's economic, commercial, social and cultural benefit.

Scientia Professor Veena Sahajwalla and OneSteel's Paul Vielhauer (EAF Operations Superintendent). Image courtesy: UNSW Centre for Sustainable Materials Research and Technology.
Source: UNSW, 2015

Turning tyres into steel

Supported by an ARC Linkage Projects grant, the University of New South Wales (UNSW) and OneSteel teamed up to use a polymer technology to recycle rubber tyres in steelmaking, enabling the partial replacement of coal and coke. This revolutionary approach has already diverted more than two million car tyres from landfill and reduced greenhouse gas emissions.

Originally supported by an ARC Discovery Projects grant for basic research, ARC Laureate Fellow, UNSW Scientia Professor Veena Sahajwalla, invented a new polymer technology — an invention that won her an Australian Museum Eureka Prize.

Professor Sahajwalla partnered with OneSteel on an ARC Linkage Projects grant to translate this invention into a practical use, including carrying out polymer injection technology trials in steel plants across Australia and Thailand.

UNSW has signed an agreement with OneSteel – Australia's largest manufacturer of steel long products – which allows OneSteel to sublicense this unique technology around the world.

Why this is important

Continuous rounds will allow both researchers and industry partners to take greater advantage of opportunities for collaboration. Under the current annual selection, potential research and industry partners need to wait up to nine months from application to announcement of funding outcomes.

Businesses cannot afford to wait for lengthy grant decision processes to decide which research projects to support.

Researchers can struggle to find business partners without confirmed grant funding to support the costs of their research.

From 1 July 2016, decision-making on Linkage Project applications will be expedited to fast track highly competitive applications.

The ARC will continue to fund the highest quality applications taking into consideration the anticipated benefit of the research.

Implementation

Continuous rounds will open from 1 July 2016.

Australian Government

NATIONAL INNOVATION & SCIENCE AGENDA

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Inspiring a nation of scientists

The initiative

The Australian Government will invest $48 million (over five years) to inspire all Australians, from pre-schoolers to the broader community, to engage with science, technology, engineering and mathematics (STEM) in society and participate in further study, by:

- expanding the Prime Minister's Prizes for Science to recognise excellence in STEM in young Australians and early career research
- supporting Australian students in competitions, such as the International Science and Mathematics Olympiads, and hosting the 2019 Asian Physics Olympiad
- developing play-based learning apps and science and mathematics resources for early childhood educators to engage preschool age children in STEM
- supporting and expanding community engagement, including Inspiring Australia and citizen science projects

Source: Questacon, 2015

Science — not just for scientists

Think you need to be a 'scientist' to make a contribution to Australian science? Think again! Science and research teams around the world are harnessing the power of everyday citizens to help identify new species, track bird populations, and evaluate water quality. This approach to 'crowd sourcing' science is called citizen science.

The Australian Government, through Inspiring Australia and National Science Week, supports projects that ask Australians to gather and process information in support of important science and research projects.

For example, in 2014, Weather Detective had Australians transcribing weather observations from old ships' log books. These weather observations, even when made 100 years ago, can help to predict future weather.

In 2015, Galaxy Explorer asked everyday Australians to look at pictures of space and classify galaxies up to 3 or 4 billion light years away. This helps astronomers build up statistics on galaxies, such as how many have spiral arms, how many have bulges and how many are merging with other galaxies.

Why this is important

With an estimated 75% of jobs in the fastest growing industries requiring STEM-skilled workers, ensuring students have the skills to equip them for the workforce of the 21st century is critical to maximising Australia's productivity, and ensuring economic and social wellbeing in an increasingly STEM-based and digital economy.

The Government's support for STEM education and community engagement will ensure that children are engaged with science from a young age and they, as well as the broader community, are better able to understand the importance and relevance of science in Australia. This will ensure that all Australians are science literate and are equipped to engage with activities and problems that require a level of scientific knowledge or understanding.

Implementation

The Government will begin implementation of these initiatives in 2016–17.

Australian Government

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Australian Government

NATIONAL INNOVATION & SCIENCE AGENDA

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Tax incentive for early stage investors

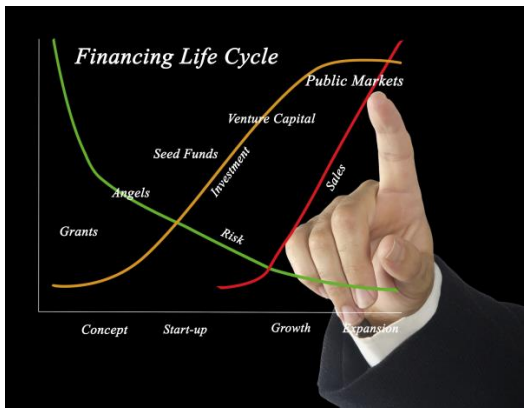
The initiative

The Australian Government will promote investment in innovative, high-growth potential startups by providing concessional tax treatment for investors, including:

- a 20% non-refundable tax offset on investments, capped at $200,000 per investor per year
- a 10 year exemption on capital gains tax, provided investments are held for three years

The incentive will be available for investments in companies that:

- undertake an eligible business (scope to be determined in consultation with industry)
- were incorporated during the last three income years
- are not listed on any stock exchange
- have expenditure and income of less than $1 million and $200,000 in the previous income year respectively



Source: iStock, 2015

How it will work in practice

Jessica is the founder of a startup business called PaySmart Pty Ltd that is developing a software application to automate bill payments. She is looking to raise $200,000 in equity finance to continue developing of the software.

Alex is an experienced early stage (angel) investor and believes that PaySmart has excellent growth potential. He invests $200,000 and claims a 20% non-refundable tax offset, reducing his income tax payable by $40,000.

In addition to contributing capital, Alex uses his business skills to help PaySmart grow. He sells his shares for $400,000 four years later. As Alex has held the investment in PaySmart for the minimum three year period and less than 10 years, the full capital gain of $200,000 is exempt from capital gains tax.

Why this is important

In a 2013 report, PricewaterhouseCoopers estimated that startups have the potential to contribute $109 billion to the Australian economy and create 540,000 jobs by 2033. The report also found that funding for startups is in short supply. Around 4,500 startups miss out on equity finance each year and access to additional finance is reported as one of the main barriers to innovation for startups.

Tax incentives to encourage early stage investment in innovative startups will boost growth by fostering new enterprises and promoting entrepreneurship.

This measure is based on the UK's successful Seed Enterprise Investment Scheme, which resulted in over AUD$500 million of early stage investment for almost 2,900 companies in its first two years.

Implementation

The new arrangements will apply from the date of Royal Assent and are expected to commence from 1 July 2016.

Australian Government

NATIONAL INNOVATION & SCIENCE AGENDA

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Equipping students to create and use digital technologies

The initiative

The Australian Government will invest $51 million (over five years) to help Australian students to embrace the digital age and better prepare for the jobs of the future. This includes:

- online computing challenges available nationally for every Year 5 and Year 7 student
- information and communications technology (ICT) summer schools for targeted groups of Year 9 and Year 10 students
- annual Cracking the Code national competition for Year 4 through to Year 12 in National Literacy and Numeracy Week
- support for teachers to implement the Digital Technologies curriculum through online learning activities and expert help
- support for school leaders to drive digital literacy and partnerships to bring scientists and ICT professionals into classrooms

Source: Education, 2015

Anyone can code!

Computer coding is the set of instructions that tells your mobile phone, tablet, computer or other device to solve a problem or carry out a task.

Children can begin coding at an early age — it can be both simple and fun!

But coding isn't an end in itself. Rather, it is a powerful and engaging tool that teaches kids to think and problem solve while acquiring an understanding of how technologies can work for them.

Under the *National Innovation and Science Agenda* the Government will fund computing and coding challenges for all Year 5 and Year 7 students that will take teachers and students through online structured coding and computational problem solving activities.

An annual national Cracking the Code computing competition will also be held in National Literacy and Numeracy Week, targeting all year levels from Years 4 to 12 to engage and challenge kids of all ages and abilities.

Through this initiative, students across Australia will be exposed to new ways of problem solving and be ready to embrace the digital age of innovation.

Why this is important

Ensuring the next generations of young Australians have the skills to equip them for the workforce of the 21st century is critical in maximising our economic and social wellbeing in an increasingly global and digital age.

We need to teach our students coding and computational thinking; not just as users of technology, but to create. This will equip young Australians with skills in problem solving, critical thinking and logic so they can engage in any and every course of life and career they pursue.

To do this, we need to support both students and teachers in key areas of ICT competence and make Australia as digitally literate and creative as the other nations with which we compete.

This initiative will further support the national implementation of the Australian Curriculum: Digital Technologies, which was endorsed by all states and territories in September 2015.

Implementation

New initiatives commence from 1 July 2016.

Australian Government

NATIONAL INNOVATION & SCIENCE AGENDA

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Expanding opportunities for women in science, technology, engineering and mathematics

The initiative

The Australian Government will invest over $13 million (over five years) to encourage more women to embark on, and remain in, science, technology, engineering and mathematics (STEM) related careers by:

- supporting the expansion of the Science in Australia Gender Equity pilot to cover more Australian science and research institutions
- establishing a new initiative under the 'Male Champions of Change' project to focus on STEM-based and entrepreneurial industries
- partnering with the private sector on initiatives to celebrate female STEM role models and foster interest in STEM among girls and women

Source: CSIRO, 2015

Supporting women in STEM research careers

The Athena SWAN Charter was established by the Equality Challenge Unit in the United Kingdom in 2005 to encourage the advancement of the careers and education of women in science, technology, engineering, mathematics and medicine.

It has helped drive systemic change across the research system by encouraging more women to study STEM subjects and go on to STEM-based careers. A UK House of Commons report on women in science found that Athena SWAN was the most comprehensive and practical scheme to improve academics' careers by addressing gender inequity

In September 2015 the Australian Academy of Science launched a pilot of the Athena SWAN Charter — Science in Australia Gender Equity (SAGE). Interest in the pilot is high, with more than 30 research organisations involved and others expressing interest in the programme.
SAGE will assess and accredit the gender equity policies and practices in Australian science organisations. This will drive systemic change that will increase the number of female researchers in senior roles, and the number of women with STEM skills and capabilities in the broader workforce.

Why this is important

Cultural change is needed to achieve gender balance in STEM fields and support productivity, performance and women's economic security.

Overall, women make up 55% of STEM graduates, but only one in four information technology graduates and less than one in ten engineering graduates are women.

Women occupy fewer than one in five senior researcher positions in Australian universities and research institutes, and around a quarter of the STEM workforce overall.

We need a concerted, national effort to overcome the cultural and organisational factors that discourage girls and women from studying STEM, and that limit their career opportunities.

The Australian Government can help address this challenge by encouraging greater gender equity in STEM organisations and STEM-based industries.

This initiative will support women having successful role models in Australia's STEM and innovation sectors and a career path following graduation.

Implementation

The Government will begin implementation of these initiatives in 2016–17.

Australian Government

NATIONAL INNOVATION & SCIENCE AGENDA

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Supporting innovation through visas

The initiative

The Australian Government will enhance the visa system to attract the best and brightest entrepreneurial talent and skills to Australia.

Source: iStock, 2015

- Pathways to permanent residency for postgraduate research graduates with science, technology, engineering and mathematics (STEM) and information and communications technology (ICT) qualifications will be enhanced. Australian doctorate-level and masters by research qualifications in STEM and specified ICT or related fields will be awarded extra points under the points tested skilled migration programme to strengthen their pathway to permanent residence.
- A new Entrepreneur Visa will be established for entrepreneurs with innovative ideas and financial backing from a third party. Eligibility criteria will be determined based on consultation, with consideration given to the level of financial backing and entrepreneurs with innovative, high-growth potential ideas.
- The Government's existing overseas network will be leveraged to more actively promote Australia as a world-class destination to start an innovative business and to more actively seek out and encourage talented individuals to come to Australia.

How this will work in practice

Sujee has been working on an idea for new battery technology, and has been successful in gaining financial backing from an approved investor to commercialise his idea. The new Entrepreneur Visa will allow Sujee to come to Australia on a provisional visa. If his business idea is successful, he will be able to become a permanent resident of Australia. As his business develops, it will create local jobs and growth.

Aiko has studied in Australia for many years and will soon graduate with a PhD in biochemistry. She would like to stay and work in Australia, but because she hasn't yet obtained much work experience, she doesn't meet the points test threshold to be eligible for a Skilled Independent Visa. Under the new arrangements, she will be eligible for more points, allowing her to stay in Australia and provide valuable skills for local businesses.

Why this is important

Skills and talent are essential to a high performing, innovative nation. STEM and ICT skills, in particular, have become crucial across a range of sectors.

The Australian Bureau of Statistics found that STEM skills jobs grew 50% faster than other jobs between 2006 and 2011.

The StartupAUS Crossroads 2015 report shows that the demand for ICT workers doubled between 1999 and 2012, while applications for tertiary ICT courses declined significantly, indicating a skills gap that needs to be addressed.

Improvements to the visa system will better target and attract the expertise and ideas of foreign skilled workers, innovators and entrepreneurs to boost Australia's innovative capacity.

Implementation

The Entrepreneur Visa will be introduced in November 2016. The enhanced pathway to permanent residency will be implemented in December 2016.

Australian Government

NATIONAL INNOVATION & SCIENCE AGENDA

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Setting up a Digital Marketplace for information technology procurement

The initiative

The Australian Government will create a Digital Marketplace to make it easier for innovative small and medium sized (SME) companies to do business with government.

The Digital Marketplace will be an online directory of digital and technology services for government agencies to procure information and communications technology (ICT) solutions provided by small to medium sized enterprises.

Based on the successful UK model, the directory will provide a catalogue of modular products and services.

Business suppliers of ICT software and hardware will be able to join the directory easily; while government buyers will be able to easily search for services, identify suitable suppliers and procure the best value option to get the job done.

Source: iStock, 2015

The Experience of Ixis, an SME using the GOV.UK digital marketplace

"For an SME like ours, the benefits of being in a position to bid for local and central government contracts has been wide reaching ... Ixis have had over £650,000 worth of public sector business generated since our placement on version 1 of the framework in 2012 …

Moreover, it has positioned us favourably in other markets by adding further credibility to our service offering and contributing to new business wins from the private and third sectors …

We have increased our staff team by 50% solely from work generated on the G-Cloud and we've seen interest from other local authorities and government bodies …"

Why this is important

Currently, startups and SME suppliers of digital services find it difficult to participate in government procurements for large scale ICT solutions.

Government spends $5 billion a year on ICT. A Digital Marketplace will reduce barriers to entry for startups and SMEs and allow them to more readily compete for government ICT expenditure.

This new approach will help break down these large scale ICT requirements into component parts. The scale of each procurement is reduced, so there is greater scope for innovative responses.

The Digital Marketplace will result in a broader base of suppliers being eligible for consideration, encouraging competition and further innovation, and creating new jobs.

Implementation

The Digital Marketplace will be designed and built by the Digital Transformation Office over 12 months, to go live in January 2017.

It will be based on user-centred design methodologies and iterative development. A prototype version of the marketplace will be available in 2016.

Australian Government

NATIONAL INNOVATION & SCIENCE AGENDA

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Innovation and Science Australia

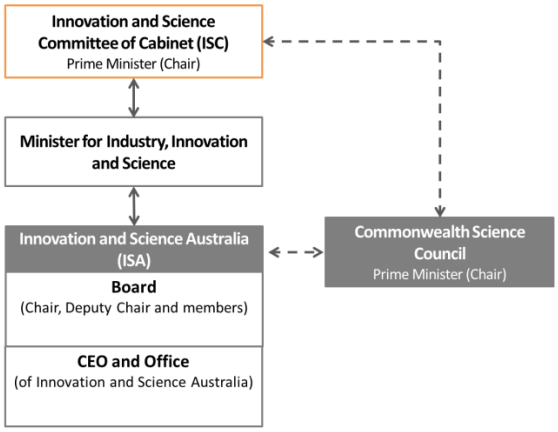
The initiative

Innovation and Science Australia (ISA) will be a new independent body with a mandate to provide strategic whole-of-government advice to the Government on all science, research and innovation matters.

While the whole-of-government science and research priorities have been agreed, the Government's $9.7 billion investment in research and development (R&D) is fragmented across 15 portfolios. Greater coordination of data and advice is required to evaluate and plan the Government's future investments against these priorities.

ISA will complement the Commonwealth Science Council, which will continue to advise the Government on high level science challenges facing Australia.

ISA will be chaired by Mr Bill Ferris AC and Australia's Chief Scientist will serve as Deputy Chair.



Mr Bill Ferris AC

The current Chair of Innovation Australia, Mr Ferris is a highly respected veteran of venture capital and private equity in Australasia. His experience will continue to bring the higher education and business sectors together to drive the commercialisation of breakthrough innovation.

Dr Alan Simon Finkel AO

As Australia's next Chief Scientist, Dr Finkel is a prominent engineer, respected neuroscientist, successful entrepreneur and philanthropist. He is uniquely qualified to act as one of the Government's key advisers on science and innovation, and on ways to translate our great scientific research into real, tangible outcomes for Australians and the economy.

Why this is important

ISA will establish strong and extensive business and community stakeholder links to audit the performance of the innovation system and develop a long term 15 year plan for the Government's investment in science, research and innovation.

ISA will publish its research and advice to Government to promote public discussion. ISA will publicly advocate reforms on key issues such as:

- innovation investment
- innovation collaboration and skills
- delivering and operating research infrastructure
- better planning and use of Australia's investment in research and development

As one of its first tasks, ISA will review the R&D Tax Incentive to identify opportunities to improve its effectiveness and integrity, including by sharpening its focus on encouraging additional R&D spend.

Implementation

Legislation will be introduced to establish the new ISA effective from 1 July 2016.

Australian Government

NATIONAL INNOVATION & SCIENCE AGENDA

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innovation.gov.au

Promoting innovation through publishing and sharing public data

The initiative

The Australian Government will release more non-sensitive public data for private sector innovation and will use public data to improve service delivery and inform policy development.

We will do this through the following measures:

- making anonymised and non-sensitive public data openly available by default through data.gov.au so that the private sector can use it to innovate and create new products and business models
- working with public, private and research sectors to find new ways to leverage public data
- providing free access to public data — the Government will only charge for specialised data services
- overcoming existing barriers to sharing data holdings across government to take full advantage of public data for service delivery and policy analysis and evaluation
- making openly available a high value and nationally significant geocoded address dataset, previously only available under a highly restrictive license (PSMA Australia Limited's Geocoded National Address File, and their Administrative Boundaries dataset)

Source: iStock, 2015

Community Insight Australia uses public data to better target social services

Community Insight Australia has developed a tool to enable social enterprises to access openly available public data on a location of their choice. Organisations use the system to target and prioritise community investment and to inform community consultations and planning decisions.

Reliable community information helps organisations to better deliver and design services. For example, the tool allows a user to analyse social indicators specific to a location, such as crime, health, economy, education and skills. This helps users identify areas of greatest need.

The value of this mapping, analysis and reporting tool increases as the volume, quality and currency of available public data increases. The Community Insight Australia tool currently links to over 50 publicly available datasets.

The Australian Government is working with Community Insight Australia to identify useful and relevant datasets for inclusion in the project.

Why this is important

Governments hold an extraordinary amount of unique data, and we are committed to putting that data to good use.

Publishing, linking and sharing public data can be used to make government more citizen-centric, create new and innovative products and services and increase efficiency.

The Government will collaborate with businesses, researchers, academia and the public to identify datasets for publishing that will have the highest impact in the economy.

At the same time, the Government is committed to upholding the highest standards of privacy and security when dealing with personal, security and commercial data.

Implementation

Release of the Australian Government Public Data Policy Statement in December 2015.

Australian Government

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Innovation and science in agriculture

New initiatives

Australia has been at the forefront of agricultural innovation throughout its history.

Agricultural research in Australia is often done in close collaboration with producers – with many farming sectors funding significant research. Agricultural researchers will be well placed to take advantage of the sharpened incentives for **university engagement with research end users**.

The **Global Innovation Strategy** will support Australian businesses and researchers to work with international consortia and will provide seed funding for collaborative science workshops with regional economies on shared challenges, such as food and bio-security.

The **Incubator Support Programme** will focus on regional areas and sectors with high innovation potential, such as those identified as an industry Growth Centre or a Science and Research Priority.

Smarter Irrigation for Profit

The Smarter Irrigation for Profit project, funded under round one of the Rural R&D for Profit programme, brings together the cotton, rice, dairy and sugar industries to improve water use efficiency, automation and profits.

It is an ambitious scheme, aiming to improve returns by $20,000 to $40,000 a year per farm. The project will integrate soil moisture sensing, weather forecasts, and remote irrigation controls with the irrigation technologies and research from different industries.

The project is led by the Cotton Research and Development Corporation, with Dairy Australia, Sugar Research Australia and the Rural Industries Research and Development Corporation in addition to 13 other partners. The partners have together invested just over $6 million in cash and in-kind contributions and the government has provided a $4 million grant. It embodies the focus on research collaboration to deliver innovative business solutions.

The project will conclude in 2018 and you can follow its progress at #SmarterIrrigation.

Complementary initiatives

The Agenda complements existing efforts to build an innovative and profitable agriculture sector.

The Government and industry are projected to fund around **$5.5 billion in collaborative research, development and extension** in agriculture through the sector based Rural Research and Development Corporations over the next 10 years.

The Government has also doubled the scope of the **Rural R&D for Profit programme**, providing $200 million to improve farm-gate returns, adoption of research outcomes and research collaboration.

The **Food and Agribusiness Growth Centre**, food and soil related **Science and Research Priorities** and our research organisations like **CSIRO and Cooperative Research Centres** also help to advance our agricultural sector.

Why this is important

Demand for high quality Australian produce, particularly in key Asian markets, is driving significant growth in Australian agriculture. Agricultural production is predicted to reach a record $57 billion this year.

We can only take advantage of strong demand by being smarter and more innovative in how we produce.

Strong, vibrant, innovative and sustainable rural industries and communities are central to Australia's growth and prosperity.

The Innovation and Science Agenda initiatives will encourage and support new rural business innovation, complementing the existing work being done across government in this critical sector.

Australian Government

NATIONAL INNOVATION & SCIENCE AGENDA

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Innovation in our regions

New initiatives

The National Innovation and Science Agenda will drive economic growth throughout Australia. The Agenda provides opportunities for individuals and businesses all across Australia — from our regions, rural areas and remote communities to our city centres — to innovate, commercialise new ideas, create more jobs, and to better our communities.

The **Incubator Support Programme** will focus on regional areas and sectors with high innovation potential, such as those identified as an industry growth centre or a Science and Research Priority.

A number of other measures, including **further funding for regional universities** and funding **to inspire students and the community with digital technologies and STEM** will all create more opportunities for our regions.

On the hunt for regional growth in the Hunter

Regional Development Australia (RDA) Hunter is embracing innovation and research to grow their region's international competitiveness.

Applying 'smart specialisation'— a framework for innovation endorsed by the Organisation for Economic Co-operation and Development and widely implemented across the European Union — RDA Hunter is combining current areas of expertise with new opportunities to drive the global competiveness of the Hunter's economy. This strategy will enable Hunter stakeholders to identify and prioritise the region's key sectors (e.g. defence and manufacturing) and develop innovation activities to grow these sectors further.

Meanwhile, RDA Hunter's ME Program is linking industry needs with schools and tertiary institutions to increase STEM participation in the region to above the NSW average for students at the HSC level.

The Australian Government supports a network of 55 RDAs across the country to enhance economic development opportunities and foster effective communication between communities, business and all three tiers of government.

Complementary initiatives

The Agenda complements existing efforts on regional Australia.

The Government is supporting **Indigenous businesses and entrepreneurs** through $30 million each year in direct support for enterprises, fostering cutting edge innovation by Indigenous entrepreneurs.

The **Australian Government's National Stronger Regions Fund** will provide funding of $1 billion over five years, commencing in 2015–16, to fund priority infrastructure in regional communities.

We have a **vibrant regional university network** which provides key hubs for innovation and learning, and work in conjunction with our research institutions including the Commonwealth Scientific and Industrial Research Organisation and Cooperative Research Centres.

Why this is important

Regional Australia is vital to Australia's economy. However, in a changing economic landscape, embracing innovation will be key to ensuring that our regions continue to grow and flourish.

Regional Australia holds diverse opportunities for innovation. Regions can build on their competitive advantages – physical assets, transport linkages, amenity and human capital— to drive unique, region-specific innovation.

For example, the AGL Solar Project in Broken Hill encourages economic and industry development in the host region while developing Australian intellectual property in solar power generation. In Victoria, the Australian and Victorian Government's Geelong Region Innovation and Investment Fund has supported the development of a specialised $23.8 million carbon fibre wheel manufacturing facility.

Australian Government

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Making it easier to access crowd-sourced equity funding

The initiative

The Government is introducing new laws that will enable companies to access crowd-sourced equity funding (CSEF) to develop their innovative ideas.

CSEF is a new fundraising approach that allows entrepreneurs to raise funds online (up to $5 million per year) from a large number of individuals in return for equity in their company. It will be available to unlisted Australian public companies with turnover and gross assets of less than $5 million.

Individuals seeking to invest in companies using CSEF can contribute up to $10,000 per company, per year. There is no limit on the total individuals can contribute across multiple companies. Companies that become a public company to access CSEF will receive up to a five year exemption from obligations to hold Annual General Meetings, produce audited financial statements and provide an annual report to shareholders.

Source: iStock, 2015

How this will work in practice

Dylan has come up with a new idea for a pet tracking device, which will enable pet-owners to track their lost companion using their mobile phone. Dylan's simple collar-tracking device works really well in the field but needs significant refinement to improve its saleability. He estimates that this will cost $400,000.

Dylan initially seeks funding from family and friends. He manages to secure $50,000, but is forced to look to traditional lenders for the remaining $350,000. But given Dylan's limited track record and inability to meet high interest loan repayments, lenders consider Dylan's business proposition too risky to invest in. Dylan is forced to put his plans on hold.

With the introduction of new CSEF laws, Dylan decides to raise the money he needs using CSEF. Dylan converts his proprietary company (PetFinder Pty Ltd) into a public one —knowing that he can take advantage of the five year exemptions on holding Annual General Meetings, and producing audited financial statements.

Dylan is able to secure the additional $350,000 he needs to develop a fully refined prototype.

Why this is important

CSEF schemes currently operate in various countries around the world, including in the UK and in New Zealand. In the first 12 months following its launch, the New Zealand CSEF scheme enabled more than 20 innovative companies to raise over $12 million in combined funds.

Current regulatory requirements, however, present a barrier to widespread use of CSEF in Australia.

Introducing laws to facilitate CSEF in Australia will ensure that small innovative businesses have access to a more diverse range of funding options and are not put at a competitive disadvantage compared to their international counterparts.

Implementation

Legislation to implement CSEF was introduced into Parliament on 3 December 2015. The CSEF scheme will commence within six months of the legislation receiving Royal Assent.

Draft regulations setting out the details of the scheme will shortly be released.