Budget Insider 2018

An InnovationAus.com White Paper

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WRAYS

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Australia is entering the post-mining boom era of its economic development. While we can no longer rely on high global mineral prices or ride on the sheep's back to generate prosperity, the good news is that with 26 years of continuous economic growth we are coming from a place of relative strength to respond to an increasingly digital global economy.

But the world is changing rapidly and we must act now if we are to remain competitive. Innovation and technology need to be positioned as critical enablers more strongly, within the budget and with voters. This is not only about growing the ICT sector. Digital technologies will be applied across the economy in sectors not thought of as heavy technology users, and in the creation of new industries.

While the budget for the last couple of years has lacked the necessary focus on the technology and innovation agenda – reflecting the mood of the electorate and the government's need to address issues such as housing affordability – this year we've seen the needle move a little in the right direction.

Highlights for me include: the creation of a 21st Century Medical Industry Plan, $500 million towards genomic research, $2.4 billion earmarked for investment in Australia's public technology infrastructure over the next 12 years in areas such as supercomputers, investment in artificial intelligence, seed money for a space agency, support for women and girls in STEM, and almost $200 million in funding to help mature age citizens adapt their skills for the digital economy.

The Treasurer also noted the government's commitment to pursue the full implementation of the Enterprise Tax Plan, which would see Australia's corporate tax rate reduced from 30 percent to 25 percent for all businesses. This would help us stay closer to tax rates in other countries, ensuring we can retain investment from innovative businesses and people and remain globally competitive.

While the Government stated its intention to reform the R&D Tax Incentive, it's unfortunate there was no commitment for additional funding to incentivise industry and universities to collaborate or funding to drive translational activities. It is imperative that we encourage more research and development and capture the true value of our many fine inventions.

Thanks to the team at InnovationAus.com for producing this budget overview.

While this budget gets Australia a step closer to where we need to be, I urge everyone in government and industry to maintain focus and a sense of urgency to ensure Australia continues to take the necessary steps in its digital and economic transformation.

Robert Pierce
Chief Executive Officer, Wrays

Executive Summary

The Australian Government's 2018-19 Budget has been widely discussed and anticipated. It is almost certainly a pre-election budget, and is the third for both Treasurer Scott Morrison and Prime Minister Malcolm Turnbull.

The Budget contains no major surprises. As is usually the case nowadays, most of the initiatives were selectively pre-announced or leaked in the weeks leading up to the Budget to gauge reaction.

The headline budget items personal tax reform, increased infrastructure spending, and improvements to aged care. There were also many initiatives in the science and technology area.

Personal income tax reform

Reforms to the personal income tax system are the centrepiece of the budget. They are substantial, but they are spread over many years.

The most significant aspect is what is in effect a legislated system to reduce the future effects of so-called 'bracket creep', where wage increases brought about by inflation move taxpayers into higher tax brackets. The overall effect on the budget is estimated at over $40 billion over the next ten years, but the Government said it would cost only $13 billion over four years.

The government announced before the budget that would not be proceeding with its planned $8 billion-dollar Medicare levy increase, which would have left it open to accusations of giving with the one hand and taking with the other.

Increased infrastructure spending

A highlight of the budget is a '$75 billion ten year rolling infrastructure plan'. Major transport infrastructure projects mentioned or funded in the budget (many were previously announced):

- A rail link to Melbourne's Tullamarine airport (no figure mentioned).
- $400 million for rail freight in Sydney, including a duplication of the Mascot to Port Botany rail line and a new passing loop at Cabramatta.
- $50 million to develop a business case for rail link to the new Badgerys Creek airport in western Sydney.
- Nearly $1 million to build the long-awaited Coffs Harbour bypass on the Pacific Highway in northern New South Wales.

Improvements to aged care

There are significant budget initiatives targeted at older Australians. The Government will increase the number of home care places by 14,000 over four years at a cost of $1.6 billion, on the basis that enabling people to stay in their homes longer reduces the burden on the public health system. By 2021-22, over 74,000 high level home care places will be available, an increase of 86 per cent on 2017-18.

The government also announced $146 million to improve access to aged care services in rural, regional and remote Australia, and $83 million for increased support for mental health services in residential aged care facilities, especially to combat depression and loneliness.

Changes to the R&D Tax Incentive

The biggest concern of many in the technology and startup communities before the Budget was that there would be changes announced in the R&D Tax Incentive scheme. There were indeed changes, but they were not as severe as many had feared.

The scheme, introduced under the former Labor Government, allows companies not yet in profit and with revenues of less than $20 million to receive a cash refund on much of their R&D expenditure, paid annually. For larger companies the concession has been available only as a tax offset. In the absence of a substantial R&D grants program, the refund has been the principle way the Government has been funding startups.

In 2016 the Government commissioned a major review of the R&D Tax Incentive scheme, chaired by Mr Bill Ferris (Innovation Australia), Dr Alan Finkel (Chief Scientist) and Mr John Fraser (Secretary to the Treasury) - the so-called 3F review. The review panel was asked to identify opportunities to improve the effectiveness and integrity of the program, including how its focus could be sharpened to encourage additional R&D.

The budget partially implemented the recommendations of the review. The main change is a 'refocussing' of the scheme to save $2.4 billion over four years through a crackdown on what the Government says has been a misuse of the scheme, strengthening anti-avoidance laws and giving the ATO additional resources to identify companies rorting the system.

In science and technology initiatives:

- Genomics and medical research: $500 million for the Australian Genomics Health Futures Missions is the centrepiece of the Government's new $1.3 billion National Health and Medical Industry Growth Plan
- Digital Identity: The Digital Transformation Agency (DTA) will take charge of a $92 million budget allocation in the 2018-19 financial year to accelerate the implementation of its GovPass digital identity program. The program includes $61 million in new money for the DTA, with additional resources drawn from existing budget from the Australian Taxation Office and the Department of Human Services.
- Data sharing and Consumer Data Rights: Data sharing arrangements for the public sector have been given a boost with the allocation of $20.5 million over four years for the implementation of new data governance arrangements. The Government will provide $44.6 million over four years to establish a national Consumer Data Rights (CDR) system.
- Great Barrier Reef remediation: The Government also announced last month that the budget would include $535.8 million over five years to deliver the Reef 2050 Plan program. The funding was confirmed in the budget.
- Artificial Intelligence: As part of its Australian Technology and Science Growth Plan the government has earmarked $29.9 million over four years to strengthen the nation's capability in Artificial Intelligence and machine learning – the first time these rapidly emerging platforms have attracted specific budget attention.
- Improved GPS: The budget includes $260 million for improved satellite infrastructure and more accurate global positioning system (GPS) technologies. The bold the money will go towards improving GPS in regional areas, and providing better access to small businesses.

- An Australian space agency: $26 million over four years, to allow the new agency to 'coordinate domestic space activities for Australia'. A further $15 million over three years is allocated for the agency to partner with international space agencies. There was no detail on this how the agency will function or where it will be based.
- Others include: new innovation metrics, funding for supercomputing, women in STEM, a cyber security operations centre, drone compliance measures, improved IP management, and funding to promote Australia as a Fin Tech destination.

This is very definitely an election budget. It is designed to appeal to many of the Government's key demographics, to appeal to as many people as possible and to offend as few as possible. It will probably be successful in those aims.

But on many fronts it represents a missed opportunity. The reforms to personal taxation, while they look impressive, essentially cement the status quo. The infrastructure parts of the budget were going to happen anyway. But the biggest disappointments are in the areas of science and technology. There are many worthwhile initiatives, few of them are substantial and they are not part of any coherent strategy.

Introduction

The 2018-19 Federal Budget is almost certainly a pre-election budget. The next federal election can be held as late as 2 November 2019, but for there to be a simultaneous half-Senate election, as is the norm, it must be held before 18 May 2019. It is entirely possible that the election will be held later this year. There is certainly increased speculation to that effect.

The Budget's centrepiece is a substantial reform of the personal income tax system, in effect legislating against bracket creep, but most of the benefits will accrue only after the next election and even into the electoral cycle beyond that.

Like all budgets, many of this years' measures were announced or signalled beforehand. The big picture revenue and expenditure items have been widely reported elsewhere – this White Paper concentrates on the budget's effect on technology, science and innovation.

The area of most concern to the technology sector, the treatment of the R&D Tax Incentive scheme, came in for special mention in the budget. This Budget focuses on the ar possible improvements in other areas.

However, there are positives for innovation, science and technology in Australia. The Budget has provisions for investing in artificial intelligence, as well as an Australian Space Agency, and improvements to the global positioning system (GPS), which will take its resolution down from five metres to mere centimetres.

This White Paper is in two parts. The first looks at the overall budget strategy, and in particular to centrepiece items of personal income taxes, increased infrastructure spending and programs for older Australians. The second part looks at initiatives in the science and technology, innovation and start-up sectors.

Part A: Overall budget strategy

The government's five pillars

In his budget speech, Treasurer Scott Morrison framed the budget in terms of five key principles:

1. Provide tax relief to encourage and reward working Australians and reduce cost pressures on households, including lowering electricity prices.
2. Keep backing business to invest and create more jobs, especially small and medium sized businesses.
3. Guarantee the essential services that Australians rely on, like Medicare, hospitals, schools and caring for older Australians.
4. Keep Australians safe, with new investments to secure our borders.
5. Ensure that the Government lives within its means, keeping spending and taxes under control.

Deficits and surpluses

The Government attempts to present itself as the custodian of fiscal rectitude, despite presiding over vast increases in government spending and government debt in the years since 2013. This budget goes some way towards redressing the balance, promising a return to surplus in 2019-20.

The Government's task this year has been made easier by increased revenues in recent months, driven by increased company tax revenue from a healthy economy and personal income taxes from a growing jobs market.

In 2017-18, the Budget deficit will be $18.2 billion, less than half what it was just two years ago. This will be the best budget outcome since the Howard Government's last budget a decade ago. The deficit will fall again to $14.5 billion in 2018-19.

The Budget is forecast to return to a modest balance of $2.2 billion in 2019-20 and increase to projected surpluses of $11.0 billion in 2020-21 and $16.6 billion in 2021-22. The Turnbull Government has now stayed on track for a surplus for six successive budget updates.

Over the medium term the projected Budget surplus rises to over one percent of GDP, without breaching our tax cap, consistent with our fiscal strategy.

Net debt will now peak at 18.6 per cent of GDP in 2017-18 and will fall by around $30 billion over the forward estimates. Over the medium term net debt will fall to 3.8 per cent of GDP by 2028-29.

Gross debt will peak during 2019-20 at less than 30 per cent of GDP. Over the medium term gross debt will be $126 billion less in 2027-28 than was estimated at the mid-year update in December.

Note the expression 'on track for a surplus', while the total national debt has been growing.

The Government has announced that total tax revenue will be capped at 23.9 per cent of Gross Domestic Product (GDP), the figure reached in the last year of Howard government, calling this a 'speed limit' on government spending.

Personal income tax reform

Reforms to the personal income tax system are the centrepiece of the budget. They are substantial, but they are spread over many years.

The most significant aspect is what is in effect a legislated system to reduce the future effects of so-called 'bracket creep', where wage increases brought about by inflation move taxpayers into higher tax brackets. The overall effect on the budget is estimated at over $40 billion over the next ten years, but the Government said it would cost only $13 billion over four years.

The government announced before the budget that it would not be proceeding with its planned $8 billion-dollar Medicare levy increase, which would have left it open to accusations of giving with the one hand and taking with the other.

The seven-year 'Personal Income Tax Plan' is in three phases:

A Low and Middle Income Tax Offset

This is a non-refundable tax offset of up to $530 per annum to low and middle income taxpayers. The offset will be available for the next four financial years and will be received as a lump sum on assessment after an individual lodges their tax return.

Taxpayers with taxable incomes from $48,000 to $90,000 will be eligible for the maximum benefit of $530. From $90,001 to $125,333, the offset will phase out at a rate of 1.5 cents per dollar.

Change to tax thresholds

From 1 July 2018, the Government will increase the top threshold of the 32.5 per cent personal income tax bracket from $87,000 to $90,000. From 1 July 2022, it will increase the Low Income Tax Offset from $445 to $645 and extend the 19 per cent personal income tax bracket from $37,000 to $41,000 to' lock in the benefits of Step 1'. The increased Low Income Tax Offset will be withdrawn at a rate of 6.5 cents per dollar between incomes of $37,000 and $41,000, and at a rate of 1.5 cents per dollar between incomes of $41,000 and $66,667.

From 1 July 2022, the Government will further increase the top threshold of the 32.5 per cent personal income tax bracket from $90,000 to $120,000.

Removal of 37 per cent tax bracket

From 1 July 2024, the Government will extend the top threshold of the 32.5 per cent personal income tax bracket from $120,000 to $200,000, to recognise inflation and wage growth impacts. Taxpayers will pay the top marginal tax rate of 45 per cent from taxable incomes exceeding $200,000 and the 32.5 per cent tax bracket will apply to taxable incomes of $41,001 to $200,000.

Increased infrastructure spending

A highlight of the budget is a '$75 billion ten year rolling infrastructure plan'. Major transport infrastructure projects mentioned or funded in the budget (many were previously announced):

- A rail link to Melbourne's Tullamarine airport (no figure mentioned).
- $400 million for rail freight in Sydney, including a duplication of the Mascot to Port Botany rail line and a new passing loop at Cabramatta.
- $50 million to develop a business case for rail link to the new Badgerys Creek airport in western Sydney.
- Nearly $1 billion to build the long-awaited Coffs Harbour bypass on the Pacific Highway in northern New South Wales.

Others included federal funding for the Brisbane Metro and Perth Metronet, M1 freeway upgrade on the Gold Coast, a new bridge over the Shoalhaven River in Nowra, an upgrade to Avalon Airport near Geelong, new works on the Geelong line and an electrification upgrade for the Frankston to Baxter rail line, the Bridgewater Bridge over the Derwent River in Tasmania. The Bunbury Outer Ring Road in Western Australia, improvements to the Bruce Highway in Queensland, the Buntine Highway in the Northern Territory and to the Adelaide North South Corridor.

The government also announced a $1 billion Urban Congestion Fund to ‘support projects at a State level to fix pinch points and improve traffic flow and safety in our cities’. There will also be a $3.5 billion ‘Roads of Strategic Importance’ initiative upgrading key freight route, backed by a new funding round for the Building Better Regions Fund.

Improvements to aged care

There are significant budget initiatives targeted at older Australians. The Government will increase the number of home care places by 14,000 over four years at a cost of $1.6 billion, on the basis that enabling people to stay in their homes longer reduces the burden on the public health system. By 2021-22, over 74,000 high level home care places will be available, an increase of 86 per cent on 2017-18.

The government also announced $146 million to improve access to aged care services in rural, regional and remote Australia, and $83 million for increased support for mental health services in residential aged care facilities, especially to combat depression and loneliness.

The Pension Loans Scheme will be extended, making it easier for retirees to borrow against their home equity. They will also be able to earn more before their pensions are cut. The government will provide wage subsidies of up to $10,000 for employers who take on older workers, and ‘combat age discrimination in the workforce.

Also announced was an expansion to the Entrepreneurship Facilitators program and a new Skills and Training Incentive to provide mature age workers with the opportunity to update their skills.

Part B: Science, technology and innovation

Changes to the R&D Tax Incentive

The biggest concern of many in the technology and start-up communities before the Budget was that there would be changes announced in the R&D Tax Incentive scheme.

The scheme, introduced under the former Labor Government, allows companies not yet in profit and with revenues of less than $20 million to receive a cash refund on much of their R&D expenditure, paid annually. For larger companies the concession has been available only as a tax offset. In the absence of a substantial R&D grants program, the refund has been the principal way the Government has been funding start-ups.

In 2016 the Government commissioned a major review of the R&D Tax Incentive scheme, chaired by Mr Bill Ferris (Innovation Australia), Dr Alan Finkel (Chief Scientist) and Mr John Fraser (Secretary to the Treasury) - the so-called 3F review. The review panel was asked to identify opportunities to improve the effectiveness and integrity of the program, including how its focus could be sharpened to encourage additional R&D.

The budget partially implemented the recommendations of the review. The main change is a ‘refocussing’ of the scheme to save $2.4 billion over four years through a crackdown on what the

Government says has been a misuse of the scheme, strengthening anti-avoidance laws and giving the ATO additional resources to identify companies rorting the system.

The changes drive three primary policy objectives: to improve the integrity of the system, to continue supporting the start-up end of the R&D spectrum, and to refocus support for larger companies with greater rewards for those undertaking higher-intensity R&D.

When it was introduced in 2011-12 the scheme cost $1.8 billion annually. By 2016-17 that annual cost had climbed to nearly $3 billion. The reforms map to the Government's desire to reduce its fast-growing indirect support to industry – such as tax incentives – and to increase direct support through grants and other means.

The changes take $2.4 billion out of the system over the next four years, undoubtedly creating winners and losers, although precisely where will only become be known through the detail of the legislation. That means a reduction of approximately 20 per cent over the current cost.

> *The Government will amend the R&D tax incentive to better target the program and improve its integrity and fiscal affordability in response to the recommendations of the 2016 Review of the R&D Tax Incentive. The changes will apply for income years starting on or after 1 July 2018.*
>
> *For companies with aggregated annual turnover of $20 million or more, the Government will introduce an R&D premium that ties the rates of the non-refundable R&D tax offset to the incremental intensity of R&D expenditure as a proportion of total expenditure for the year.*

For companies with an annual turnover of under $20 million, a $4 million annual cap on cash refunds has been introduced, although amounts that are in excess of the cap can become a non-refundable tax offset that can be carried forward into future income years.

The refundable tax offset has been increased to a premium of 13.5 per cent above the company's tax rate for that year. R&D tax offsets for clinical trials in the development of pharmaceuticals and medical devices are excluded from the $4 million cap.

Start-ups will be disappointed that government has still not moved to allow the tax refunds to be claimed quarterly. It can currently be claimed only annually, leading many companies to borrow against their expected annual rebate.

As expected, the 'refocusing' of the scheme seeks to reward larger companies (with a turnover of more than $20 million) with an increasing scale of support based on the intensity of the research effort (with 'intensity' defined as spending on R&D as a percentage of a company's total annual expenditure).

The non-refundable R&D Tax offset is set at the claimant's tax rate plus 4 per cent for R&D expenditure between 0 per cent and 2 per cent R&D intensity, in addition to, the tax rate plus 6.5 per cent for R&D intensity between 2 per cent and 5 per cent, and up to a top incentive of the tax rate plus 12.5 per cent for R&D expenditure above 10 per cent intensity.

A key concern for industry is the continued confusion among start-up companies in particular as to just what qualifies as a legitimate R&D activity, coupled with plans for both a tightening of the anti-avoidance rules and for significantly better resourcing of enforcement within the Australian Taxation Office to deny ineligible claims.

The budget papers also allude to the strengthening of anti-avoidance rules through changed legislation, and has given additional resources to Innovation and Science Australia to produce more accurate and plainly-worded guidance about what constitutes eligible R&D – if only to make sure companies don't inadvertently put themselves out of business by unintentionally misinterpreting the meaning of the law.

The savings of $2.4 billion across the forward estimates is effectively a redistribution of support, with large increases in science and technology support infrastructure, including significant new spending on supercomputing, the national GPS infrastructure, new artificial intelligence and machine learning capability, and a national space agency (see below).

There was no mention of any R&D collaboration between industry, universities and research organisations, which many, particularly in academia, have been calling for. The 3F review pointed out that the R&D incentive is not designed to target collaboration and it is not a stated objective of the program. 'If a specific instrument were to be considered to foster collaboration through the Incentive, the program objectives may need to be revised'. There is no indication of this will happen.

Genomics and medical research

In January 2018 the Government's Innovation and Science Australia (ISA) agency released a major report on innovation in Australia. The report recommended the launch of ambitious, large-scale 'national missions' to inspire the public and address some of the biggest challenges facing Australia.

The report said that the missions could add a 'more ambitious chapter on innovation to our evolving national stories' and could 'accelerate Australian innovation and encourage more collaboration across the innovation ecosystem. It identified genomics as an ideal candidate for such a national mission, as part of an effort to make Australia 'the healthiest country on earth'.

Genomics is the study of single genes and entire genetic makeups to explore how and why people react differently to diseases and treatment. The ISA strategy only sought $200 million in funding for the mission, but the budget is allocated $500 million.

The use of genomics has the potential to revolutionise healthcare to support more accurate diagnosis and treatment. Genomics creates the potential for personalised medicines, by tailoring drugs to patients, improving the prevention and control of disease by enabling specific screening, and increasing awareness of the susceptibility of particular individuals to disease," it said.

This ten year commitment would support a stronger economy through the creation of new jobs, as well as long-term research and improvements to health outcomes that will provide a legacy for Australians decades into the future.

The Australian Genomics Health Futures Missions is the centrepiece of the Government's new $1.3 billion National Health and Medical Industry Growth Plan, which it says will help more than 200,000 Australians live longer and receive better treatment tailored to their medical needs.

The funding for the mission will come from the Medical Research Fund, and does not represent increased funding. The first project to be funded under the national mission will be Mackenzie's Mission, which will receive $20 million for a pre-conception screening trial for rare and debilitating birth disorders, including spinal muscular atrophy and cystic fibrosis.

Digital Identity

The Digital Transformation Agency (DTA) will take charge of a $92 million budget allocation in the 2018-19 financial year to accelerate the implementation of its GovPass digital identity program. The program includes $61 million in new money for the DTA, with additional resources drawn from existing budget from the Australian Taxation Office and the Department of Human Services.

The money will fund the completion of digital identity pilot programs, and complete the ATO's IDP (identity provider) platform and DHS's ID exchange. The DTA will test the delivery of GovPass across a range of services, including in online applications for a Tax File Number as has already been announced, and in digital health.

The funding includes an allocation of about $10 million to the Department of Foreign Affairs and Trade to improve connectivity and scale of its Face Verification Service, to scale the service up to being able to providing sub-second responses to high-volume queries. This will involve the building out and proving of the foundational layers like the IDP and the exchange, as well as adding additional biometric capability to the GovPass system, including state driver's licence photos and ATO voice biometrics (previously announced).

The total cost of a whole-of-government roll-out of GovPass is still not clear. While this $90 million package carries the project for the 2018-19 financial year, the budget does not include numbers across the forward estimates. The forward funding allocations are complicated by existing funding allocations to various departments and agencies for identity programs, and negotiations between the DTA and those departments.

When the digital identity program was first embarked on in 2016, internal estimates put a whole-of-government roll-out at $300 million to $500 million, although with the framework completed and much of the foundational work now done, the expectation is that it will be somewhat less than this estimate.

The DTA was also given a small allocation of $700,000 for 2018/19 to investigate where blockchain technology could be used in the delivery of better government services.

Data sharing and Consumer Data Rights

Data sharing arrangements for the public sector have been given a boost with the allocation of $20.5 million over four years for the implementation of new data governance arrangements in line with the recommendations of the Productivity Commission's 2017 report on Data Availability and Use.

A data sharing and release framework is to be developed and administered by the newly-established National Data Commissioner. The NDC will be responsible for developing guidance of data sharing arrangements, monitoring and addressing risks and ethical considerations for data use, and managing the process for high-value assets.

The Government will provide $44.6 million over four years to establish a national Consumer Data Rights (CDR) system, which will ultimately allow consumers and SMEs to access and transfer their customer data from one service provider to another in designated sectors like banking and utility providers.

The funding includes $20 million over four years to the ACCC to fund the development of the scheme – determining the costs and benefits of designating sectors that will be subject to the CDR, and to develop and implement the rules that govern the CDR and the development of data standards.

The Office of the Australian Information Commission gets $13 million over four years to assess the privacy impact of a CDR, and CSIRO's Data61 will get an additional $11.5 million over four years to boost its role as a data standard setter.

Great Barrier Reef remediation

The government also announced last month that the budget would include $535.8 million over five years to deliver the Reef 2050 Plan program. The funding was confirmed in the budget

This national mission includes efforts to build the Great Barrier Reef's resilience to coral bleaching and extreme weather events, the progression of a research and development program for science innovations, improvements to Reef health monitoring and reporting activities, the expansion of the Joint Field Management Program with the Queensland Government, and efforts to engage the community through a new communications campaign.

The funding for this mission is partially offset by redirecting future funding already allocated to the Reef 2050 Plan and Reef Trust. It has been criticised in many quarters for being too little too late, but welcomed by others as a necessary initiative.

Artificial Intelligence

As part of its Australian Technology and Science Growth Plan the government has earmarked $29.9 million over four years to strengthen the nation's capability in Artificial Intelligence and machine learning – the first time these rapidly emerging platforms have attracted specific budget attention.

The measures are aimed at supporting economic growth and the productivity of Australian businesses, with the lion's share of the allocation to be disbursed through Cooperative Research Centre-funded projects.

The CSIRO's Data61 unit will fund AI and machine learning PhD scholarships and will develop a Technology Roadmap, Standards Framework and a national AI Ethics Framework to identify global opportunities and guide future investments. The funding includes a modest sum for the Department of Education to develop curriculum and school-related learning tools to help address the skills gap.

Improved GPS

The budget includes $260 million for improved satellite infrastructure and more accurate global positioning system (GPS) technologies. The bulk of the money will go towards improving GPS in regional areas, and providing better access to small businesses.

The funding includes $160.9 million over four years to deliver a Satellite-Based Augmentation System – the technology underpinning GPS. After the four years, $39.2 million would be provided in ongoing funding. This is intended to improve reliability and accuracy of positioning data from five metres to 10cm in regional Australia, allowing the introduction of such techniques as robotic GPS ploughing.

A further $64 million is to go towards the National Positioning Infrastructure Capability to improve GPS accuracy down to 3cm in areas with mobile coverage – such as metropolitan or regional centres.

Digital Earth Australia gets $36.9 million over three years from 2019-2020 to provide Australian businesses, governments and researchers with access to satellite data, allowing them to 'build new digital products and services for commercial purposes and to interpret and analyse changes to Australia's physical landscape'.

An Australian space agency

In March the Government was handed an expert review commission's report on a space agency for Australia. The review was led by former CSIRO boss Megan Clark. Prebudget speculation was that at least $50 million will be allocated for the establishment of the agency.

The actual figure announced in the budget is just $26 million over four years, to allow the new agency to 'coordinate domestic space activities for Australia'. A further $15 million over three years is allocated for the agency to partner with international space agencies. There was no detail on this how the agency will function or where it will be based.

Other technology initiatives

Included in the new funding announcements is additional funding for the development of supercomputers, new cash to guide drone regulations, and additional funding for the eSafety Commissioner. A new cyber security operations centre will also be established in Canberra to protect the parliamentary computing network.

The Office of the eSafety Commissioner has received an additional $14.2 million over four years to assist it in its new role overseeing online safety for all Australians, not just children. The cash injection will also assist the office in administering the new civil penalty regime for the non-consensual sharing of intimate images, while $2.5 million will fund the continuation of the Certified Providers program and the eSafety Women program.

With the funding, the office will be holding face-to-face presentations and new online resources to 'empower frontline workers to assist women experiencing technology-facilitated abuse'. It will also go towards certifying new trainers to present these safety courses in schools, and supporting vulnerable Australians experiencing online abuse.

The government will also be providing $40 million to assist Australian small and medium businesses to expand overseas and export to global market. From this, $20 million over four years will go towards the creation of new SME Export Hubs to 'enable cooperation and boost export capability of local and regional business, through support to develop collective brands, leveraging local infrastructure to scale business operations, and positioning regional businesses to participate in global supply chains'.

The government has announced that it will also be expanding the eligibility of its existing Global Innovation Strategy to allow Australian businesses and researchers in any country around the world to access its grants program, while it will also be launching a new funding stream focused exclusively on those based in Asia.

The newly created Department of Home Affairs will receive $130 million to improve its ICT infrastructure, paving the way for an upgrade to the capacity and performance of its connected information environment and its analytics and threat management capabilities and the establishment of the platform for the enterprise identity management system.

Other smaller technology initiatives include:

- $1 million over two years for a review of existing domestic and international measures of innovation in an effort to develop new metrics in the area. This funding will come from existing resources in the Department of Innovation.
- $70 million this financial year to replace and upgrade Australia's computing and data capability at the Pawsey Supercomputing Centre in Western Australia.
- A further $4.5 million over four years towards encouraging more women to enter STEM studies and careers, contributing to the Women in Science Strategy, a new Women in STEM Ambassador and to the development of the STEM Choices resources kit.
- $9 million over four years for the Department of Parliamentary Services to establish a cyber security operations centre, which will improve the cyber security of the parliamentary computing network.
- $2.9 million The Civil Aviation Safety Authority to manage safety standards and associated compliance for recreational and commercial drone technologies in Australia.
- $600,000 in funding in 2018-19 for the development of a business case to modernise IP Australia's patent management system and streamline access to its services through digital channels.
- A minuscule $100,000 for promoting Australia internationally as a FinTech destination.

Conclusion

This is very definitely an election budget. It is designed to appeal to many of the Government's key demographics, to appeal to as many people as possible and to offend as few as possible. It will probably be successful in those aims.

The budget has made some great strides in certain areas, and in particular the reforms to personal taxation. On the innovation front, there are investments in artificial intelligence, an Australian Space Agency, and improving the GPS system in both rural and metropolitan areas. Clarifications to the R&D investments and rebates scheme are also welcome, particularly for those in the start-up sector.

While there will always be debate around the budget, this one moves the pieces forward in meaningful ways, and is therefore a welcome development for Australia and Australians.

About Wrays

Wrays is one of Australia's largest independent intellectual property (IP) firms. Wrays' exceptional technical, legal and business experts provide services in the recognition, protection and prosecution of IP rights across a broad range of industries and technologies, helping companies achieve their innovation goals and overcome business challenges.

Wrays is frequently shortlisted as one of the leading IP and boutique law firms in Australia. For more information, visit www.wrays.com.au.

About InnovationAus.com

InnovationAus.com provides news and commentary on public policy issues related to the technology sector in Australia. The local market has a well-earned reputation for producing sophisticated users of technology, but has had only mixed success of developing and commercialising products for world markets.

Governments can play an important role in creating a business environment in which innovative ideas can flourish. Policy levers related to education, skills, access to capital, taxation, intellectual property protection, technology procurement, and export industry support can all play a role in assisting small Australian companies to become large Australian companies.

InnovationAus.com aims to provide Australian industry with news and insights into the public policies that can help or hinder the development of the local technology sector. Armed with a better understanding of policy development, it is hoped the indigenous tech industry can then engage more successfully with governments and policy makers.

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