

SYDNEY AS AN INNOVATION HUB

Taskforce Report

June 2017

www.globalaccesspartners.org

Executive Summary

- ▶ Innovation is an ever-more important driver of individual, commercial and national growth. Australia cannot compete by making things cheaper, it must do things first, and in a globalised economy it must **think on an international scale**.
- ▶ Sydney can become an international innovation hub to rank alongside London, Singapore and Seattle by building on its social, economic and lifestyle assets to retain talent in Australia and draw entrepreneurs from around the world.
- ▶ Sydney is ideally placed to spearhead the government's drive to encourage Australian innovation, but could achieve more if the wealth of existing activity was coordinated **as part of an overarching strategy** to help realise the city's, and the nation's, collective potential.
- ▶ A plan for Sydney as an innovation hub must be supported by **a positive innovation culture** in government and industry. Strategies which emphasise cross-sectoral collaboration and prioritise commercialisation have the 'secret sauce' of success.
- ▶ The plan should **build on existing opportunities**, develop concrete projects and lead by example. The projects initiated by the GAP/PwC Taskforce – to build a \$3 billion space export industry for Australia and the 'mental wealth' of the nation – show what collaboration, enthusiasm and perseverance can achieve.
- ▶ An innovative, entrepreneurial, risk-taking **mindset** must be encouraged by the education system. Young people will increasingly have to create their own opportunities, rather than chase dwindling positions in major firms or the traditional professions.
- ▶ The growth of innovative firms is often hampered by a lack of customers, rather than initial investment. Governments can encourage their development by modernising **procurement** guidelines and soliciting innovative solutions to problem statements.

- ▶ The needs of **larger firms** and small-to-medium enterprises (**SMEs**) should not be ignored in the drive to encourage start-ups and entrepreneurs. Established companies already employ significant numbers of people, unlike start-ups, and must innovate to ensure their survival in today's fast-changing business world.
- ▶ Innovation can be fostered by **city planning and infrastructure design**. While targeted collaborations between inventors, entrepreneurs and other stakeholders can be productive, serendipitous interactions can produce the most unexpected and valuable results. A '**coffee houses culture**' drove the ascent of 17th-century London, and similar experiences should be nurtured and open to all across Sydney to harness the vitality of its ever-more diverse population.
- ▶ Australia should **incentivise** collaboration for both researchers and entrepreneurs to achieve the success enjoyed by academic commercialisation entities in Israel, the USA and the UK. The Yissum Research Development Company of the Hebrew University of Jerusalem, for example, offers a model for integrating research and commerce without compromising academic integrity or economic vigour.
- ▶ Australia's poor record of R&D commercialisation could be improved by guaranteeing researchers a share of commercial rewards. This will encourage them to seek symbiotic business partnerships, rather than view them with suspicion.
- ▶ Sydney's innovation ecosystem must be nurtured before it can be used to effectively market the city's identity abroad.
- ▶ Innovation must be linked to greater employment opportunities for our children, if Australians are not to reject it as a threat to current jobs. The innovation agenda must offer **opportunities and benefits for all Australians**.
- ▶ Despite substantial public investment and political rhetoric, the Australian public has not yet taken the innovation agenda to heart. Its advocates must therefore find new ways to present it, as well as better ways to deliver it. **Collaboration with artists and Indigenous** groups could help tell the story in an inclusive and engaging way.

GAP/PwC Taskforce

In December 2015, the institute for active policy Global Access Partners (GAP), in partnership with PricewaterhouseCoopers (PwC), invited individuals from business, government, academia, not-for-profits, start-ups and the financial sector to discuss the development of Sydney as a global innovation hub. The group, chaired by Kristin Stubbins, Partner at PwC, considered elements of a strategic plan to foster innovation from concept to commercialisation, a roadmap for its implementation and the benefits of coordinating current support activities.

The Taskforce met five times between December 2015 and November 2016, while another 20 sub-group meetings focused on the government's National Innovation and Science Agenda (NISA), Australia's nascent space industry, marketing and finance, and research by students at Ducere.

The Taskforce offered feedback to ASIC on its 'regulatory sandbox' and 'innovation hub' proposals, as well as three NISA proposals – the incubator support program, an entrepreneur visa, and digital literacy - and a NSW innovation strategy. The Taskforce also engaged with the Business Council of Australia, the Committee for Sydney, Jobs for NSW and then NSW Premier Baird.

Individual members, including Kristin Stubbins, David Hodges and Dr Jason Held, have also commented in the media on NISA. The Taskforce focused on practical implementation, rather than theoretical discussion, and its two practical outcomes are outlined in Appendix.

Context

The importance of innovation to Australia's future

Australia is blessed with plentiful natural resources, a resilient economy and a high standard of living and human capital. However, the primary industries which have driven growth in the past will not suffice in the future. Technology-driven disruption, from internet commerce and services to automation, artificial intelligence and 'big data', will transform employment as well as social interaction. If Australia is to compete in a modern, globalised, knowledge economy, it must lead, rather than follow, to benefit from change.

Innovation is an ever-more important driver of individual, commercial and national growth. Innovative Australian businesses are 31% more likely to increase their revenue and 46% more likely to increase profits than their traditional peers¹. They are twice as likely to report increased productivity, employment and training and three times more likely to increase investment in IT and increase their range of goods and services. Innovative firms also are twice as likely to export and five times more likely to find new export markets.

While calls for greater innovation are commonplace, the country remains unconvinced of its necessity. Innovation was a major plank of Prime Minister Turnbull's 2016 election campaign, but proved ineffective, as the public feared it would imperil their jobs and enrich a select few, rather than securing national prosperity. The issue has since slipped down the national agenda, and state and federal politicians must find new ways to sell the message to secure sustained political and public support. Innovation should not be seen as the preserve of trendy metropolitan tech-start-ups, but as the key for individuals and established companies of every size to both survive and thrive in the 21st century.

Sydney's Comparative Advantage

Sydney can become an international innovation hub to rank alongside London, Singapore and Seattle by building on its social and economic assets and attractive lifestyle to retain talent in Australia and draw entrepreneurs from around the world. Rather than mimic other centres, it must emphasise its unique mix of advantages. Australia is a secure and stable haven of growth and democracy in an uncertain world, and Sydney is Australia's largest city and one of the most 'liveable' and 'connected' conurbations on the planet. Sydney has a growing technology sector, a burgeoning start-up ecosystem, sophisticated financial, technical and IT services, and a thriving creative and artistic community. Its relaxed lifestyle, temperate weather, famous beaches and natural and man-made splendour all add to its global appeal. More immigrants and foreign visitors travel to Sydney than any other Australian city, making it a hive of multicultural vigour, as well as a magnet for young professionals². Sydney already has over 2,000 active start-ups, two thirds of the Australian total³, and hosts five world-class universities⁴. It ranked 14th in the 2016-2017 Innovation Cities Index⁵ and 8th in the 2017 global 'fintech' ranking⁶.

Sydney is therefore ideally placed to spearhead the government's drive to encourage Australian innovation. It is already one of the top twenty start-up cities in the world and has 10 major incubators or accelerators and more than 20 co-working spaces. Venture capital and investment firms investing in Sydney's start-ups include Blackbird, Southern Cross Venture Partners, OneVentures, Elevation Capital, Future Capital Fund, BlueChilli Fund, Artesian Venture Partners and Westpac Reinventure. However, research by Innovation and Leadership MBA students at Ducere Business School showed this wealth of existing activity **could achieve more if coordinated as part of an overarching strategy** to help realise the city's, and the nation's, collective potential.

Learning from Abroad

Analysis of successful innovation hubs such as Tel Aviv, Singapore and Silicon Valley suggests that a strategic plan is not enough in itself, but must be supported by a positive innovation culture in government and industry as well as the entrepreneurial sector. Strategies which emphasise **cross-sectoral collaboration** and prioritise **commercialisation** have the 'secret sauce' of success.

Israel, for example, is a 60-year-old nation of 7.1 million people and few natural resources which generates more technology start-ups than Australia, Japan, China, India, South Korea, Canada or the UK. Start-Up Nation, Dan Senor's celebration of 'Israel's Economic Miracle', notes that it attracts more than twice as much venture capital investment as the USA per capita and thirty times more than Europe. While this was kick-started by government incentives for foreign investors and benefits from military expertise, Israel's continued success is driven by a positive **mindset** and institutional collaboration, rather than accidents of geography or government decree.

Taskforce Chair Kristin Stubbins and GAP Managing Director Catherine Fritz-Kalish visited Israel on a trade mission⁷ in May 2016 and saw numerous examples of successful collaboration between universities, government and industry. The **Yissum Research Development Company**, for example, shows what can be achieved by integrating research and commerce without compromising academic integrity or economic vigour. Based at the Hebrew University of Jerusalem, Yissum is one of the most successful university-affiliated R&D commercialisation companies in the world. It has spawned more than 80 start-ups, licensed over 700 technologies and registered over 8,000 patents in medicine, agriculture and technology. A third of its profits are shared with academics to reward and incentivise research, and its international collaborations include Caltech, Cornell, Northwestern and Stanford. Yissum offers a model which Sydney's universities and business sector could embrace to succeed.

Teaching Innovation in Schools and Universities

An innovative, entrepreneurial, risk-taking mindset must be encouraged, rather than crushed, by the education system if future generations are to thrive. Young people will increasingly have to create their own opportunities, rather than chase dwindling positions in major firms or the traditional professions.

A number of NSW high schools run innovation courses, but these need **long-term commitment from innovators, financiers and other stakeholders** as well as **teachers** to be of practical utility. One Taskforce member visited six schools in Sydney and one in Albury, for example, to discuss ways to promote the NISA's priorities of STEM⁸ and digital technology. He found that while four schools already had innovation programmes and could find occasional speakers from business and industry, no professionals were willing to work long-term with students, despite constant calls from industry for more work-ready graduates.

Sydney's major universities all have innovation spaces, but their individual models of commercial partnership complicate efforts to inspire and unite academia and business. Research from the Ducere MBA student group not only revealed significant inconsistencies between the incentive schemes of ten of Australia's most prominent Universities, but the lack of collaboration between them. Australia will not achieve the success enjoyed by Yissum and similar academic commercialisation entities in Israel, the USA and the UK, if it does not properly **incentivise collaboration** for both researchers and entrepreneurs.

The Importance of Collaboration

Establishing Sydney as a global innovation hub will take more than funding research or encouraging the creation of start-ups. Firms of all ages, sectors and sizes must be encouraged to innovate and grow, and government and schools must embrace new methods themselves, as well as urge others to do so. As the Israeli experience demonstrates, collaboration among entities of diverse sizes and sectors, encompassing government, academia and not-for-profits as well as start-ups, larger companies and financial institutions, enriches the environment in which innovation can flourish.

A Taskforce subgroup also considered the needs of larger firms and SMEs which are often ignored in measures focused on start-ups and entrepreneurs. Established companies already employ significant numbers of people, unlike start-ups, and must innovate to ensure their survival in today's fast-changing business world. The subgroup argued that established businesses should also forge new connections with diverse stakeholder groups to identify areas of mutual interest and opportunity.

Australia's record of reaping a commercial dividend from its substantial investment in public research is poor because its collaboration between academia and industry ranks among the lowest in the OECD⁹. Guaranteeing researchers a share of commercial rewards will encourage them to seek symbiotic business partnerships, rather than view them with suspicion.

Success in Sydney would offer **a template for national development**, and the Taskforce stressed the need for Sydney to blaze a trail for the rest of the country. Just as stakeholders must collaborate in Sydney to succeed, so they must form relationships across the nation and the rest of the world to compete in a fast-moving and ever-more integrated globalised economy.

Creating a Strategic Plan

A strategic plan for Sydney must be more than merely aspirational, as other, more innovative, nations are already leaving Australia behind. The plan should build on existing opportunities to develop concrete projects and lead by example as well as exhortation. As part of a concerted and sustained innovation agenda, both state and federal governments must not only **reduce legislative barriers** to new solutions, but reject the self-serving entreaties of both union and commercial interests to preserve the status quo. Crowdsourced equity could be empowered by new legislation, for example, while the Sydney Stock Exchange could accept tradeable cryptocurrency tokens to give start-ups more financial flexibility.

Innovation is also a product of **city planning and infrastructure design**. While the importance – and low cost – of virtual collaborative and information platforms is often extolled, **physical proximity**, population density and attractive infrastructure remain vital drivers for interaction and the innovation that generates. While targeted collaborations between inventors, entrepreneurs and other stakeholders can be productive, serendipitous interactions can produce the most unexpected, and valuable, results.

Speaking at A Vision for Australia GAP 7th Annual Economic Summit on 15 September 2016 at NSW Parliament House, Chief Commissioner of the Greater Sydney Commission Lucy Turnbull AO related the historical importance of the 17th-century London **coffee houses** to the agglomeration of knowledge work in Sydney today. London was the first ‘global city’ of the modern age, and many of the ideas which powered its ascent were first discussed around a café table. That ‘coffee house experience’ should be nurtured across the city of Sydney and be open to all to harness the vitality of Sydney’s ever-more diverse population.

While innovation must be driven by individual ingenuity and the quest for commercial gain, **customers** are as important to success as suppliers. Just as entrepreneurs must take risks to build businesses, so state and federal governments can be more imaginative in their **procurement** to deliver better public services at lower cost. The growth of innovative firms is often hampered by a lack of customers, rather than initial investment, and governments can encourage their development by soliciting innovative solutions to problem statements, rather than issuing traditional tenders. Government can bring players together to pursue new opportunities through public-private partnerships and novel collaboration mechanisms, just as universities and businesses must collaborate, but firms must have paying customers to thrive.

A strategic plan will only succeed if it aligns with the self-interest of the stakeholders involved. Inventors, entrepreneurs, companies, academics, investors and government all respond to incentives, and these must be aligned to commercial objectives if economic success is to be achieved. Innovation is more than merely invention: it requires the successful delivery of goods and services to the marketplace. However, for a more innovative culture to gain public support, the economic and social consequences of change must improve the lives of Australian people.

Marketing the Message

A successful campaign must be bold enough to inspire political, stakeholder and public support, but should not undermine its credibility by promising more than it can deliver. Its message should evolve in an agile fashion, with ‘proof points’ delivered over time to substantiate its claims and encourage greater activity. The needs of different stakeholders are not identical, and so appropriate messages must be delivered to each sector to secure their support.

Sydney’s innovation ecosystem must be nurtured before it can be used to market the city’s identity abroad. Similarly, innovation must be linked to greater employment opportunities for our children, if the public is not to reject it as a threat to current jobs. Innovation is not merely for start-ups or industry as a whole, but can be embraced by the city as a whole. Innovative transport solutions can ease congestion and reducing housing costs. Innovative energy generation can boost security and sustainability while reducing costs. We must think of innovation in more innovative ways to secure support for the agenda and drive its success.

A more innovative Sydney will not only be a more vibrant, creative and attractive city for inventors and entrepreneurs, but a more affordable, liveable, sustainable city for us all. The innovation agenda must offer opportunities and benefits for all Australians. Despite political rhetoric and substantial public investment, the public has not yet taken the innovation agenda to heart, and so its advocates must find new ways to present it, as well as better ways to deliver it. Collaboration with artists and Indigenous groups could be as important in telling this story in an inclusive and engaging way, as collaboration between industry, government and academia will be in achieving results.

Conclusion and Next Steps

Success for individuals, firms and nations in every sphere of human endeavour is a product of attitude as much as circumstance. A 'growth mindset' will always be more productive than a belief that abilities, and therefore outcomes, are fixed. Australia cannot compete by making things cheaper, it must do things first, and in a globalised economy it must think on an international scale.

A conscious effort to make Sydney a hub for international innovation would signal the nation's intent to succeed and be a major step to achieving that aim.

Appendix

Case study 1: InnoWell Pty Ltd – Building the mental wealth of our nation

Three members put the principles the Taskforce espoused into practice by creating a company to commercialise techniques to build ‘mental wealth’.

Professor Jane Burns of the University of Sydney and Kristin Stubbins and Louise Halliwell of PwC combined their skills in research and commerce to incorporate InnoWell Pty Ltd in February 2017.

The company will create a ‘white-labelled’ technology platform to connect consumers and clinicians with a range of customised solutions to support mental health and wellbeing. It will also offer a suite of health and wellbeing apps to help users design a personalised plan to monitor and maintain their mental health and an online primary care clinic to deliver personalised clinical support through customised assessments and care plans.

InnoWell will support the Government’s 2016 election commitment to reform mental health services by holding 12 community research trials to explore ways in which technology can help people manage their conditions. The Prime Minister will formally announce \$30m to fund these trials in 2017.

Case study 2: The development of a \$3 billion export-oriented space industry in Australia

Following one of the Taskforce's recommendations, in October 2016 GAP established a 'Space Tiger Team' to explore commercial space opportunities for Australia and stress the strategic imperative of independent capacity.

The Space Tiger Team included Andrea Boyd, an Australian International Space Station (ISS) controller, Dr Andrew Thomas, the Australian-born four-time shuttle astronaut, and Prof Gregory Chamitoff, who spent 199 days aboard the ISS. Other members included Australian and international scientists, analysts and entrepreneurs.

The Team met six times between October 2016 and January 2017 and offered three policy submissions to the Australian Government. With the support of the Department of Industry, Innovation and Science, GAP launched an Australian Space Initiative (ASI) in April 2017 and established a new Taskforce on Space Industry to implement the Team's recommendations. The Taskforce will develop a 10-year strategy for Australia to create 5,000 high-tech jobs and a \$3 billion space export industry by 2027. It will report to the Australian Government in August 2017.

The industry-driven development of a vibrant and internationally competitive space sector will inspire a new generation of engineering and science students and stem the 'brain drain' of technology talent abroad. The ASI will leverage Australia's expertise in spatial data, foster links with international agencies and projects and transfer ground-breaking space technology to other industries. As well as designing, building and launching satellites, new space based data and activity could optimise mining operations, create smarter cities, enable precision agriculture, improve transport logistics, ease insurance planning, upgrade telecommunications and support emergency services.

Taskforce Participants

Holger Arians - Chief Executive Officer, Dominet Digital
 Olga Bodrova - COO & Director of Research, Global Access Partners
 Andrew Brough - Director of Changemaking & Youth Enterprise, Foundation for Young Australia
 Prof Jane Burns - Professor of Innovation & Industry, The University of Sydney
 Scott Draper - MBA Graduate, Ducere Business School
 Peter Fritz AM - Chairman, Global Access Partners, Group Managing Director TCG Group
 Catherine Fritz-Kalish - Co-Founder & Managing Director, Global Access Partners
 Louise Halliwell - Public Policy & Regulatory Affairs, PricewaterhouseCoopers
 David Hechter - Head of Innovation & Implementation, Asset Finance Division, St George Bank
 Dr Jason Held - Director, Saber Astronautics
 David Hodges - Managing Director, Loc8
 Margaret Hudson - Director, Corporate Engagement & Advancement, Macquarie University
 Mike Lawson - Head of Strategic Policy, Department of Industry, Innovation and Science
 Carolin Lenehan - Director, Industry Connect, NSW Department of Industry
 Andrew Lewis - Director, Policy, Office of the Hon. Anthony Roberts MP, NSW Minister
 Marcus Moufarrige - Chief Operating Officer, Servcorp
 Craig Shapiro - Chief Executive Officer & Founder, Blue River Group
 Kristin Stubbins - Partner, PricewaterhouseCoopers (Taskforce Chair)
 Dr David Thorp - Principal Advisor, NSW Treasury
 Dominic Walsh - Managing Director, Landor Australia
 Craig West - Chief Executive Officer, Succession Plus

Endnotes

- ¹ 2014 Australian Innovation System Report
- ² The Compass Global Startup Ecosystem Ranking 2015
- ³ Startup Muster 2016
- ⁴ The QS World University Rankings 2014/15
- ⁵ Innovation Cities Index 2016-2017
- ⁶ Connecting Global FinTech: Interim Hub Review 2017
- ⁷ Australia-Israel Chamber of Commerce Female Business Leaders' Trade Mission 2016
- ⁸ Science, technology, engineering and mathematics
- ⁹ Global Innovation Index 2017