



NSW Innovation and  
Productivity Council

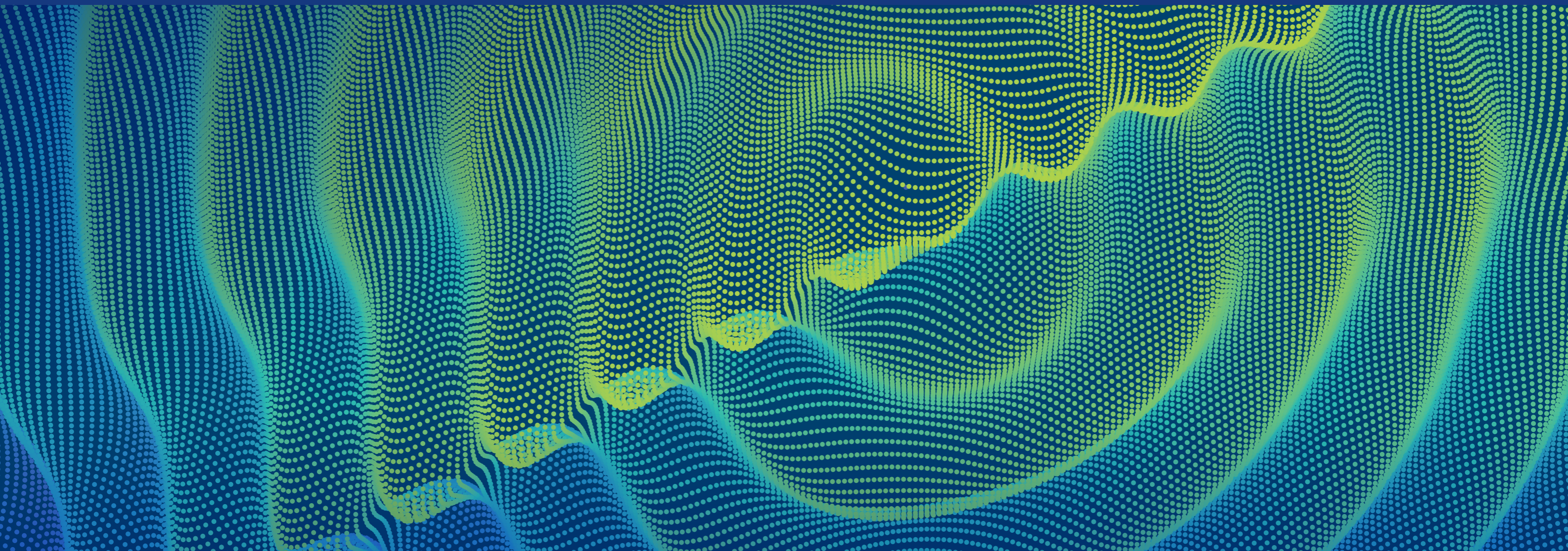


NSW Innovation and Productivity Council  
Quality, Independent, Influential

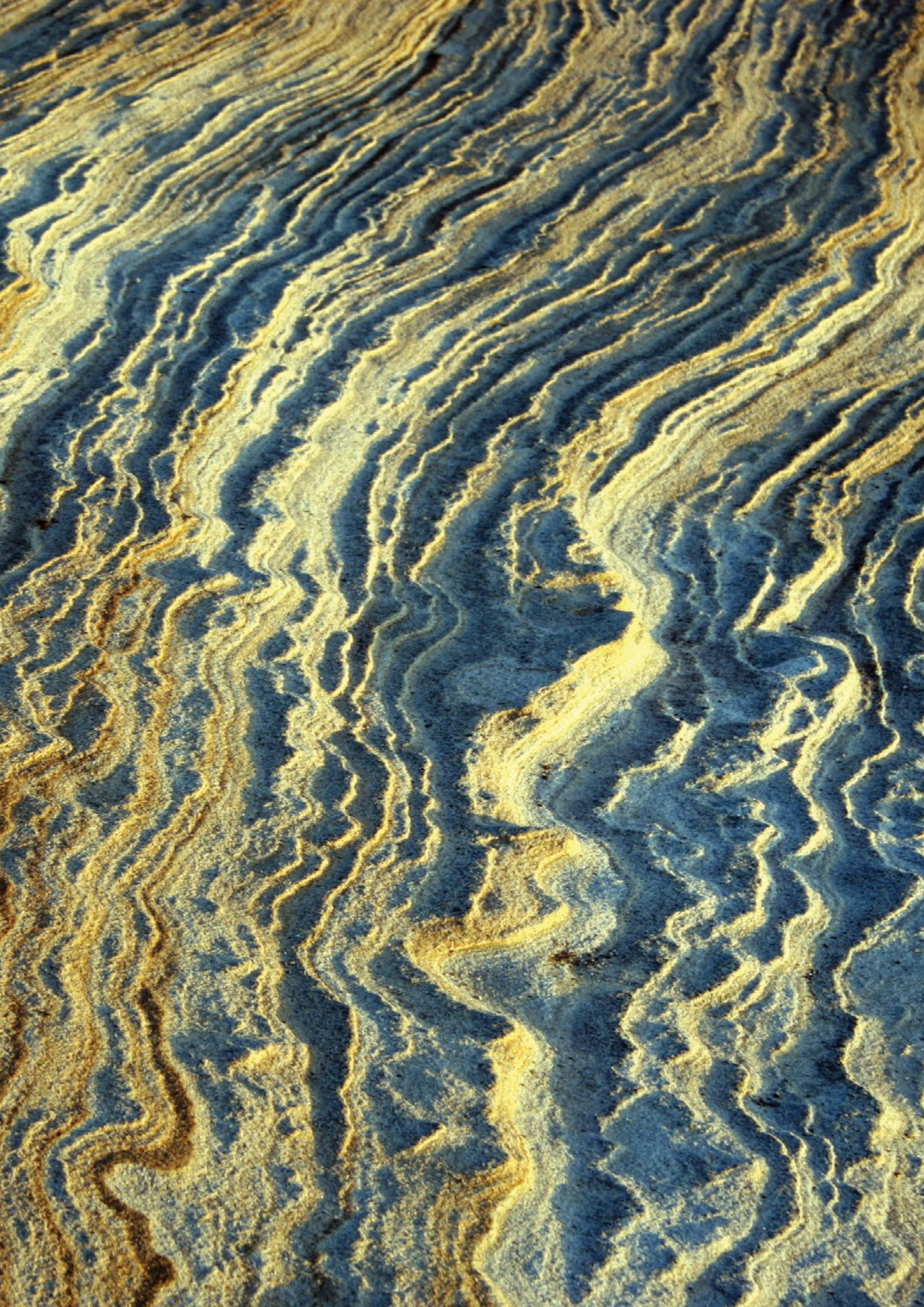
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# Influencing the innovation agenda to change tomorrow

2021 Annual Report







# Contents

## Acknowledgement of Country

Investment NSW acknowledges that Aboriginal and Torres Strait Islander peoples are the First Peoples and Traditional Custodians of Australia. We thank them for their custodianship of Country – land, seas and skies. We acknowledge the diversity of First Nations cultures, histories and peoples, recognise their enduring connection to our State, and we pay our deepest respects to Elders past, present and emerging.

### Contact

The NSW Innovation and Productivity Council welcomes feedback and inquiries regarding their publications, websites, and media.

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# Chair's year in review

I am proud to Chair the NSW Innovation and Productivity Council (IPC) since it was refreshed in 2016. We are a group of leaders from across industry, government, and academia who come together to provide unique, independent, evidence-based advice to NSW Government on innovation-led economic development.

Our approach is to undertake detailed research on innovation, covering emerging trends and international best practice to inform our recommendations on ways to maximise the competitiveness of NSW for the benefit of the community.

Our research tackles complex economic and societal challenges. Since 2018 we have released 10 independent reports on a wide range of issues affecting innovation and productivity in New South Wales. Our publications include:

- > *New South Wales' first Innovation and Productivity Scorecard* to benchmark our performance against other economies,
- > *Easier Access to Government Business Services* which looks at how government business services can be more responsive to business needs,
- > *NSW Innovation Precincts* drawing on global best practice to inform precinct development in NSW,
- > *Innovation in the NSW Environmental Goods and Services Sector* providing an economic profile of this sector for the first time, and opportunities for NSW's clean economy,
- > *Let's Collaborate* exploring the opportunities and challenges for small business collaboration with research organisations, and
- > *NSW Remote Working Insights Series* examining remote and hybrid working.

Our reports and recommendations have influenced government thinking on a broad range of issues.

I am particularly proud of our work that helped drive the creation of the NSW Circular Economy Innovation Network, our research that informed the NSW Government's *Turning ideas into jobs R&D Action Plan*, and our innovation precincts research that is continuing to help shape thinking on how to develop successful innovation precincts in NSW.



Our upcoming work includes a report on Global Talent Wars, a series of reports on place-based Innovations, as well as a comprehensive review of the long-term policy directions for NSW to meet the challenges and opportunities of the future of work.

**Neville Stevens AO**  
Chair, NSW Innovation and Productivity Council

# Executive Member's message

The past year has been incredibly challenging and an unprecedented time for people in New South Wales.



We have done a fantastic job of keeping the economy strong during the pandemic, while also focusing on the health and safety of our citizens. But now – perhaps more than ever before – our businesses are needing to be more innovative, more agile, and more resilient.

Investment NSW was established in March 2021 to help attract investment from local and global businesses, and boost jobs and skills to continue to drive economic recovery. We also help Australian businesses scale up and 'go global' for maximum jobs growth. And we showcase to the world all that NSW has to offer to business, visitors, students, and global talent.

A critical aspect of Investment NSW's work is the partnerships it has with leaders across industry, academia, and government. I'm thrilled to join the Council as the NSW Government's Executive Member, and to be able to draw on the IPC's expertise and robust, evidenced-based research to inform government's thinking.

We want to make sure our policies and programs are applying international best practice and delivering value for the taxpayer. The IPC's research and recommendations provide important insights for policymakers on how we are tracking against our competitors, and where we can do better.

The speed of change across the economy is increasing, and government must also speed up its response and adapt quicker than ever before. I look forward to working with the IPC in the coming year to find new ways that government can collaborate with industry and researchers, to accelerate innovation across the state, and in turn, create greater economic opportunity for all NSW residents.

**Amy Brown**  
Chief Executive, Investment NSW

# Our role

We are a group of leaders from across industry, science, government, and academia who come together to advise the NSW Government on innovation-led economic development and productivity to ensure our ongoing prosperity.

Our advice is backed by leading-edge research on innovation and productivity. Our publications cover emerging trends and international best practice. Publications include the New South Wales' first Innovation and Productivity Scorecard, and our reports on NSW Innovation Precincts, SME-research collaboration, and opportunities for NSW's clean economy, among others.

The Council reports to The Hon. Alister Henskens MP, Minister for Skills and Training, Science, Innovation and Technology.

The IPC is supported by Investment NSW, established in March 2021 to operate at the heart of government and ensure the NSW economy prospers into the future.

# Quality

We undertake bold, high-quality research.

# Independent

Created by the Innovation and Productivity Council Act 1996, the IPC is an independent statutory body, marshalling expertise to drive innovation in NSW.

# Influential

Based on relevant, forward-looking research, we provide advice to inform decision-making by NSW Government to enhance our ongoing prosperity.



“The Council brings together some of the brightest minds from industry, science, government, and academia to deliver unique, quality research on important topics.”

**Professor Ian Jacobs**  
IPC Member, and former Vice-Chancellor and President of UNSW Sydney



“The IPC’s report on Innovation in the NSW environmental goods and services sector **was the key driver** for our NSW Circular Economy Innovation Network.”

**Professor Hugh Durrant-Whyte**  
NSW Chief Scientist and Engineer and Special Advisor to the IPC



# Our members

Our members are eminent experts from across industry, academia, and government. Members are appointed by the Governor of New South Wales for a three-year term. The current Council was appointed in December 2019.



**Neville Stevens AO**  
Chair

Mr Stevens has extensive experience chairing panels and reviews in the private and public sectors and is a distinguished former public servant who headed two major Australian Government departments. He was made an Officer of the Order of Australia in 2003 for service in the field of public sector administration.



**Professor Attila Brungs**

Professor Attila Brungs is Vice-Chancellor and President of UNSW Sydney and former Vice-Chancellor and President of UTS. As Vice-Chancellor of UTS, Professor Brungs was instrumental in the university's rise as a top university globally, and championed collaboration with industry to tackle real-world research problems.



**Peter Freedman AM**

Peter Freedman is a member of the Order of Australia in recognition for significant service to business, manufacturing and export, and his philanthropic support of cultural events. He is the Founder and Chairman of RØDE Microphones — a leading Australian audio company and multiple Australian Export Awards winner.



**Professor Barney Glover AO**

Professor Barney Glover is Vice-Chancellor and President of Western Sydney University, an Officer of the Order of Australia (AO) in recognition for distinguished service to tertiary education, and a distinguished academic leader. Professor Glover is currently the Australian Government representative on the University of the South Pacific Grants Committee. Convenor of the NSW Vice-Chancellor's Committee.



**Dr Tony Rumble**

Dr Rumble is a leading practitioner and innovator in the financial services sector. He is a leading academic contributor, and Director of The Wealth Partnership Pty Ltd. Dr Rumble has held numerous roles including: Senior Partner, PwC, consultant for and member of Australian Government taxation review panels.



**Steve Sammartino**

Mr Sammartino is a futurist, author and entrepreneur holding multiple advisory board positions in start-ups involved in a variety of disruptive technologies. Steve authored two tech strategy books, *The Great Fragmentation* and *The Lessons School Forgot: How to Hack your Way Through the Technology Revolution* and is a media commentator on technology and the future on the ABC.



**Dr Richard Sheldrake AM**

Dr Sheldrake had a 38-year career in the NSW Public Service, and was Director-General of four Departments between 2002 and 2013, when he retired. Richard has had a long-term commitment to rural Australia and is currently a member of the Board of the Academy of Technological Sciences and Engineering, and The Crawford Fund.



**Professor Brigid Heywood**

Professor Heywood is Vice-Chancellor and CEO of UNE. Professor Heywood previously held academic leadership positions at Keele University and The Open University in the United Kingdom, Massey University in New Zealand.



**Professor Ian Jacobs**  
BA, MA, MBBS, MD, FRCOG

Professor Jacobs is the former Vice-Chancellor and President of UNSW Sydney. In the UK, Professor Jacobs spent 30 years leading research on ovarian cancer, combining roles as a cancer surgeon and Professor of Women's Health at University College London and Vice President of the University of Manchester.



**Jillian Kilby**

Jillian is a Civil Engineer with a Master of Business and a Master of Public Policy from Stanford University, and Australian Sir John Monash Scholar and 2018 Agrifutures NSW/ACT Rural Woman of the Year. Jillian established the Infrastructure Collaborative, an advisory business and in 2018, 'The Exchange', an innovation hub and coworking space serving Regional NSW.



**Professor Alex Zelinsky AO**

Professor Zelinsky is Vice-Chancellor and President of the University of Newcastle and an Officer in the Order of Australia (AO) for distinguished service to defence science and technology, systems engineering, and education as an academic and researcher. Prior to joining the University, Professor Zelinsky was Chief Defence Scientist within the Department of Defence.



**Professor Hugh Durrant-Whyte**  
Special Advisor to Council

Hugh Durrant-Whyte is the NSW Chief Scientist & Engineer and Natural Resources Commissioner. Prior to his appointment, Hugh was Chief Scientific Advisor to the UK Ministry of Defence. Hugh is a world-leading authority on machine learning and robotics.



**Stephen Walters**  
Special Advisor to Council

Stephen Walters is Chief Economist for NSW Treasury. He joined Treasury in July 2018. Previously, Stephen was Chief Economist with the Australian Institute of Company Directors (AICD) and investment bank JPMorgan, from October 2001 until February 2016. He has published three books.



**Amy Brown**  
Executive Member

Amy is Chief Executive Officer of Investment NSW. She is passionate about improving the quality of life for the people of NSW. Prior to Investment NSW, Amy was Deputy Secretary at the Department of Premier and Cabinet and before this, Amy was a partner with PwC's Infrastructure and Urban Renewal Business.





# Informing NSW Government policy and programs

Since 2018, we have released 10 independent reports on a wide range of issues affecting innovation and productivity in New South Wales.

Our publications examine international emerging trends, provide in-depth case studies, present new data and modelling, and provide best practice guidance, to ensure policymakers are informed with the best available research and evidence.

Our recommendations have informed the development of NSW Government policies and programs across issues including remote and hybrid working, innovation precincts, SME-research collaboration, and opportunities for NSW's clean economy, among others.

Our 15-year projections of the state's future industries, workforce composition, and skills needs, was published in the future of work chapter of the 2021-22 NSW Intergenerational Report.

In November 2020, we made a joint submission with the NSW Productivity Commission to the Select Committee on the impact of technological and other change on the future of work and workers in NSW, referencing the IPC's NSW Remote Working Insights series and the Adaptive NSW project.

Here's a snapshot of our recent achievements.



"The IPC's *Let's Collaborate* report and *NSW Innovation and Productivity Scorecard* informed the NSW Government's *Turning Ideas into Jobs: Accelerating R&D in NSW Action Plan*. They were a key resource on industry-research partnerships and their role in competitively positioning NSW to grow new jobs and future industries."

**Neville Stevens AO**

Chair, NSW Innovation and Productivity Council, and Member of the Accelerating R&D in NSW Advisory Council



# Our publications



## Let's Collaborate: SMEs using research to drive innovation

Insights and recommendations from the *Let's Collaborate* report informed the NSW Government's *Turning ideas into jobs R&D Action Plan* led by the Hon. Gabrielle Upton MP. Since the report was released, the NSW Government has also established:

- > Small Business Innovation Research program providing \$24 million over two years in competitive grants for NSW SMEs to develop and commercialise innovative solutions to pressing problems facing the state
- > Innovation Partnership Agreements with all NSW universities
- > R&D missions for larger scale translation and development, and
- > Commenced development of a digital R&D Matchmaking Platform.



## Easier Access to Government Business Services: A clearer pathway for businesses and startups

NSW Government established Service NSW for Business as the 'one stop shop' to government services for small business in NSW reflecting our recommendation for a central 'Business Hub' to streamline business support in our *Easier Access to Government Business Services* report.



## NSW Innovation Precincts: Lessons from international experience

Our report has played a key role in shaping Australian thinking in how we develop innovation precincts and was a key input to the Australian Government's *Statement of Principles for Australian Innovation Precincts*. NSW Government continues to use the report to inform its approach for NSW's innovation precincts in places such as Tech Central, Westmead and the Western Sydney Aerotropolis as well as strategies such as *Health Infrastructure's Health Precincts Strategy*. The report continues to be cited and referred to by policymakers, and was downloaded more than 250 times in 2021\*, more than three years after the report was released.

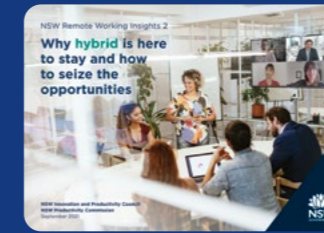
\* Downloads were in an eight-month period when data was available.



## NSW Remote Working Insights 1: Our experience during COVID-19 and what it means for the future of work

The first report in this series unpacks our experience during COVID-19 and what it means for the future of work. The report:

- > uses Faethm's Artificial Intelligence Predictive Analytics Platform to assess the underlying potential for the NSW workforce to work remotely
- > presents insights from the IPC's 2020 Remote Working Survey of 1,500 NSW remote workers –shedding light on shifts in preferences, attitudes, time use, labour productivity, and industry – and occupation-specific impacts
- > analyses the literature to provide a balanced, evidence-based view of what a shift towards remote working means for NSW policymakers, businesses, and the public, and
- > explores a 'hybrid model' that could combine the best aspects of both remote and on-site work.



## NSW Remote Working Insights 2: Why hybrid is here to stay and how to seize the opportunities

The report presents where NSW remote working patterns may settle when the pandemic ends. It examines remote working patterns in early 2021, when community transmission of COVID-19 was minimal and health restrictions had eased.

The two reports in the *NSW Remote Working Insights Series* informed the:

- > Greater Sydney Commission's *City-shaping Impacts of COVID* report
- > 2021-22 *NSW Intergenerational Report* and a supporting Treasury Technical Research Paper
- > Commonwealth Productivity Commission's *Working from home* research paper, and
- > NSW Productivity Commission's White Paper 2021, *Rebooting the economy*.



## NSW Innovation and Productivity Scorecards 2018 and 2019

Our Scorecards are a unique product, with New South Wales the only State to benchmark its innovation ecosystem performance against other states and international economies.

The 2018 and 2019 Scorecards helped NSW policymakers compare NSW's performance on a range of innovation and productivity measures. The findings resulted in more concentrated government attention on R&D collaboration with business and SME's in particular, which the Council looked at in depth in its recent *Let's Collaborate* report.

The Scorecard insights were also a key input into the *Turning ideas into jobs R&D Action Plan* led by the Hon. Gabrielle Upton MP.



## Innovation in the NSW Environment Goods and Services Sector

Our recommendations were a key driver of the NSW Office of the Chief Scientist and Engineer's creation of the NSW Circular Economy Innovation Network and were also an input into the EPA's China Sword review.



## Business Size Report: A profile of employing businesses in NSW and Australia by size

Our report continues to inform the development of policies and programs that drive economic development and support job creation because it provides, for the first time, key data on the economic contribution and distribution of NSW's employing businesses.



## The Innovation Economy: Implications and Imperatives for States and Regions

Authored by cities expert, Professor Greg Clark on behalf of the Council to inform our research program. The report explores the importance of the innovation economy and how international governments are supporting its growth. The report continues to provide policymakers with an overview of global trends and the international experience of states and regions that support a strong innovation economy.

### Social media<sup>^</sup>

**33,722** Social media impressions

**19,223** Video views across LinkedIn, Facebook, Twitter, and the IPC's website

### Website traffic

**2,709** IPC report downloads in the last year

**13,326** Unique website views

<sup>^</sup> During the period November 2020 to July 2021, when IPC web pages were hosted on NSW Treasury website





# NSW Remote Working Insights Series

During COVID-19, NSW saw a dramatic shift to remote working, but we did not know the magnitude of the shift, whether it was permanent, or the economic implications. This led us to launch the *NSW Remote Working Insights* series to provide new evidence and insights on the longer-term implications of remote working for New South Wales, supporting policy development and workforce planning into the future.



“While this time has been challenging, it has also presented us with an amazing opportunity to keep pushing further on this flexible way of working-and stretch our imaginations to build what work could look like and how we can clear barriers for us to do the best work of our lives. We will no longer be held back by the old way of doing things - being cautious, fiercely protecting our norms and not reaching great talent beyond our offices”

**Scott Farquhar**  
Atlassian co-CEO and co-founder



## NSW Remote Working Insights 1: Our experience during COVID-19 and what it means for the future of work.

The first report in the series, *Our experience during COVID-19 and what it means for the future of work*, was released on 4 November 2020 and focuses on the experiences of NSW remote workers. The report uses Faethm’s Artificial Intelligence Predictive Analytics Platform to assess the underlying potential for the NSW workforce to work remotely.

It presents insights from the IPC’s 2020 Remote Working Survey of 1,500 NSW workers who can work remotely in their current job (‘remoteable workers’) — shedding light on recent shifts in preferences, attitudes, time use, labour productivity, and industry, and occupation-specific impacts.

It sets out our analysis of the literature, to provide a balanced, evidence-based view of what a shift towards remote working means for NSW policymakers, businesses, and the public.

### Key report findings

- > COVID-19 prompted many employers and workers to try remote working for the first time, generating a cultural shift in the way we work.
- > By May 2020, in response to the pandemic, 43% of all work in NSW was being done remotely.
- > NSW workers that could work remotely reported being 13% more productive, on average.
- > NSW workers saved an average of 1 hour and 17 minutes per day from not commuting to work, which equates to about \$860 in saved travel costs per year.
- > Collaboration and social isolation were found to be key challenges.
- > The most popular preference was for a ‘hybrid model’ that combines remote and on-site work.

“The shift to remote working is turbocharging innovation. Organisations are fast-tracking tech investments, digitising processes, moving online, and upgrading cyber security.”

**Steve Sammartino**  
IPC Project Champion







## NSW Remote Working Insights 2: Why hybrid is here to stay and how to seize the opportunities

We partnered with the NSW Productivity Commission on a second report in the series to further explore the productivity potential of remote and hybrid working.

This report presents some of the first data on where NSW remote working patterns may settle when the pandemic ends. It examines remote working patterns in early 2021, when community transmission of COVID-19 was minimal and health restrictions had eased. The report includes insights from a follow-up survey of 1,500 NSW remoteable workers collected from March to April 2021 as well as insights from employers from interviews with 12 diverse organisations, and consultations with eight peak bodies.



↑1.9%  
boost to NSW  
productivity

\$6b  
a year added  
to NSW Gross  
State Product

“Our modelling suggests that after the pandemic, the shift to remote and hybrid working could raise NSW’s productivity by 1.9% or \$6 billion a year in 2021 dollars, making it one of the biggest boosts to NSW productivity in recent years.”

**Peter Achterstraat AM**  
NSW Productivity Commissioner



### Key report findings

- › When health restrictions eased in early 2021, 30% of all work tasks in the NSW economy continued to be done remotely. If this pattern continued after the pandemic, almost a third (\$165 billion a year in 2021 dollars) of NSW’s total Gross State Product would be produced through remote work, up from around a fifth in 2019.
- › The COVID-induced rise in remote work could raise NSW’s productivity permanently by 1.9 per cent, or \$6 billion a year (in 2021 dollars) – one of the biggest boosts to NSW productivity in recent years. This translates to an extra \$1,800 a year for the average NSW household.
- › Workers report that remote working reduces their commuting time, improves their sense of wellbeing, and allows them to work flexibly around their other commitments and activities. For employers, remote working opens access to wider labour pools, increases employee engagement, and reduces staff turnover. It also makes them more resilient to future shocks and stresses.
- › We are not seeing the ‘death of the office’. When restrictions lifted, hybrid working was the most popular choice for remoteable workers and their employers. Most workers do not want to work remotely full-time and enjoy coming into the office for collaboration, team building, and social contact. Employers and workers view hybrid working as a ‘win-win’ because it combines the benefits of remote and on-site work.
- › Leading organisations are adopting innovative policies, processes, and initiatives to support remote and hybrid working. These include tailoring flexible working arrangements to individuals, roles, and teams; experimenting with different policies and arrangements; reshaping the office and work practices; finding new ways to measure work; and building strong and inclusive hybrid working cultures.

### Policy impact

Contributing to policy discussions on remote and hybrid working and referenced in:

- › Greater Sydney Commission’s *City-shaping Impacts of COVID* report.
- › *2021-22 NSW Intergenerational Report* and a supporting Treasury Technical Research Paper.
- › Commonwealth Productivity Commission *Working from home* research paper.
- › NSW Productivity Commission White Paper 2021, *Rebooting the economy*.

Presentations were delivered to:

- › Commonwealth Productivity Commission
- › Greater Sydney Commission
- › NSW Department of Education
- › NSW Department of Planning, Industry and Environment
- › NSW Office of Sport
- › NSW Treasury
- › Shaping Futures team in the NSW Department of Premier and Cabinet
- › The Centre for Work Health and Safety
- › Transport for NSW
- › Infrastructure NSW
- › Infrastructure Australia.

#### Social media

Video featuring IPC Project Champion, Steve Sammartino:

7,861 Social media impressions

4,713 Video views across LinkedIn, Facebook, Twitter, and the IPC’s website

#### Website traffic

3,387 Unique views of the report webpage

1,397 Report downloads



### Media coverage

The Minister for Jobs, Investment, Tourism and Western Sydney published a media release on 4 November 2020 to launch the first report in the NSW Remote Working Insights series. This featured quotes by IPC Project Champion, Steve Sammartino, and had a potential audience of over 3.8 million people.

Our NSW Remote Working Insights series has generated news items, including:

**The Australian and news.com.au**  
*Study: Remote working two days a week can save someone \$860 over the course of a year.*  
4 November 2020.

**The Mandarin**  
*Policymakers need data to tackle ‘broad and deep’ changes caused by remote working, NSW productivity body says.* 4 November 2020.

**www.mybusiness.com.au**  
*Remote working to stay above pre-COVID levels, report finds.* 6 November 2020.

**sydneytimes.net.au**  
*Covid-19 leads to changes in how we work.*  
18 November 2020.

**Sydney Morning Herald**  
*Slacking off working from home? The productivity tsar doesn’t think so.* 12 July 2021.





# Easier Access to Government Business Services report

Running a successful business is challenging at the best of times. Businesses face the complexities of managing day-to-day operations, employing, and retaining the right people, maintaining cashflow and balancing budgets, all while trying to stay competitive and innovative in a global marketplace.

Recent events have seen circumstances become even more difficult. NSW businesses have been affected by drought, bushfires, and COVID-19, and the difficult economic conditions of a recession. It is therefore more important than ever that businesses get the maximum value from the government business services on offer.

**In our report, we:**

- > draw from international innovation and business services best practice on how the most effective governments coordinate their services to increase accessibility for businesses and streamline operations, and
- > make recommendations on the effective implementation of a preferred model to provide a seamless customer experience for businesses.



**Key report findings**

- > NSW businesses struggle to find the right online service as there is too much information and not enough guidance on how to find and use NSW Government services available. For example, the IPC found that within NSW Government support services there are around 20 potential entry points for a prospective new business.
- > Many overseas jurisdictions have implemented a 'business hub' solution to this problem.
- > We make six recommendations to streamline business support, including a one-stop-shop 'Business Hub' as the front door to NSW government services that builds connections over time to the broader innovation ecosystem to be able to provide a triage role to more specialised services outside of Government.
- > We identified Service NSW as the natural owner of a government Business Hub. Noting that effective implementation and adequate resourcing is critical to its success.

**Policy impact**

In October 2020, the NSW Government Delivery & Performance Committee approved Service NSW for Business as the 'one front door' to government services for business in NSW. This aligns with our recommendation for a central 'Business Hub' to streamline business support and Service NSW as the natural owner of the Hub. As the access point, Service NSW for Business helps streamline interactions with government by connecting businesses with services relevant to their needs. Service NSW for Business provides free, personalised support to business owners as they start, run and grow their businesses, and as they adapt and recover in times of crisis.

**Social media**

**5,182** Social media impressions  
**2,000** Views of Dr Rumble's video across social media and the IPC website

**Website traffic**

**292** Unique views of the report webpage  
**115** Report downloads  
**900+** Open rate for email with readers based in Australia, the United States, and the United Kingdom

**"The IPC's report looked at how government business services can be more responsive to business needs by providing timely and tailored advice to businesses, startups and scaleups, and improving the way they access government services. The right advice at the right time can be the difference between success and failure for mum-and-dad businesses and entrepreneurs."**

**Dr Tony Rumble**  
IPC Project Champion







# Let's Collaborate: SMEs using research to drive innovation

Small and medium businesses (SMEs) that collaborate with research organisations often see increases in productivity, and business growth, supporting their competitiveness in a global economy.

Our report *Let's Collaborate: SMEs using research to drive innovation*, examines the opportunities and challenges for SMEs collaborating with research organisations.

Following the impact of COVID-19, collaboration is more critical than ever, and there are increased opportunities for SMEs to collaborate with researchers because of the pandemic.

## In our report, we:

- > explore the potential benefits of collaboration for SMEs and the different ways they can partner with researchers
- > analyse how New South Wales and Australia compare internationally on collaboration rates and commercialisation of research, and the potential economic and productivity benefits of lifting current collaboration rates
- > provide insights on why there is a lack of collaboration between SMEs and researchers, and what good collaboration requires, and
- > provide seven recommendations for government and industry to incentivise academics, increase awareness for SMEs and bridge cultural differences.

NSW Innovation and Productivity Council  
**Let's Collaborate: SMEs using research to drive innovation**



## Key report findings

- > Collaborative research and development are powerful drivers of innovation and productivity, with businesses that collaborate with researchers reporting productivity increases from 4% to up to 16% a year.
- > Collaboration rates for Australia and NSW are very low compared to other countries. Only 3% of innovation-active SMEs collaborate in joint R&D projects with research organisations, compared to 14-16% of SMEs in the UK, Germany, and Finland.
- > There are a range of barriers that contribute to the lack of collaboration, including not knowing where or how to start, differing objectives, priorities and time horizons, as well as financial and resource constraints for SMEs.
- > The report recognises that government at all levels can play a vital role in bringing together SMEs and researchers. While research organisations, particularly universities, play an important leadership role in actively driving collaboration with businesses.
- > We recommend seven mutually supporting actions to increase SME collaboration and capitalise on New South Wales' research strengths. These actions seek to incentivise academics, increase awareness for SMEs and bridge cultural differences. NSW Government playing an important role in building SME awareness of the benefits from collaboration, helping broker connections, and providing financial incentives to boost collaboration.
- > Post COVID-19, business-research collaboration is critical to driving economic outcomes.



Policy impact

Since its release the NSW Government:

- > Delivered the Turning Ideas into Jobs: *Accelerating R&D in NSW Action Plan* that will accelerate the rate at which ideas are translated into new industries, jobs, products, and services.
- > Established the Small Business Innovation Research (SBIR) program offering \$24 million over two years for SMEs to solve pressing problems facing the state over three key phases. Phase 1: grants of up to \$100,000 for feasibility studies; Phase 2: grants of up to \$1,000,000 for proofs of concept; Phase 3: NSW Government agencies consider procuring solutions.


Five SBIR challenges were released in 2021, including the Koala Count, Water Purification to reduce micro-plastic and other contamination in wastewater, Hyperlocal Navigation to assist passengers with vision impairments to use public transport services, Personal Protective Equipment (PPE) to reduce waste associated with discarded PPE and sterile wrap, and Connectivity to increase the strength and resilience of communications networks in regional and remote communities.

- > Established Innovation Partnership Agreements with all NSW universities to guide collaboration on areas of mutual strategic alignment to accelerate innovation and commercialisation, create new jobs, attract investment into NSW and generate economic resilience post COVID-19.
- > Established R&D Missions to fund larger scale research translation and development, with the first mission focused on bushfire technologies.
- > Establishing a digital R&D Matchmaking Platform, bringing researchers, research facilities, start-ups, entrepreneurs, and capital together.
- > Continuing to deliver activities and infrastructure that improve business innovation and collaboration with research partners through the Boosting Business Innovation Program.
- > Continuing to deliver Tech Vouchers that provide matched funding for SMEs to partner with a research organisation to accelerate the commercialisation of innovative R&D products and services.



**“Innovation is a powerful jobs creator and will be an essential ingredient in our economic recovery. Doubling our current rates of research-business collaboration, could see a productivity increase worth up to \$150 million per year for NSW through new innovative solutions.”**


**Professor Attila Brungs**  
IPC Project Champion, and Vice-Chancellor and President of UNSW Sydney

 **Social media**

Video featuring IPC Project Champion, Professor Attila Brungs:

**20,679** Social media impressions

**12,453** Video views across social media and the IPC website

 **Website traffic**

**1,043** Unique views of the report webpage

**452** Report downloads

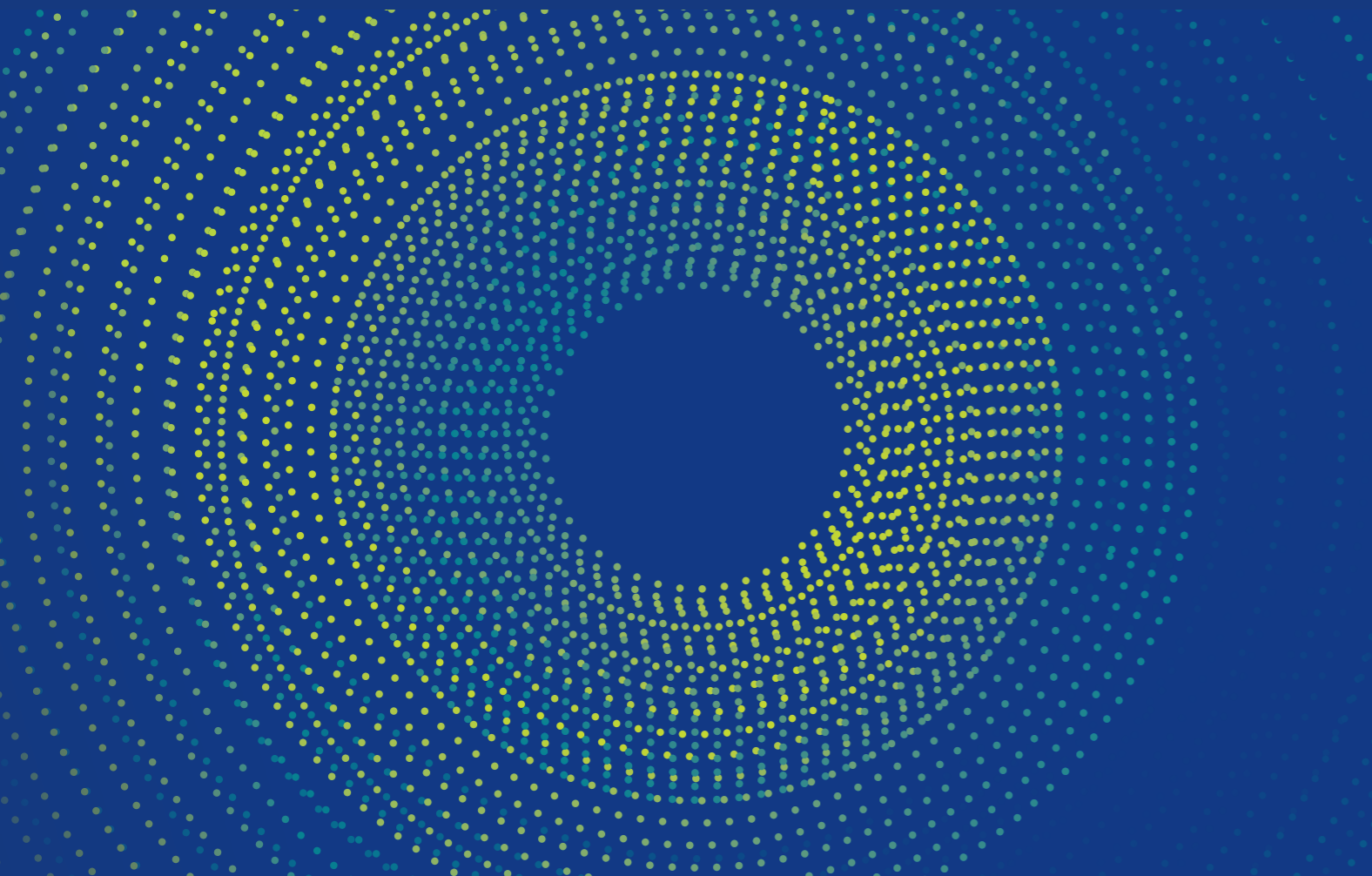
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# Looking ahead

NSW Innovation and Productivity Council — our priorities



## Vision

NSW is a prosperous global hub for business, innovation, talent and visitors.

## Mission

To investigate issues of relevance to the NSW Government that help create jobs, investment, and exports by raising the level of innovative activity in NSW.

## Strategic Objectives

### 1. Quality of research

Deliver unique, forward looking research related to innovation, productivity and efficiency to inform strategic thinking by the NSW Government.

### 2. Independent and trusted

Recognised by the NSW Government as a trusted, thought-leader in innovation by investigating critical issues to boost innovation across private and public sectors.

### 3. Influencing action

Inform, advise and champion policies, programs and strategies that drive innovation, competitiveness and productivity for NSW's ongoing economic prosperity.

# 2022 work program

As the world emerges from COVID-19, the global fight for talent is intensifying as countries compete to attract the best people to help accelerate economic recovery.

## 1. Global Talent Wars: learning from locations that attract the best

In our report, we will:

- > explore why talent, or 'human capital', matters for economic performance and growth
- > analyse how we compare internationally on the movement of talent and global workers' experiences and motivations for entering and leaving Australia and New South Wales
- > highlight areas where New South Wales performs well in attracting and retaining highly skilled talent and identify areas where we can improve, and
- > provide information on international strategies used to attract and retain exceptional talent to inform effective local policies and programs.

"We need to ensure we not only support the development of home-grown talent, but also attract and retain valuable international skills and experience as our businesses compete in a global economy."

**Peter Freedman AM**  
IPC Member



## 2. NSW Innovation and Productivity Scorecard 2021

The NSW Innovation and Productivity Scorecards provide a snapshot of the State's innovation and productivity performance. Building on Scorecards released in 2018 and 2019, the insights help us to understand the State's performance relative to competitors and support Government decision-making to develop the right strategies to grow the NSW economy.

The report compares NSW's performance against international jurisdictions including Canada, Germany, New Zealand, Singapore, the United States, the United Kingdom, Australia and the Australian states of Victoria and Queensland. NSW is also compared with the OECD average and the US states of Georgia and California where such data exists.

The 2021 Scorecard (for release in early 2022) introduces a new theme on Net Zero Economy. We will also create a new online digital dashboard to enhance user's experience with the Scorecard and improve data access.

"Our benchmarking of NSW's innovation ecosystem performance against other states and select international economies remains a unique product amongst Australian jurisdictions."

**Professor Barney Glover AO**  
IPC Project Champion, and Vice-Chancellor and President of Western Sydney University



"The Scorecard helps us to understand NSW's performance on a range of innovation and productivity measures. Research has shown that innovation boosts productivity, and productivity leads to economic growth and jobs. Understanding the connections between these factors and measuring how well NSW is performing are crucial in evaluating ways of improving innovation, productivity, and the living standards of NSW citizens"

**Dr Richard Sheldrake AM**  
IPC Project Champion





### 3. Place-based innovation series

The place-based innovation series builds on our previous report, *NSW Innovation Precincts: Lessons from International Experience*, which explored the factors that contribute to successful innovation precincts.

Two reports will be released in this new series in 2022. The first will examine anchor arrangements that helped facilitate place-based collaboration, innovation, and job growth to inform government place-based investment decisions, particularly when attracting and negotiating with anchor tenants.

The second report will provide a global review of place-based workforce programs that successfully encourage creativity, idea exchange, and entrepreneurship to deliver economic benefits to the wider community to inform government place-based policies, programs, and investment decisions.

“The IPC’s work on place-based innovation is particularly important as NSW Government focuses on R&D, innovation, and place-based economic development to help the State’s post COVID recovery.”



**Jillian Kilby**  
IPC Project Champion

“New South Wales is fostering world-class innovation precincts in our regions as well as our cities. We want to showcase our success to date, and to provide evidence on strategies used around the world so that we can continue to grow our regions as magnets for business and jobs.”



**Professor Alex Zelinsky AO**  
IPC Member, and Vice-Chancellor and President of The University of Newcastle

### 4. Adaptive NSW: How tech can reinvent work and recharge our prosperity

We are partnering with the NSW Productivity Commission on research into the future of work and skills in NSW.

We delivered 15-year projections of the state’s future industries, workforce composition, and skills needs, published in the future of work chapter of the 2021-22 NSW Intergenerational Report.

A follow-up report will be published in 2022. It will explore the potential for emerging technologies, like Artificial Intelligence, to revive the state’s productivity, and will consider:

- > How productivity enhancing technologies – like process automation and navigation robotics – can drive economic growth and improve working life.
- > How technological innovations – like 3D printing and augmented reality – could create entirely new products, markets, services, and jobs.
- > How government can facilitate technological uptake both in the private sector and in public services.
- > Managing industry transitions and the rise of the services.
- > The dual challenges of developing bleeding edge STEM talent and skilling the bulk of the workforce for new service roles.
- > Ensuring the benefits of technology-driven prosperity are widely distributed.

“I look forward to this project as emerging technology offers an exciting opportunity to boost productivity across the state.”



**Peter Achterstraat AM**  
NSW Productivity Commissioner

“Innovative new technologies are presenting enormous opportunities to revolutionise our industries. We want to ensure New South Wales’ workforce and businesses are ready to overcome any challenges so they can reap the benefits.”



**Professor Brigid Heywood**  
IPC Project Champion, and Vice-Chancellor and CEO of UNE

“New technologies have the potential to increase prosperity and quality of life for all New South Wales citizens. We want to make sure that technology-driven prosperity is as widely distributed as possible.”



**Stephen Walters**  
NSW Chief Economist and Special Advisor to the IPC

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