



QUEENSLAND  
FUTURES INSTITUTE



QLD POLICY LEADERS' FORUM

**BLUE SKY QUEENSLAND  
BOLD IDEAS FOR A BRIGHT FUTURE**

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# BLUE SKY QUEENSLAND BOLD IDEAS FOR A BRIGHT FUTURE

## PANELISTS:



**PROFESSOR  
JOHN FRASER**

Director  
Critical Care Research Group



**PROFESSOR  
MAREK KOWALKIEWICZ**

Chair in Digital Economy  
QUT Business School



**MARK MAUCERI**

Chief of Staff  
Gilmour Space



**KRISTEN SOUVLIS**

Co-Founder  
Like a Photon Creative



**MODERATOR  
PROFESSOR  
SARAH KELLY OAM**

Head of School  
QUT Graduate School  
of Business

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# Snapshot

The 2024 Queensland Futures Institute's Blue Sky Queensland – Bold Ideas for a Bright Future highlighted key opportunities and challenges for Queensland's future, focusing on healthcare innovation, artificial intelligence (AI), space technology and storytelling.

In healthcare, the conversation emphasised the need for local investment, and the opportunity to leverage data-driven research to address systemic issues. The transformative potential of AI was discussed alongside the need for widespread AI literacy, to demystify its capabilities, accelerate innovation and integrate it responsibly into industry.

The discussion also explored Queensland's potential to lead the trillion-dollar space economy, emphasising the importance of developing sovereign manufacturing capabilities for the industry. The state's creative industries were also discussed as an opportunity to build ambition, economic opportunities and to promote education and combat misinformation.

The panel highlighted the importance of collaboration and innovation to support ongoing development across the Queensland economy into the future.

## Summary of Panel Comments

- Queensland has pioneered global health solutions, such as the bionic heart and COVID-19 ICU data sharing, demonstrating the importance of local investment in medical research and innovation.
- Equitable healthcare access remains critical, particularly for First Nations communities who are disproportionately affected by preventable diseases like rheumatic heart disease.
- AI literacy is essential to demystify its capabilities and prepare industries for the algorithmic revolution, which has the potential to transform Queensland's economy.
- Queensland is positioned to lead Australia's entry into the trillion-dollar space economy. This will require investment in space infrastructure, such as launch sites and advanced manufacturing, to build sovereign capability and capitalise on growing global demand for space assets.
- Storytelling is a powerful tool for building ambition, developing economic opportunities and for education around misinformation. Media literacy and critical thinking must be embedded in education to help future generations discern truth from misinformation in an increasingly complex media landscape.
- Diversity and collaboration fosters innovation, whether through diverse perspectives in aerospace or partnerships between creative and technical sectors.
- Simplified, impactful communication is crucial when engaging policymakers to secure funding and support for long-term projects.
- By harnessing its unique strengths, Queensland can lead innovation across these industries globally.



# Panel Comments



## Professor John Fraser

- A great example of a moonshot, transformative project is the bionic heart project, which was started with Daniel Timms, an engineer who joined us in 2005/6.
- Cardiovascular disease - the world's biggest killer - drives the need for innovations like this.
- However, despite our early efforts, we struggled to secure funding in Australia. After several years, Daniel and the team moved to the U.S., and funding was secured within a week.
- Today, four people have had their hearts completely replaced by a titanium spinning disc - a breakthrough that started in Brisbane. We should soon see the first implant of this kind in Australia.
- A sadder example of a clear blue sky opportunity is rheumatic heart disease, a totally preventable disease caused by untreated Strep throat (which can be prevented by a 19-cent antibiotic tablet) and that disproportionately impacts Indigenous communities.
- Indigenous children in Queensland face a 72-fold higher risk compared to white children, leading to costly and recurring heart surgeries throughout their lives. This disparity is both a moral and financial issue, highlighting the need for better healthcare solutions for First Nations people.
- While Australia excels in research, it struggles with the development and commercialisation of health innovations. We often lose great ideas to other countries due to a lack of support.
- To take advantage of opportunities like this, we must foster talent and create smart jobs for future generations. This will require building industries in Queensland to keep projects like the bionic heart and other medical breakthroughs within our borders.
- To rework the U.S. slogan – Forget MAGA – Australians prefer MAMA - We must 'Make Australia Make Again' and turn groundbreaking research into development – and enjoy the local jobs and tangible outcomes.
- Doing this would support Queensland's blue sky future, addressing systemic inequities and building a sustainable local economy that fosters innovation.



## Professor Marek Kowalkiewicz

- I've moved to Australia multiple times since 2001 and have worked globally in places like Beijing, Singapore and California. My career has spanned enterprise software development and artificial intelligence (AI), with a focus on pushing the boundaries of what technology can achieve.
- For the past nine years, I've been working in academia, leading initiatives like Research Innovation Sprints to help organisations transform through strategy and innovation.
- Over 20 years, I have witnessed dramatic growth and transformation of AI, which represents the next major revolution, comparable to the industrial revolution. But instead of replacing human muscle, it will amplify human intelligence.
- The algorithmic revolution will reshape industries, economies and society, creating tools that surpass human intelligence and capability. This poses unique challenges as humanity has never faced entities more intelligent than us.
- AI systems are already more precise, scalable and faster than humans in many areas. This highlights the opportunity the scale and economic opportunity of this technology.
- Australia, particularly Queensland, is well-positioned to benefit from the algorithmic revolution due to our educated workforce and high labour costs. As such, investing in AI skillsets and infrastructure will enable us to harness this transformation, creating long-term opportunities for growth and leadership.

# Panel Comments



## Mark Mauceri

- There is a clear blue sky opportunity for Queensland to lead Australia in the space economy, a sector projected to be worth over \$1 trillion within the next decade.
- Demand for space assets, such as satellites, is expected to grow exponentially by 2035 - with only seven countries able to launch them reliably. Gilmour Space aims to make Australia the eighth.
- However, the lack of sovereign manufacturing capability in Australia is a key challenge for the industry. Outsourcing space technology to foreign companies means we lose critical skills, knowledge, and economic benefits. Locally building our own rockets, satellites and space infrastructure – rather than just parts - allows us to build this capability into the future.
- In terms of our own demand for these assets, we currently rely on rented space from foreign satellites, which poses geopolitical risk and limits our available bandwidth.
- By investing in sovereign space capabilities, we can secure our future and reduce this reliance on other nations - maintaining control over critical systems like telecommunications and banking. This ultimately strengthens our sovereign capability and defence, increasing resilience and business continuity.
- This will also require the development of ancillary industries to support these endeavours, such as law and insurance firms which specialise in space.
- As these technologies develop, there is a critical need to continue building ‘bandwidth’ to meet growing demand. We expect this will be required by 2030, otherwise there will be a supply gap.
- This is why Gilmour Space has developed and manufactured Australia’s first orbital-class rocket, ready for its maiden test flight in Bowen, North Queensland. This location is supported by the Whitsundays Council, which is enabling the region to become Australia’s space coast.
- We are also developing hypersonic technologies which can be used to test advanced materials. This allows ‘real-world’ testing during hypersonic flights rather than in a test facility which only provides limited data.
- We are manufacturing low-cost satellite buses that enable multiple clients to deploy their payloads for testing across a diverse range of applications - like GPS, banking and imaging.
- The first launch is scheduled in a few weeks and first hypersonic flight is expected in the first half of next year, with the first satellite launch expected by mid-year next year.
- We will be developing a number of launch vehicles and satellites every year. Additionally, we have just completed an advanced manufacturing facility on the Gold Coast, where we have invited collaboration and partnerships with universities like Griffith University and The University of Queensland.
- While we are the first company to have received an orbital launch site permit in Australia from the Australian Space Agency, we must do more as a country to support this industry.
- A key challenge is that existing regulations disproportionately benefit foreign companies, putting Australian firms at a disadvantage.
- This is why it is critical for greater government support and funding to match global competitors. This must be supported by regulatory reform to level the playing field for Australian companies.
- Additionally, this will require continued investment from venture capital and private partners to drive innovation and growth.

# Panel Comments



## Kirsten Souvlis

- Over the past five years, Like a Photon Creative has produced \$52 million worth of content, exporting to over 174 territories, with clients like Disney, Universal, Sesame Street, and Amazon.
- Despite this success, the arts are often seen as an afterthought in government planning and funding.
- There is a clear blue sky opportunity to develop Queensland's arts industry to achieve three key outcomes – aspiration, economic and political/democratic.
- Queensland has been a pioneer in children's television for 30 years, producing iconic programs like Bluey, a billion-dollar property.
- The power of storytelling lies in showing children what is possible – in line with the idea that "If you can't see it, you can't be it." This aspirational role is essential for shaping future scientists, doctors and innovators.
- The economic opportunities presented by the industry are also significant; the Queensland screen industry contributes half a billion dollars annually to the economy, supported by productions like Bluey and blockbuster films like Marvel movies.
- We employ over 200 people in Queensland, creating a 'manufacturing' base which outputs globally significant intellectual property.
- As such, there's a critical need to invest in local IP and manufacturing capabilities across industries to strengthen Queensland's economic base.
- The industry also supports political and democratic outcomes. Storytelling is critical for fostering media literacy and countering misinformation, which is a growing threat to democracies worldwide.
- Children's ability to critically evaluate information is imperative, as discerning truth is becoming increasingly difficult - even for adults.
- Queensland's arts and media sectors could play a pivotal role in communicating science, technology and public interest narratives effectively.
- As such, it is critical to cross-pollinate industries, invest in the arts and prioritise storytelling as a tool for education, democracy and economic growth.

# Panel Questions

**What is your concept of digital minions in AI, and how does this fit into Queensland's future? Why should we all be AI literate?**



**Professor Marek Kowalkiewicz**

- People talk about artificial intelligence as some kind of magic solution – but misunderstand that these systems are ultimately complex algorithms, often based on statistics.
- We must demystify AI to better understand its workings, stop seeing it as magic and start seeing it as a tool.
- I use the term “digital minions” to simplify AI concepts. This reflects the ability of these tools to be rapidly deployed, but also the potential to create chaos if left unsupervised.
- I’m working to spread AI knowledge, collaborating with organisations like UNICEF to scale AI education to billions globally.
- We’re at a massive turning point in how we use computing systems. However, this new capability is not fully understood yet, so we must be cautious about where and how we deploy such systems.
- AI literacy is essential for everyone. Without understanding AI, we risk misapplying it or integrating it into critical and trusted ‘single source of truth’ systems where it could cause harm if misunderstood.

**How have you been able to leverage current technologies to improve responses to health risks such as pandemics at a molecular level? What technology are you most excited about for future research?**



**Professor John Fraser**

- A quote from my father - “Medicine keeps you alive, but the arts make life worth living.”
- COVID changed everything. Early on, there was little guidance on the response globally, and clinicians were sharing anecdotal treatments via WhatsApp. There was a lack of structure and coordination of data around the treatments and responses being used across intensive care units. This meant that it wasn’t clear what was and wasn’t working.
- With IBM, the Bill and Melinda Gates Foundation and Twiggy Forrest’s Minderoo Foundation, Drs Gian Luigi Li Bassi, Jacky Suen and myself created the world’s largest ICU database for COVID - spanning 67 countries and 55 million data points.
- Brisbane became a leader in guiding all aspects of management of the critically ill and ECMO protocols, - so even though we could not travel – our data could. And it improved outcomes globally.
- We leveraged spatial biology to examine cellular interactions, to understand the domino effects caused by COVID - such as why it was leading to heart disease. Using cardiac tissue samples from six countries, we discovered that COVID alters DNA patterns in cells.
- This was undertaken from Seattle as Australia lacked the advanced equipment for this research. We subsequently secured the funding to bring the necessary technology to Wesley Research Institute here in Brisbane, enabling ground-breaking work locally.
- This work now extends to samples from flu epidemics of the 1950s and 1960s, and we aim to identify a common ‘fingerprint’ that distinguishes pandemics from routine viral outbreaks.
- By looking back over 105 years of data, we hope to find targets to stop future pandemics before they start. The next pandemic is inevitable, but leveraging lessons from the past will allow us to prepare and respond more effectively in the future.

# Panel Questions

**Your storytelling DNA incorporates powerful stories of diversity and inclusion and an ethical lens. How and why is your style of storytelling important for a bright Queensland future?**



## **Kirsten Souvlis**

- We view our role in storytelling as being good faith actors - embedding kindness, empathy, problem-solving and critical thinking into our globally entertaining stories.
- However, it is becoming increasingly difficult to discern who produces ethical and trustworthy content. Platforms like YouTube exemplify this risk - with content ranging from harmless unboxing videos to harmful radicalisation.
- Traditionally, broadcasters provided a gate-keeping function to ensure ethical programming. However, since we have seen the democratisation of storytelling, we have lost this safeguard.
- This gatekeeping is also seen when content is distributed globally. For example, content is often heavily edited or even banned in some regions, showing the complexities of meeting ethical integrity standards across different markets.
- In today's environment, the absence of robust, independent journalism and well-resourced broadcasters has exacerbated the challenge of ensuring ethical storytelling.
- To address this, although systemic issues require systemic solutions, fostering critical thinking and media literacy at the individual level is critical.
- There is a clear need to better educate individuals to discern truth from fiction by teaching them to evaluate sources, look for corroboration and recognise the 'fingerprint' or 'DNA' of truth.



# Panel Questions

What is the one question you've asked in your career to date that has led to innovation in your view?



**Mark Mauceri**

- Innovation often requires unconventional approaches which challenge conventional thinking.
- A simple technique I use is splitting meeting participants into two groups: one half talks while the other listens. The change in perspective when roles switch fosters fresh ideas and insights.
- Additionally, innovation thrives on diverse perspectives. There is significant value in including people from different backgrounds – for example, including accountants or supply chain experts in engineering meetings – to spark unique ideas and solutions.
- A well-designed organisation can also enhance innovation. Accountability across the layers of an organisation and creating a manageable span of control for leaders is key to streamlining processes and enabling rapid iteration.
- This is critical in aerospace and space technology. Rapid cycles of design, testing, failure and iteration are essential for learning and improvement.
- Encouraging diverse thinking further accelerates this innovation cycle.



**Professor Marek Kowalkiewicz**

- My approach to innovation revolves around one fundamental question: “Why?”
- By repeatedly asking “why,” we uncover root causes and refine our understanding of problems and solutions.
- In my team, our role is to answer questions. But through the process, we often realise the original question was not the one we truly needed to solve. The iterative process of asking ‘why’ leads us to deeper insights and more effective solutions.
- While this approach might sound unsophisticated, it’s incredibly effective.



**Professor John Fraser**

- As a medic and researcher, I’ve always learnt from the patient. Patients live with the disease, which provides invaluable insights that can shape research and care.
- Applying this principle in business – by listening to customers - allows you to see things from their perspective, sparking innovative ideas and solutions.

# Audience Questions

## How do we motivate policymakers to provide funding for the projects over the longer term?



### Professor John Fraser

- To engage government effectively, keep communication concise - using simple dot points and one-page documents to ensure the message highlights tangible benefits.
- Government decision-making is often hindered by short-term corporate memory, typically spanning only three to four years.
- For every dollar invested in medical research, the return to the community is around \$25, making it one of the most impactful areas for public funding.
- Investments like vaccines have had transformative global effects, demonstrating the importance of funding this area.

## When will artificial intelligence have gut feel or instinct to it?



### Professor Marek Kowalkiewicz

- This question is difficult to answer given that we don't fully understand gut feelings or instincts in humans.
- Current AI systems operate on probabilities, which can be seen as a form of 'gut feeling' - in some ways, this mimics human instincts, but this comparison is limited by our lack of understanding our own instincts.
- Ultimately, most systems today are incapable of meaningful or harmful actions. Their limitations are significant, and they rely on human oversight and clear instructions. They lack true instinct or situational awareness. For example, a robotic vacuum cleaner doesn't know what's happening in the next room – or might even spread a mess rather than clean it.

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