Startup Factory Innovation Report

July 2025

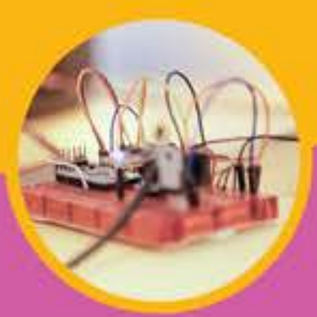
SPACE TANK

Growing entrepreneurship and innovation in advanced manufacturing

The right approach to innovation will unlock billion-dollar economic opportunities.

But Australia squanders manufacturing innovation at the grassroots of our startup ecosystem.

We have a plan to do something about that.



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ACKNOWLEDGMENTS

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Written by Holger Dielenberg with contributions, edits and guidance by Scott Anderson. Thank you to Scott Anderson and Oli Tod for their contributions, organisation and deployment of the Startup Factory Validation Pilot project.

We would like to acknowledge all individuals and industry stakeholders who participated in the pilot project. We appreciate your support for emerging Australian manufactures. Your participation and interest in this initiative demonstrates your commitment to ensuring a sustainable advanced manufacturing future for Australia. In particular, we would like to acknowledge Rocket Seeder, Bosch Australia, Australian National Fabrication Facility and Melbourne University for their belief and immediate support for the Startup Factory vision.

Space Tank team

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FORWARD

Our experiences and international case studies confirm a vital opportunity: by uniting government, industry, academia and investors in a supportive, sector-agnostic ecosystem, we can deliver the next wave of homegrown manufacturing excellence.

Australia is at a pivotal crossroads in manufacturing and innovation. The convergence of digital and physical technologies and shifts in the geo-political landscape are transforming industries worldwide. Our nation's capacity to engage domestic advanced manufacturing and translate cutting-edge research into globally competitive products has never been more critical. Now, more than ever, we require collaborative, purpose-built infrastructure that empowers manufacturing startups to bridge the difficult path from concept to commercialisation.

The Startup Factory responds to this national need. Inspired by global exemplars and guided by stakeholder input, this initiative aims to catalyse scale-up success for Australian manufacturing startups. Through strategic partnerships and programming, we will nurture innovation, retain world-class talent and secure Australia's position at the forefront of advanced manufacturing.

The Victorian State Government's support through FB IDEAs of Startup Factory's validation project proved instrumental in activating industry support. We now invite government, industry and community leaders to join us in furthering the Startup Factory vision. By working together to support entrepreneurship in manufacturing sectors, we will create new opportunities for economic growth, job creation and a resilient, future-focused innovation ecosystem.

EXECUTIVE SUMMARY

The Startup Factory Innovation Report identifies a critical gap in Australia's innovation ecosystem, particularly in Melbourne, where emerging advanced manufacturing startups lack the support needed to bridge the commercialisation phase, or otherwise known as the *valley of death*. While incubators predominantly serve software ventures and government provide funding to organisations above SME thresholds, entrepreneurs at the grassroots who are developing physical products and technologies remain underserved and disconnected from essential resources. Australia's largest pool of innovation talent lies in this gap.

This report reveals overwhelming support for a sector-agnostic business makerspace to fill this gap. Importantly, the report is a result of extensive consultation with industry, government, accelerators, universities and investors. It is backed by key stakeholders such as Bosch, Rocket Seeder, the Australian National Fabrication Facility, BRUDI Impact Neighbourhoods and Melbourne University, evidencing a strong desire to collaborate if government support is secured.

Stakeholders point to successful international models such as New Lab in New York and UnternehmerTUM in Munich as clear evidence of the substantial economic benefits provided by a collaborative, purpose-built business makerspace, including job creation, attracting investment and accelerating tech-driven manufacturing growth. The Startup Factory Validation Pilot has demonstrated strong momentum, securing partnerships with influential organisations and initial government support necessary for pilot-scale success and future expansion.

Central to the Startup Factory vision are the Venture Studio and Portfolio Models. These models are uniquely suited to Australian conditions and combined, they de-risk funding and operations by identifying winners early and sharing the risks, ideas and resources for startups. The hybrid model allocates external funding wisely whilst reducing the need for large upfront startup capital deployed internally. Together, they systematically de-risk the startup journey from prototype to market by fostering cross-sector collaboration and addressing the specific constraints of high operating costs and geographic isolation that are unique to the Australian innovation landscape.

The shift to a less software-centric innovation economy presents a unique investment opportunity that Australia is well-positioned to seize. As global innovation moves beyond standalone digital apps and toward integrated digital-physical solutions, the next wave of high-growth companies will emerge from sectors where software and hardware converge such as medtech, energytech, advanced manufacturing and agritech. Investing in the infrastructure and support that enable these hybrid startups aligns with global market trends and positions Australia to retain and commercialise groundbreaking intellectual property onshore. By supporting ventures at the intersection of digital intelligence and tangible impact, investors and stakeholders can capture unprecedented value, drive productivity and ensure Australia's leadership in the industries of the future.

The report highlights several formidable challenges. The existing innovation ecosystem suffers from fragmentation and siloed operations, with inconsistent government policies that hinder collaboration. Business incubators and accelerators, including government organisations like Launch Vic appear to maintain a software-app bias that is at odds with evolving global trends in entrepreneurship and technology. Financial barriers remain significant. Exorbitant cost of energy, expensive equipment,

high factory rents and funding barriers are pushing our talent and startups offshore. Furthermore, training programs and university support are often inadequate for prototyping and manufacturing focused ventures. To compound the situation, risk aversion and a lack of clear direction at the policy level limits bold new approaches to innovation in manufacturing entrepreneurship.

Despite these challenges, the opportunities are both urgent and substantial. The rational to act now is underpinned by current macro forces. In a rapidly evolving geopolitical economy, building local advanced manufacturing capability is essential for national security and supply chain resilience. The convergence of digital and physical technologies enables Australia's skilled workforce, robust research base and sectoral strengths to serve multiple priority sectors such as medtech, agtech, cleantech and aerospace. Stakeholders are enthusiastic about the opportunity to collaborate on an independent business makerspace platform such as the proposed Startup Factory. International evidence shows exponential returns on investment including job creation, enhanced skills, retention of intellectual property and local supply chain development. Startup Factory's mission aligns with major public policy initiatives like the National Reconstruction Fund and the Future Made in Australia policy, reinforcing its strategic relevance.

The next steps are clear:

- Long-term, multi-year government and industry commitment is needed to move beyond validation pilot toward scale and permanence. Using a staged rollout and a portfolio model to de-risk funding, the expansion of pilot operations can be achieved by leveraging existing underutilised infrastructure and, in time, transitioning to custom-built facilities based on demonstrable demand.

- Strategic partnerships should be formalised across industry, academia and government for program delivery, candidate sourcing and risk sharing. Implementation of the Venture Studio and Portfolio models will provide the de-risked, systematic, hands-on support required to create and scale world-class manufacturing startups.

- Policy should prioritise grassroots innovation in fields of advanced manufacturing and eliminate funding and resource barriers. Targeted rapid training programs and mentoring will further accelerate the commercialisation pipeline, ensuring startups are equipped with the technical, business and design skills they need.

- Scaling Startup Factory into a nationally networked *Hub and Spoke* model will foster ecosystems of entrepreneurship, investment and cross-sector collaboration across Australia's innovation and advanced manufacturing landscape.

In summary, the Startup Factory emerges as a timely and strategic response to Australia's advanced manufacturing and innovation needs. With robust stakeholder endorsement and proven international models to draw upon, it is positioned to address critical gaps and drive the next wave of economic and technological growth. Realising this vision now depends on sustained government and industry support, which will secure Australia's position as a global leader in advanced manufacturing innovation. The imperative for action and investment has never been clearer.

Holger Dielenebrg
Space Tank founder

BACKGROUND INFORMATION

For over a decade, Space Tank has championed Melbourne's innovation community supporting over one thousand entrepreneurs and helping diverse industries bring new ideas to market. Examples of startups include health-care products, electric vehicles, cutting edge sports products, clean energy solutions for skyscrapers, robotic 3D printing systems, aerospace, medtech and agritech. Now, as digital meets physical in every conceivable way, Space Tank is experiencing an increasing demand from the startup sector for scaling hardware and tech related physical products.

To meet this demand, Space Tank models the Startup Factory on gold standard business makerspaces like New Lab New York, Unternehmer TUM in Munich and MARS district in Toronto. In addition to any generated revenue, these spaces survive by receiving funding support for their establishment and operations from their local governments. In return they create significant value for local economies by providing a multi-faceted return on investment. They catalyse job growth in high value industry sectors and attract new entrepreneurship and investment to their local economies. They deliver further economic impacts by strengthening local supply chains, building knowledge economies and fostering innovation networks and industry collaborations.

By studying these examples and considering Australia's unique conditions, we have developed a blueprint for a business innovation space that leverages our economic and geographic qualities and harnesses our high-quality skills and education. Most importantly, the Startup Factory fills gaps between existing infrastructure and adds new value to our ecosystem.

Recent shifts in the geo-political landscape have also underscored the critical need for Australia to strengthen its sovereign manufacturing capabilities from the grassroots up. The COVID-19 pandemic, global trade disruptions, and rising tensions in key supply chains have highlighted the risks of over-reliance on international suppliers for essential goods and technologies. In this environment, building a resilient and self-sufficient manufacturing base is not only an economic imperative but also a matter of national security. By nurturing local innovation and capabilities, Australia can better insulate itself from external shocks, maintain continuity in critical industries.

Our plans involve bringing together the right parties to solve todays and tomorrow's problems. This includes a diverse range of experts, investors, companies and education providers. Infrastructure will be complete with purpose-built premises, spaces for events, co-working, training, prototyping and advanced manufacturing.

With the generous support of FB IDEAs, the Startup Factory Validation Pilot has gathered evidence from our innovation and startup community. The feedback is unanimous. The industry and startup community who deal in emerging physical technologies want and need to keep pace with business makerspace trends in America and Europe. They want the government to activate focused policies to create an innovation and entrepreneurial community for manufacturing sectors. This sentiment was reflected in nearly every conversation we had. Industry stakeholders have the confidence and the desire to achieve this.

Stakeholders agree that tailoring a business makerspace to suit Australian conditions is timely. They want a confident government to take a lead in supporting the Startup Factory vision.

STARTUP FACTORY FOCUS

A strong consensus among stakeholders within the startup ecosystem was revealed through consultations conducted through the Startup Factory Validation Pilot. Universities, corporates, investors, accelerators and startups unanimously agree on the following objectives:

- Develop a sector-agnostic independent platform that supports advanced manufacturing scale-ups, and innovation at the grassroots.
- Address Australian challenges by leveraging local strengths and closing ecosystem gaps.
- Provide purpose-built spaces for co-working, prototyping and advanced manufacturing.
- Foster mutually beneficial cross-sector collaborations.
- Mobilise the commercialisation of IP to solve complex problems.
- Create the conditions for investment into new technologies and innovative products.
- Catalyse the scale-up phase for manufacturing startups via strategic partnerships.
- Create the quality jobs of tomorrow.
- Support government objectives (e.g., National Reconstruction Fund, Future Made in Australia policy) to make Australia globally competitive in advanced manufacturing.

Strategic pillars

1. **Independence:** As an independent capability platform, Startup Factory provides leadership and governance for innovation and entrepreneurship free from conventional bureaucratic shackles.
2. **Staged rollout:** Pilot programs leveraging underutilised precinct assets, progressing to permanent infrastructure via partnerships with corporates, education and government.
3. **Address challenges:** Limited affordable/accessible infrastructure for advanced manufacturing scale-ups. Lack of tailored innovation/entrepreneur programs. No focused innovation/ entrepreneurial community for grassroots manufacturing needs.
4. **Partnerships:** Letters of support and partnership commitments have been received from organisations including Rocket Seeder, Bosch, Melbourne University and industry bodies. These partnerships will form the backbone of the program’s success.
5. **Programs:** Target sectors such as cleantech, agritech, medtech, and advanced lightweight manufacturing. Provide tailored, targeted training, mentoring and industry events to accelerate startups from prototype to commercial production.
6. **Investment alignment:** Business Makerspaces offer benefits across the board for government (jobs, economic growth), industry (talent, innovation), and private investors (early-stage pipeline, community impact).

AMBITION

Space Tank aims to firmly establish Australia as a leader in next-generation manufacturing. To achieve this, Startup Factory will provide advanced manufacturing startups operating at the forefront of new technologies with the same nurturing and opportunity-rich environment that has long propelled software-app startups to global success.

Guided by the Capability Platform framework, Startup Factory seeks to redefine how innovation flourishes in Australia's manufacturing sector. By facilitating purposeful interaction among people, processes and management, our business makerspace establishes a networked environment where learning, collaboration and targeted problem-solving are embedded at every stage. Startup Factory harnesses this approach to catalyse the critical scale-up phase and drive competitive advantage at the grassroots of advanced manufacturing innovation.

Purpose

Bring together stakeholders to solve problems and empower advanced manufacturing innovation. The Startup Factory's fundamental goal is to foster and enable innovation in Australia's manufacturing sector.

Mission

Build and operate an independent business makerspace that helps startups prototype, scale and commercialise physical technologies.

EXPERIENCE

In ten+ years of operations, Space Tank has worked with government departments, local councils, industry leaders, equipment sponsors, professional experts, investors, business mentors, startups, corporates, internship providers, universities and most importantly, over one thousand individual artisans, technologists, startups, manufacturers, engineers and designers. During this time, we have encountered the many challenges that beleaguer their growth. We have learned via hands-on experience how to improve their ability to succeed.

Space Tank provides

- 24/7 access for business tenants and flexible access for casual users.
- Affordable DIY use of equipment technologies and co-working fabrication spaces.
- Hands-on training and skills courses on manufacturing technology.
- Business mentoring, design for manufacturing and commercialisation advice.
- Events showcasing the latest manufacturing and prototyping technologies.
- Unique entrepreneur case studies.
- Partnerships and industry collaboration opportunities.
- Internship pathways for university students on real-world projects.
- Sponsorship opportunities for equipment suppliers.
- Advocation for grassroots manufacturing support with government and industry bodies.

Our experience gives us the opportunity to extend our positive impact at an ecosystem level.

Visit the Space Tank website

Space Tank has worked with

AUTODESK

BOC Gas & Gear

BHP

alfexcnc AUSTRALIA

CIGWELD

CITY OF MELBOURNE

BUNNINGS warehouse

craft

CSIRO

CREATIVE VICTORIA

engineers without borders australia

Northern Health

FELDER

Curtin University

intern Match

ARUP

Integra Systems

AUSTRALIAN PROGRESS

MATTHEWS STEER STORIES IN NUMBERS

J.C WALSH

MONASH University

RMIT UNIVERSITY

launchvic

mdp lawyers, patent attorneys & commercial advisors

Roland

Merri-bek City Council

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

nem

SWINBURNE UNIVERSITY OF TECHNOLOGY

THINGLAB

VICTORIA State Government

FB IDEAs INNOVATION DIVERSITY EXPERIMENTATION ACTIVATION FISHERMANS BEND

Award winning makerspace

AUSTRALIAN SMALL BUSINESS CHAMPION AWARDS FINALIST

2023 Supporting Australian manufacturing startups

MANUFACTURERS' MONTHLY Endeavour Awards WINNER

2021 Safety Solution of the Year - Rapid Shield

VICTORIAN PREMIER'S DESIGN AWARDS

2021 Product Design - Health Forge Mobile Patient Isolation Unit

GOOD DESIGN AWARD® WINNER

2020 Medical & Scientific Product Design - Rapid Shield

Museum of Applied Arts & Sciences MAAS

2020 Design Award - Rapid Shield

VICTORIA State Government

2018 VIC Minister for Innovation Honour of Achievement

MELBOURNE AWARDS

2018 Raising Melbourne's International Profile

melbourne design awards

2017 Best Public Installation - Melbourne Progress Event

NORTHERN BUSINESS Achievement Awards

2017 Outstanding Enterprise & Innovation

MANUFACTURERS' MONTHLY Endeavour Awards FINALIST

2018 Most Innovative Manufacturing Company

Time Out MELBOURNE

2016 Nominated Gold Standard Makerspace

AMP foundation

2015 For dedicated services to Australia's Makers of Tomorrow

FINDINGS

Outline of observations and findings

FINDINGS

General observations

The Startup Factory Validation Pilot was carried out between June to October 2024. The outcomes of our consultations throughout this project have led us to conclude that, Melbourne is ready to become a strong player in a new global paradigm for tech related manufacturing. We note that our experience operating Space Tank over the last 10 years and the innumerable conversations we have had with startups, manufactures, universities, large corporates, angel investors, VCs, incubators, etc. have been incorporated into this report where relevant.

The Australian manufacturing landscape is evolving instep with our economy towards high levels of design and expertise, advanced manufacturing, industry 4.0 and AI. This Validation Pilot Program has identified new stakeholders and synergies that align with these trends.

A common discussion thread was that Australia, particularly Melbourne has the right talent and resources to grow a thriving advanced manufacturing/innovation economy. With software-apps moving from a pedestal position to shelf commodity and geo-political factors becoming pivotal, sovereign manufacturing and supply chain integrity are valued more than in the recent past.

American and European business makerspaces have been merging digital and manufacturing ecosystems by bringing together innovators, investors and government. This is exemplified by New Lab New York who are producing spectacular benefits to the economy. Here in Australia, leaders are recognising that manufacturing must be included in our startup ecosystem. Launch Vic, business incubators and accelerators have an important role to play to achieve this.

The startup ecosystem in Victoria, boosted by the efforts of Launch Vic and our numerous incubators and accelerators display a growing need to explore and incorporate manufacturing into the startup fold. However, our consultations reveal that not enough is being done to support advanced manufacturing startups at the grassroots and consequently we are missing important opportunities to utilise top talent to grow priority economic sectors.

This project proves that government leadership sparks action. There is keen interest to pursue programs and support for sustainable advanced manufactures.

Findings are discussed under the following categories

1. Australia’s software love affair is over
2. Geo-political issues
3. Findings from stakeholders
4. Partnerships
5. Sectors and capabilities
6. Gaps in programs and training
7. Facilities and location
8. Social political environment

1. Australia’s software love affair is over

A new era of innovation

We have reached peak app. The hallmarks of a technological cycle’s end are clear: widespread adoption, saturated user needs and higher barriers to entry that are making it difficult for newcomers to disrupt or gain attention. Many essential needs are covered by established apps and as the app-market plateaus, app downloads are in decline and growth in app store revenues and numbers of new apps has slowed relative to the *gold rush* years.

Innovation today focuses less on standalone apps and more on how software seamlessly enables and enhances the broader ecosystem. Software’s new role is how it enables everything. It has slipped off its exalted pedestal and joined the ranks as a component embedded across products, processes and sectors. Much like the evolutionary journey of electricity, software has moved from centre stage, to become a connective tissue of the digital-physical world, powering and integrating with physical technologies, connected hardware and systems.

Competitive advantage now comes from holistic solutions that fuse software with advanced hardware, data and physical applications. Much like electricity became silent but powerfully enabling infrastructure, software is now invisibly woven into the foundation of modern innovation, marking both the maturation of this technology cycle and laying the groundwork for the next wave in advanced manufacturing.

This shift heralds a new era of innovation. The next chapter of progress will belong to those who can seamlessly unite digital intelligence with tangible physical impact, unlocking unprecedented possibilities across industries and society.

Innovation policy needs an overhaul

With a new age of innovation upon us, we require new thinking and actions for our innovation economy. But Australia's innovation performance still lags behind other advanced economies due to a combination of factors: low business investment in R&D, weak links between academic research and industry and a fragmented innovation ecosystem that struggles to commercialise local inventions. The small domestic market and geographical isolation compound these challenges by impeding scale and limiting access to international capital and customers. Cultural risk aversion, underdeveloped venture capital networks, inconsistent government policy and regulatory hurdles further dampen entrepreneurial activity. Meanwhile, the economy's reliance on mining and real estate overshadows investment in high-tech sectors and Australia faces persistent brain drain as talented innovators move overseas for better opportunities. Collectively, these issues are exacerbated by gaps in practical STEM skills and a lack of local experience in building globally competitive tech businesses, leaving Australia strong in scientific research but weaker at translating it into large-scale economic and social benefits.

Some well-known examples:

Wi-Fi: Innovation but poor commercialisation: Wi-Fi technology was largely developed at Australia's CSIRO in the 1990s, based on radio-astronomy research. The CSIRO team solved a key problem; how to transmit data wirelessly over multiple paths (multi-path problem) which became central to global Wi-Fi standards. Although the technology is now ubiquitous worldwide, CSIRO initially struggled to commercialise it. Australian companies and policymakers did not fully recognise or invest in its potential. Most commercial benefit accrued internationally and only years later did CSIRO successfully enforce patents and win royalties. This earned CSIRO about $1 billion from legal settlements rather than domestic market success or tech industry growth.

Despite world-class research, Australia failed to build a global wireless technology industry, illustrating how not even CSIRO could escape the *valley of death* in moving from innovation to commercialisation.

Atlassian: Success, but overseas growth: Atlassian, founded by Australians Mike Cannon-Brookes and Scott Farquhar in 2002, started in Sydney as a software company (now best known for products like Jira and Confluence). Atlassian's global expansion and financing were largely driven from abroad. Seeking greater access to capital markets and a larger customer base, the company listed on the US NASDAQ rather than the Australian Stock Exchange.

Australia's shallow investment markets and lack of late-stage venture capital made it necessary to *go global* early in the company's growth curve. The founders note that much of their key mentorship, funding and scaling advice came from the US, highlighting the comparative weakness of Australia's innovation ecosystem.

Suntech: The story of Dr. Zhengrong Shi, an Australian solar scientist, highlights the consequences of neglecting grassroots innovation and investment in Australia. After developing solar panels at the University of New South Wales, Shi sought better investment and production conditions in China. At its peak, his Suntech empire was valued at USD$16 billion and was headquartered in Wuxi, China - not Australia.

Medical Devices: Cochlear & ResMed: Both Cochlear (implantable hearing devices) and ResMed (sleep apnea devices) originated from Australian inventions and universities. Due to the small domestic market and regulatory challenges, both companies quickly moved operations, manufacturing and much of their growth activity offshore, especially to the US and Europe.

While these companies remain *Australian successes* in origin, much of their scaling, production and employment benefits are realised overseas. This pattern is common for Australian medtech and biotech startups.

Venture capital & startups - the funding gap: According to Startup Muster and the OECD, Australia's early-stage venture capital as a percentage of GDP has historically trailed well behind the US, UK and Israel. Startups often report difficulty raising capital locally, leading founders to relocate to the US (Silicon Valley) or seek US/EU investors. Notably, Canva, although based in Sydney, raised much of its investment from US VCs.

Policy Instability - R&D Tax Incentive: The Australian government's flagship R&D Tax Incentive has faced frequent revision, with attempts to restrict scope or reduce costs (especially 2014–2020). This so-called *policy churn* created uncertainty for businesses, especially startups, causing some to delay or relocate R&D activities abroad.

AI makes manufacturing a crucial frontier

Coding's decline as the *holy grail* underscores the consequences for Australia's innovation system if it does not end its love affair with software. The shifting role of software and coding in the innovation hierarchy, has been re-inforced by AI's rapid advancement. These shifts now frame manufacturing as a *crucial frontier* in this evolving landscape.

AI is enabling new capabilities such as predictive maintenance, design automation, supply chain optimisation and adaptive robotics. These advances not only increase productivity and efficiency but also make possible new business models, greater customisation and more resilient manufacturing ecosystems that will help entrepreneurs overcome Australia's unique geo/economic challenges. In places like Germany, the United States and China, AI-driven innovation is already powering smart factories and flexible production lines, demonstrating the high value of integrating digital intelligence with physical systems.

As AI commoditises software development, the locus of innovation is shifting from simply building software-only applications to creating outputs and systems where digital and physical elements merge. For Australia, this presents both a challenge and an opportunity. With coding skills becoming more accessible, the true differentiator now lies in the advancement of physical products and engineered solutions that leverage AI and digital technologies. To fully exploit these opportunities, Australia must extend its focus beyond software startups and invest in advanced physical infrastructure, manufacturing capability and multidisciplinary talent. This pivot will ensure Australia can compete in a new era where the ability to invent and manufacture intelligent, integrated products defines the nation's innovation standing on the global stage.

Value shifts to integrated digital-physical systems

As AI automates and democratises software development, the competitive edge once held by pure coding expertise recedes, shifting the creation of value toward integrated digital-physical systems. In this new landscape, true innovation arises from the intelligent fusion of software with advanced hardware, manufacturing processes and real-world applications, which not only drives efficiency and customisation but also enables entirely new products and business models. The result is that nations and companies capable of seamlessly blending digital intelligence with physical creation will capture the next wave of economic growth and resilience.

Why is this so important for Australia?

Competitive differentiation moves beyond the screen

As AI commoditises coding, what matters most is how digital systems interact with the physical world: robotics, smart hardware, connected devices, energy systems and bioengineering. Competitive advantage will increasingly reside in:

- Physical product design and engineering.
- Complex system integration (combining AI, sensors, machinery, new materials).
- Human factors, logistics and supply chain innovation.

Creation of real-world value

- Most of human progress and economic value creation, depends on solving physical problems: manufacturing, health, infrastructure, food, energy, climate resilience.
- Even *smart industries* (e.g., agri-tech, medtech, clean energy, autonomous vehicles) fundamentally depend on combining digital intelligence with physical execution.

Resilience and sovereignty

- Countries that can build, scale and adapt physical and hybrid systems will control key capabilities. COVID-19 and global disruptions revealed the risks in relying on offshore production for critical hardware, devices and systems.
- Overreliance on just the digital/software piece leaves Australia dependent and exposed.

Employment and ecosystem spillovers

- Manufacturing and the development of physical systems create a broad base of skilled jobs, supply chains and knowledge spillovers.
- Purely digital businesses (e.g., SaaS apps) typically don’t generate the same ecosystem multipliers in high-value domains. Integrated innovation that includes mabufacturing does.

New opportunities for Australia

Australia now has a unique opportunity to leap ahead, not by doubling down on traditional software, but by leading the integration of advanced digital intelligence into physical and real-world systems. As AI makes routine software creation almost effortless and, in many cases, eliminates the need for competition in basic digital products, the real value will shift toward industries that blend digital acumen with domain expertise, physical infrastructure and manufacturing know-how. By focusing on solving complex, real-world challenges with AI-powered solutions (across sectors like agriculture, minerals, energy, healthcare, logistics and advanced manufacturing), Australia can carve out new global leadership positions and capture the next wave of economic growth.

AI won’t (yet) replace physical making

- AI can help design or simulate products and even run factories, but it can’t yet make things at scale or manage dexterous, flexible assembly outside tightly programmed tasks.
- Human creativity and mechanical expertise are still essential for anything new or complex in the physical world, such as biotech, cleantech, advanced devices and robotics.

Avoiding innovation obsolescence

We must pro-actively claim our position at the forefront of the next wave of technological progress.

While the adjective, *staid*, captures the safe, conventional mindset that has long characterised Australia’s software-focused innovation, it hardly reflects the truly sedentary pace of our progress. It doesn’t capture our reluctance to boldly reimagine what’s possible beyond the software frontier.

Unless Australia pivots from a sedentary, software-only focus, it risks slipping into innovation obsolescence as AI renders basic software solutions commoditised and replaceable. To avoid this fate, we must anticipate these trends and actively shift toward deep-tech innovation.

We must fuse digital intelligence with physical industries to secure our relevance and prosperity.

In clinging to familiar pathways and incremental change, we risk stagnation at a time when the world is racing ahead. Fusing digital intelligence with physical systems and redefining our thinking around *competitive advantage* is crucial. To overcome this inertia, Australia must shake off its complacency and dare to pursue ambitious, integrated innovation. We must transform our economy from a *follower of trends* to a genuine global trailblazer in digital-physical creation.

2. Geopolitical issues

The importance of sovereign manufacturing

Recent geo-political shifts have created an environment of heightened uncertainty in global supply chains and international trade, directly impacting Australia's economic security and future competitiveness. The COVID-19 pandemic laid bare the nation's vulnerability to overseas supply disruptions for critical goods including medical equipment, electronics and advanced materials. Ongoing trade tensions between major world economies like the United States and China, as well as the growing risk of international conflict, have intensified these concerns by threatening the stability and reliability of global markets. The escalation of tariff wars has further complicated cross-border trade, raising costs and creating unpredictability for Australian businesses dependent on imported inputs or access to foreign markets.

In this context, stakeholders we talked with stated that Australia's reliance on imported technologies, components and finished goods poses strategic risks. It has become clear that nation-state resilience is directly linked to their capacity to innovate and produce essential products onshore. As other countries rapidly invest in their own advanced manufacturing ecosystems and segment international supply lines for strategic advantage, Australian manufacturers and entrepreneurs cannot afford to lag behind.

Business makerspaces are considered a critical response

Many stakeholders echoed the sentiment that supporting grassroots programs and advanced manufacturing entrepreneurs is a critical response. These initiatives empower a new generation of local innovators to develop, commercialise and scale breakthrough technologies on Australian soil. By fostering a fertile ecosystem from the ground up, Australia will not only lessen its dependence on foreign sources but also create a robust pipeline of homegrown capabilities in sectors such as medtech, energy, aerospace, agritech and more.

Grassroots innovation hubs like business makerspaces and founder-focused programs form the backbone of this national resilience. They catalyse skills development, job creation and industry diversification at scale ensuring new ideas are rapidly transformed into market-ready products. Equipping entrepreneurs with infrastructure, expertise and networks positions Australia to adapt quickly to global shocks. It reinforce our economic sovereignty and secures a seat at the forefront of emerging high-value industries.

In essence, building support for advanced manufacturing from the grassroots up is no longer simply an economic opportunity. It is a geo-strategic necessity for Australia's future prosperity and security in a rapidly shifting world, especially as tariff wars and trade barriers continue to reshape the global economic landscape.

3. Findings from stakeholders

From our consultations, we have witnessed a willingness in the community and between stakeholders to work together. Many stakeholders recognise there is mutual benefit in project collaborations and aligning values to support advanced manufacturing from the ground up.

However, translating a willingness to work together into a real-world scenario is where many opportunities stall. The findings from our consultations strongly suggest that, following international gold standards, an independent capability platform at the grassroots is the best solution, i.e. a business makerspace can solve this problem.

During the pilot project, we spoke with many stakeholders who have vested interests in supporting a business makerspace like the Startup Factory. These includes universities, corporates, SMEs, startups, investors and individuals with relevant professional expertise.

A workshop was held on 28th August 2024 with a diverse range of attendees to test and validate our assumptions and ideas. (A list of people we spoke with are provided in the appendices)

Stakeholders agree and recognise the following

- Startup Factory will provide important partnership opportunities.
- Providing resources and infrastructure to grow and maintain innovation community will establish a resilient and more wholistic startup ecosystem.
- Bridging the scale-up phase for manufacturing innovators is critically important.
- An independent capability platform like a business makerspace can provide the mutual incentives that pulls partners and collaborators together.
- Through its independent nature, such a platform provides additional benefits such as networking effect, cutting through red tape and skills sharing.
- The platform should be supported by government in return for economic development.
- Examples of gold standard business makerspaces overseas are demonstrating how this can be achieved and what economic and ecosystem the outcomes are.

Key information gathered

The following information has been gathered from talks and workshops with stakeholders and reveals important aspects within an Australian/Victorian context.

Startup infrastructure gap: There is an infrastructure gap at the grassroots that universities, industry and government are not filling. (referred to as ‘the scale-up phase’ or ‘valley of death’)

An opportunity exists for a sector agnostic business makerspace to fill this gap. A capability platform that maintains independence from formal structures but collaborates with them. One that provides high-end engineering and design prototyping infrastructure and startup programs that support the commercial growth and scaling of physical technologies.

Community makeup and creation: It was unanimously agreed that the single most important element to building the Startup Factory is the creation of an aligned community.

Like Space Tank, the Startup Factory is designed to organically build communities of individuals aligned to innovation, collaboration and startup/new product support. This includes stakeholders from large corporates, SMEs, startups, universities who have diverse skills, experience and interests. It achieves this through providing events, programs and affordable access to resources. A space that is free of bureaucratic restrictions enables the free flow of ideas and collaboration.

Venture Studio model de-risks startup creation: The Venture Studio model directly address risks associated with Australia's high costs, small market size and risk aversion. This model gives startups who are developing physical products and technologies better odds of surviving and scaling to compete globally.

Australian manufacturing startups using the Venture Studio model overcome local constraints by:

- Reducing capital needs through shared infrastructure
- Providing hands-on support in prototyping and validation
- Facilitating access to networks, funding and markets
- Instilling discipline in venture creation
- Sharing risk at every step

Existing ecosystem is fragmented: Existing startup/innovation ecosystem in Melbourne is highly fragmented. Many stakeholders find it difficult to work cross-sector or horizontally in vertically integrated industries.

Startup Factory is an industry and sector agnostic platform where everyone, regardless of their background, is free to come, participate, collaborate and succeed.

Navigating supply chain & capability understanding: Startups face challenges in identifying and working with local suppliers. There is a limited understanding of local capabilities, exacerbated by slow response of local providers at times. (One respondent cited they can have a part quoted, manufactured and delivered from overseas before a local company has even provided a quote.)

Startup Factory collects and collates from its members and supporters, a vast network of manufacturers and suppliers. This network is made freely available to everyone.

Entrepreneur/startup drain: In the absence of a suitable support platforms, startups developing hardware and manufacturable products are moving offshore to find better support. Often this means we lose ideas, talent and fledgling companies that turn into multimillion dollar (sometimes billion dollar) enterprises, to overseas ecosystems. These companies end up employing hundreds of people and foster job growth and skills development in priority sectors.

Accelerator / VC support: Accelerators (like Rocket Seeder, MAP et al.) have limited knowledge and experience in helping manufacturing startups progress through TRL level 4.

Reducing risks and speeding up cycle time through Startup Factory programs will help mature our startup ecosystem.

Government interest in Fishermans Bend is fragmented: DTP and DJSR have multiple groups that deal with innovation and the development of Fishermans Bend. Various government departments show interest in developing support structures for entrepreneurship in manufacturing but they have no clear idea on how this can be achieved in real terms. Many industry stakeholders do not know who to talk to and have lamented on the fragmented nature of government's approach.

Startup Factory will leverage Space Tank's decade worth of experience in connecting stakeholders and facilitating collaborations. Startup Factory can act as an ancillary hub to government whereby a centralised point of contact can facilitate communication between the private sector industry and government departments.

Lack of government funding at emerging levels: There are very limited government funding policies to support entrepreneurship and innovation in advanced manufacturing at emerging levels. This activity lands squarely in the startup category, therefore, Launch Vic are an obvious candidate to take a lead in building manufacturing presence in the startup ecosystem.

Conversations with the Launch Vic team have shown that they recognise how supporting advanced manufacturing entrepreneurs plays an increasingly important role in a contemporary startup ecosystem, especially as we navigate a post digital era. But due to their app-centricity, it appears Launch Vic faces challenges in supporting manufacturing startups.

Lagging successful overseas examples: Industry stakeholders recognise Australia's potential and lament how far behind we are compared to the successes of overseas ecosystems when it comes to supporting grassroots innovation in manufacturing.

Startup Factory follows examples including New Lab New York, MARS District in Canada and Unternehmer TUM in Munich Germany who all demonstrate the benefits of supporting high-end business makerspaces geared to support the commercial growth of manufacturing startups.

Industry organisations need to do more: Industry organisations like AMGC and Startup Muster can drive positive change by fostering partnerships between software startups and manufacturers, advocating for targeted policy and funding support and focusing more attention on incorporating advanced manufacturing and physical product development into the startup fold. By championing cross-sector collaboration and raising the profile of hybrid innovation, they can help shift Australia's focus from siloed software development toward a thriving ecosystem where digital and manufacturing expertise combine to generate globally competitive products.

4. Partnerships

Early adopters

We have received four Letters of Support that demonstrate commitments to developing Startup Factory in both the short and long term.

Rocket Seeder and Bosch have expressed a desire to be a part of Startup Factory programs. As a feeder to Startup Factory programs, Rocket Seeder will source high potential candidates from their various startup cohorts. Bosch will provide post program support to participants who are ready to develop automated production lines for scaled onshore manufacturing.

Melbourne University and ANNF have outlined multiple pathways for future collaborations between their organisations and the Startup Factory.

Short Term: Rocket Seeder and Bosch can substantially support and progress the development of our Startup Factory vision. By book-ending Startup Factory programs, Rocket Seeder and Bosch substantially increase the program's viability. Rocket Seeder also have access to cohorts in their partner accelerators, Boomerang Labs, Energy Lab and Farmers to Founders. In addition, Melbourne Angles, Breakthrough Victoria and Launch Vic have all said they will help with sourcing quality candidates from their networks.

Long Term: Rocket Seeder, Bosch, ANNF and Melbourne University have expressed in writing, the desire to be involved in the future developments of Startup Factory. Other stakeholders also expressed the desire to be involved with Startup Factory as it progresses.

Building trust and confidence

Building trust and confidence with our innovation stakeholders is imperative in developing the right foundation for a sustainable innovation ecosystem for Australia. The Startup Factory pilot has created the impetus to take the next step. Momentum has gathered and it is important that the government shows conviction in our vision to continue building this momentum.

Other organisations and sectors have shown interest in partnering with Space Tank's vision to develop the Startup Factory.

Overview of supporters

4D Medical: expressed, having access to a thriving network of design and innovation smarts would benefit MedTech developers through exposure to talent.

Bosch Australia Manufacturing Systems: (BAMS) encounter startups that need early-stage support via Startup Factory to get to a manufacturing maturity they can support.

Siemens Mobility: looking at Startup Factory for staff to 'explore new ideas and experiment'.

ANFF: (Australian National Fabrication Facility) - provide *micro* and *nano* fabrication services to enable Australia's innovation agenda. They expressed the need for a partner organisation to support the *macro* end of manufacturing in the startup ecosystem and that the Startup Factory concept is well suited to achieve this.

Melbourne University: see that Startup Factory could engage engineering/design students and PHD researchers in real-world projects as well as offer bulk student internship packages. Solutions like these tick key performance criteria and save universities time and money.

TOM: (Tikum Olam Makers) is keen to use Startup Factory as a base for Melbourne operations. TOM organise events such as Makeathons, Innovation Challenges, and Developer Groups where teams of volunteer makers join *Need Knowers* (people with disabilities) to create concepts, working models, prototypes and products that are designed to solve the Need Knower's challenge.

Startups: Many startups have contacted Space Tank and expressed their interest in using a business makerspace that is tailored to the commercialisation of physical product technologies. Examples of sectors are Medtech, Agritech, clean energy, aerospace etc.

Investors and Business Accelerators: Melbourne Angels, Rocket Seeder, Boomerang Labs, Energy Lab and Farmers to Founders have all expressed willingness to align themselves with the development of Startup Factory. Some have an urgent need to support their existing and future startup cohorts with manufacturing and prototyping infrastructure.

Note: It was made clear by many stakeholders that university makerspaces and university industry engagement offer little help due to burdensome internal bureaucracy, slow pace and concerns regarding intellectual property rights. An independent business makerspace that operates free from the shackles of traditional institutions is viewed favourably.

5. Sectors and capabilities

Industries that align with government economic priorities

Agritech: Good support for agtech/farmtech. A centralised presence at the FB precinct presents opportunities for a hub-and-spoke model that links city smarts and capabilities with regional insights, knowledge and opportunities.

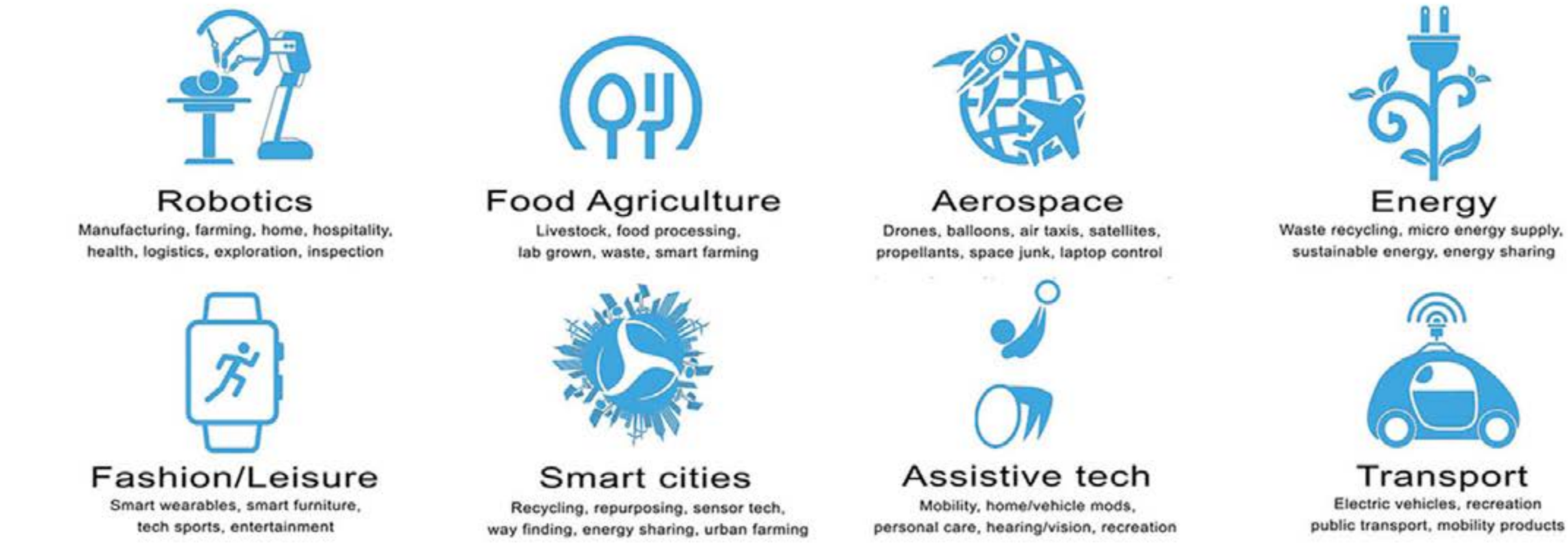
Medtech/health tech: There is a strong presence from a few med-tech companies in the precinct. These companies shared a common view that an independent business makerspace can alleviate some of the blockages that impede development of fledgling Medtech startups. Side stepping cumbersome bureaucracy, access to prototyping and clean room facilities and being a part of like-minded innovators and entrepreneurs being top of the list.

Food tech: There is a good history of local entrepreneurs and startups creating food companies. Accelerators report there are no facilities to help support scale up (from small kitchens to walk-in ovens, flow ovens and industrial kitchen equipment.)

Aerospace: Perhaps in response to Australia establishing a Space Agency program, there is increasing interest in aerospace applications from solid fuel rocket propulsion systems for micro satellite deployment to drone technologies.

Energy tech (Clean, Green, etc): A number of business accelerators have shown interest in partnering with a business makerspace to meet demand for energy tech startups with physical componentry in their concepts. They claim that between 50% to 60% of all startups that come through their programs are now requiring support in developing manufacturable parts and designs.

Defence: Whilst there is a strong defence presence in FB, there is significant overhead to doing business in defence sector like security, secure/dedicated facilities and processes, controls, etc. Dealing with defence results in generally long lead times to bring products to market. A three-to-four-year lead time is common but presents challenges for startups. There are some pockets of accelerated innovation/development within parts of defence that offer hope.



6. Gaps in programs and training

Manufacturing startups have unique needs: In many cases they do not know what they do not know. They need hands-on assistance, a broad range of conversations and support to expose options, explore solutions and progress from prototype to commercialisation.

Startup Factory will provide this along with the freedom and space to experiment.

Bridging the scale-up phase: Many stakeholders (often referring to their direct experiences) expressed how critical it is to provide a platform of solutions that directly help advanced manufacturing startups to scale. This phase is often referred to as *the valley of death*, i.e., the period in a startup's journey where they transition from concept to commercialisation.

Startup Factory provides a bridging capability that connects business accelerators with sophisticated institutions who work with more mature or manufacturing-ready companies.

Unis are failing Australia Made: Universities encourage global thinking, global distribution and global manufacturing. This thinking appears to be a reaction to the offshoring of manufacturing in recent years. It follows the logic that, if Australia won't seriously pursue and support manufacturing (particularly at the grassroots where Unis operate), then why should Unis? Consequently, unis are promoting offshoring manufacturing as a given under current economic and industry paradigms.

Startup Factory specifically focuses on providing the right resources to retain our innovation talent onshore and building local supply chain resilience relevant to such organisations.

Lack of early-stage support for manufacturing startups: We identified that the small number of VCs who invest in physical product start-ups do not have the resources and expertise to provide hands on support for prototyping. We found there was a healthy dose of cynicism with these VC's who claim many Australian product design companies focus on extracting as much revenue as they can from startups without moving them towards a viable/practical product solution.

Startup Factory will provide the right mix of programs, infrastructure and professional resources to ensure manufacturing startups can develop investment ready concepts and businesses.

Existing incubator & accelerator programs: Incubators, accelerators and co-working spaces, which are great contributors to Australian innovation, are generally not equipped to cater for manufacturing innovation.

Like its overseas counterparts (New Lab New York, MARS District, Unternehmer TUM), Startup Factory is specifically designed to fill this critical gap.

Skills training: Manufacturing startups do not have time to pursue a full university degree to overcome technical challenges, refine product designs and develop scalable processes. Often, they only require targeted mentoring and quick *skill-up-and-go* training, for example in engineering, design for manufacturing and commercialisation.

Startup Factory provides tailored courses and business networks. An environment of collaboration, skill sharing and tailored micro-courses allows startups to up-skill, learn from each other, tap into networks of industry expertise and explore resource sharing initiatives.

7. Facilities and location

Fishermans Bend challenges: Fishermans Bend is seen as undeveloped industrial wilderness by some individuals. Rent within the precinct is at a premium and the lack of support infrastructure are among the key concerns for startups. It is acknowledged that the precinct is still in early stages of design and development and individuals who expressed these concerns also understand that these issues may be resolved in the mid to long term.

This highlights the importance that government commits to solving affordable access to support infrastructure through initiatives like Startup Factory.

High cost of factory rent and equipment: Many stakeholders are put off by landlords charging high rent and the prohibitive cost of manufacturing equipment. This presents a major hurdle for startups on low budgets.

Startup Factory can address the issue of affordability by leveragiong economies of scale.

The needs for prototyping equipment vary: The equipment requirements for prototyping and/or small-scale manufacturing varies depending on the type of product development and maturity of startup/innovation.

Space Tank has over ten years of experience in meeting the needs of many physical product startups, including 3D printers, laser cutter, vacuum former, electronics assembly and testing, small scale CNC, basic hand tools, handheld scanner and digital design software.

Location attractors: A critical mass of people and companies are required to attract and maintain the visitation of a vibrant innovation community.

Participants of our workshop felt that creating a purpose to draw visitation to the precinct is important. Social amenities such as trendy cafes, funky architecture and things like a sartup café, pub and event space; all can contribute to attractors and create the possibility for events, presentations, talks and networking etc.

Events: Through the loss of Melbourne Knowledge Week, Melbourne has an opportunity to fill this gap with something new. An *Innovation Festival* can create the kind of hype for innovation economy that has become synonymous with the MAKER FAIR.

An idea was floated to the City of Melbourne to develop a *Melbourne Innovation Fringe Festival*. This has met with an enthusiastic response from CoM, FB IDEAs, University of Melbourne and other stakeholders like startups, accelerators and investors. The Melbourne Innovation Fringe Festival can host multiple events like entrepreneur showcases, pitch nights, equipment technology demos, skills training sessions, networking events and exhibitions, etc.

8. Social and political environment

Strong sector stovepipe mentality: Flow of information is restricted or often contained within specific departments or industry sectors and communication with others outside those groups is limited, inhibiting cross-organisational communication and collaboration. This may be attributed to siloed and/or vertical notions of doing business.

Following examples like New Lab New York, Melbourne has an opportunity through the Startup Factory to create an ecosystem that supports collaboration and mutually beneficial programs.

Funding grants are not catering to the emerging level: Many stakeholders say the R&D tax refund is not enough. Breakthrough Vic has no funding for supporting startup infrastructure or developing the innovation/startup ecosystem. Launch Vic has no clear funding directive that focuses on supporting ecosystem development for advanced manufacturing startups.

Sector leaders like the Startup Factory can work with these government departments to de-risk investment into advanced manufacturing startups and provide conditions for their success.

Future Made in Australia: This recent federal policy is about:

- Attracting and enabling investment.
- Making Australia a renewable energy superpower.
- Value adding to our resources and strengthening economic security.
- Backing Australian ideas: innovation, digital, science.
- Provide a single point of contact for investors and companies with investment proposals.
- Deliver a joined-up approach to investment attraction and facilitation.
- Identify priority projects related to the Government's Future Made in Australia agenda.
- Support accelerated and coordinated approval decisions.
- Connect investors with the Government's specialist investment vehicles.

Startup Factory can help government facilitate all the above points in a practical hands-on way that will produce tangible results in new innovation, business and employment growth.

Investing in people and places: Backing Australian ideas to strengthen our innovation, digital and science capabilities. Accelerate the development of the clean energy workforce by upgrading training facilities, supporting teachers and trainers. Building women's careers programs to expand training in clean energy and other key industries. Support STEM diversity. Attract/retain the skilled industrial workforce needed to support defence industrial priorities.

Startup Factory can address the above points with tailored program initiatives.

National Reconstruction Fund: Driving green energy and advanced manufacturing and safeguarding economic sovereignty and manufacturing capability in Australia. NRF provides a range of finance options including loans, equity investment and guarantees.

Startup Factory can develop industry co-investment plans that identify investment opportunities and support growth across priority areas such as agriculture, critical technologies, medical manufacturing, renewable energy products, mining and mobility.

This will ultimately help Australian industry move up the value chain to:

- Become more productive.
- Take advantage of opportunities in a net zero economy.
- Address supply chain vulnerabilities.

We believe that the Startup Factory and its focus on developing a tailored Venture Studio model is well suited for both the NRF and the FMA policy agendas.

ANALYSIS

Detailed breakdown of learnings

ANALYSIS

So, what have we learned?

Australian design and manufacturing entrepreneurs are raring to go. A large percentage of startups are moving beyond digital only concepts to hybrid digital/physical products. This includes mobility to medical to aerospace. From smart cities to agriculture to renewable energy. From sports and recreation tech to healthcare assistive technologies.

The Startup Factory Validation Pilot project has confirmed our belief that Melbourne is ready to follow the example set by the likes of New Lab in New York, Unternehmer TUM in Munich and the MARs Discovery District in Toronto. They are leading the charge in a new age of advanced manufacturing where nearly every product now merges physical and digital componentry.

But while there is palpable enthusiasm to emulate the likes of New Lab New York here in Melbourne, Australia is typically ten years behind these overseas initiatives. The world has shifted gears. We must create tailored support resources to meet a tidal wave of new demand from startups who need manufacturing technology support.

We spoke directly with industry representatives like Siemens and Bosch and Universities like Melbourne Uni, Monash and RMIT. We met multiple times with representatives from business accelerators like Rocket Seeder, Farmers to Founders, Melbourne Angles and Energy Labs. We engaged with many startups who are developing high tech products for sectors such as aerospace, clean energy medical and agriculture. We met with representatives from federal, state and local government. (see appendices for full list of people spoken to)

The key objectives of the pilot project were to see if the Startup Factory vision is on point, timely and viable for Melbourne.

Our learnings are discussed in the following categories

9. Testing the idea
10. Observations the matter the most
11. Challenges and opportunities
12. Investment in entrepreneurship
13. Sectors and technical readiness levels
14. Conclusion

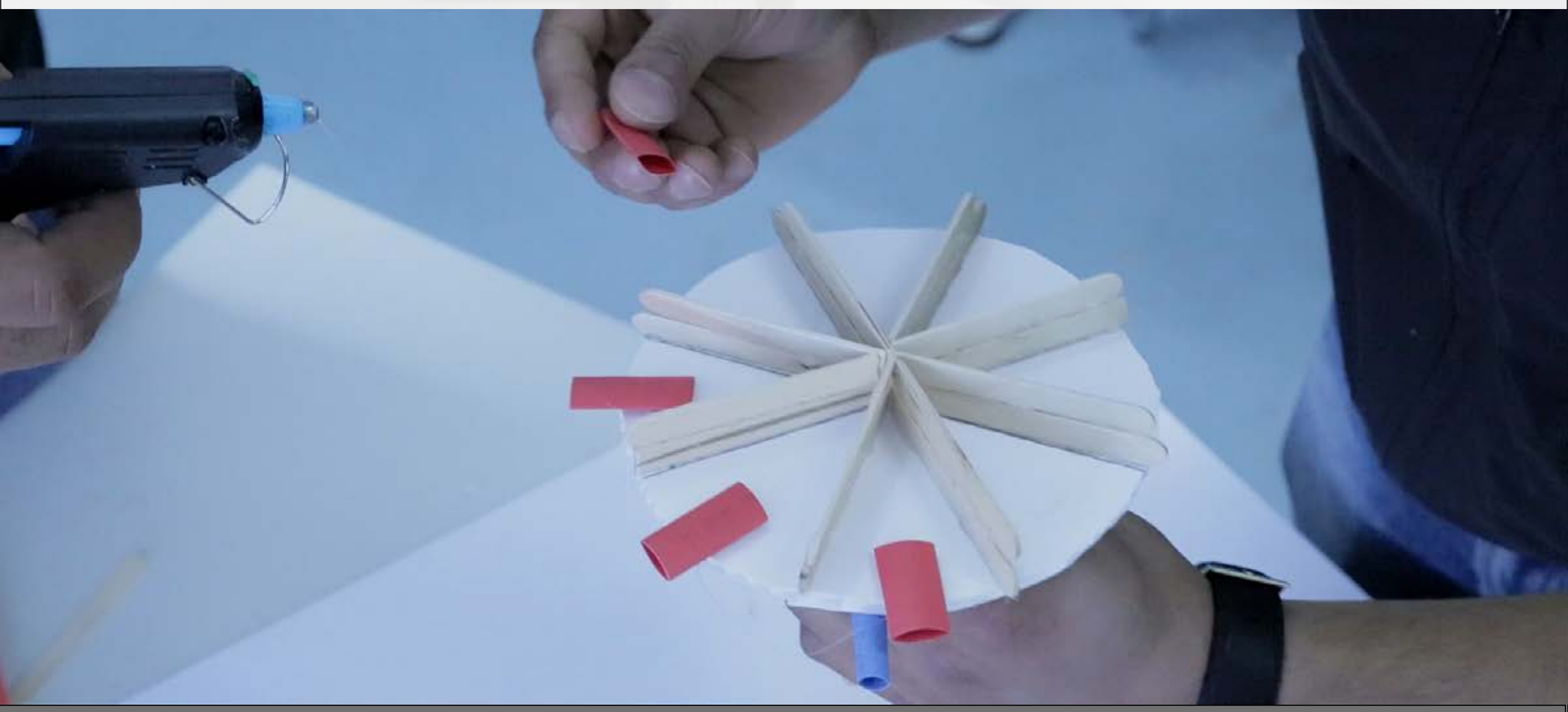
9. Testing the idea

The Validation Pilot aimed to test the appetite for supporting early-stage manufacturers.

- Are industries interested in supporting advanced manufacturing startups?
- Are investors interested in looking beyond software-only opportunities?
- Is the Venture Studio Model appropriate?
- Will major stakeholders collaborate to achieve the first three points?
- Does it present value for money? i.e. is it worth the commitment in time and resources?
- Should the government support grassroots infrastructure like a business makerspace?

The answers to these questions are overwhelmingly YES.

The Startup Factory vision is receiving support from stakeholders in government, education and industry. The pilot project established a resounding concensus. Melbourne has the capabilities, resources and appetite to progress the Startup Factory vision.



10. Observations that matter the most

Broad agreement among stakeholders indicated that Startup Factory is benefitial and value adding.

Overseas exemplars: Examples like New Lab New York and Unternehmer TUM demonstrate that the business model for an independent business makerspace requires long term funding support for building, equipment, fit out and operations. Successful operations require stakeholders and sponsors to work together in real terms.

The Venture Studio model is considered highly relevant: For Australia, where manufacturing startups face daunting early hurdles and where risk capital and scale are limited, the Venture Studio Model provides a smart, efficient and resilient approach to innovation. It amplifies resources, pools expertise and directly addresses local constraints. These attributes makes the Venture Studio model particularly well-suited to the innovation needs of Australia's manufacturing sectors.

Stakeholders want to take the next step: We experienced great enthusiasm for the Startup Factory. Stakeholders agree to take the next step. Rocket Seeder and Bosch have supplied letters of support stating they will work with us, *if it is funded by Government*.

Need of an independent platform of support: Stakeholders favour an independent ecosystem outside formal institutions like universities and corporations. An environment free of bureaucratic constraints and allowing a typical startup ethos: experimentation, fail fast mentalities, creativity, mingling of money and smarts.

Don't repeat inflexible models: Many individuals lamented our ecosystem's propensity to simply repeat existing models of support. This leads to an oversupply of one type of infrastructure and creates stagnating monocultures that cannot adapt to changing trends. They expressed the need for greater insight and courage to develop a novel and flexible approach that adds new value to the overall ecosystem. One that is tailored to Australia's unique circumstances and current challenges.

Need for a collective of resources: Bringing together infrastructure and equipment technology, stakeholders, expertise, investment and a critical mass of like-minded individuals to solve problems and develop physical products.

Attracting investment: If government and industry work together to build a flagship presence for advanced manufacturing entrepreneurship in Australia's startup ecosystem, we will grow the critical mass required to lure investors.

New policies provide new opportunities: Stakeholders felt strongly that policy agendas such as the National Reconstruction Fund and the Future Made in Australia policy, gives government a timely opportunity to develop structures of support for grassroots innovation and entrepreneurship in manufacturing sectors.

11. Challenges and opportunities

Challenges are often our biggest opportunities

Areas of focus: Stakeholders had different views on areas of focus, such as sectors, problem domains and location. Who should be involved, how to start and appropriate operating models were also debated. A natural bias was evident from individuals who sought to find personalised benefit.

When reminded of the broader scope of the Startup Factory, stakeholders agreed that a sector agnostic approach was prudent. The benefits of an agnostic approach are cross-sector collaborations, knowledge sharing and potential for sparking greenfield ideas. It was agreed that the State Government's vision to boost priority economic sectors can provide clarity and guidance.

High rent in desirable locations: High rent is a major hurdle that many startups struggle to overcome. Similarly, a business makerspace is not geared toward high profit margins and will struggle to sustain operations if it must pay premium rent.

With the right mix of government/private sector support, Startup Factory can leverage economies of scale across studio tenancy, skills courses, events, mentoring and venture studio collaborations and thereby offer a sustainable financial/operating model.

Government funding is lacking: The government is an important mobiliser, but funding for grassroots infrastructure is lacking. The government's low risk tolerance and high eligibility thresholds for grant funding result in small to medium enterprises (SMEs) and software startups getting a larger share of the funding pie. Early-stage manufacturing startups are being neglected.

Startup Factory can help government invest wisely and safely, and thereby turn this stagnant paradigm for manufacturing startups into an economic boom for innovation.

Who takes the lead: A classic chicken and egg problem exists whereby each stakeholder waits for the other to commence before committing. This leaves great opportunities falling by the wayside.

This project proved that when State Government supported the Startup Factory initiative, key stakeholders paid immediate attention and wanted to be a part of it.

Uncertainty of funding support: A lack of commitment from State Government is a major concern, translating into a loss of confidence from stakeholders if the State Government discontinues its support for this project.

We believe that the same long-term commitment that Launch Vic has enjoyed for the support of software startups must also be applied to develop manufacturing entrepreneurship and innovation in Victoria.

12. Investment in entrepreneurship

A new landscape of opportunities

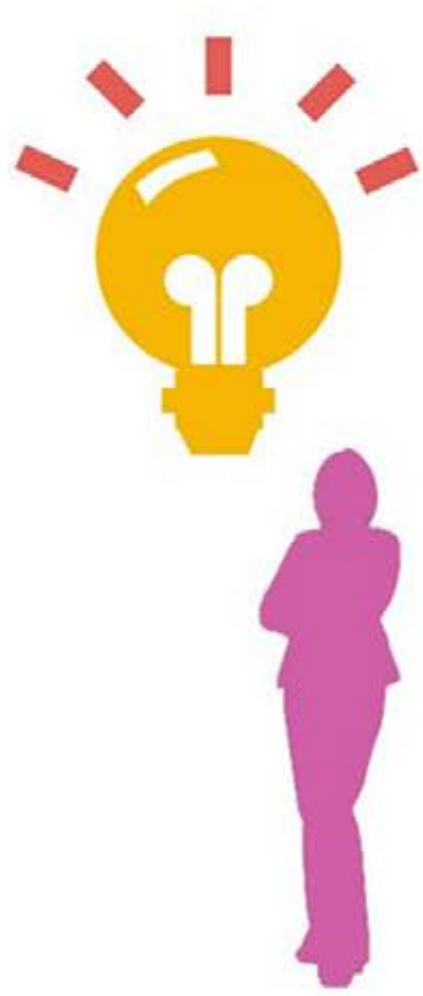
All stakeholders we spoke with want a long-term commitment from State Government to support entrepreneurship in advanced manufacturing. With the maturation of the software sector and as digital/physical worlds combine, investors are looking to hybrid physical products. It is fortuitous timing as technology now helps Australian manufacturing startups to overcome tyranny of distance, low population density and high cost of goods and services.

Startup Factory meets Australia's opportunities in the new digital/physical era. Supporting startups who operate in these greenfield spaces attracts investors and pushes our economy toward future industries that leverage new materials, new talent expertise and new hybrid technologies.

Opportunities await in the world of advanced manufacturing. Meeting this demand head-on, the Startup Factory will help Melbourne to reap the same rewards that New Lab delivers the State of New York. The return on investment for government and stakeholders when they invest in purpose-built business makerspaces like New Lab and Startup Factory, is significant and multi-faceted.

Government support provides a vote of confidence

A Government and private sector partnership sends a strong message to investors. It says we are confident. We are pursuing future focused economic opportunities. We are supporting the growth of future-focused technology entrepreneurs. Most importantly, it's a move beyond rhetoric, demonstrating how we are collaborating in the real-world to get the job done.



13. Sectors, TRLs and expertise

Sectors

Selecting targeted sectors such as cleantech (encompassing energy tech/net zero/circular economy), agtech, miningtech, aerospace and medtech is significant due to the unique innovation needs, high growth potential and market relevance of these domains. Each of these sectors faces specific technological, regulatory and business challenges that are not always addressed by generic incubators or accelerators. Focusing on industries like these enables a business makerspace to create specialised environments, attract sector-focused talent and offer tailored equipment and mentorship that catalyses meaningful invention and commercialisation. These sectors are critical to economic transformation, helping regional industries diversify and modernise.

Focusing on these high-impact, innovation-driven sectors enables a business makerspace to serve as a vital launchpad for transformative businesses while addressing real market needs and establishing itself as a specialised ecosystem partner.

Examples/Scenarios

- A cleantech startup uses the makerspace's advanced electronics testing labs to prototype a new microgrid controller for solar installations, facilitating early-stage development critical for future venture funding or partnerships with energy utilities.
- An agtech entrepreneur utilises rapid prototyping facilities to develop an IoT-based crop monitoring system, later piloting this technology with local farmers brought in through outreach programs.

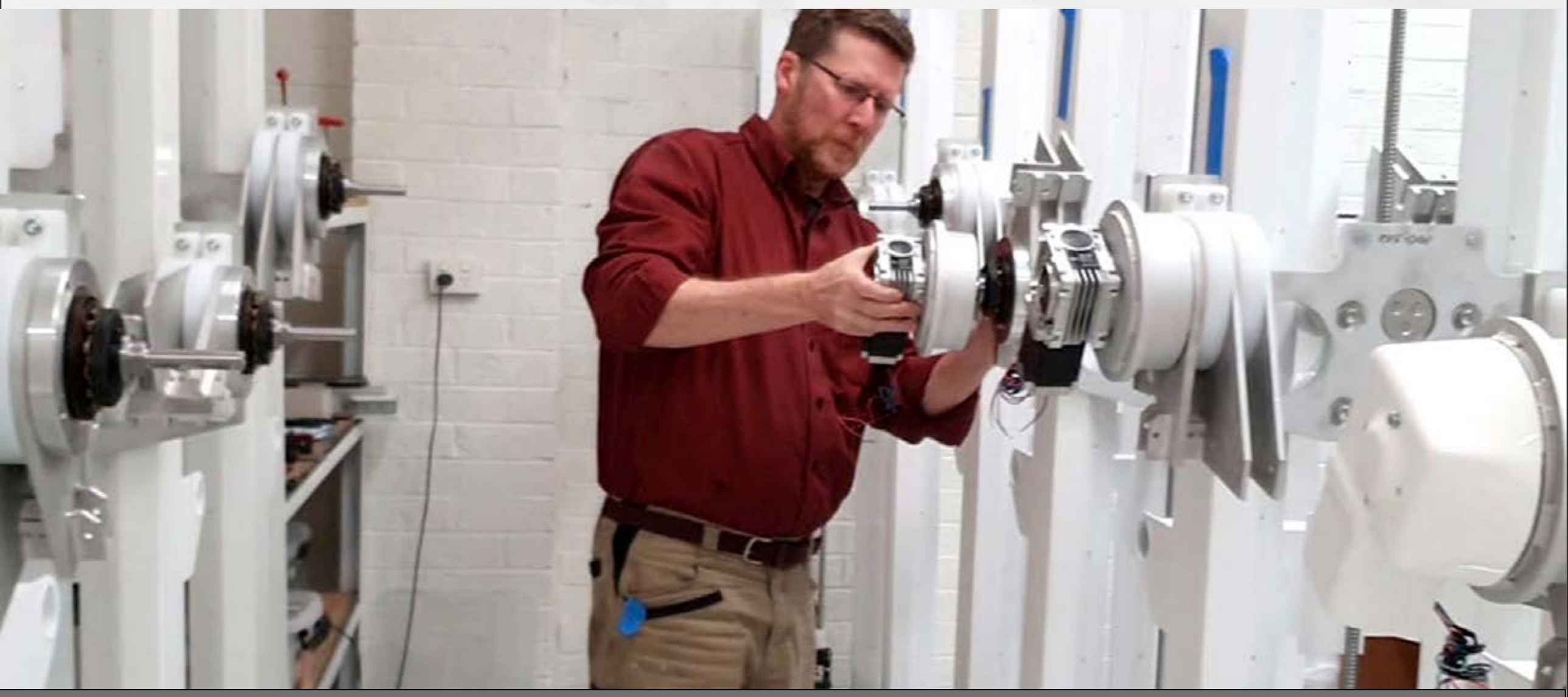
Early TRLs

Targeting early Technical Readiness Levels (typically TRL 1-3) which move from research to proof-of-concept fills a critical support gap for hardware and deep tech startups. Many corporate partners and innovation organisations like Bosch and CSIRO prefer to work with companies at more mature TRLs (e.g., TRL 5+). This is where risks are lower and there is evidence of market traction or validated prototypes. Early TRL startups, however, often lack access to resources, mentorship and technical validation required to make meaningful progress toward commercialisation. A business makerspace that provide tools, collaborative environments and expert guidance at these early stages helps derisk concepts, shorten time-to-prototype and create viable candidates for later-stage support and investment. This creates a robust pipeline of innovation for downstream partners and increases the rate at which research translates into market-ready products.

Prioritising early TRL support, positions a business makerspace as a pivotal bridge between academic research and commercial market entry, increasing both the volume and quality of innovations progressing to later-stage commercialisation.

Examples/Scenarios

- A university spin-out working on a novel battery chemistry tests its concept in a business makerspace lab, creating initial prototypes for laboratory validation and prepares data packages that make it eligible for a CSIRO deep-tech accelerator.
- An early-stage aerospace team uses shared workshops and technical advising to move from CAD designs to working drone prototypes, enabling their application to a corporate venture partnership with a major industry player like Boeing.



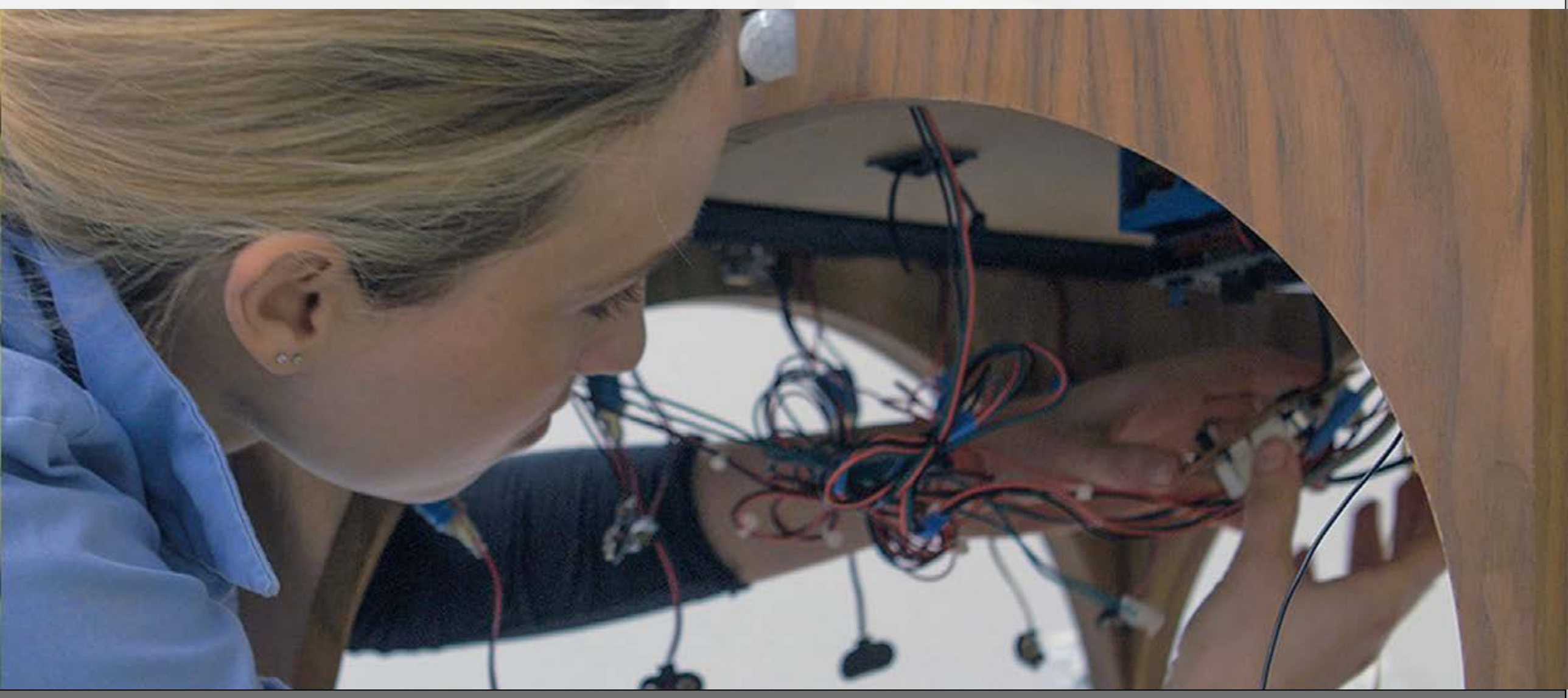
Incubators and accelerators lack expertise

Many startup incubators and accelerators have evolved around the needs of digital companies, offering software mentorship and business model workshops. But they seldom possess the equipment and in-house expertise required for physical hardware, medtech or deep tech product development. This leaves founders of physical or complex technical solutions underserved, slowing their progress or forcing them to find support offshore. A business makerspace fills this void and retains talent onshore by providing access to prototyping workshops (e.g., 3D printers, CNC machines, electronics benches) and recruiting staff or advisors who understand *taking atoms to market*, including regulatory pathways, supply chains and manufacturability. This unique value proposition attracts startups moving past digital-only models into areas like robotics, IoT and next-generation materials.

By providing specialised skills and facilities for hardware and deep tech development, a business makerspace like the Startup Factory addresses a critical gap left open by traditional accelerators, enabling a new wave of technology businesses to progress from idea to impactful, market-ready products.

Examples/Scenarios

- An accelerator cohort working on smart wearable medical devices can iterate on hardware designs, perform rapid prototyping and receive feedback from product engineers housed within the Startup Factory, rather than dealing with lengthy external manufacturing cycles.
- A miningtech startup developing autonomous sensing units for mineral exploration can test ruggedised enclosures and circuitry in-house, reducing development time and ensuring that new technologies are production-ready before seeking large-scale investment



14. RISK MITIGATION

Plan for the best and prepare for worst, has been echoed by all stakeholders. Accordingly, we have analysed Australia's unique challenges and prepared a risk mitigation model.

The Startup Factory mitigates risk through a staged, collaborative model, strong stakeholder alignment, application of proven international frameworks and responsive to ecosystem feedback. By addressing clear market gaps and leveraging distributed expertise, it reduces both operational and investment risk, positioning it as a prudent and effective vehicle for government and private sector support of advanced manufacturing innovation.

Drawing directly from this document's findings and recommendations, risk mitigation in the Startup Factory model is broken into the following categories:

- **Staged and adaptive implementation:** The Startup Factory adopts a multi-year, staged approach. It begins with pilot programs that leverage underutilised assets and adapts the operating model as learnings emerge. This incremental rollout reduces upfront capital exposure and ensures resources are allocated based on proven demand and model fit.
- **Distributed partnership model:** Risk is shared across stakeholders, including government, industry, accelerators, universities and investors. Distributed responsibility lessens reliance on any single party and enhances resilience through diverse expertise and resource pooling.
- **Proven international models:** The approach draws on the success of global best-practice business makerspaces (e.g., New Lab, UnternehmerTUM), reducing uncertainty by replicating models that have demonstrated strong ROI, job creation and investor interest overseas.
- **Strong stakeholder buy-in and network effect:** The project has already secured letters of support and partnership interest from high-level players (Bosch, Rocket Seeder, universities). Stakeholder partnerships help create a quality candidate pipeline and rapid scaling pathway, helping to guarantee early adoption and reducing the risk of insufficient market traction.
- **Focus on market gaps and critical needs:** By explicitly addressing poorly served segments, physical product startups facing fragmentation and lack of support, the Startup Factory reduces the risk of redundancy and increases the likelihood of distinct value creation.
- **Agile program design and iterative improvement:** The model enables continuous feedback, rapid iteration and course correction as needed. This adaptability ensures that the Factory remains relevant and responsive to changing market and technology conditions. This is a key factor in de-risking innovation initiatives.
- **Government co-investment and policy alignment:** Alignment with government priorities (e.g., National Reconstruction Fund, Future Made in Australia) increases the likelihood of sustained support and broader ecosystem stability, thereby lowering financial and policy uncertainty.
- **Tailored training and commercialisation programs:** By providing tailored training and support to manufacturing startups, the Startup Factory helps move companies more efficiently from concept to investment readiness. This helps individuals to de-risk their R&D, prototyping and go-to-market activities and improves success rates by lowering overall ecosystem risk.

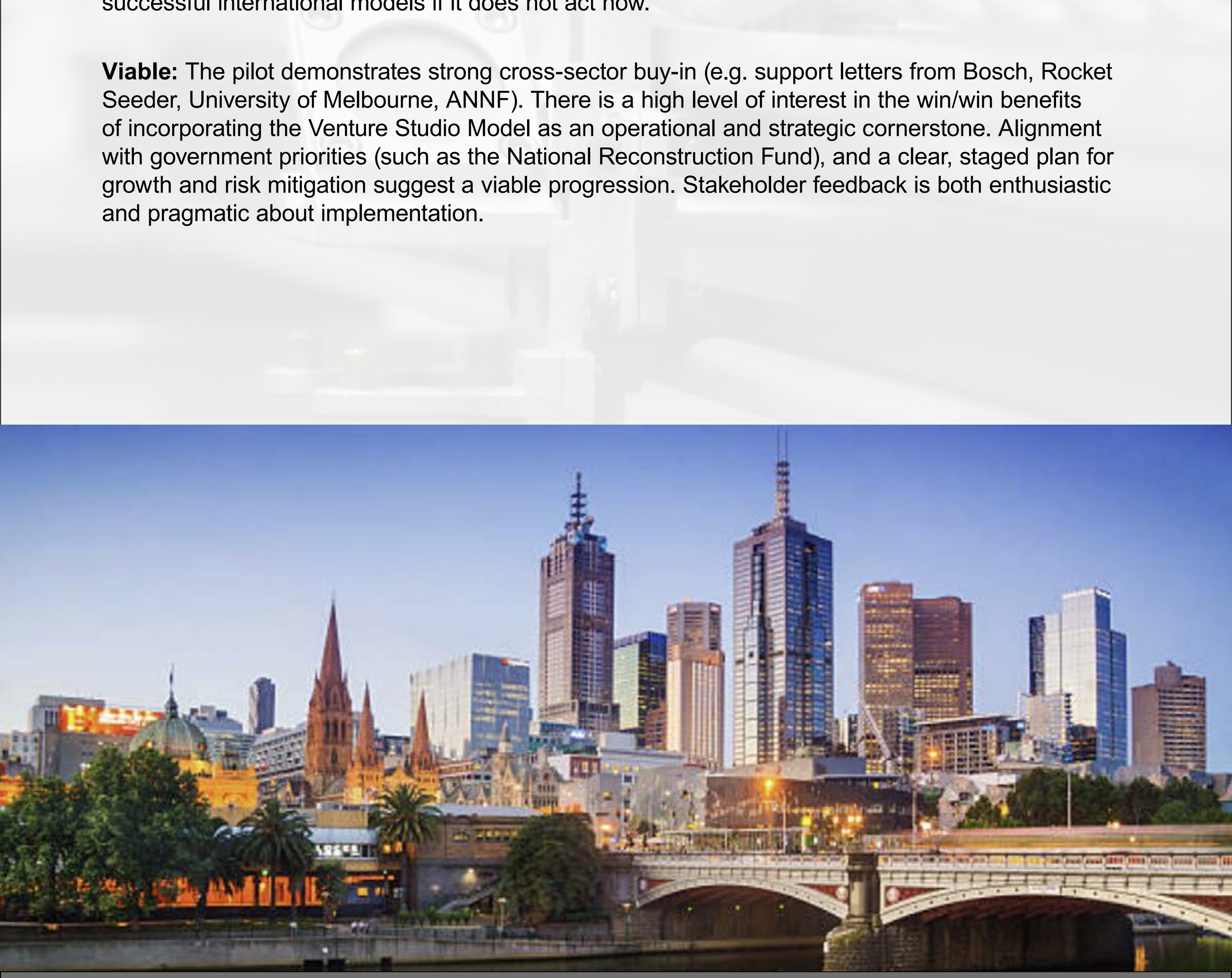
15. Conclusion

The Startup Factory is on point, timely and viable for Melbourne

On point: The validation pilot and extensive stakeholder consultations confirm a critical gap in support for hardware/manufacturing startups. The vision directly addresses this gap by providing sector-agnostic, hands-on infrastructure and programs. The Startup Factory fills a void not met by existing incubators, universities or government policy.

Timely: We have reached a strategic moment. The emergence of advanced manufacturing, the blurring of digital and physical product boundaries and urgent calls from industry, investors and academic partners for local innovation are converging. Australia risks falling further behind successful international models if it does not act now.

Viable: The pilot demonstrates strong cross-sector buy-in (e.g. support letters from Bosch, Rocket Seeder, University of Melbourne, ANNF). There is a high level of interest in the win/win benefits of incorporating the Venture Studio Model as an operational and strategic cornerstone. Alignment with government priorities (such as the National Reconstruction Fund), and a clear, staged plan for growth and risk mitigation suggest a viable progression. Stakeholder feedback is both enthusiastic and pragmatic about implementation.



ACTIONS

What are the next steps

ACTIONS

Rationale

- Industry has acknowledged a shift from software-only to hardware hybrid opportunities.
- The startup ecosystem must follow suit.
- Startup Factory is well positioned to take a lead in this paradigm shift.

Opportunities in physical/digital technologies are increasing across all industries. Therefore, for our startup ecosystem to mature and thrive, entrepreneurs at the grassroots must be able to pursue physical technologies.

With the right support from government and industry partners, coupled with pragnaitc infrastructure, we can emulate successful models from overseas to make Victoria and Australia an epicentre for manufacturing innovation. Stakeholders confirm that Startup Factory and related programs such as the Venture Studio Model and affordable access to enabling technology and mentoring are a valuable resource for supporting the growth of future focused advanced manufacturing in Victoria. There is now an expectation that we continue to build momentum.

This will

- Fill the manufacturing gap in our startup ecosystem.
- Create investment opportunities in manufacturing startups.
- Build innovation communities and forms meaningful partnerships.
- Deliver exponential ROI - accelerate new business growth, enhance employment opportunities, increase technology adoption, provide skills training, etc

Our approach

16. Venture Studio model
17. Portfolio model
18. Seize the AI opportunity
19. Partnership opportunities
20. Competitive advantages
21. Sector benefits
22. Emulating global best practice
23. Investment
24 Staged approach
25. Programs

16. Venture Studio model

A Venture Studio model is a highly recommended operating strategy. Also known as a *Startup Studio* or *Company Builder*, the Venture Studio systematically creates and launches new startups. It generates startup ideas internally, assembles founding teams, provides hands-on operational support and invests its own resources like capital, network, expertise and infrastructure to rapidly build, test and scale ventures. Unlike incubators or accelerators, the Venture Studio is a co-founder in these startups, holding significant equity and tightly guiding development from concept to market.

Improving on incubator/accelerator models

The Venture Studio differs and improves on incubator/accelerator models in the following ways:

Idea origination:

Venture studio: Ideas come from within the studio; the studio pro-actively appoints founding teams.

Incubator/accelerator: Simply wait for startups with good ideas to *walk through the door.*

Level of involvement:

Venture studio: Highly hands-on, deeply involved in strategy, product development and operations throughout the startup's life.

Incubator/Accelerator: Offers mentorship/advice, networking and sometimes workspace, typically over a fixed short period.

Equity and risk sharing:

Venture studio: Maintains larger equity stakes as a co-founder; risk and reward are shared more equally with founders.

Incubator/accelerator: Takes smaller equity in many startups; less involved in day-to-day.

Cross sector industry collaboration:

Venture Studio: Acts as an integrated co-founder, fostering deep, ongoing collaboration across multiple sectors by internally sourcing ideas, assembling diverse teams and blending cross-disciplinary expertise throughout the entire venture-building process.

Incubators/Accelerators: Primarily offer short-term, cohort-based support to externally formed startups, encouraging cross-sector interaction mainly through networking events and shared workspace, with less direct or ongoing multidisciplinary integration.

Outcome focus:

Venture studio: Prioritises building repeatable startup creation systems, increasing success rates through direct support and shared resources.

Incubator/accelerator: Focused on nurturing and accelerating already-formed external startups, often culminating in a demo day or funding event.

The Venture Studio model suits Australian conditions

The Venture Studio model is highly appropriate for Australian startup and innovation stakeholders in manufacturing, perhaps even more so than traditional models.

Addresses key local challenges

- High costs: By centralising facilities, equipment, expertise and supply chain access, the Venture Studio leverages economies of scale, thus reducing capital and operational costs for startups.
- Geographic isolation: Studios can concentrate on developing corporate partnerships to assist with export expertise, global networks and logistics resources. This helps founders bridge the distance to global customers and partners.
- Small domestic market: Studios can focus on ventures with global market fit and use their scale (and government/industry links) to run larger validation programs even in a small market.
- Risk aversion: By sharing risk across a portfolio of ventures and providing hands-on support, the model reduces the stigma and impact of individual venture failure.

Enhances venture quality and survival

- Deep involvement: The hands-on co-creation approach guides startups through the earliest valley of death phase, (critical in hardware/manufacturing) where technical concept validation and capital requirements are demanding.
- Rapid iteration: Prototyping and failing fast is often impossible in manufacturing startups who are operating solo due to cost and expertise limitations; a Venture Studio makes *failing fast* possible.
- Access to talent: Attracts specialist talent that may not otherwise join a single startup, but is keen to work in a dynamic, innovation-focused studio.

Leverages Australian policy and funding

- Government support: Studios can maximise access to R&D credits, manufacturing grants and university collaboration, efficiently channelling such support to multiple ventures.
- Industry collaboration: Studios often form industry partnerships, responding to identified needs or problem domains and providing pilots or contract manufacturing, further de-risking the pathway to market.

Creates culture change

- Systematic innovation: Instils best practices, stage-gating and commercial discipline, helping shift Australia's innovation culture toward higher performance and real-world outcomes.
- Normalisation of failure: A studio's portfolio approach makes experimentation and failure acceptable and productive, which is vital for long-term ecosystem health.

17. Portfolio model

The Portfolio model enables a true *portfolio approach* to the allocation of government grant funding that reduces risk, increases accountability and maximises the chance of breakthrough success.

Via its experience with hundreds of advanced manufacturing startups, Business Makerspaces acquire the ability to identify winners early in the vetting stage and assist in the crucial stages a startup must transition through to reach higher TRL maturity. This *portfolio function* plays a pivotal role in helping government create safe effective funding thresholds for grants and gives funders a sniper-scope for targeting early-stage startups focused on digital-physical technologies.

Here's how:

Early-stage vetting by experts: Business Makerspaces have networks of experienced engineers, technologists and business advisors who vet and guide startups from idea to execution. By partnering with a Business Makerspace, government agencies can leverage these expert assessments to help select, monitor and advance the highest-potential projects within the portfolio.

Rigorous validation and risk reduction: Startup Factory provides startups with access to prototyping tools, expertise and real-world testing environments. By requiring startups to achieve tangible milestones (such as functioning prototypes or customer validation) before releasing each tranche of funding, government can minimise risk and ensure that public investment supports only those projects demonstrating real progress.

Portfolio-based spread and dynamic support: Rather than concentrating large sums on a few risky projects, government can use Business Makerspaces to fund a wide array of startups at an early stage, supporting them through incremental, milestone-based grants. This portfolio approach spreads risk. While some ventures may fail or pivot, the exposure to a broader array means the likelihood of finding standout successes increases.

Transparent progress tracking: With continuous mentoring and documentation in a Business Makerspace setting, startup progress is visible and tracked. Milestone achievements (like prototype completion or successful pilot tests) become clear evidence for advancing to the next funding stage, ensuring accountability and efficient allocation of public funds.

Lower cost per startup, *more shots at the goal*: The shared infrastructure of a Business Makerspace reduces individual startup infrastructure costs. This means government can support more startups, creating a larger, more diverse portfolio without stretching the budget. This turns early-stage failures into learning experiences and *inexpensive bets* rather than costly missteps.

Nurturing national collaboration and diversity: Business Makerspaces encourage multidisciplinary teams and draw in a diverse talent pool from across sectors, regions and backgrounds. This broadens the funding pipeline, allowing government to reflect economic priorities and strengthen the diversity and resilience of the innovation ecosystem.

Graduated investment for high performers: As startups meet technical and market milestones, government can *graduate* top performers to larger follow-on funding rounds or additional external investment support, much like a venture capital model, ensuring resources are allocated to the most promising, validated ideas.

18. Seize the AI opportunity

If we are to seize the AI opportunity and unlock the next era of growth, we must rethink our risk tolerance and broaden our support to empower a wider array of visionaries to turn ambitious ideas into world-leading digital-physical innovations.

However, Australia's innovation funding landscape remains heavily skewed toward established SMEs, largely due to a risk-averse approach that favours safer, incremental investments over bold new ventures. This cautious mindset leaves countless talented entrepreneurs, designers and engineers on the sidelines. Despite their eagerness to contribute to our innovation economy, they do not *Pass Go* under the current risk averse eligibility thresholds.

Avoiding innovation absolescence

If Australia wants to avoid *innovation obsolescence* and capture value in the future, it should:

- **Broaden beyond software:** Transition from a software-only innovation mindset by doubling down on STEM education, advanced manufacturing, engineering, robotics and systems integration, preparing future talent to lead in digitally-enabled physical industries.
- **Support deep-tech infrastructure:** Invest in world-class prototyping labs such as business makerspaces and create clear policy frameworks to enable the scale-up of physical and digital-physical innovation.
- **Unleash cross-disciplinary collaboration:** Foster meaningful partnerships between software talent, physical engineers, and domain experts in critical sectors like energy, agtech, medtech, and infrastructure; build strong incentives, empower sector leaders, and create dedicated spaces to support deep-tech and digital-physical startups.

Australia must take decisive actions to secure its place in the future innovation economy.

1. It should invest in advanced manufacturing capabilities and the grassroots infrastructure necessary for prototyping, testing and scaling digital-physical products.
2. Australia needs to foster stronger collaboration between software developers, engineers, researchers and manufacturing experts to cultivate truly multidisciplinary innovation teams.

19. Partnership opportunities

Venture Studio model plays to your strengths

The Venture Studio model provides a strategic pathway of mutual benefit that allows stakeholder partners to play to their strengths while increasing overall deal-flow across the startup ecosystem.

Accelerators/unis/services: These institutions act as important aggregators. They provide initial support and entry to the startup ecosystem. Startups are at the very early stages of ideation and market research. Many have not yet developed a prototype. These institutions can give helpful advice and initial business mentoring. Hey are effectively the entry funnel but usually do not have the manufacturing resources or know-how to support further development.

Startup Factory: Provides manufacturing startups with tailored support in prototyping, design for manufacturing, supply chain negotiation and production scaling. Business makerspaces help startups to transform their concepts (Intellectual Property) into viable and scalable designs by supporting the development of prototypes and Minimal Viable Products (MVPs).

Bosch/CSIRO/Manufutures: Organisations like these provide integrated production line solutions, automation, robotics, testing equipment and research capabilities. Organisations like Bosch Australia's Manufacturing Solutions Division (BAMS) aim to help Australian manufacturers become production ready. They provide the final support platform for startups to commercialise and scale.

Bridging the scale-up gap

The scale-up phase refers to the perilous phase where early-stage startups (especially those working on physical products) need tailored assistance to transition from prototype or proof-of-concept to scalable, investable businesses. Often referred to as *valley of death*, in Australia, the challenges during this phase are stark. This is largely because software-focused business accelerators lack the tools, facilities and expertise to support hardware or manufacturing-focused ventures, while highly sophisticated institutions (like Bosch BAMS, Manufutures Geelong or CSIRO) tend to work with more mature or manufacturing-ready companies.

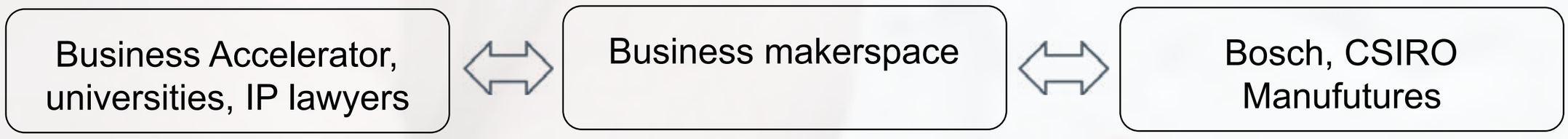
Startups often fail to transition between these two groups. Hands-on support, technical guidance, skills development, networks and affordable access to prototyping resources are required to help them mature from accelerator to commercial scale. Business makerspaces like Startup Factory create an essential link between software-focused business accelerators that are not equipped to support manufacturing startups and sophisticated support institutions like Bosch BAMS facility, Manufutures in Gelong and CSIRO.

Bridging the scale-up gap catalyses commercialisation potential, de-risks innovation and thereby significantly improves the odds of success for Australia's advanced manufacturing startups.

Collaborating to succeed

Business Accelerators and organisations like Bosch can collaborate with Startup Factory programs to help manufacturing startups succeed. By collaborating, we create a Win-Win-Win pipeline. The rising tide lifts all boats. When more startups succeed, we all succeed.

Each organisation benefits by referring startups up or down the line.



Startup enters a business accelerator, graduates from uni or is referred by professional services.

Receives business model and market advice. Startup requires tailored assistance specific to designing, prototyping and small-scale production.

Joins business makerspace e.g., Startup Factory.

Gets hands-on prototyping, design-for-manufacture feedback, tailored mentoring and network access. Matures both the technology and business case.

Graduates to sophisticated institutional partner e.g., Bosch BAMS, CSIRO, Manufutures.

Now manufacturing-ready, the startup can access advanced production, automation, R&D or launch-pad funding.

A portfolio strategy to de-risking entrepreneurship

By providing pre-screened hands-on support, business makerspaces serve as a trusted filter. Through experience of handling hundreds of startups, they develop an ability to pick winners and to spot weaknesses in business models or product designs that should be addressed. By helping raise the technical readiness level and business maturity of startups, business makerspaces can provide guidance and referrals to high-end institutions. This reduces risk for both investors and later-stage partners.

Industry, education, government and investors

Stakeholders who showed interest in aligning themselves with the Startup Factory vision (full list in appendices)

ANFF: see potential pathways between their micro/nano manufacturing and Startup Factory's macro manufacturing capabilities to provide a full suite of support.

Universities: like University of Melbourne, Monash University and Swinburne want to increase their ability to engage their students and PHD researchers with real-world industry projects. Engineering and design internships are desirable for universities.

Launch Vic: Have indicated enthusiasm to work with Space Tank and Startup Factory as the vision gains traction. Integrating advanced manufacturing as an equally recognised subsector alongside software-apps will help Victoria's startup ecosystem align with global trends.

Fishermans Bend: FB IDEAs has funded the Startup Factory Validation Pilot project to understand how to meet the advanced manufacturing and applied technology needs of our innovation ecosystem. The pilot and findings (subject of this report) includes recommendations on infrastructure, support and programs that should be part of the Startup Factory to attract new enterprises, investment and talent to the precinct.

TOM: Tikum Olam Makers is keen to use Startup Factory as a base for Melbourne operations. TOM organise events such as Makeathons, Innovation Challenges and Developer Groups, where teams of volunteer makers join Need Knowers (people with disabilities) to create concepts, working models, prototypes or products that are designed to solve the Need Knower's challenge.

BRUDI: Brunswick Design and Innovation, led by Impact Neighbourhoods are keen to integrate business makerspace infrastructure into their strategic plan for delivering empowering resources for entrepreneurship and innovation at the neighbourhood level.

Startups: have contacted Space Tank and expressed their interest in using a business makerspace that is tailored to the commercialisation of physical product technologies. Examples of sectors are medtech, agritech, clean energy, aerospace etc.

Equipment sponsors: Equipment suppliers have been steadfast supporters of Space Tank, providing high quality equipment technologies and expertise for Space Tank members to explore and exploit. Having big brand names associated with a business makerspace, broadens a suppliers marketing reach and gives them exposure to emerging designers and innovators.

20. Competitive advantages

Combining a Venture Studio model with a Portfolio approach to allocating grant funding creates a high-quality, low-risk pipeline for selecting manufacturing startups into a business makerspace and advancing them efficiently through TRL milestones.

In short, the venture studio provides deep, hands-on company building and aligned incentives while the portfolio approach delivers disciplined, data-driven capital allocation. Together, the hybrid model enables a higher strike rate when selecting startups into Business Makerspace programs and greater success in moving them further, faster and more cost-effectively to TRL maturity.

Venture Studio / Portfolio hybrid model

Pairing a Venture Studio with a Portfolio-style funding model turns a Business Makerspace into a disciplined venture factory. Instead of waiting for inbound applications, the studio proactively shapes ideas around real industry needs, assembles the right founding teams and pressure-tests IP, Design for Manufacturability and market assumptions with experts before anyone is admitted. Because the studio co-founds and holds equity, everyone has skin in the game from day one.

Capital is allocated like real options: Back many concepts with small, milestone-based tranches, then double down only as evidence builds. Shared tools, talent and supplier networks keep costs per TRL step low, while lessons from failures are captured and reused so the next bets get smarter.

Clear stage-gates such as: prototype proof, relevant-environment validation, pilot-line readiness, move hardware and digital-physical ventures faster and more reliably through TRL 3–7, bridging the *valley of death* between early accelerators and advanced manufacturing partners.

For funders, this creates transparency and control: Continuous test data and documented milestones support precise, auditable release of public and private capital, reducing both political and financial risk.

And delivers more value: The model also wrings more value from the ecosystem: it optimises grants and incentives across multiple ventures, enables smooth hand-offs to institutional partners for pilot and scale and blends software, engineering and domain expertise to produce globally relevant products.

In Australia, this approach directly tackles high costs and a small home market. Economies of scale, export-oriented validation paths and corporate partnerships offset local constraints, while a broader portfolio opens the door to more diverse founders, *not just established SMEs*. The outcome is more shots on goal, higher survival to manufacturing readiness, faster time-to-revenue, and stronger crowd-in of private co-investment.

Filling a critical gap in our startup ecosystem

By filling the gap for grassroots manufacturing support, the Startup Factory amplifies our ecosystem's ability to meet a new world of opportunities where digital meets physical. This support is becoming a critical need as business accelerators are experiencing increasing numbers of their cohorts who are developing physical products and technologies.

Further competitive advantages include

Leveraging the success of overseas examples: Startup Factory follows examples of operating/ funding models from New Lab New York, MARS District in Canada and Unternehmer TUM in Munich Germany. These organisations demonstrate the benefits of running programs tailored specifically to support the commercial growth of manufacturing startups.

Collaborative partnerships: Stakeholder partnerships form the foundation of every successful international business makerspace. The Startup Factory follows this example. Partnerships not only secure a sustainable operating model, but they also guarantee higher levels of overall success in producing meaningful outcomes for all players in the ecosystem.

Automation: Given Australia's high labour costs relative to our Asian neighbours the Startup Factory will focus on helping startups to leverage advanced manufacturing and automation (for example through a partnership with Bosch) to ensure cost competitive local manufacturing.

Network effect: Space Tank's existing network includes hospitals, IP professionals, business mentors, design/engineering professionals, manufacturing associations, equipment and software suppliers. The development of the Startup Factory will expand this and include accelerators, large corporates, government and investors.

Education/training: Startup Factory leverages Space Tank's existing education and training suite including rapid skill-up-and-go training courses on prototyping technologies, tailored business mentoring aimed at Human Centred Design, Design for Manufacturing, Design for Scaling and market positioning.

Investment: Helping startups to develop prototypes, point of difference and scalability, increases their chances of attracting investment.

23. Investment outcomes

Business makerspaces accelerate regional economic growth, catalyse innovation and develop partnerships across multiple sectors. Each sector stands to achieve economic, social and technological gains by engaging with and investing in business makerspace initiatives.

Incubation and acceleration

Investment opportunity: Investors and VCs can access early-stage startups and entrepreneurs developing prototypes or MVPs within the makerspace.

Alignment: Makerspaces host pitch events, demo days and startup accelerators, creating deal flow for investors.

Workforce development and skills training

Investment opportunity: Corporates, government agencies, and educational institutions can invest in training programs that upskill local workforces.

Alignment: Makerspaces offer vocational and technical programs aligned with local industry needs.

Technology commercialisation

Investment opportunity: R&D grants and industry partnerships can help commercialise promising technologies developed in the makerspace.

Alignment: Collaboration with universities and research organisations supports spinouts and patent licensing.

Corporate innovation

Investment opportunity: Corporations can use makerspaces as satellite innovation labs to test new ideas, sponsor challenges or run open innovation programs.

Alignment: Shared resources reduce risk and cost, while accessing diverse talent pools.

Community and economic development

Investment opportunity: Government investment in makerspaces can boost entrepreneurship, create jobs and stimulate local economies.

Alignment: Public-private partnerships leverage funding and support sustainable community impact.

21. Sector benefits

Government organisations

- Economic development departments: Stimulate local economies by supporting new business growth and job creation.
- Workforce development: Equip citizens with cutting-edge, market-relevant skills.
- Education dep: Integrate STEM and technology with real-world, hands-on learning.

Industry

- Manufacturing & tech firms: Access to R&D, innovation, rapid prototyping and talent pipeline.
- Corporate innovators: Test ideas cost-effectively, collaborate on new products, and sponsor hackathons or competitions.
- SMEs & startups: Affordable access to equipment, expertise, and industry networks.

Private sector

- Venture capital & angel investors: Early-stage deal flow, access to innovative startups.
- Philanthropic foundations: Impact investment in community development, youth programs, or economic inclusion.
- Professional service providers: Lawyers, IP consultants, marketing services, etc., gain new clients.

22. Emulating global best practice

The Startup Factory directly adopts the operating principles, structural features and Venture Studio principles of global exemplars like New Lab and UnternehmerTUM: cross-sector collaboration, world-class prototyping infrastructure, vibrant networking culture, integrated partnership models and strong policy alignment.

By localising proven international models to meet Australia's unique needs, Startup Factory closes critical gaps and elevates Australia's innovation landscape to world-class standards.

International examples of stakeholder involvement

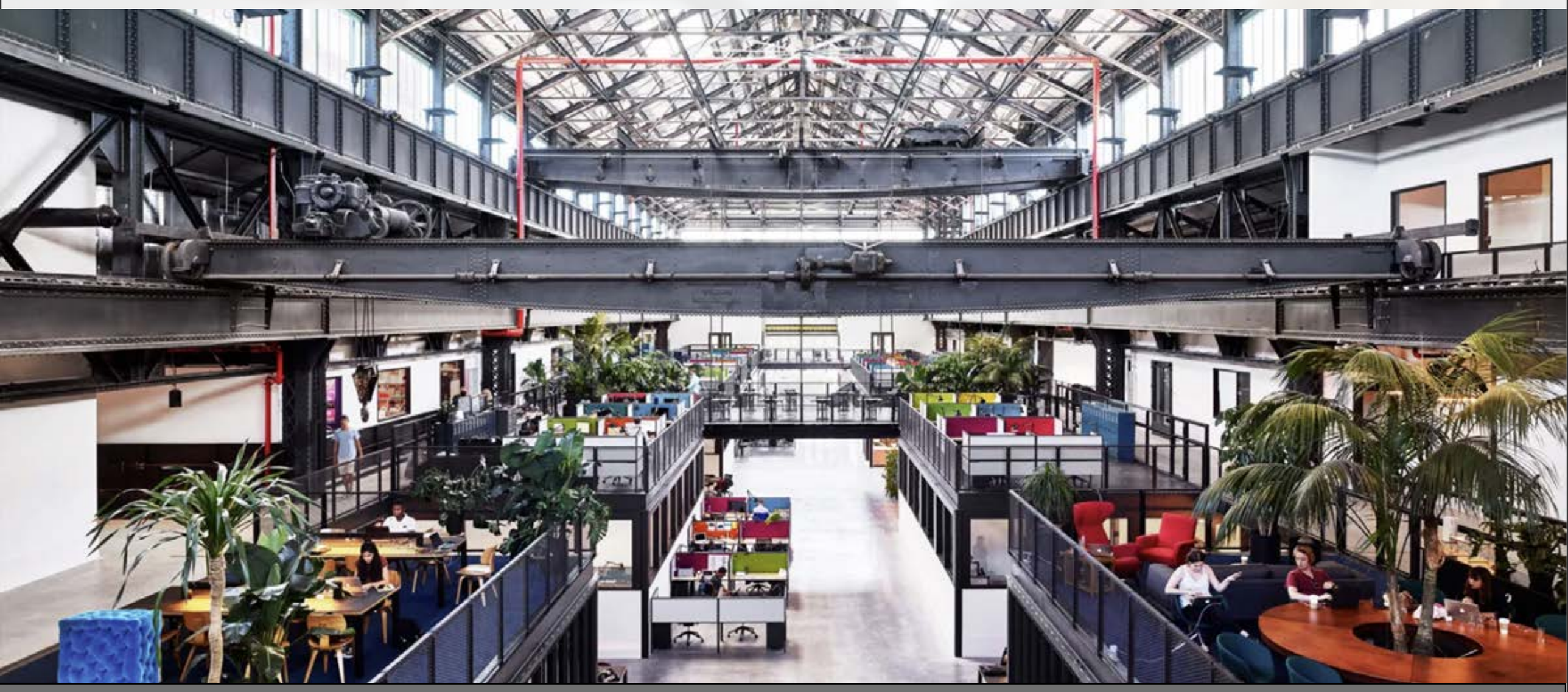
Government: UK's Innovate UK or the US Small Business Administration (SBA) may fund makerspace-driven entrepreneurship programs.

Industry: Companies like Bosch, Siemens or GE partner with makerspaces for talent scouting and joint R&D projects.

Private Sector: VC firms invest in hardware accelerators that start in makerspaces (e.g., HAX). Foundations like the Knight Foundation fund local innovation infrastructure, including makerspaces.

Example breakdown

Sector	Investment focus	Benefits
Government	Training, jobs, economic growth	Local development, skilling
Industry	R&D, innovation, talent pipeline	Prototyping, market scouting
Private sector	Startups, impact, professional services	Early access, community impact



24. Staged approach

Using a staged approach, Startup Factory programs can use flexible infrastructure and take advantage of underutilised spaces. This approach will evolve into permanent infrastructure and programs deployed through stakeholder partnerships. The financial model combines corporate assets with entrepreneurial and innovation talent and the strategic value of external capital.

The staged approach will

- Progressively build confidence by delivering tangible outcomes.
- Use a methodical plan that guides development yet provides flexibility.
- Develop a best fit model that works under Australian conditions.
- Allow for research and consultation to leverage Australian capabilities and resources.
- Accommodate experimentation and iteration in the design of programs and infrastructure.
- Create opportunities for cross sector collaborations and partnerships.
- Seed the growth of future focused innovations and entrepreneurship.

Funding: Development of Startup Factory will require external funding.

Government/industry support: Government support from FB IDEAs, Launch Vic and/or other aligned departments is recommended by stakeholders. Sponsorship from equipment suppliers is recommended for prototyping technologies and machinery, fit out and ancillary equipment.

Location: Industrial/office footprint with proximity to public transport and industrial/commercial infrastructure. Ideally, provision of rent-free location (min 2,000 sqm – but can start with as little as 500 sqm) or assistance to develop flexible pop-up style infrastructure.

Prototyping equipment: Laser cutter, 3D printer, 3D scanner, CNC technologies, electronics testing equipment and various prototyping hand tools are required. Training and OH+S inductions are provided by Space Tank on all equipment.

Expertise: Space Tank has the expertise and network to manage the development of Startup Factory, create sustainable operations and fulfil the training and mentoring requirements.

Partners: Startup Factory seeks mutually beneficial partnerships with aligned organisations to grow manufacturing technology opportunities.

Sourcing candidates: Space Tank will utilise its existing network of over 6,000 individuals. Partners have agreed to reach out to their respective networks to secure high-potential candidates for the Startup Factory support.

25. Programs

Example program:	Innovation Foundry – Translating concepts from prototype to production.	
Type:	A collaborative-accelerator program for manufacturing/hardware startups. The Innovation Foundry works in collaboration with Business Accelerators and individual startups who are pursuing new concepts.	
Point of difference:	Fills the grassroots manufacturing support gap in the startup ecosystem.	
Value proposition:	Amplifies our ecosystem's ability to meet a new world of startup opportunities, where digital meets physical.	
Candidates:	Startups and innovators who are developing novel manufacturable products that require digital/physical hybrid technologies.	
Description:	The program will help startups to translate their ideas into proof of concepts and to develop strategies for commercialisation and scaling. The program will partner with Business Accelerators and industry partners to ensure an end-to-end pathway is provided to help candidates progress their concepts from prototype to production.	
Purpose:	To drive competitive advantage at the grassroots of manufacturing innovation and provide support for a diverse range of people to turn ideas into new products. In tandem with this primary purpose, Startup Factory aligns itself with the objectives of the Victorian State Government.	
Content:	This program provides rapid training and mentoring to help startups incorporate: User Centred Design, Design for Manufacturing, Intellectual Property considerations for legal and design purposes, Go to Market Strategy (B2B, B2C, revenue models) and Scaling / Commercialisation pathways. Program structure applies lean startup methodologies to provide a fast-paced pathway for development.	
Duration:	Recruiting candidates	1.5 months
	Program delivery	3 months
	Wrap-up, report writing & next steps	1.5 months
Industry Focused:	MedTech, Agritech, Wearables, EnergyTech, Sports tech, SmartCity, etc.	
Sellection Criteria:	Viability, scalability and export potential.	
Candidates:	Sourced via Unis, incubators/accelerators, startup scene.	
Program Capacity:	10 to 20 depending on quality of startups	
Budget:	TBD	

APPENDIX

Parties spoken with

Details of individuals / groups / parties / companies spoken to.
Note: does not include all conversations.

Contact Name	Company
Andrew Drain	4dMedical
Paul Falzon	ACS-A
Matthew Young	Additive Manufacturing CRC Bid
Kade McDonald	Agency Projects
Sam Edmonds	AGL
Jim Liaskos	Airlift
Zach Rose	AirTree Ventrue Capital
Michael Grogan	AMGC - Aust Manufacturing Growth Centre
Mark Peters	AMGC - Aust Manufacturing Growth Centre
Steven Kouloumendas	Anywise
Adam Evans	Australian Industry & Defence Network
John Morrison	Australian National Fabrication Facility
Andrew Bartlett	Bosch
Jason Coonan	Breakthrough Victoria
Geoff Andrews	Capricorn Power
Ian Wong Circular	Economy Victoria
Gemma Baxter	City of Melbourne
Michael Hethorn	City of Port Phillip
Andrew Gray	CoLabs
Dr Jill Freyne	CSIRO
Steve Brodie	CSIRO
Michelle Gee	Department of Defence
David Chuter	Department of Industry, Science and Resources
Sandra Roussel	Department of Industry, Science and Resources
Adrian Yeung	Department of Industry, Science and Resources
John Casey	Department of Transport & Planning
Julie Martin	Dept Transport and Planning
Marcus Westbury	FB IDEAs
Kate Spencer	FB IDEAs
Bec McHenry	FB IDEAs
Tim Kojevnikov	Fortex P/L
Matt Levey	Game 4 Padel
Robert Thorpe	Gomotiv
Mounir Kiwan	GRACosway

Parties spoken with

Contact Name	Company
Rohan Dinn	Green Eco Technologies
Andrew Jack	HonePD
Myra Beal	Infravision
Luke Phillips	IntoCarry
Gus Adams	Invest Melbourne
Alexander Gosling	Invetech
Leigh Jasper	Launch Vic
Kate Cornick	Launch Vic
Andrew Lanigan	Launch Vic
Josh Lipscome	Launch Vic
Paul Baron	Melbourne Angels
Jordan Green	Melbourne Angels
Duncan Jones	Melbourne Angels
Venkata Gutta	Millibeam
Matthew O’Leary	Minderoo / Tattarang
Edward Buckingham	Monash
Mark Griffiths	NEM
Sue Logan	Northlink
Chris James	Northlink
Saul Griffiths	OtherLab
Callan Morgan	Pelican Studios
Peter Batchelor	PJB advisory
Shelly Casey	Port Melbourne Secondary College
Tom Mielnik	Port of Melbourne
Sharath Sriram	RMIT
Soumitri Varadarajan	RMIT
Wil Dim	RMIT
Piers Grove	RocketSeeder
Caitlyn Touzell	RocketSeeder
Jonathan Gibbs	Savion Aerospace
Patricia Boyce	Seed Advisory
Michael O’Sullivan	Siemens Mobility
Brandon Fischer	Siemens Mobility
Holger Dielenberg	Space Tank Studio
Narelle Hinkley	TOM Melbourne
Allan Jansen	Uber.Biz
Emile Brys	University of Melbourne

Parties spoken with

Contact Name	Company
Andrew Scarlett	University of Melbourne
Elise Miller	University of Melbourne
John Symons	Victoria University
Catherine Lou	Victoria University
The Hon. Colin Brooks	Victorian Government Minister
Joel Kuperholz	Vimana Tech
Ashley Hartigan	Wentworth Capital
Gavin Doherty	MDP IP Patent attorney
Scott Nelson	NEM
Paul Mason	Victorian Industry Growth Program