QUEENSLAND DEFENCE, MARITIME, AEROSPACE AND SPACE INDUSTRY SKILLS PLAN

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Queensland Government

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Foreword

A highly skilled workforce is essential for the future growth of Queensland's defence, maritime, aerospace and space industry sectors.

Queensland has a strong and resilient defence, maritime and aerospace industrial base with world-class capabilities, as well as an emerging space sector. These industry strengths contribute to a diverse economy and opportunities for technology-rich jobs across the state.

The Queensland Government is committed to engaging with industry to develop and strengthen a skilled and adaptive workforce that is agile, resilient and capable of rapidly responding to the significant opportunities that are emerging in these sectors. Such opportunities include the Australian Government's $270 billion investment in defence capability over the decade to 2029-30, the growth of the international superyacht market and the growing global need for space-enabled services.

It is part of our economic plan to advance Queensland by creating a globally focused, diverse economy, that delivers high-value knowledge-based jobs. The Queensland Government is working to create smart, connected and efficient industry sectors. We are working with Queensland's defence, maritime, aerospace and space industries to strengthen their workforce and grow capability to compete on the world stage for major projects with long term sustainment horizons.

The *Unite and Recover Queensland Economic Recovery Plan* is our response to the unique challenges and opportunities presented by the COVID-19 pandemic. We're supporting Queensland's businesses and protecting Queensland jobs by laying the foundations for Queensland's future success: creating jobs, investing in skills to restore confidence and establishing the right conditions for a diverse resilient economy.

The future of Queensland's defence, maritime, aerospace and space industry sectors is dependent on a skilled workforce that maintains advanced levels of technical expertise and fosters a culture of lifelong learning.

We're preparing tomorrow's workforce, today.

Steven Miles MP
Deputy Premier
Minister for State Development, Infrastructure, Local Government and Planning

Di Farmer MP
Minister for Employment and Small Business and Minister for Training and Skills Development

About the plan

Our vision

Defence industries

By 2028, Queensland will be Australia's front line for defence industry by increasing the revenue contribution to the Queensland economy to $7 billion and creating a 10,000-strong, highly skilled workforce that is renowned for its agility, innovation and depth of capability in supporting the Australian Defence Force and its allies.

Maritime industry

By 2023, our maritime workforce will be diversified, and Queensland will be recognised as the key superyacht hub in the Asia Pacific region.

Aerospace industry

By 2028, the Queensland aerospace industry will be recognised as a leading centre in Australasia and South East Asia for aerospace innovation in training; niche manufacturing; maintenance, repair and overhaul (MRO); and uncrewed aerial systems (UAS) applications for military and civil markets.

Space industry

By 2025, Queensland's space industry will be recognised as a leading centre in Australasia for launch activities, ground systems, earth observation, niche manufacturing, robotics and automation for space.

Invested in our workforce

The government is committed to engaging with industry to develop a skilled and adaptive workforce to support Queensland's future economic prosperity.

Queensland's defence, maritime, aerospace and space industries – together with the state's focus on science, technology, engineering and mathematics (STEM) – have strong foundations to deliver high-tech knowledge-intensive jobs for the smart, connected industry sectors of the future.

The opportunity

The *Department of Defence's 2020 Defence Strategic Update* and *2020 Force Structure Plan* provide an enhanced focus on strengthening Australia's sovereign defence industry capability, underpinning a $270 billion investment in Australian Defence Force (ADF) capability over the decade to 2029-30.

There is a significant opportunity for Queensland industry to build on our existing success in the defence industry sector and take maximum advantage of the increase in defence investment. At the same time, new technology advancement and consumer uptake are creating commercial opportunities for Queensland companies to service new defence and civilian applications in high-tech sectors.

The geopolitical environment in the Indo-Pacific region has focused Defence planning to enhance the region's security posture. This includes the implementation of the Pacific step-up initiative and recent strategic alliances and dialogues in the form of the QUAD (United States, India, Japan and Australia) and AUKUS (Australia, United Kingdom and United States). Capitalising on Queensland's geographic proximity, Defence resources and infrastructure assets, Queensland is Australia's front line for defence industry and defence projects.

Queensland's world class maritime sector delivers quality maintenance, repair and overhaul capabilities to sustain ADF naval platforms. Together, the state's skilled maritime workforce and excellent marine infrastructure are enabling the diversification of the maritime sector to service superyachts, a niche international market.

Queensland has Australia's largest industrial base centred on the manufacture and sustainment of heavy vehicles, including land combat and protected vehicles. Underpinning the state's heavy vehicle production is an extensive and innovative supply chain delivering interdependent capabilities, including communications, electronics and systems integration. A growing, highly skilled and technical workforce is building our reputation as a defence industry powerhouse.

Queensland's space industry is niche but emerging. Our geographical position means the state is perfect for launch activities. Targeted actions will leverage our state's space industry strengths to further develop capabilities in launch activities,

ground systems, Earth observation, niche manufacturing, robotics and automation for space systems. These emergent space capabilities are providing new opportunities for jobs and growth, particularly in the regions.

Queensland's aerospace industry is in a great position to take advantage of the increase in defence spending. While the global aviation industry has been severely impacted by the COVID-19 pandemic, there continues to be rapid technology advancement across many related domains such as autonomous and remotely piloted systems, space technologies, cyber security and advanced composites manufacturing. This changing dynamic highlights the critical requirement to grow and upskill Queensland's aviation workforce.

The need

Queensland's defence, maritime, aerospace and space businesses vary in size, capability and areas of expertise but have significant commonality in the type of skills they require – engineering; design; manufacturing; technical trades; program management; logistics; and support services such as information and communication technologies (ICT).

However, these skills are in high demand across many industry sectors, and continuous technical advancement places considerable pressure on businesses to continue to increase capability and capacity.

As a result, primes and small and medium enterprises (SMEs) compete across sectors, and even internationally, for the same skilled workforce creating a macro-level challenge to engage, attract, train and retain a skilled workforce that is heavily dependent on STEM skills. In particular, the recruitment and retention of skilled technicians, trade workers and engineers is consistently raised in the defence, maritime, aerospace and space sectors as a challenge for industry growth and development.

Queensland recognises the significant contribution made by industry to maintain a workforce with advanced levels of technical expertise to keep pace with the increasing introduction of technically advanced systems. An agile, skilled workforce across the state will be critical for continued growth.

> Queensland's space industry is niche but emerging. Our geographical position means the state is perfect for launch activities.

The promotion of career pathways through Vocational Education and Training (VET) in schools, together with industry support of these pathways, will be vital to build the prospective workforce. Likewise, micro-credentialing can assist to retain the current workforce, increasing the agility and resourcefulness of under-employed staff, upskilling and developing new skills across both technical and professional proficiencies including business management and leadership. Additionally, many members of our veteran community have the desirable expertise and skills that are readily transferable to our defence, maritime, aerospace and space industries. A collaborative approach between industry, industry groups, educational institutions, and the state is critical to the ongoing development and sustainment of the state's future workforce.

The response

Future of Work – Skills and Industry

The Premier of Queensland hosted the Future of Work – Skills and Industry Summit focusing on equipping Queensland's workforce for the future labour market. Stakeholders from industry, small business, the training sector, unions and government agencies were engaged to consider how to support the training system to keep pace with the changing economy.

Skills for Queensland – Great training for quality jobs

The Queensland Government's skills strategy, *Skills for Queensland – Great training for quality jobs* aims to secure the state's prosperity through a skilled and adaptive workforce.

Advanced manufacturing skills

Many Queensland businesses in the defence, maritime, aerospace and space sectors are also advanced manufacturers. To help shape the future advanced manufacturing workforce, the Queensland Government advisory agency Jobs Queensland developed the *Advancing Manufacturing Skills: A Skills Training and Workforce Development Strategy*, identifying challenges and opportunities for the Queensland manufacturing industry.

Furthermore, the *Skills Implementation Plan for Advanced Manufacturing* supports manufacturers to improve their productivity and build the skills needed to move towards advanced manufacturing.

COVID-19 economic recovery

Queensland's *Unite and Recover Economic Recovery Plan* has a number of focus areas including investing in skills and ensuring Queenslanders have the skills they need to find meaningful jobs and set up pathways for the future. This plan lays the foundation for strong partnerships between industry and government and maintains a focus on local jobs.

Queensland Defence, Maritime, Aerospace and Space Industry Skills Plan

The *Queensland Defence, Maritime, Aerospace and Space Industry Skills Plan* (the Plan) builds on, and is complementary to, previous Queensland Government work in the skills area and aims to address skilling needs specific to the defence, maritime, aerospace and space industries.

In particular, the Plan supports the strategies outlined in the *Queensland Defence Industries 10-Year Roadmap and Action Plan*, the *Queensland Aerospace 10-Year Roadmap and Action Plan*, the *Queensland Superyacht Strategy 2018-2023* and the *Queensland Space Industry Strategy 2020-2025*.

Successful implementation of the Plan requires a collaborative approach, with all stakeholders – employers and employees, industry groups and associations, educational institutions and training providers, government agencies of all levels including the Department of Defence, and regional networks – having a part to play in the preparation of industry for future supply chain opportunities.

Working in partnership will secure the jobs of today; support emerging industries to thrive, and equip a skilled workforce for the jobs of the future.

The plan

Engage and attract

Supporting industry to engage with the workforce of the future in schools, TAFE Queensland, other vocational training organisations and universities; and to promote the careers and opportunities offered in the defence, maritime, aerospace and space sectors.

Train and retain

Supporting industry to address existing and emerging capacity and capability gaps by upskilling the existing workforce.

Collaborate

Supporting industry to work together to address sector wide issues, to promote Queensland's capability and to target major global supply chain projects.

Skilling up Queensland welders for major defence projects

Soldamatic augmented reality welding simulators

Through technology and collaboration with industry, the Queensland Government addressed a critical skills shortage in fusion welding.

The international welding standard ISO 9606 is increasingly required for precision fusion welding of materials in manufacturing industries such as defence, maritime and aerospace. In 2017, peak body Weld Australia identified only 17 people held this qualification.

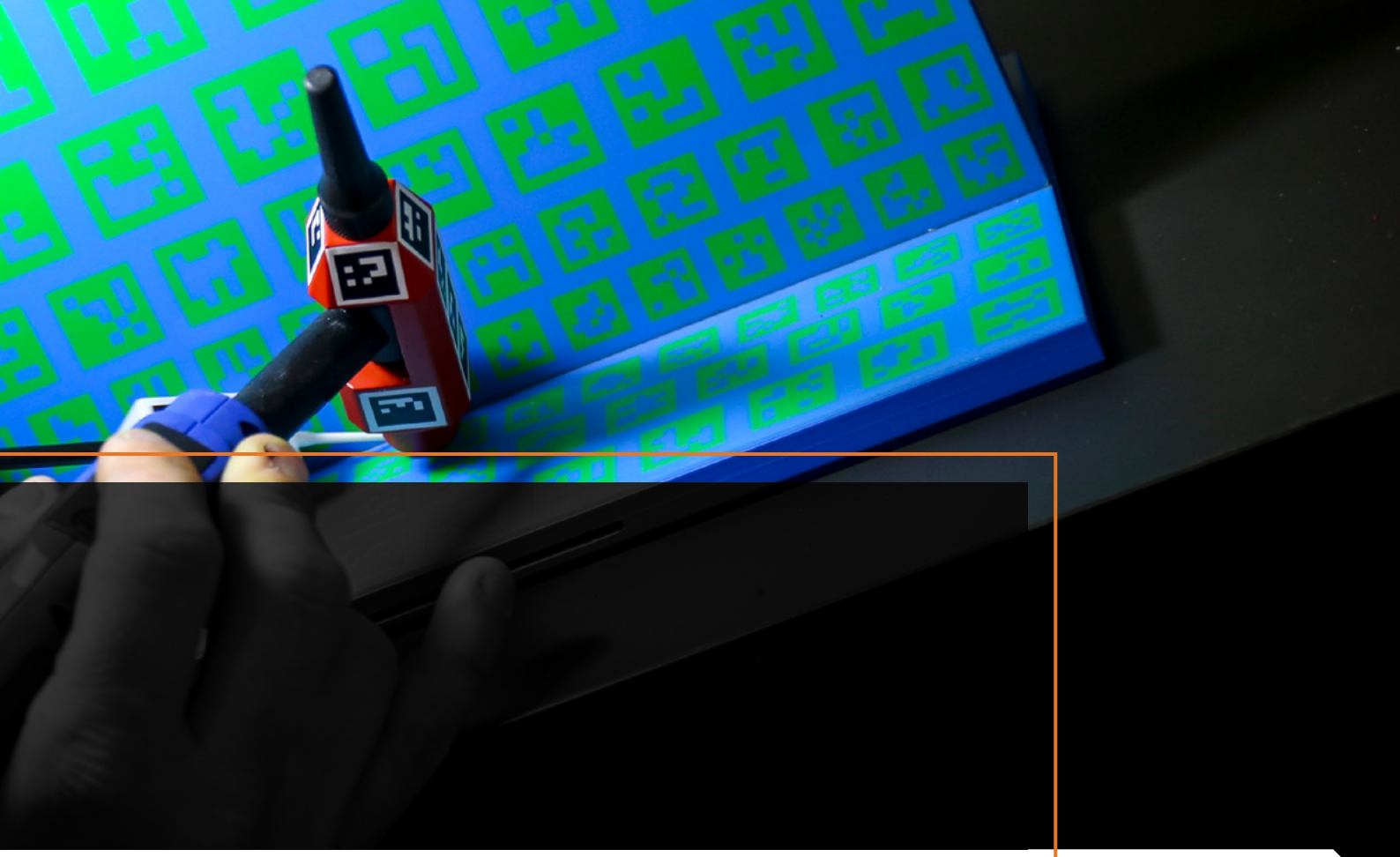
These skills were needed in Queensland following the award of the $5.2 billion Land 400 contract to Rheinmetall Defence Australia (RDA) to build more than 200 Combat Reconnaissance Vehicles in SEQ. The Queensland Government worked with RDA and TAFE Queensland to set a path to address the ISO 9606 welding skills shortage through specialist trade training.

To spark growth in the supply of capable welders, the Queensland Government invested $800,000 to purchase 15 state-of-the-art augmented reality welding simulators to fast track more experienced welders to be workforce ready sooner.

The technology is transportable, allowing the simulators to move across regional Queensland, wherever the demand for training exists. This means regional areas with a specialist sector focus—such as maritime in North Queensland—have been able to access ISO 9606 training delivered through regional TAFE facilities.

A further investment of just over $2 million from the Queensland Government supported TAFE Queensland SkillsTech to train 135 welders to ISO 9606 standard. Due to demand and the success of the program, extra funding was secured to train another 104 welders.

Skilling Queenslanders with the right skills and knowledge for defence projects has helped bolster the local Land 400 supply chain capability and strengthened Queensland's workforce enabling the delivery of high-value contracts that bring economic benefits to the whole state.



‘Working with the Queensland Government, TAFE Queensland has been able to grow its defence focus, gain course endorsement from the Naval Shipbuilding College, engage with the Defence Material Technology Centre on welding standards and compliance, assist veterans transition from the ADF and support industry.’

– John Tucker, TAFE Queensland SkillsTech

‘As an industry leader in ship repair and maintenance, Norship focuses on sustaining a highly skilled workforce. Sending our boilermakers to gain certification in ISO 9606 has diversified our already accomplished fabricators and increased Norship’s competitive edge in the maritime industry.’

– Olav Groot, CEO, Norship

‘Receiving support from TAFE Queensland with our welding recruitment testing and training allowed us to rally a talented pool of Queensland welders and send them to Rheinmetall Germany for further advanced training. With a Memorandum of Understanding now in place between RDA and TAFE Queensland, we can work hand in hand to ensure workforce skills match industry needs.

Rheinmetall will be growing here in Queensland for decades to come, so building a highly skilled workforce is critical to supporting operations at our Military Vehicle Centre of Excellence.’

– Gary Stewart, Managing Director, Rheinmetall Defence Australia

INDUSTRY CASE STUDY

Skills Action Plan

1. Engage and attract

Support industry to engage broadly, promote career opportunities and pathways, and grow and sustain a workforce with the required skills.

Strategy	Goal	Action
1.1 Position defence, maritime, aerospace, and space industries as a first-choice career for new entrants that offers a range of technical business and professional careers which are technology-rich and stable.	**1.1.1** Facilitate opportunities for industry to raise the profile of defence, maritime, aerospace and space industry careers.	**i.** Encourage defence, aerospace and space industry participation in the Aerospace Gateway to Industry Schools Program. **ii.** Encourage defence, maritime, aerospace and space industry participation in the Gateway to Industry Schools for Advanced Manufacturing Programs e.g. vehicle manufacturing and engineering. **iii.** Promote awareness and participation in events and activities, with other government entities, to showcase Queensland capabilities in autonomous and uncrewed systems.
	1.1.2 Facilitate direct engagement between industry, industry groups, and educational institutions to raise the profile and provide transition pathways for diverse, quality career paths in the defence, maritime, aerospace and space industry sectors.	**i.** Support the development of a space-derived data analytics and commercialisation hub (e.g. Earth observation hub) to grow local industry and provide local career pathways for the space and space-related sectors. **ii.** Partner with the Queensland Defence Science Alliance to raise the profile of post-graduate and post-doctoral opportunities, including scholarships. **iii.** Promote the Naval Shipbuilding College endorsement of TAFE Queensland Cairns campus to deliver Certificate III in Engineering – Fabrication Trade graduates who are 'job ready' for shipbuilding and supply chains. **iv.** Engage with key government agencies to identify mechanisms that will enhance the attraction of apprentices and their retention after completing the Certificate IV Aeroskills program to address the aircraft technician skills shortage. **v.** Engage training providers and government agencies to support the strategic development of aviation and aerospace industries and MRO capability growth through including the alignment of civil and defence skills, streamlining the delivery of training, and supply management of apprentices/trainees. **vi.** Support the development of a common user static test site for rocket engines to support R&D, commercialisation and innovation in the space sector.

Strategy	Goal	Action
1.2 Strengthen the interest and take-up of apprenticeships, traineeships and the VET system, in addition to university.	**1.2.1** Support STEM and skills activities at high profile events, conferences and competitions to raise the profile of diverse, quality career paths in defence, maritime, aerospace and space industry sectors.	**i.** Promote and support STEM and skills activities, with other entities, at major events e.g. Avalon Airshow. **ii.** Promote and support maritime industry activities to showcase their capabilities and career pathways at major and regional events e.g. Indo Pacific International Maritime Exposition.
1.3 Facilitate enhanced partnerships and engagement between defence, maritime, aerospace and space industries, and educational institutions to better prepare new entrants for successful careers in these sectors.	**1.3.1** Facilitate collaborative opportunities between defence, maritime, aerospace and space industries, and educational institutions to support workplace and immersion experiences, and industry visits to raise the profile of each sector's career paths and to foster the uptake of the skills required for the future workforce.	**i.** Participate in and support the Maritime Industry Multiplier Advisory Committee together with the Department of Employment, Small Business and Training (DESBT), other government entities, schools and the Maritime Industry. The Committee enables the maritime industry sector to connect and collaborate to overcome challenges to engage, attract, train and retain staff. **ii.** Promote and support the duplication of the Maritime Industry Multiplier Advisory Committee in maritime regional centres together with DESBT, TAFE Queensland, industry associations and groups, maritime industry and community-based organisations and schools to develop Maritime Community Skills Hubs to engage and attract a diverse maritime workforce. **iii.** Participate in and support the Defence Electronics Industry Multiplier Advisory Committee and School Electronics Hub together with DESBT, other government entities and defence industry representatives. The Committee enables the electronics manufacturing industry sector to connect and collaborate to overcome challenges to engage, attract, train and retain staff.
1.4 Increase the diversity of the defence, maritime, aerospace and space industries' workforce to best harness the available skills and talent in the labour market and build a more resilient workforce.	**1.4.1** Support proactive career awareness activities, profiling a diverse range of careers including digital and technology-rich pathways into defence, maritime, aerospace and space industries.	**i.** Promote and support TAFE Queensland SkillsTech's skills and capabilities recognition program for veterans to build a skilled defence, maritime, aerospace and space industry workforce. **ii.** Partner with Queensland's AustCyber nodes to raise awareness in educational institutions of cyber career paths within the defence, maritime, aerospace and space sectors. **iii.** Partner with TAFE Queensland and industry groups to support the development of maritime careers and industry skill pathways

Measure of success

Increased awareness of career opportunities and pathways

Stakeholders

Defence, maritime, aerospace and space industry employers and employees, industry groups and associations, educational institutions (universities and schools), training providers and organisations, government entities, Department of Defence and other Commonwealth government organisations, local government and regional networks.

Skills Action Plan

2. Train and retain

Support industry to address capacity and capability gaps in the current workforce.

Strategy	Goal	Action
2.1 Enable a highly skilled, adaptable, and capable workforce, fostering continuous skills development as a key driver of competitiveness.	**2.1.1** Support upskilling and focused skills development programs relevant to the defence, maritime, aerospace and space industry sectors.	**i.** Collaborate and support TAFE Queensland SkillsTech to train experienced welders in ISO 9606 fusion welding for major projects. **ii.** Work with industry to promote upskilling aircraft technicians in their chosen field to licensed aircraft maintenance engineers to address the aircraft technician skills shortage. **iii.** Promote and support TAFE Queensland to deliver customised advanced engineering trade skills to upskill the defence, maritime, aerospace and space industry workforce.
2.2 Strengthen the business capability of defence, maritime, aerospace and space businesses and their leadership teams.	**2.2.1** Promote, facilitate and support market awareness, engagement, training and capability development initiatives for defence, maritime, aerospace and space industries	**i.** Deliver defence market capability development workshops to strengthen business capability and market knowledge e.g. Defence 101. **ii.** Promote TAFE offerings to increase awareness of management and leadership training offerings applicable for the defence, maritime, aerospace and space industry. **iii.** Support the delivery of defence market engagement activities e.g. Industry roadshows focused on capability and supply chain events. **iv.** Partner with Queensland's AustCyber nodes to increase industry awareness of cyber security threats and develop business capability.

Strategy	Goal	Action
2.3 Build the understanding of, and capability related to, business management, innovation, and productivity at all levels of industry.	**2.3.1** Support opportunities for the defence, maritime, aerospace and space industry to experience the benefits of emerging technology.	**i.** Partner with other entities, to improve the digital literacy of defence, maritime, aerospace and space supply chains. e.g. collaborate with DMTC to pilot programs that enhance industry capability development. **ii.** Increase SME understanding of their cyber security capability e.g. pilot cyber maturity programs. **iii.** Partner with other departments and entities to promote programs, that assist industry to assess their current state, identify areas of focus and potential investment and future proof their business. e.g. futuremap® **iv.** Facilitate engagement between industry and the ARM (Advanced Robotics for Manufacturing) Hub which supports businesses to undertake advanced manufacturing projects. **v.** Facilitate engagement between industry and the AI (Artificial Intelligence) Hub to support businesses to embrace emerging technologies.

Measure of success

Reduction in industrial capability gaps

Stakeholders

Defence, maritime, aerospace and space industry employers and employees, industry groups and associations, educational institutions (universities and schools), training providers and organisations, government entities, Department of Defence and other Commonwealth government organisations, local government and regional networks.

Skills Action Plan

3. Collaborate

Support industry to improve cooperation, coordination and collaboration to ensure the future supply of a skilled workforce.

Strategy	Goal	Action
3.1 Position the defence, maritime, aerospace and space industry workforce as key partners in the journey toward advanced manufacturing.	**3.1.1** Facilitate collaborative opportunities between defence, maritime, aerospace and space industry leaders, and educational institutions to collaborate and strategically plan for a skilled future workforce.	**i.** Facilitate engagement between defence, maritime, aerospace and space industry leaders with educational institutions to identify and address future defence, maritime, aerospace and space industry skilling needs.
	3.1.2 Facilitate defence, maritime, aerospace and space industry opportunities to participate in collaborative approaches for developing a skilled future workforce.	**i.** Promote the adoption of advanced manufacturing Industry 4.0 technologies to defence, maritime, aerospace and space industry management and employees. **ii.** Promote National Defence Industry Skills Office (NDISO) activities in conjunction with defence industry to raise awareness of the types of jobs in defence, maritime, aerospace, and space industry career pathways for students and job seekers and employees of other industries e.g. virtual job fairs and virtual work experience programs.

Strategy	Goal	Action
3.2 Support industry-led ecosystems.	**3.2.1** Support industry, industry groups and associations with networking and information sharing opportunities for 'industry to learn from industry'.	**i.** Contribute to and support industry associations and groups networking and information sharing. **ii.** Collaborate with the National Defence Industry Skills Office (NDISO) to maximise opportunities to meet defence industry workforce needs and promote NDISO activities and programs such as defence industry branding and Skilling Australia's Defence Industry (SADI) grants. **iii.** Collaborate with national, state, and regional maritime industry associations and groups to develop and align branding and policy initiatives. **iv.** Support regional superyacht hubs by facilitating opportunities for increased local cooperation and information sharing.

Strategy	Goal	Action
3.3 Foster continued industry opportunity growth for defence, maritime, aerospace and space industries, that will flow through to increased opportunities in Queensland, including the development of international export markets.	**3.3.1** Facilitate and support defence, maritime, aerospace and space industry supply chain opportunities.	**i.** Facilitate introductions for defence, maritime, aerospace and space industries to partner and collaborate to target major defence and global supply chain projects. **ii.** Promote and support activities to increase Queensland's defence, maritime, aerospace and space industry success in winning contracts through accreditation, certification, and competitive systems and practices.

Measure of success

Increased collaboration between industry and government, and industry and industry.

Stakeholders

Defence, maritime, aerospace and space industry employers and employees, industry groups and associations, educational institutions (universities and schools), training providers and organisations, government entities, Department of Defence and other Commonwealth government organisations, local government and regional networks.

Valiant Space

Accelerating rockets by accelerating learning

Valiant Space is an innovative start-up developing small-scale liquid-fuelled propulsion technologies, initially focusing on propulsion of satellites once in orbit. In an industry as dynamic as space, this entrepreneurial team needed to make the most of collaborations and on-the-job learning to skill-up and aim high.

Queensland's space industry is new but growing fast. Companies are working to tap into the global space economy by commercialising ground-breaking technology.

Brisbane-based Valiant Space develops propulsion technologies designed to help propel the next generation of satellites once they're in orbit, as well as for vehicles on the moon and other planets. From their beginnings participating in rocket launch competitions at university, the team has matured from student friends to company colleagues — securing investment, signing contracts, and building high-value skills along the way.

Upon entry into The University of Queensland's iLab Accelerator program, the funding they were awarded allowed them to launch their own start-up. Furthermore, their ongoing partnership with Logan-based rocket manufacturer Black Sky Aerospace helped them apply their studies and accelerate their growth.

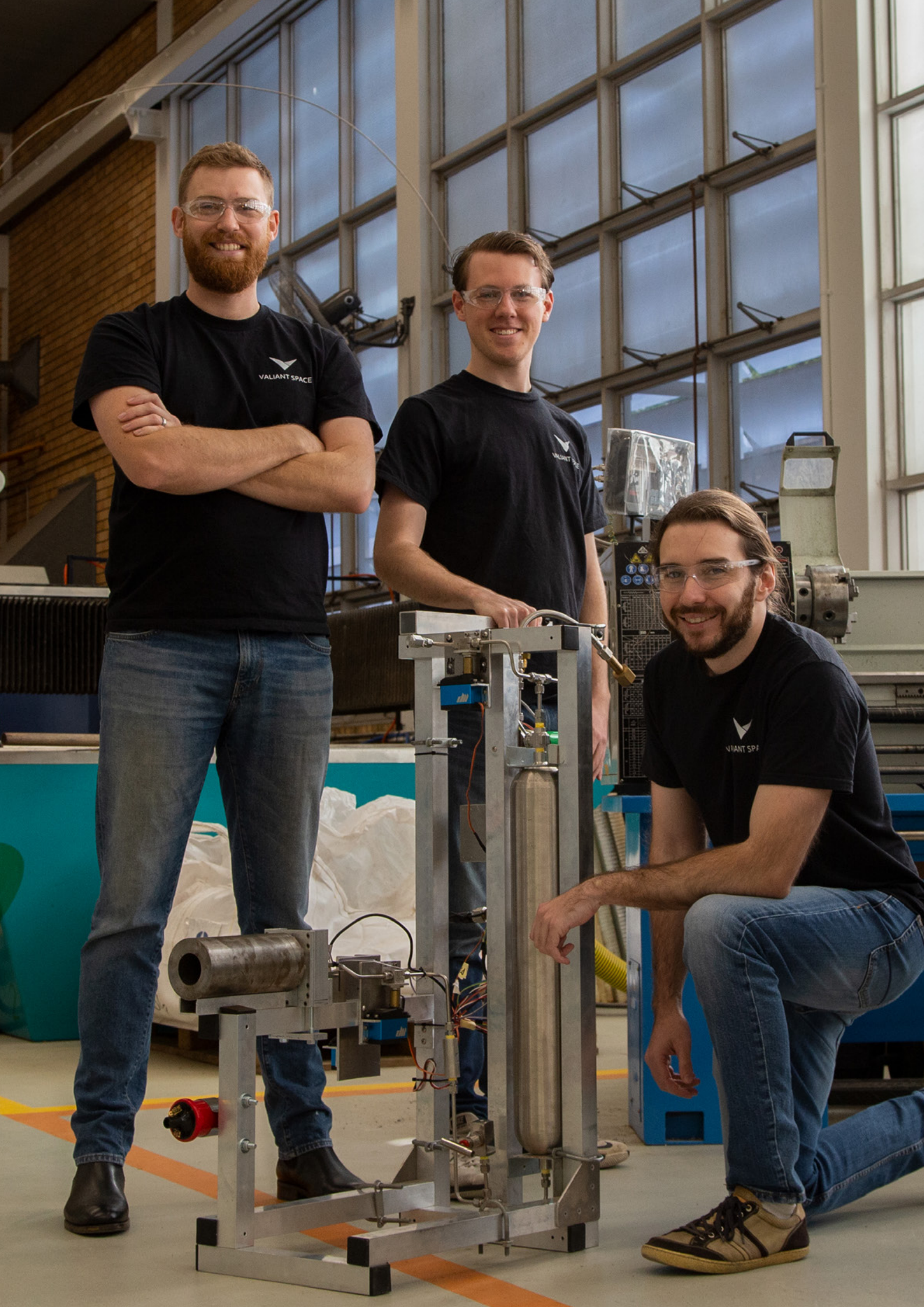
Valiant Space embraces the fact that the skills needed to successfully build a space technology company are learnt in a variety of ways—not just from traditional study.

When the company successfully test-fired its *Momentum* liquid-fuelled rocket engine in early 2020, the team from Black Sky Aerospace was on-site providing logistical support, local expertise and independent evaluation. This environment, where companies work together to share skills and experiences, is a sure-fire way to achieve the best outcomes for industry.

> 'Most of us at Valiant are early-career engineers entering into a highly-specialised space industry, so our collaboration with Black Sky Aerospace has given us access to real people and projects that have helped us learn things you can't read about in a textbook.'
>
> – Andrew Uscinski, CEO, Valiant Space

And now Valiant Space is growing, keeping every team member on the forefront of best practice and innovation is key. The engineers work together to continuously learn from one another and upskill in all areas of rocketry. The University of Queensland's iLab Accelerator program has helped hone their business ideas and management skills, as well as marketing and pitching against competitors for seed and venture capital funding that come from a wide variety of 'hot' sectors. This skills-focused approach has helped Valiant Space form a team with specialist technical knowledge and transferable business and applied skills.

INDUSTRY CASE STUDY


VALIANT SPACE

Ferra Engineering

Boeing's Loyal Wingman uncrewed aircraft project

After winning a contract contributing to a major aerospace manufacturing project, Ferra used the opportunity to upskill, cross-skill and champion skills development up and down the supply chain.

Ferra Engineering specialises in the manufacture and assembly of complex aerospace structures and electro-mechanical subsystems.

A multi-award-winning company headquartered in Brisbane, Ferra has expanded its operations into the United States, India and the United Kingdom and employs more than 250 people globally.

In early 2019, Ferra Engineering and its 18 sub-suppliers were selected to manufacture hundreds of complex metallic precision components and sub-assemblies for Boeing's Loyal Wingman program. The Loyal Wingman aircraft, which uses artificial intelligence to extend the capabilities of crewed and uncrewed platforms, is the first combat aircraft to be designed, engineered and manufactured in Australia in more than 50 years.

To support the rapid ramp-up required on the program and to ensure a consistent Boeing-standard quality product was delivered, Ferra commenced internal upskilling programs around technical specifications. These initiatives allowed staff the opportunity to progress from more traditional roles and gave them the ability to cross-train and gain further skills in support departments such as assembly, scheduling and quality control. This gave Ferra more flexibility and the ability to better deal with rapid change.

In addition to upskilling and cross-training internally, Ferra was able to work alongside Boeing to gain training and knowledge around best practice methods for managing complex and extremely fast-paced programs. The team at Ferra took these skills learnt from Boeing and increased internal capability as well as organisational knowledge. The company's constant drive and pursuit to challenge the status quo was on show, pushing boundaries and bringing the seemingly impossible within reach.

Outside the business, Ferra willingly passed on expertise and workmanship standards within the supply chain, driving towards quality outcomes. Representatives from Ferra's program and supply chain management teams were deployed to certain sub-contractors to coach them and provide substantial technical help. This approach gave the project tangible gains, with the supply chain able to produce parts that were up to Boeing's high standards while keeping costs down.

The company's next phase of skills development will involve the purchase of more high-tech machinery to be dedicated to training apprentices in a training cell on site at Ferra Brisbane's centre of excellence. This will prepare the next generation of technical experts for the future of advanced manufacturing in the defence supply chain.

‘Being part of the Loyal Wingman program is an amazing opportunity for Ferra and our supply chain. Partnering with Boeing to provide mechanical sub-assemblies on this sophisticated, leading-edge autonomous aircraft has allowed us to develop and localise our supply chain, creating more advanced manufacturing jobs across Australia — specifically in Queensland.’

– Aaron Thompson, Managing Director, Ferra Engineering

INDUSTRY CASE STUDY

Monitoring and reporting

Progress against the Skills Action Plan measures of success, will be reported annually through the Deputy Premier's Advisory Council on Defence Industry and Jobs.

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