

**STATE DEVELOPMENT, NATURAL RESOURCES AND AGRICULTURAL INDUSTRY
DEVELOPMENT COMMITTEE**

REPORT NO. 23, 56TH PARLIAMENT

into

**JOB CREATION OPPORTUNITIES IN QUEENSLAND ARISING FROM THE ESTABLISHMENT OF
AN AUSTRALIAN SPACE AGENCY**

QUEENSLAND GOVERNMENT RESPONSE

INTRODUCTION

On 6 September 2018, the Hon Yvette D'Ath, Attorney-General and Minister for Justice and Leader of the House, referred an inquiry to the State Development, Natural Resources and Agricultural Industry Development Committee (the Committee) to examine opportunities to create jobs across Queensland and promote existing supply chain capability as a result of an Australian space industry.

The Committee received written submissions until October 2018, and held public briefings, private meetings and site visits from 15 October 2018 to 1 February 2019.

The Committee tabled its report (No.23) in the Queensland Parliament on 28 February 2019.

The Queensland Government's response to the Committee's 15 recommendations is provided below.

RESPONSE TO RECOMMENDATIONS

Recommendations 1 – 14 will be delivered through the development of a Queensland Space Strategy. The recommendations address space infrastructure, career pathways and STEM education. Queensland will work in collaboration with the Federal Government and the Australian Space Agency in the delivery of these recommendations particularly with regard to investments in infrastructure.

The Queensland Space Strategy will focus on leveraging the state's competitive advantages in the space sector. According to the Deloitte report, *Sky is not the limit: Building Queensland's space economy* (2018), Queensland strengths are in the:

- Space-Enabled Services sub-sector – particularly nationally-leading earth observation data analytics capabilities
- Space Systems sub-sector – particularly world-leading robotics and automation technology for application in space, and niche manufacturing
- Ground Systems sub-sector – leveraging existing industry capabilities, and Queensland's favourable location for satellite coverage of the Eastern Seaboard of Australia and the Western Pacific
- Launch Activities sub-sector – leveraging existing industry capabilities, and Queensland's favourable location on the East Coast of Australia for a wide range of launch capabilities

Recommendation 1

The committee recommends the Queensland Government facilitate and encourage the continued development of launch vehicles in Queensland.

Government Response

The Queensland Government supports this recommendation and will explore ways to facilitate and encourage the continued development of space launch vehicles in Queensland (e.g. space rockets, hypersonic aircraft). As part of this, the Queensland Government will consider options to facilitate the establishment of space launch vehicle static testing and sub-orbital testing facilities.

The Queensland Government will continue to support space launch businesses through the development of a Queensland Space Strategy led by the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) which, among other things, will consider:

- leveraging existing initiatives and financial incentives for advanced manufacturing to support the space industry
- facilitation services to connect industry with the supply chain and investors
- exploring space infrastructure opportunities
- international trade shows to promote awareness and uptake of Queensland infrastructure, products and services.

In addition, DSDMIP will progress work on identifying the potential for a static or sub orbital test site to provide ongoing support to these space industry participants in Queensland whilst the demand for a longer term space launch site is better understood.

Recommendation 2

The committee recommends that the Queensland Government develop siting options available in regional Queensland for a launch facility to provide the launch component of the space industry supply chain.

Government Response

The Queensland Government supports this recommendation in principle and through DSDMIP has developed initial site suitability assessments (effectively an element of a strategic business case) for an orbital space launch facility in regional Queensland. The site suitability assessments considered initial technical and economic feasibility, and potential social, environmental and cultural matters, including issues of importance to Traditional Owners.

The initial assessment identified that while Queensland's geographic position on the East Coast of Australia is technically very favourable for a wide range of launch capabilities, there is no immediately identifiable location in the state that meets criteria for operations, environment, cultural matters, and airspace in an optimal way. It should be noted that globally there is no optimal existing space launch site because such sites require balancing between complex criteria.

The Queensland Government considers it important that orbital space launch infrastructure is economically as well as socially, environmentally and culturally sustainable – and that a nationally coordinated approach is taken to the development of Australia's orbital space launch infrastructure. Given the high cost and opportunity, it is incumbent on all jurisdictions to work cooperatively to deliver value for money and maximise economic opportunity.

The Queensland Government will continue to be informed by the Federal Government including the Australian Space Agency and its recently released *Advancing Space Australian Civil Space Strategy 2019-2028* in our consideration of launch infrastructure and to keep supporting the agency's national priority area of 'access to space'. The Queensland Government will promote and protect Queensland's interests and assess market demand for launches into space from within Australia, including Queensland. As demand is established and proponents are identified, more precise identification of potential orbital launch site locations and more detailed feasibility assessment, including potential social, environmental and cultural matters, will be investigated in conjunction with proponents and Traditional Owners. Queensland offers a pro-business environment that leverages the competitiveness of the state economy, harnesses existing industrial strengths, encourages innovation and is fostering the emerging opportunities offered by the space sector.

In the meantime, as outlined in recommendation 1, DSDMIP will progress work on identifying the potential for a static or sub orbital test site to provide ongoing support to space industry participants in Queensland whilst the demand for a longer term space launch site is understood.

Recommendation 3

The committee recommends the Queensland Government consider the findings of the Department of State Development, Manufacturing, Infrastructure and Planning feasibility study into the siting options available throughout Queensland to develop additional ground stations.

Government Response

The Queensland Government supports this recommendation and DSDMIP will progress market sounding for satellite park development (a satellite communications facility comprising several ground stations) in Queensland.

Recommendation 4

The Committee recommends the Queensland Government consider the findings of the Department of State Development, Manufacturing, Infrastructure and Planning feasibility study into the siting options available throughout Queensland to develop satellite parks and to support the co-location and development of innovation hubs.

Government Response

The Queensland Government supports this recommendation in principle, noting that co-location of an innovation hub may not be possible due to the technical requirements for a satellite park (a satellite communications facility comprising several ground stations) to be located in a remote area to avoid signal interference.

As with recommendation 3, which is closely related to recommendation 4, the Queensland Government through DSDMIP will progress market sounding for satellite park development (a satellite communications facility comprising several ground stations) in Queensland – and will consider alternative but complementary arrangements to support innovation hubs closely connected with but located away from any potential satellite park.

Recommendation 5

The Committee recommends the Queensland Government continue to negotiate with the Federal Government on the expansion and upgrade of internet connectivity to and within Queensland to support the development of ground stations, satellite parks and innovation hubs.

Government Response

The Queensland Government supports this recommendation and will continue to work with the Federal Government on the rollout of the National Broadband Network.

The Queensland Government will also maintain its commitment to establish FibreCo QLD. FibreCo QLD will deliver better internet for regional Queensland by using 6000 kilometres of state-owned fibre optic cables to boost internet connectivity, backhaul services and ultimately increase backhaul capacity and market competition.

Recommendation 6

The Committee recommends the Queensland Government investigate approaches to incentivise and encourage businesses to be based in Queensland to process and analyse data downlinked from ground stations.

Government Response

The Queensland Government supports this recommendation, noting that there are already significant incentives in place – such as Advance Queensland’s suite of programs – to support industry growth. This includes the Advance Queensland Industry Attraction Fund, which seeks to bring innovative projects to Queensland and help them grow in order to drive job creation, regional growth and supply chain development. The Queensland Government notes that this fund already emphasises Aerospace in addition to the space industry related actions identified in the *Queensland Aerospace 10-Year Roadmap and Action Plan*, one of the Government’s priority industry sectors.

Through the delivery of a Queensland Space Strategy the Queensland Government will also seek to better market Queensland’s earth observation and data analytic strengths to promote the uptake of ground station data.

The Queensland Government will investigate further leveraging existing funds and initiatives, including at a Federal level, to incentivise ground station data users to be based in Queensland.

The Queensland Government is recognised Australia-wide and is leading in its adoption and use of earth observation (from data downlinked from ground stations) for legislated monitoring and management activities. This includes support for state wide land use activities to preserve Queensland’s biodiversity. Further, the Queensland Reconstruction Authority utilises this data to inform its flooding impact and disaster recovery activities. Queensland research organisations and industry also have significant expertise in earth observation data analytics (as highlighted in the Government response to Recommendation 7 below).

Recommendation 7

The Committee recommends that the Queensland Government support the development of the National Earth Observation Hub for Earth Observation Analytics in Queensland.

Government Response

The Queensland Government supports this recommendation, noting that Queensland's cluster of universities, government agencies and businesses are nation-leading in earth observation data analytics. The Queensland Government will work with the consortium of Queensland's universities, businesses and CSIRO to consider options for their existing national Earth Observation Analytics Hub proposal which is to be located in Queensland.

Recommendation 8

The Committee recommends the Department of State Development, Manufacturing, Infrastructure and Planning develop a range of targeted promotional activities and resources detailing the opportunities for Queensland businesses in the space supply chain, including information and networking events.

Government Response

The Queensland Government supports this recommendation. Consideration of promotional activities and the development of resources will be delivered through a Queensland Space Strategy to be developed by DSDMIP which will consider, among other things:

- publishing a capability directory to connect industry users with the supply chain and investors
- raising awareness of current Federal and State Government funding relevant to the space supply chain
- working to increase the presence of the Queensland Government and industry at national and international space industry trade events.

Recommendation 9

The Committee recommends the Queensland Government develop strong links between the Queensland space industry and Advance Queensland, the Defence Innovation Hub and CSIRO to facilitate participation in the space supply chain.

Government Response

The Queensland Government supports this recommendation but notes that broad-based support for the space industry is already in place through Advance Queensland. The Government has also already developed a strong working relationship with CSIRO and will look to continue this approach with the Defence Innovation Hub.

The Queensland Government will continue to work with CSIRO, the \$640 million Defence Innovation Hub and the \$760 million Next Generation Technologies Fund (the Federal Government's signature programs for Defence R&D and Innovation). Through the development of a Queensland Space Strategy, DSDMIP will continue its focus on space when dealing with these entities and will work with CSIRO and the Department of Defence to explore opportunities for Queensland's industry and research sector to access the space supply chain.

The Queensland Government will also consider how it can use Advanced Queensland's suite of programs to specifically support Queensland's space industry.

Recommendation 10

The committee recommends the Queensland Government assist Queensland based space companies to offer internships to provide career pathways into the space industry.

Government Response

The Queensland Government supports this recommendation in principle. DSDMIP will work with mature Queensland-based space businesses to test industry capacity and market demand for internships.

Recommendation 11

The committee recommends the Queensland Space Industry Reference Group examine pathways for ex-Defence personnel to transition to employment in the Queensland space industry.

Government Response

The Queensland Government supports this recommendation, noting that Defence skill and employment transitioning is predominantly the remit of the Federal Government through the Department of Defence and the Department of Veterans' Affairs.

The Queensland Space Industry Reference Group (the Group) will include a focus, in part, on transition opportunities for Defence personnel in the Queensland space industry. The Queensland Government will invite the Department of Defence to work with the Group to provide input on these opportunities.

The Queensland Government will also work to raise awareness of opportunities within Queensland's space industry, including opportunities for ex-Defence personnel.

Recommendation 12

The Committee recommends the Department of State Development, Manufacturing, Infrastructure and Planning hold events in collaboration with Queensland's universities to connect STEM graduates and students with Australian space companies and facilitate pathways to local career opportunities in the space supply chain.

Government Response

The Queensland Government supports this recommendation in principle. DSDMIP will consult with industry and universities to test the feasibility of space industry specific days. If appropriate, the Government will incorporate a focus on connecting industry with university graduates and STEM students as part of the Queensland Space Strategy.

DSDMIP will also engage the wider aerospace industry to test the interest of increased aerospace participation at university career fairs.

Recommendation 13

The Committee recommends the Queensland Government continue to encourage all students to study STEM subjects and maintain its commitment to compulsory mathematics in secondary school.

Government Response

The Queensland Government supports this recommendation and will continue to implement its Schools of the Future STEM Strategy to build teacher capability to transform STEM teaching while engaging more students. Under this strategy, the Queensland Government is supporting STEM education by:

- creating opportunities for professional learning for teachers in STEM through the STEM Hub, Queensland Coding Academy and practical resources to support classroom practice
- mentoring and coaching for teachers by regionally-based STEM champions
- giving every state school access to a specialist STEM teacher
- offering targeted Step into STEM Teaching Scholarships for high-achieving preservice STEM educators
- challenging students to solve real world coding problems through the Premier's Creating Queensland's Future coding competition.

Recommendation 14

The committee recommends the Queensland Government continue to promote female participation in STEM, including through proactive targeted engagement between secondary schools and female students, and their families, who have demonstrated capabilities in STEM.

Government Response

The Queensland Government supports this recommendation and will continue its focus on promoting female participation in STEM. As part of this, the Queensland Government will continue its STEM Girl Power Initiative, which is a key priority of Advancing Education - An action plan for education in Queensland. The initiative is a 12-month program that encourages girls to participate in STEM by engaging in a range of exciting STEM experiences and inviting them to inspire other students, by being a STEM ambassador in their school and community.

The program begins with the STEM Girl Power Camp in Term 1, which coincides with the annual World Science Festival Brisbane.

One Year 9 student can be nominated from each school by the Principal to participate in the camp of the following year — when the student is in Year 10. Participants will visit the World Science Festival, universities and act as STEM ambassadors back at school.

Recommendation 15

The Committee recommends the Department of State Development, Manufacturing, Infrastructure and Planning provide the committee with an update of the Queensland Government's progress against all recommendations contained within this report in November 2019

Government Response

The Queensland Government accepts this recommendation and a written update on the implementation of the Committee's recommendations will be provided by 30 November 2019.