



Australian Government



Australian
Space Agency

SIAA Questions and Answers

Do you expect that there will be any additional support for start-ups in the space technology sector during/after the crisis from Space agency?

Current funding opportunities for the space sector include the Australian Space Agency's existing programs: the Moon to Mars initiative, the International Space Investment and the Space Infrastructure Fund. As has been announced by the Australian Government, consideration is being given to support economic recovery post-COVID-19. The Agency does not have any further advice on additional support specific to the space industry post the COVID-19 crisis.

The Agency would also like to highlight that there are also a number of programs and pathways for support, including from industry bodies and state and territory governments that support start-ups. There's also the Government's [Grant Connect Hub](#), which has opportunities that start-ups might be able to access.

Lastly, the current package of support available to all Australian businesses is available on www.australia.gov.au

I'm curious to the role of civil Earth Observation in relation to the \$Bs allocated to defence. Is this an opportunity to have a whole of government asset?

We are not able to comment on defence expenditure as that is a matter for Department of Defence. However, the Agency is developing technology roadmaps for the priority areas identified in the Australian Civil Space Strategy, including Earth Observation. This work will identify opportunities to support the growth and transformation of the space industry as a whole.

What is the Agency's reaction to the Artemis Accords? How does this affect our commitment to the Moon Agreement?

The Agency has not yet received the Artemis Accords and will consider the material once received.

Anthony just mentioned tripling the space sector in Australia. What kind of pathways will be available for STEM students?

There will be a variety of pathways as we grow and transform the Australian space sector. This includes from schools, specific courses related to space at universities, vocational education through to internships in industry. I would expect those studying fields of engineering, science and computer science will see an increase in opportunities within the job market as the industry grows in size and we increase the sector's capability.

While STEM-related fields are well understood to support the space industry, we're also now seeing other opportunities in the space sector, including space law, space medicine and humanities subjects including industrial and material design.

Can you elaborate on how the Moon to Mars / support for the Lunar Gateway and Artemis programs might interact with both the civil and defence space strategies?

The Moon to Mars initiative is closely aligned with the Australian Civil Space Strategy. For example the program supports three pillars identified in the Strategy: open doors, build capability and inspire. It also aligns closely with Phase 2 of the strategy – Engaging with Opportunity. We also expect that the projects supported through Moon to Mars will be closely aligned with the National Civil Space Priorities.

Due to the nature of space technologies, and the dual use applications, fostering growth and capability in civil space domain often supports defence capability options. However, comments on links to defence activities would need to be addressed by Defence.

On the 'other side' of Australia's support to Artemis, does the Agency or the Department have a roadmap on how the spin off applications and technologies developed to support Artemis will be harnessed for benefiting other Australian industries?

An important element of the Moon to Mars initiative is to ensure the investments support other areas of the economy. Australia has a range of growing capabilities that can support international space activities, including in earth observation, optical communications, advanced manufacturing and automation. These technologies also support activities in other areas of the economy. For example:

- Development of advanced secure communications for space exploration can be used to improve communications back on Earth, including supporting regional communities.
- Leveraging the automation technologies from the Australian mining and resources sector to areas including future lunar infrastructure can support the autonomous control of robotics and other assets in space. The technology developed will support further advancement of automation in the Australian resources sector, among others.
- Supporting lunar missions with advanced sensing techniques will develop technology that can be used for Earth observation missions. This can support other areas of the Australian economy, including farmers in managing their land, and in disaster management.
- Remote medicine techniques developed for space have the potential to support remote medicine applications on Earth, for example, in rural and remote areas of Australia.

What recent progress has the Agency made towards better public outreach per one of the Agencies main pillars?

We are always looking to connect with the industry and the public. While COVID-19 has led to travel restrictions and many events being cancelled, we had actively engaged with the public significantly prior to these restrictions being put in place. Last year we participated in more than 70 events, tailored to a range of audiences. This year, up until mid-March, we participated in approximately 20 events before the remainder were cancelled or postponed due to COVID-19. We are still participating in events virtually where possible and look forward to being able to increase our engagement with the public once travel between states is possible.

The Agency has also increased its involvement in Sponsorships. We are supporting Deadly Science, Women in Aviation and One Giant Leap – this is helping us connect with students on a broader scale and inspire them to consider STEM and space careers. We also just expanded our social media platforms by launching our official Facebook page in April and refreshing our web presence. This is helping us connect with a much wider audience of early career starters, families and those with an interest in space outside of the industry. Traditional media outreach through print, online and radio channels are also increasing our reach with the wider community.

Lastly, in February 2020, our recent Moon to Mars public consultations to inform the program design, had us in front of 500 people face to face and another few hundred in our YouTube live stream and thousands on radio during that period. We look forward to being able to engage in more public engagement in future, virtually and in person.

The M2M Demonstrator program opens in October 2020. When will the guidelines for this be published?

No date has been announced at this point in time. We encourage interested parties to register for our newsletter to keep up to date on our activities and announcements. You can do this via our website space.gov.au.

Is the Agency contributing to or running any industry consultation sessions or workshops in the coming weeks or months relating to the new legislation - notwithstanding using online platforms? When should we expect the ASA to release details on its partial cost recovery model for launch licence approvals?

The Agency recognises the difficulties the Australian space sector is currently experiencing as a result of COVID-19 and the disruptions it is causing to normal business operations.

Public consultation on draft legislative amendments to implement partial cost recovery arrangements was planned for March and April this year. However, this has been delayed due to the impacts of COVID-19, including that industry may not have capacity to engage in the consultation process at this time.

Consultation will occur prior to the introduction of partial cost recovery, and the Agency will continue to keep the sector informed on when this consultation is likely to occur.

As someone who builds great ideas out to working products, I have a passion to see standardization and co-ordinated collaboration within the industry to see the best use of funding across the sector. Is there any major thinking around this issue?

The Agency encourages collaboration across the industry. We acknowledge that entrepreneurialism flourishes through these respective dimensions of synergy and certainty. A key mechanism to support coordination of activities across Australia is through the vision set in the Australian Civil Space Strategy. It sets the path to triple the size of Australia's space economy from \$4 billion to \$12 billion and create another 20,000 jobs by 2030. Within the Strategy, four pillars of activity are outlined as well as seven civil space priority areas where Australia can contribute to the broader space ecosystem.

We are also developing further detailed roadmaps for each of our seven priority areas to further facilitate and support coordination across industry. These roadmaps will help to focus Australian capability on the opportunities to be explored in the coming decades.

Any opportunities for the mining industry to work closely with aerospace industry? If it's already happening, what are the key areas of research/development to focus on?

There are a range of opportunities for the mining and aerospace industries to collaborate. For example, a recent industry-led initiative includes the establishment of the Australian Remote Operations for Space and Earth (AROSE) consortium, which brings together a unified remote operations capability group.

Other potential opportunities could include:

- Remote Operations and Autonomous systems: leveraging automation, robotics and artificial intelligence applications to sustain a part of operations of a lunar infrastructure during long uncrewed periods. Learning from this work would also benefit offshore and underground resource operation capabilities in Australia.

- Components on a lunar probe or vehicle: space-hardened technologies and autonomous systems adapted for lunar activities. This activity may help position Australia as the world leader for remote mining operations on Earth.
- Scientific investigation using mineral and other substances of the Moon In-situ resource utilisation: leveraging Australia's experience in mineral exploration on Earth to carry out scientific investigations using minerals and other substances of the Moon and other celestial bodies in appropriate quantities.
- Digital Mapping of Celestial Bodies: Australia has significant capabilities in the application and processing of digital datasets, primarily conducted through Digital Earth Australia. These skills can be leveraged and applied to other celestial bodies to assist with international exploration mission planning and aid planetary science objectives.

What areas do you perceive will be the key focus for the Australian Space Agency in the next twelve months?

The next twelve months are going to be incredibly busy for the Agency with many priorities. Some key focus areas include:

- Progressing the next phase of delivery for Moon to Mars initiative and its program design, based on recent consultation feedback.
- Finalising the first series of our technical roadmaps to align Australian space capability growth activities around a common strategic vision. Our roadmaps will set a goal for each of our priority areas and how to get there.
- Progressing the design and build of the Australia Space Discovery Centre at our Adelaide Headquarters.
 - This will create a user experience and foster an understanding of Australia's role in the space sector. We are working closely with Questacon to have this open in 2021.
- Delivering communication technologies and ground infrastructure, which includes overseeing the development of a national Mission Control Centre as part of the Australia Space Discovery Centre in SA, as well as the Robotics Command and Control Centre in WA.
- Solidifying our partnerships outlined in our MOUs.

What is the best way for SIAA members to engage with the Space Agency as we target support for Artemis projects?

The Agency has a national and international engagement team. We are always looking to connect with the industry, especially during times like this when travelling between states and the ability to attend events and meetings physically is more difficult.

The engagement team works with the industry, both nationally and internationally, to help identify and facilitate collaboration opportunities within the sector. This could be identifying a particular company whose expertise might be able to support a project we are aware of or an industry initiative. Members should keep an eye out on our regular newsletters for how to engage on Moon to Mars over the coming months, including the opening of supply chain facilitation grant applications in July 2020.