

Ministry of Business, Innovation and Employment

By email: spacepolicyreview@mbie.govt.nz

31 October 2022

MICROSOFT SUBMISSION ON THE NEW ZEALAND SPACE POLICY REVIEW CONSULTATION

- 1 Microsoft welcomes the New Zealand Space Policy Review and the opportunity to make this submission. In this submission, we would like to share Microsoft's commitment and investments in the space sector and space initiatives throughout the world, and how Microsoft hopes to contribute to Aotearoa New Zealand's aspirations in this area in the coming years. We also provide our views on the values, priorities, and policy objectives that underpin the development of the Space Policy.
- 2 Microsoft recognises that the development of the New Zealand Space Policy is an important step in the growth of New Zealand's space sector, which in turn has the potential to contribute to advance New Zealand's economic, societal, environmental and security interests. We recognize that Aotearoa already has a promising space sector and recognize further potential of the country in this regard.

Microsoft's activities in the space ecosystem

- 3 Microsoft is committed to harnessing and democratising the opportunities that space presents. Through our Azure Space family of products and services, and by building meaningful partnerships within the space community, we are leading digital change in the space industry. An example of this is Azure Orbital Ground Station, Microsoft's "ground station as a service" platform that allows satellite operators to communicate to and control their satellites, process data, and scale operations directly with the cloud.¹ The Azure Space offering is expanding to provide both global connectivity – accessing any data, anywhere in the world² – and analytics – turning remote sensing and other space data into knowledge and insights.³
- 4 Microsoft's focus on partnerships is reflected in the Azure Space Partner Community,⁴ which comprises an ecosystem of partnerships with space industry companies to provide the most comprehensive and innovative offerings for our joint customers and advance the future of space computing. One example is Microsoft's partnership with NASA scientists and Hewlett Packard Enterprise to bring cloud compute to space, using AI to scan and analyse astronaut glove images on the International Space Station for prediction of wear – reducing the need to rely on ground crews for this task.⁵

¹ A recent overview of Azure Orbital is located at: <https://learn.microsoft.com/en-us/azure/orbital/overview>

² Microsoft has recently announced Azure Orbital Cloud Access, through which it will deploy small satellite user terminals in less densely populated areas to support rural industries where there is little, or no broadband infrastructure available: <https://azure.microsoft.com/en-us/blog/new-azure-space-products-enable-digital-resiliency-and-empower-the-industry/>. Azure Orbital Cloud Access is currently in 'private preview' with select customers, which is one stage before it becomes generally available to all customers.

³ Azure Orbital Analytics uses technologies to transform remote sensing data from Azure Orbital Ground Stations into insights and actionable information: <https://learn.microsoft.com/en-us/azure/orbital/overview-analytics>

⁴ <https://learn.microsoft.com/en-us/azure/orbital/space-partner-program-overview>

⁵ <https://blogs.microsoft.com/blog/2022/04/04/this-hands-on-ai-based-test-project-will-help-ensure-astronaut-gloves-are-safe-in-space/>

- 5 Democratizing the possibilities of space by unlocking connectivity and data with the cloud allows Microsoft to help industries “on the ground” to benefit from these technologies. For example, Microsoft has worked with the United States National Interagency Fire Centre (NIFC), utilising Azure Orbital Cloud Access to improve frontline connectivity for co-ordinated responses to fire and other emergencies. Similarly, Microsoft in partnership with SpaceX has connected patients in remote Australian locations to medical specialists in cities by using mixed reality and Starlink satellites.⁶
- 6 Microsoft has a deep commitment to pursuing technology with purpose and wherever possible, generating and supporting a local ecosystem of economic growth in the countries we operate. Microsoft recognises that it is important to build a local talent pool, and has partnered with Modis to launch the Tech Start program with a goal of supporting 100+ women to upskill and unlock their first opportunity in the space, defence and technology sectors.⁷ Similarly, Microsoft recently became the first exclusive cloud technology ‘Constellation Partner’ at Australia’s National Space Industry Hub, and launched Microsoft for Space Startups Australia, supporting the growth of new space business in Australia.⁸
- 7 As outlined above, Microsoft has progressed initiatives to contribute to the development of the US and Australian space sectors and is eager to explore similar opportunities with New Zealand’s space sector, in particular considering our ongoing investment in a datacentre region in New Zealand.⁹

Policy and regulatory considerations

- 8 We agree with the values that the Government has identified should aim to reflect and promote through engagement with space, with a particular significance of *Partnership* principle underpinned by Te Tiriti o Waitangi.
- 9 An important aspect of the Space Policy will be ensuring that New Zealand’s regulatory approach to space activities drives innovation. To achieve this, New Zealand’s regulatory approach should continue to be developed carefully and in collaboration with variety of stakeholders as well as maintaining balance between managing risks and creating opportunities for the sector. We believe that New Zealand would benefit of aligning its regulatory approach with other countries, what would allow it to maintain its edge as a place for space innovation.
- 10 In managing the broad range of security risks in space to protect New Zealand’s space industry, the Government could consider collaborating in the Space Information Sharing and Analysis Centre, which facilitates collaboration across the global space industry to enhance the space community’s ability to prepare for and respond to vulnerabilities, incidents and threats.¹⁰
- 11 It has to be noted that the space industry ecosystem is truly global. No single country has complete capabilities to harness full potential of space on its own so international co-operation is key to achieve socio-economic benefits for humanity.

⁶ <https://news.microsoft.com/en-au/features/remote-australian-community-harnesses-mixed-reality-and-space-connectivity-to-deliver-better-health-outcomes/>

⁷ <https://www.modis.com/en-au/news-and-insights/press-room/launching-careers-space-defence-tech-with-modis-microsoft/>

⁸ <https://www.microsoft.com/en-au/business/space-startups/our-partnership-journey/>

⁹ <https://news.microsoft.com/en-nz/2020/05/06/aotearoa-disclosure/>

¹⁰ <https://s-isac.org/>

- 12 New Zealand has already taken important steps in contributing to a collaborative international framework - one of such recent steps was joining Artemis Accords. The Accords reaffirm and extend the commitments that countries, including New Zealand, have previously made, including in terms of space resource utilisation. As Economic and Regional Development Minister Stuart Nash explained, "New Zealand's participation in the Artemis Accords is a historic moment for our nation and our highly-regarded local space industry."¹¹ By actively participating in the development of the Accords, New Zealand has positioned itself to play a prominent and important role in the global space sector.
- 13 In particular, the Accords call for commitments to the mutual benefit of participating countries and private industry: such as establishing and following international interoperability standards for space-based infrastructure, and openly sharing scientific data while ensuring appropriate protections for proprietary information. We believe that such a multistakeholder collaboration is essential – only by leveraging these commitments together with its public and private sector partners, New Zealand will realise scientific and economic benefits of space.
- 14 We recognize that New Zealand has also committed to bilateral agreements that are of mutual benefit to the signatory countries, such as the European Space Agency Agreement in relation to telemetry and tracking facilities;¹² and the Technology Safeguards Agreement, which enables space launches using US technology in New Zealand.¹³ We would encourage New Zealand to continue exploring how to further embed the country into a web of such co-operation mechanisms, both with states as well as private sector entities.

Conclusion

- 15 Microsoft considers that there are important opportunities to advance New Zealand's economic, defence and security and environmental interests through participation in the space ecosystem. We are looking forward to discussing these opportunities with you in the course of developing the New Zealand Space Policy, and working with New Zealand Government and NZ industry in the space sector more broadly.

Kind regards,



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¹¹ <https://www.nasa.gov/feature/new-zealand-signs-artemis-accords>.

¹² <https://www.mbie.govt.nz/assets/54e54e4e35/european-space-agency-nz-arrangement.pdf>

¹³ <https://www.mbie.govt.nz/assets/f8d81015b3/technology-safeguards-agreement-US.pdf>