

28 October 2022

Space Policy Review,
Ministry of Business, Innovation and Employment,
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Kia ora,

New Zealand Space Policy Review

Space Operations New Zealand Ltd (SpaceOps NZ) wishes to thank MBIE and in particular the New Zealand Space Agency for the opportunity to submit on this review.

SpaceOps NZ is a Council Controlled Trading Organisation that began trading in October 2021, taking over all the space related activities that were previously undertaken by Great South (Southland Regional Development Agency Ltd) and Venture Southland before it. These activities had begun in 2004 to support the European Space Agency (ESA) and French Space Agency (CNES) to establish a downrange station at Awarua (between Invercargill and Bluff) for the ATV launch campaigns to the International Space Station.

SpaceOps NZ now hosts some 35 antennas at the Awarua Satellite Ground Station and leases time on four of its own antennas, providing telecommunications with low Earth orbit spacecraft. Our customers include many of the best-known actors in the new-space sector. We enjoy recognition within the international space community and we are considered to be expert in our fields of operations.

We enjoy a strong growth trajectory with initial establishment funded by ESA and subsequent expansion funded from retained earnings.

SpaceOps NZ is very aware that our activities touch on geopolitical sensitivities. Our policy to support civilian activities only is a good match with ESA's, whose convention exclusively restricts their work to peaceful purposes:

“The purpose of the [European Space] Agency shall be to provide for and to promote, for exclusively peaceful purposes, cooperation among European States in space research and technology and their space applications...” (Article II Purpose, *Convention for the Establishment of a European Space Agency*)

Submission

Our submission is limited to addressing only new-space activities: we have almost no experience in the traditional telecommunications and broadcast television space activities, which exclusively use Geostationary Earth Satellites and which form the bulk of New Zealand's \$1.69 billion space economy. We are not qualified to comment on that sector.

We submit that New Zealand space policy is sound and meets the objectives for New Zealand to be recognised as a responsible actor in the international space community, with a strong commitment to space being used for sustainable and peaceful purposes.

Peaceful purposes

We support the existence and activities in general of the New Zealand Space Agency to support New Zealand's position as an active and significant actor in the international space community. In particular, we support the ambit and scope of the *Outer Space and High-Altitude Activities Act 2017*, which in essence requires the New Zealand Space Agency to take responsible actions to ensure space is used for peaceful purposes.

SpaceOps NZ is well aware of the difficulties the Agency faces in so doing: while we avoid supporting military or security missions, we do acknowledge that this choice is often not clear cut. For instance, most smart-phones are technically 'dual use' because they use the USA military GPS satellites for many of their functions. Sound judgement backed by strong policy guidelines will always be necessary.

In this light, we believe that the New Zealand Space Agency, through its involvement in the United Nations Office for Outer Space Affairs and the Committee on the Peaceful Uses of Outer Space, made credible by a number of resolutions supported by New Zealand at the United General Assembly in former years, is in an extremely good position to advocate internationally for space to be used peacefully and sustainably. We strongly support the Agency continuing its involvement in these activities.

To confirm its commitment to the peaceful purposes, it is suggested that New Zealand should consider making a commitment to providing on-going funding to CUPOUS, or even providing permanent staff.

Protecting and advancing our national security and economic interests

SpaceOps NZ appreciates the interest the Agency takes in our own work, especially through our Memorandum of Understanding in relation to the provision of ground station services of 10th September 2019, where the Agency provides us with advice so we can ensure that our own activities are not contrary to New Zealand's national interests. The reassurance and confidence this support provides us is highly valued.

We note that because there are no requirements for radio receiving licences, or landing fees to download spacecraft, anyone may import and operate a satellite receiving station in New Zealand and use it to download data from spacecraft. Such operations could be undertaken for purposes that need not necessarily be in New Zealand's national interests. This is a fraught topic with many intricacies and far beyond the scope of this consultation. However, this topic is important and we strongly recommend that further policy development be done in this area. We would be happy to make our expertise available to MBIE.

Cross-cutting Government interests in space

Over the years we have noticed that different parts of MBIE, New Zealand Space Agency, LINZ, Maritime New Zealand, Defence Force and other government agencies do not work in the space sector in a cohesive manner. We observe that this is a problem systemic throughout most Government agencies. We have no recommendations as how to foster a more concerted approach, though we would be supportive of all and any efforts to achieve a more concerted approach.

Innovation

We support Government investment in foundation technologies and infrastructure to support research. We believe a good example is the National Satellite Test Facility at the University of Auckland, which is a nationally strategic asset that should enable and encourage wider New Zealand spaceflight participation.

We suggest that an all-of-government satellite ground station suitable for downloading Earth observation satellite scenes would provide the data that scientists require for their research. Such a station would provide affordable near real-time satellite scenes that would otherwise always remain unaffordable to New Zealand researchers, and commercial and government users.

We assert that the space community in New Zealand is too small for competitive bidding for research funding to be effective. We have noticed on several occasions that subject matter experts engaged by agencies to analyse space related funding rounds have had to be brought in from overseas. It seems they do not always seem to understand local conditions. Anyone inside New Zealand of any credibility who could usefully advise on funding recipients can themselves be expected to be bidding in the round. We would much sooner that research and development funding distribution to be undertaken in a collaborative rather than competitive manner. We are confident that most other actors share this view.

Government support

This section surveys a number of areas that—in our experience—the objectives of government policy appear to fall short in delivery.

We recently supported a successful bid by Lockheed Martin Corporation for the \$1.2 billion SouthPAN project for which LINZ is contributing \$102 million. As a result we will host antennas at Awarua SGS and a mission operations centre in Invercargill. The bidding process highlighted to us how New Zealand government support for such infrastructure differs from overseas administrations. Because of New Zealand procurement rules, there was no way in which LINZ, any other government agency, or any politician could assist our bid as would have been the case in USA or Europe; in Australia and the USA, senators would have actively lobbied to have components of such a project located in their own states. We are of a mixed mind as to the benefits of such approaches, but it does seem that a review of the current approach is needed if regional development is to be a government priority.

We also note that New Zealand's *lassiez faire* approach to commerce acts as a deterrent to establishing space activities in New Zealand: we host foreign equipment in New Zealand and the equipment attracts 15% Goods and Services Tax when entering the country, which in most cases the customer is unable to recover. This is a tax disincentive. Meanwhile some other countries offer tax breaks, interest-free loans and other incentives to attract investment in the space industry.

One of our longstanding assertions is that data from research projects and other activities that enjoy or have enjoyed government funding that could assist further research should be open-sourced to all New Zealand practitioners. If New Zealand is to truly become a leader in space, then such data such as from Leolabs should be made freely available to all New Zealand researchers.

Modelling sustainable space and Earth environments

We note that MethaneSAT and Tāwhaki are highlighted in the consultation document. While we see real merit in government support for such projects, it is always wise to undertake wider consultation within the national space community before signing contract documents to ensure that the best possible outcomes are achieved, including second order outcomes through such support.

General

We note that the consultation document claims that, "With a remote location, clear skies and seas, New Zealand has one of the world's widest selections of launch angles (azimuths) for rocket launches, and offers natural benefits for ground-based space infrastructure (including for communications and observing space objects) and the operation of launch infrastructure". We assert that New Zealand's geographic advantage lies far beyond launch angles: we charge a premium for hosting antennas at Awarua because of its unique and compelling geographic location in the world. Some of our customers tell us that their antennas at Awarua are the most heavily used in their world-wide networks. Future space policy needs to be cognisant that New Zealand's geography offers strategic advantages in a number of diverse areas and not to overlook them when promoting the New Zealand space industry.

We would be happy to clarify any of the points raised in this submission and, if warranted, speak to them.

Yours faithfully,



Robin McNeill
Chief Executive Officer