

Submission on developing the Aotearoa New Zealand Aerospace Strategy

Your name and organisation

Name	Dr. Neta Palkovitz, General Counsel
Organisation (if applicable)	Dawn Aerospace New Zealand

Overview of the Aerospace Strategy

- Question 1:** Do the four areas above provide the right basis for the Aerospace Strategy?
- Question 2:** What are the critical factors that you see for aerospace sector development?
- Question 3:** How would an Aerospace Strategy help you?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Q2: Factors such like: quality high education focusing on aerospace, grants for industry, a regulatory environment which is a good basis for sector growth, and advanced, accessible and affordable infrastructure will all greatly contribute to developing the aerospace sector.

Furthermore, a strategy which values collaborations with other countries is essential for New Zealand Aerospace companies, looking to serve the global market. Collaborations may help develop talent and expertise in New Zealand, give access to R&D initiatives, and enhance business development. In that sense, international collaboration is one of the critical factors which would aid developing the aerospace sector.

Q3: Being a global player in the aerospace sector, and a privately held company, Dawn relies on the aerospace strategy to inform its future business goals and technology development. The strategy helps us understand how New Zealand sees the future of the sector, and we can channel our efforts within this sector accordingly. We would not be able to thrive in an environment which sees little value in developing and supporting the local aerospace industry.

Since Dawn is developing the Mk-II spaceplane, a strategy which considers the integration of airspace and outer-space regulation for private activities would aid Dawn achieving its ambitions.

Area One - A strategy for building our aerospace sector

- Question 4:** Is the 2030 Future State set out in a way that enables New Zealand to build on its existing advantages to develop a leading place in the global aerospace economy?
- Question 5:** Will the 2030 Future State support your ambitions for growth and participation in the sector?
- Question 6:** What barriers are there to optimising sector growth?
- Question 7:** How could the government and the sector work together to achieve the 2030 Future State?
- Question 8:** How can the Government enable Māori ambitions for the sector?

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Q5: Please refer to our answer to Q15.

Q6: Factors like export controls and regulation on operators in the sector may be barriers to optimising sector growth if they do not balance state interests and the sector's interests together with its investors and customers. Poor infrastructure may also become a barrier in case the sector would struggle with finding opportunities to test technology and operate its services.

Q7: In order to enable sector growth, and making New Zealand a leading space-faring nation, all local stakeholders must invest in strengthening the sector: the government must invest in capital, as done via specific industry grants and development programmes in other space faring nations; invest in education so local industry will be able to hire local talent; develop a regulatory regime which takes into account the interests of the industry and its investors, situating New Zealand as a favourable jurisdiction for aerospace activities; foster international collaboration via programmes aimed to multilateral and bilateral collaboration between governments and industry; and invest in infrastructure, spaceports and airfields which can host and support launch vehicles, including spaceplanes.

Q8: Safeguarding the environment, sustainability and incentives for green-space companies- we believe that our green approach to space activities is already making a change and promoting Kaitiakitanga.

Dawn's green propulsion systems, which are integrated on many satellites currently in space, use non-toxic materials, and minimize pollution from propulsion dramatically. Dawn is not only benefiting the local sector with its sustainable space technology, but is contributing to the sustainability of space activities on a global level. Promoting the long-term sustainability (LTS) of space activities is a highly important goal of UN OOSA and COPOUS, and is integrated into the LTS Guidelines, together with more recent international regulatory and diplomatic efforts to promote environmental protection on Earth and in space.

While traditional launch technology uses harmful and dangerous materials, and the launch activity itself is highly polluting with emissions on Earth, airspace and outer space (most vehicles still create space debris which can stay in space for decades). Dawn's Mk spaceplane which will launch payloads to outer space will operate with minimal pollution of Earth, airspaces and outer space environments. These environments are all subject to Kaitiakitanga, meaning we are their guardians, and should protect them, for our sake, and for the sake of any other flora and fauna living with us in

it. In that sense, we believe that giving incentives to practicing Kaitiakitanga in the aerospace sector would allow the sector to align with and fulfil Māori values and traditions.

Area Two - Building strong foundations (Three Pillars)

Question 9: What do you think of the Three Pillars and do you think they will support the 2030 Future State?

Question 10: What else would you like to see in the Three Pillars?

Question 11: What actions and initiatives could the sector focus on to support the Three Pillars?

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Q10: Having a regulatory consultation which is closed for industry may serve the sector optimally and support the second Pillar. While New Zealand has an excellent legal infrastructure, the sector is developing rapidly, which raises the need to consider new challenges, and find ways to balance between state interests and industry growth. Naming a few matters which would benefit from such consideration: the issue of risk management and insurance for operating spaceflight and launch vehicles; the regulatory framework for operating space planes; and incorporating sustainability values and standards into the aerospace strategy, on a regulatory level (for example, regarding emissions, space debris, other environmental impacts). Incentivising sustainable practices and environmental protection means a better future to all, and a more responsible aerospace sector.

International collaboration is currently missing from the Three Pillars. As New Zealand does not have a long history of space activities, we hold that collaborations with other space faring nations would strengthen the sector and support the goals of the Three Pillars.

Sustainability and environmental protection is currently missing from the Three Pillars as well. At Dawn, we hold that we can make a difference and shape the future of the sector, therefore, we chose to develop green technology which provides high performance according to global industry demands, while focusing on the future of our planet as well. Using traditional launch technology may be easier, but not responsible towards the environment and our future generations. We would like to see New Zealand recognize the need to act for sustainability within the sector, and incorporate such values in the Three Pillars accordingly.

Area Three - Goals for 2030

Question 12: What do you think of the Goals for 2030?

Question 13: Are the goals framed in a way that will enable New Zealand to build on its strengths and comparative advantages to achieve the 2030 Future State?

Question 14: What activities and milestones can help us achieve these Goals?

Question 15: Where do you see yourself in realising these Goals?

Please type your submission below. If applicable, please indicate the question(s) to which you are responding.

Q15: Dawn's technology can help achieve the first goal, enabling low-emission flight alternatives. Moreover, by 2030, Mk-III would be able to be used as a "point to point" aerospace plane, shortening flight time to and from New Zealand dramatically, helping with trade and supplies delivery.

Dawn's technology will certainly help achieve the third goal- sustainable space activities. Both the green propulsion systems Dawn is manufacturing and the MK aerospace plane its developing promote sustainability in air and space activities. [REDACTED]

[REDACTED] Dawn is receiving fantastic positive feedback internationally, on its current products, with respect to how they promote the sustainable use of outer space, in line with New Zealand's good reputation with respect to sustainability in space.

Dawn's technology will surely help achieve the fourth goal, actively supporting a permanent human presence in space. Since Mk-III will be used as a responsive, reusable space cargo launch vehicle, it is bound to promote human presence in space, and create crucial infrastructure and solution-oriented services which would allow future sustainable transportation of any type of goods to outer space.

Area Four - Pathway to the 2030 Future State

Question 16: What policies, ideas, actions, and/or initiatives would you like to see in the Action Plan to help achieve the ambitious 2030 Future State?

Question 17: What would be the benefits of these actions and how would they help grow the New Zealand aerospace sector?

Question 18: How would you like to be involved in the delivery of the Aerospace Strategy?

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Q 16: Dawn would like to see the government's support in our way to enabling effective and sustainable space transportation. One of the items in the Action Plan should relate to incentives for "green aerospace" companies and technology.

Another item in the Action Plan should help create local talent which would allow Dawn to employ more New Zealand locals. Having more local talent would support Dawn's ambitions to grow and hire more New Zealand nationals, as the company is in a rapid growth process.

Investment in R&D through grants, bilateral and multilateral partnerships and tax incentives are more ideas for the Action Plan which would greatly benefit the sector.

We would also like to see a regulatory and risk management policy which would consider our business case and the many benefits which our technology offers. We maintain that considering how the current regulation accommodates the business cases of stakeholders such as Dawn, as part of the Action Plan, will help achieve the ambitions of the 2030 Future State.

Q17: More talent, funds and a well-crafted regulatory system would surely grow the aerospace sector. It will also help to attract investors which will enable better development and growth and raise the value of the sector altogether. The emphasis on sustainability, and green incentives, shall keep New Zealand's good international reputation and help build an eco-system of stakeholders who have a clear interest and are committed to act responsibly and promote sustainability and environmental protection, in accordance with the Kaitiakitanga tradition.

Q18: Dawn welcomes a productive dialog with the Government to learn how we can help each other achieving our goals. We are willing to spend time and energy in examining different paths to promote the 2030 Future State plan, as clearly, Dawn's ambitions align with the plan to a great extent (please refer to the previous section examining the 2030 goals).