

Submission on developing the Aotearoa
New Zealand Aerospace Strategy

Your name and organisation

Name	Manu Caddie, [REDACTED]
Organisation (if applicable)	

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.

An Introduction: why a NZ Aerospace strategy?

The Strategy outlines in the first instance why you think a Aerospace Strategy is necessary: *“This Government has set ambitious goals to build a more sustainable and inclusive economy that works to improve the lives of all New Zealanders and addresses our long-term challenges.”*

It is not at all clear why an Aerospace strategy is part of a sustainable or inclusive economy or how it is going to improve the lives of all New Zealanders. The Aerospace industry is almost completely dominated by major weapons dealers.

Developing an aerospace industry is developing an arms industry. Arms industries cannot contribute to any kind of sustainable inclusive economy. They are built upon war, death and destruction.

Questions 1 & 2

There are multiple references throughout the document to economic development, economic benefits, “productivity” and “the global aerospace economy”, there is not a single reference to three crucial areas that must be the basis for the developing NZ aerospace industry:

i) **Peaceful uses of space:** there is no reference to NZ’s commitment to peaceful uses of space, both generally as a member of the international community and specifically as a member of the Committee on the Peaceful Uses of Outer Space since 2016. The Committee was established in 1959 “to govern the exploration and use of space for the benefit of all humanity: for peace, security and development” and to promote “international cooperation in the peaceful uses of outer space”.

ii) **Disarmament obligations:** there is no reference at all to NZ’s domestic or international disarmament obligations, which is a particular concern with regard to prohibited weapons, including nuclear, biological and chemical weapons, as well as cluster munitions and other weapon systems with inhumane and indiscriminate effects that are prohibited by NZ law. Related to this, there is no reference in the draft Strategy to NZ’s obligations under humanitarian and human rights law.

iii) **Disarmament policy:** there is no reference to NZ’s disarmament policy, which includes both a commitment “to show leadership in the development of new rules, norms and standards around the use of outer space”, and a commitment to “new international law to ban and regulate autonomous weapons systems” (also known as killer robots) - this is particularly pertinent to this Strategy given the references to “autonomous aerial vehicles”, to “safely integrate all forms of autonomous aerial vehicles” and, disturbingly, “significant work has already been undertaken to establish New Zealand’s leadership in this area, which we will progress further for 2030”.

It is absolutely crucial that the new Aerospace Strategy includes meaningful references to each of these areas to ensure that aerospace companies based in Aotearoa and using services here do not develop - or contribute to the



development of - any technologies, aircraft or spacecraft that are contrary to any of NZ's obligations and commitments to ensure that space is only used for peaceful purposes.

Conclusion: Why a NZ aerospace strategy?

More fundamentally is the question others have also raised as to whether there should be any involvement of the state beyond strict regulation of an aerospace industry in New Zealand. There are literally hundreds, perhaps thousands, of different kinds of areas of study and interest that could be at the heart of a specific government strategy for development. Why are we not aiming to become a global leader in oceanography, given we have one of the largest EEZs in the world? Volcanology? Seismology? Cancer research? Ecological restoration? Any or all of these have vastly more immediate relevance to New Zealanders, and opportunities for scientific and commercial collaboration that doesn't immediately invite in arms dealers.

This entire exercise – an aerospace strategy, a space agency etc – are all utterly reactionary. They arose because of Rocket Lab. They were not a thoughtful exploration of the kinds of things that might truly benefit New Zealanders or, better yet, the world. They are not the result of some identified need in the country.

Most aerospace work is done for governments: the largest, the US, but also the European Space Agency, the Russians, Chinese, Indians etc. Choosing to develop an aerospace industry in the absence of very specific government objectives for a space programme is essentially inviting companies in to work for the militaries of other states. This is inherently problematic and undemocratic as it requires one sovereign state to submit to the national security objectives of another state. It is also problematic insofar as the driving aim of these state-sponsored programmes is the control, by way of military force, of space and its resources.

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?

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

Questions 4-7

Your document says, "*Aerospace activities actively contribute towards improving our environment through reducing greenhouse gas emissions and enhancing sustainability across the New Zealand economy*"

The aerospace sector is built upon the burning of ecologically harmful fuels. While one or two companies might be developing solar-powered or greenwashing via other fuels that have more renewable components, the sector is largely powered by fossil fuels.

MBIE acknowledges it has not received any advice regarding damage to the ozone layer or atmospheric pollution with regard to Rocket Lab's launches.

One study estimated that 1,000 space launches per year could create a layer of black carbon particles capable of causing the loss of 5% or more of Antarctic sea ice.¹

A very cursory search of the internet reveals that the climate and ecological effects of space flight has not been extensively studied and is poorly understood. However, it is clear that ozone depletion, soot pollution – and its concomitant effects upon global warming and/or cooling, toxic gases that contaminate air/water/soil surround launch areas, the use of methane as a replacement for aluminium-based solid rocket boosters are all NEW problems that we invite in developing an aerospace industry.

We are unable to address the severe biodiversity, ecological and climate crises we are face with now, let alone intentionally creating more.

The development of an aerospace industry will actively contribute to NZ's GHGs and further threaten our very existence. It will likely do far more to hurt than help New Zealand efforts to develop a truly sustainable economy.

Question 8: Māori have an interest in being able to see the night sky and live in a country that isn't contributing to weapons deployment and spying capabilities of state parties and private companies. Brown-washing the sector by claiming Māori traditions are being enhanced through supporting the aerospace industry and therefore the growing arms race in space is offensive and potentially a breach of the Treaty of Waitangi. Five weeks consultation with little engagement of Māori is insufficient engagement for the Crown as Treaty partner and requires far more commitment to proper consultation and resourcing for Māori to develop our own understanding of the issues at stake. The night sky is a taonga that should be protected instead of increasingly being polluted with space junk from the aerospace industry. The Government needs to engage with Māori far

¹ Potential climate impact of black carbon emitted by rockets, *Geophysical Research Letters*.

<https://doi.org/10.1029/2010GL044548>

more widely before developing this strategy and needs to address the overall Space Policy and review of the relevant legislation and Treaty obligations before coming to Māori to discuss this kind of strategy.

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?

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

In Pillar 1 you say, "it will support the scaling up of commercial and research activity" this is offered up to us in the very same month that we learn that the country's only major radio observatory is to close by Christmas, in a move our astronomy society says will have a "detrimental impact" on our burgeoning role in the global space community. It seems that the NZ state is incapable of maintaining the very modest investment there is currently in any type of astrological research.

And it seems that the failure to invest in our already existing space research programmes isn't limited to the closing of the AUT radio observatory but to significant international programme you claim that you want to be involved in – and that matches up with this very aerospace strategy. In 2019 the [NZ Herald](#) reported, "Sticking with a global consortium to build the world's largest radio telescope would have committed the Government to making an extra investment in astronomy that it wasn't prepared to." The project is an important project that would have sought to, "answer fundamental questions about the universe, such as how it formed and evolved, the origin of cosmic magnetism, and whether there is life elsewhere in the universe."

We are deeply concerned that Pillar 3 is a government propaganda exercise. "We need to build a positive narrative that demonstrates the everyday relevance of the sector.." Given what we said at the outset of this submission about the interrelationship between the aerospace and arms business any moves to promote a "positive narrative" that is absent the facts is extremely concerning. Moreover, it is not the role of the state to sell an industry's "positive" narrative to its population.

Thus far, what we have seen of New Zealand's "space" industry is the launch of military satellites the true nature of which are classified, and the launch of private surveillance satellites, the true nature of which is extremely concerning. We are given little information on which to make truly informed decisions about what a beneficial space programme might look like.

We are given endless government cheerleading about how great Rocket Lab is, and the shameless government provision of funding for a private road to Rocket Lab's launch site at Mahia.

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?

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These goals are very confusing in terms of the wider strategy which is more about a space industry than the commercial aviation industry. If the strategy is intended to include the latter, then it would need to be rewritten with that in mind.

Goal One seems to conflate the aviation industry with the aerospace industry. While some companies are developing high altitude aircraft that can be reused, they are not the same thing. Flying airplanes and launching rockets is not the same thing, and it is bizarre to have a goal that is all about some sort of sustainable aviation industry (itself a highly contestable idea).

Goal Four also is weird and out of place. Why would sustaining a permanent presence in space be any more important than answering fundamental questions about the universe that could be done by funding, for example, a really good telescope? This isn't a goal that has any real relevance to the needs or aspirations of New Zealanders.

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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I would love for MBIE to go back to the drawing board, and take a step back to ask the much more fundamental questions about an aerospace industry.

- Around the globe, aerospace industries are intimately connected with military aerospace objectives and weapons companies technological developments. Does New Zealand have military objectives as part of the aerospace strategy?
- If there are military/national security objectives, how are these reflected in the strategy?
- What are the relationships between those objectives and NZ's international commitments?
- What are the risks, opportunity costs and threats associated with a military aerospace strategy?
- If this is solely the development of a commercial aerospace industry, what risks exist to New Zealand to engage with the aerospace programmes (and companies) that are closely tied to the militaries of other nation states?
- How are democratic processes, principles of openness and transparency, and territorial sovereignty honoured?
- Are there questions that can only be answered by the development of NZ's own aerospace industry or can we work collaboratively to build scientific expertise and technological capability?
- What are the respective Treaty partners obligations and rights and responsibilities in regards to aerospace activities and how they are being understood and enhanced through this strategy?