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Page 3: Submitter Information

Q1

Personal Information

Name	David Burr
Email Address	david.burr@fu-berlin.de

Q2

No

Are you making this submission on behalf of a business or organisation?

Q3

Yes

Would you like to be kept informed of the outcome of the Space Policy Review?

Q4

Yes

Are you happy for MBIE to contact you if we have questions about your submission?

Q5

Respondent skipped this question

Privacy

Q6

Release of Information

I understand that if there is other information in this submission that I do not wish to be released, I will email this to spacepolicyreview@mbie.govt.nz with the subject line "Release of information", together with my reasons for withholding the information and grounds under the Official Information Act 1982, for consideration by MBIE

Page 4: New Zealand's interests in space

Q7

Academic involvement on space issues

What are your interests and relationship to space? Pick as many as apply below:

Q8

Please note any other interests and relationship to space below that you would like to share.

I am a Kiwi currently living in Germany, working as a scientific researcher for the Experimental Biophysics and Space Science working group, at Freie University of Berlin. Specifically, I am working on an astrobiology exposure platform (Exocube) that will be mounted on the outside of the ISS in 2025. This work involves collaboration and close communication between our researcher group, space-engineering industry partners (Kayser Italia, OHB) and funding agencies (ESA, DLR). Additionally, I am part of the ESA Astrobiology and Astrochemistry Topical Team, and I have presented my research at several international conferences, including AbSciCon and COSPAR earlier this year.

Page 5: New Zealand's values in space

Q9

To what extent do you agree or disagree that these values should apply to New Zealand's space activities and engagements?

Innovation	Strongly agree
Responsibility	Agree
Stewardship	Agree
Partnership	Strongly agree

Q10

Respondent skipped this question

Are there any other values, or aspects of kaitiakitanga (guardianship), that you think should apply to New Zealand's space activities and engagements? For example, cultural values regarding space.

Page 6: New Zealand's space policy objectives

Q11

Rank these key policy objectives in order of importance to you: Click and drag to reorder the objectives from 1 (most important) to 5 (least important)

Growing an innovative and inclusive space sector	1
Modelling sustainable space and Earth environments	2
Promoting the responsible uses of space internationally	4
Protecting and advancing our national security and economic interests	3
Regulating to ensure space activities are safe and secure	5

Page 7: Growing an innovative and inclusive space sector

Q12

To what extent do you agree or disagree that these policy objectives will help the New Zealand government to grow an innovative and inclusive space sector?

Promoting New Zealand's natural advantage for conducting space activities, and research and development expertise across the space value chain	Strongly agree
Partnering within New Zealand and internationally to increase research and development capabilities	Strongly agree
Identifying opportunities to increase diversity in the space sector	Agree
Using cutting-edge space technology and space sourced data to support New Zealand's values and interests	Agree

Q13

Respondent skipped this question

Do you have any comments on these policy objectives? (e.g. any suggested change to how they are framed? Is there anything missing?)

Q14

Respondent skipped this question

Are there any other policy objectives that you think would help the New Zealand government to grow an innovative and inclusive space sector?

Q15

Do you have any questions or comments about what these objectives would mean in practice?

Specifically for objective #2 (partnering internationally); I believe that furthering international collaborations should be THE MOST critical goal for the NZSA. NZ should be contributing to international space science collaborations (eg. the ISS or the coming Lunar Gateway).

Specifically, I think it would be incredibly valuable to NZ to pursue becoming an ESA member state (similar to Canada). The NZSA promotes Haritina Mogosanu's awesome journey of applying for the ESA astronaut program, but this was only possible for her to pursue due to her Romanian heritage. With our proud history of exploration and innovation, it makes me sad that there is currently no way for Kiwi's (without dual citizenship like Haritina) to chase this dream of traveling to space.

The lack of government-level connections with international bodies such as ESA, has personally limited my job prospects in the space science field; I would love to apply for a post-doctorate role with ESA, however this is only available to Europeans or people from countries from an ESA member state (eg Canada). I feel a very strong connection with the NZ space science field, however, due to these reasons, I am seriously having to consider applying for citizenship in a European country.

Page 8: Promoting the responsible uses of space internationally

Q16

To what extent do you agree or disagree that these policy objectives will help the New Zealand government to promote the responsible uses of space internationally?

Advocating for effective international rules, norms and standards in space	Agree
Partnering with like-minded launch states to adopt peaceful, responsible and sustainable space practices	Agree
Collaborating internationally to increase New Zealand's influence and capabilities in the global space sector	Strongly agree

Q17

Respondent skipped this question

Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed? Is there anything missing?)

Q18

Respondent skipped this question

Are there any other policy objectives that you think would help the New Zealand government to promote the responsible uses of space internationally?

Q19

Respondent skipped this question

Do you have any questions or comments about what these objectives would mean in practice?

Page 9: Protecting and advancing our national security and economic interests

Q20

To what extent do you agree or disagree that these policy objectives will help the New Zealand government to protect and advance our national security and economic interests?

- | | |
|---|-----------------------|
| Use space assets to protect and advance New Zealand's national security and economic interests | Agree |
| Manage the broad range of security risks in space to protect New Zealand's space industry | Agree |
| Collaborate with international space and security partners to pursue New Zealand's national security and economic interests | Strongly agree |
-

Q21

Respondent skipped this question

Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed? Is there anything missing?)

Q22

Respondent skipped this question

Are there any other policy objectives that you think would help the New Zealand government to protect and advance our national security and economic interests?

Q23

Respondent skipped this question

Do you have any questions or comments about what these objectives would mean in practice?

Page 10: Modelling sustainable space and Earth environments

Q24

To what extent do you agree or disagree that these policy objectives will help the New Zealand government to model sustainable space and Earth environments?

- | | |
|--|-----------------------|
| Encouraging inclusive, sustainable space collaborations within New Zealand | Strongly agree |
| Assessing the cumulative impact of space activities on the Earth environment | Agree |
| Assisting with solving sustainability challenges through space data, including to better monitor or understand the Earth's environment | Strongly agree |
| Investing in New Zealand's capability to retain, grow, access and use sustainable space technologies | Agree |
-

Q25

Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed? Is there anything missing?)

Tied strongly to objective #2 (impact of space activities on the Earth environment), I think one aspect that has been overlooked is ensuring that the space environment is not unreasonably affected by our activities. The most obvious example of this is space debris, however, I would also like to highlight the biological aspects of this challenge.

With interplanetary travel becoming more frequent (eg. Rocket Lab's upcoming Venus mission), forward biological contamination (the accidental transport of microorganisms from Earth to other worlds), whilst seemingly unlikely, must seriously be considered.

Similar to NZ's strict control of invasive species, we must consider measures to prevent hitchhiker organisms from leaving Earth. Not only must this be assessed on a microorganism-level, but also when thinking about organic, biomarker molecules. The later is essential in preventing the detection of "false positives" during life detection missions.

I believe the NZSA should document specific biological cleanliness requirements for any missions to other planets or moons.

Q26

Respondent skipped this question

Are there any other policy objectives that you think would help the New Zealand government to model sustainable space and Earth environments?

Q27

Respondent skipped this question

Do you have any questions or comments about what these objectives would mean in practice?

Page 11: Regulating to ensure space activities are safe and secure

Q28

To what extent do you agree or disagree that these policy objectives will help the New Zealand government to promote the responsible uses of space internationally?

Facilitating the safe and secure use of emerging space technologies from New Zealand

Strongly agree

Clarifying what New Zealand space activities are inconsistent with the national interest

Agree

Promoting and protecting New Zealand's interests through permitting space technologies

Agree**Q29**

Respondent skipped this question

Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed? Is there anything missing?)

Q30

Respondent skipped this question

Are there any other policy objectives that you think would help the New Zealand government to ensure space activities are safe and secure?

Q31

Respondent skipped this question

Do you have any questions or comments about what these objectives would mean in practice?

Page 12: Regulating in line with our national interests

Q32

Respondent skipped this question

Are there any comments you would like to make about these criteria that inform consideration of the national interest?

Q33

Respondent skipped this question

What questions do you have about how the national interest is considered in practice?
