

# Responsible AI in Space

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## Introduction

As the space industry grows in value and technical capabilities, guidance is required to ensure the responsible use of AI systems in space.

The application of existing responsible AI regulatory frameworks and principles is unclear in the context of the space domain.

Regulatory guidance is needed to ensure confidence and trust in the quality and adoption of space AI systems.



## The Current Landscape

**International Law** - Existing international space law does not provide clear guidance for the use of AI systems in the space domain



**Industry Standards** – Organisations such as the ISO/IEEE and Standards Australia create standards to promote the responsible development of AI systems, but do not consider the unique nature of the space domain.

**Domestic Law** - Australia lacks dedicated AI law, and existing regulatory regimes are unclear in their application. Reforms have been suggested but are not yet being acted upon.



**Industry Self-Regulation** - Many 'responsible AI' guidelines and principles have been released by various organisations but lack the enforceability of legislation.

## Aim

To understand the state of Responsible Artificial Intelligence (RAI) regulatory and governance practices in Australia and around the world.

To develop tailored policy recommendations to fill the knowledge gap regarding the regulation of AI in space.

## Importance of Different RAI Principles to Respondents' Organisations

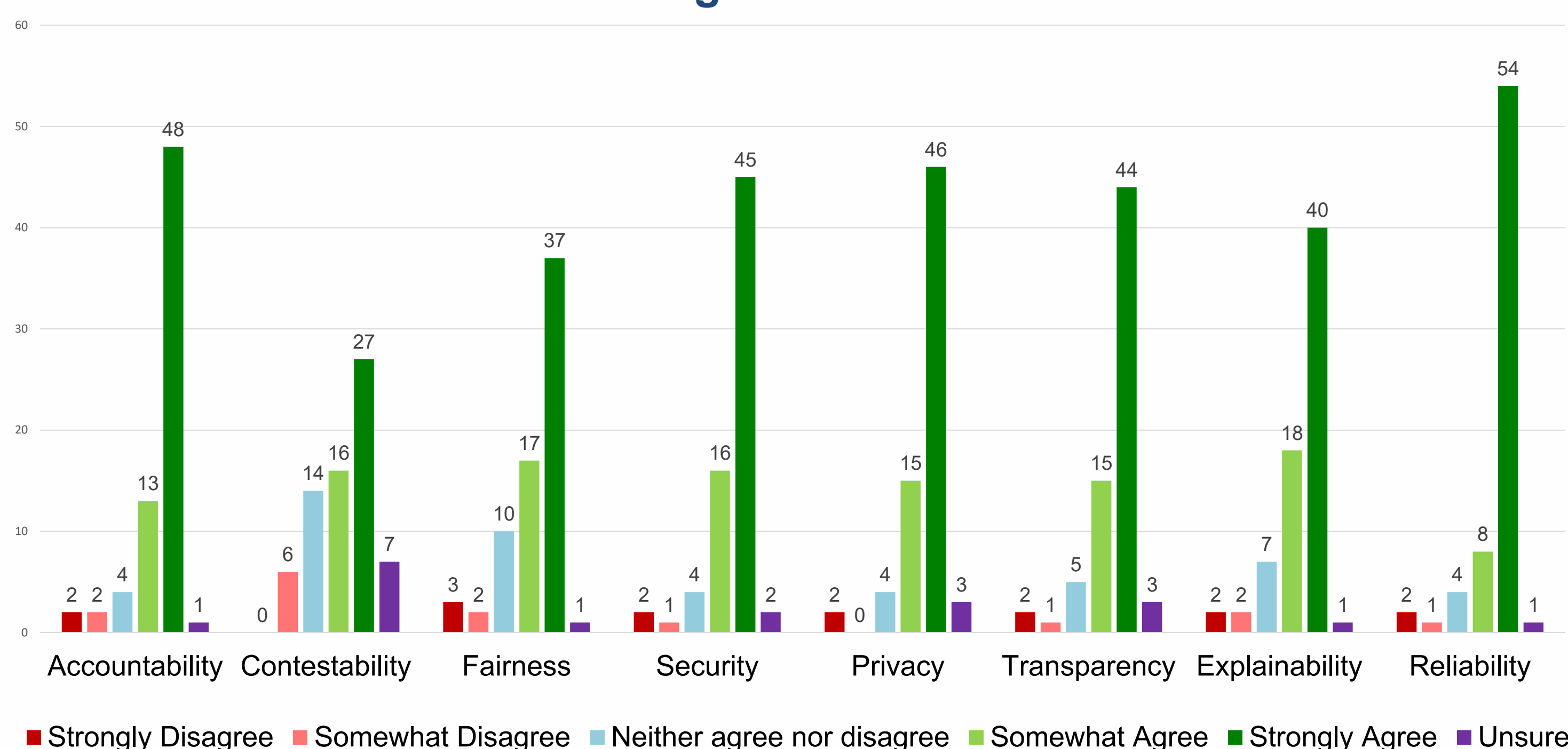
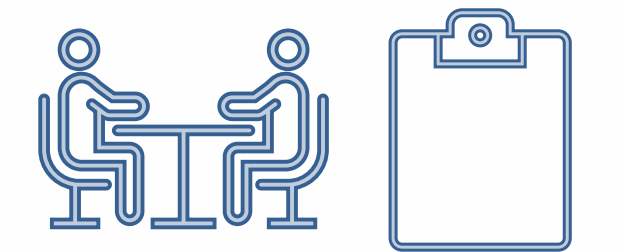


Figure 1: Reported importance of different RAI Principles to the operation of Respondent Organisations

## Methods



- Large scale survey and semi-structured interviews
- Targeting professionals and organisations in the Australian Space sector interacting with AI systems, plus experts in AI regulation & policy
- Focus on current 'responsible AI' practices, knowledge and opinions on possible future regulatory options for the sector

## Is additional regulatory guidance needed to ensure RAI in the space industry?

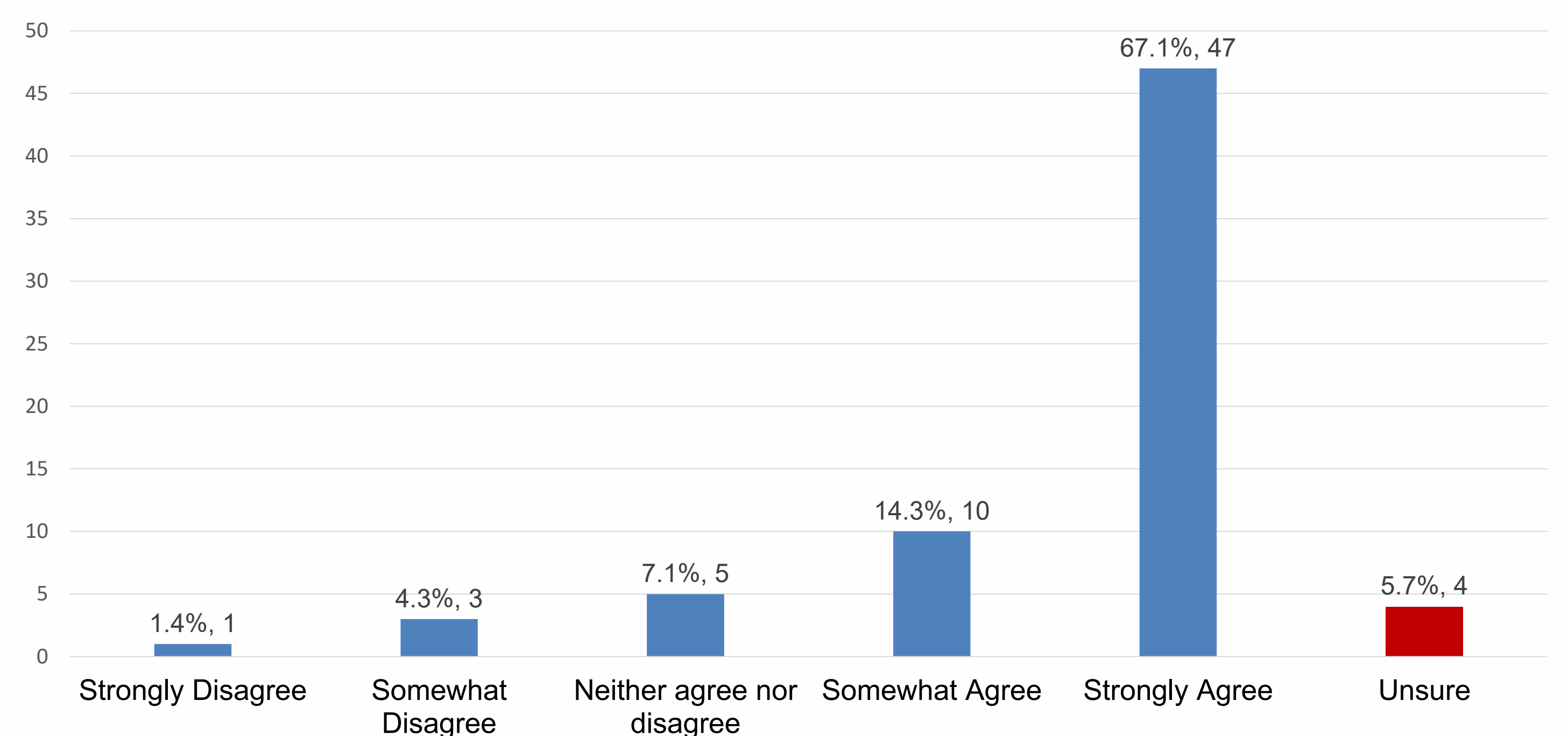


Figure 2: Respondent Belief that Additional Regulatory Guidance is Required to Ensure RAI in the Space Industry

## Is space industry specific RAI guidance needed?

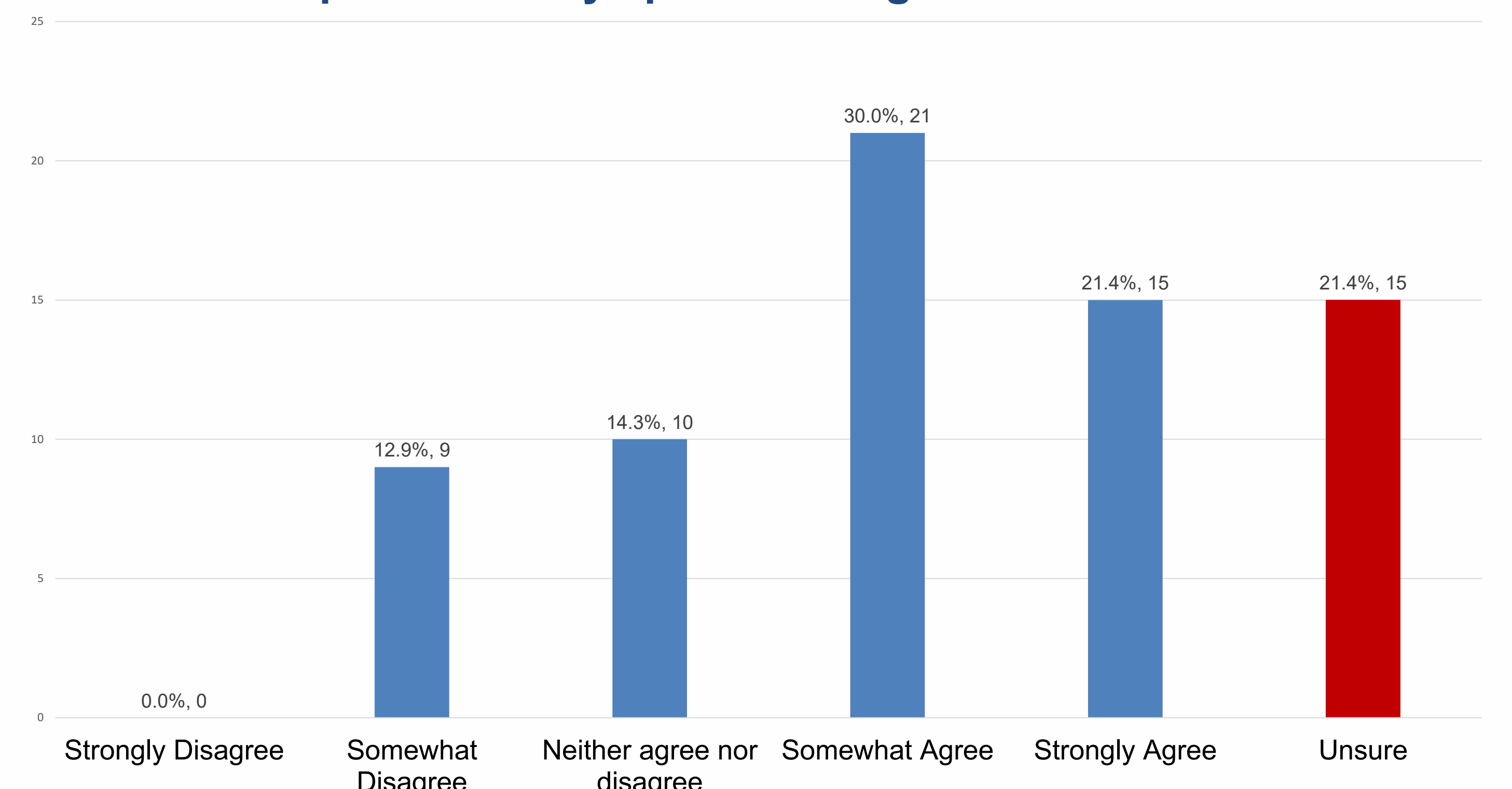


Figure 3: Respondent belief that space industry specific guidance is needed to ensure RAI in the space industry

## References

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- Graham, T., Thangavel, K., & Martin, A.-S. (2024). Navigating AI-lien Terrain: Legal liability for artificial intelligence in outer space. *Acta Astronautica*, 217, 197–207. <https://doi.org/10.1016/j.actaastro.2024.01.039>

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