

# Opinion - Getting Diversity 'Right' In Australia's Nascent Space Industry Matters

Written by Elise Stephenson

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ELISE STEPHENSON, JUL 28 2022

With all the hype around the first images from the James Webb Space Telescope recently, named after a man associated with the persecution of queer people in the “lavender scare” of the ‘50s and ‘60s, what does diversity in space look like? What can Australia (and other nations) do now to get it right from the start?

‘Space 2.0’ is forging unprecedented opportunities globally, increasing accessibility, improving technology, and rapidly growing the emerging space industry; not least supported by the launch of the Australian Space Agency in 2018. The development of the Australian space economy – encompassing the full range of activities and use of resources creating value in the course of “exploring, researching, understanding, managing, and utilising space” – represents an enormous opportunity. This is so not just for the usual suspects in international relations, but for women entrepreneurs, diverse engineers and leading First Nations policymakers. However, this can only truly be made manifest if we remember to be intentional about diversity in the space industry in the first place.

COVID-19 did not disrupt space exploration like it did almost every other industry – in Australia or globally. In 2020, SpaceX became the first private company to put people into orbit and NASA announced plans to take astronauts back to the moon. In 2021, China, the UAE, and more actors globally have announced new initiatives or missions, with the combined operational space fleets of China and Russia growing by 70% between 2019 and 2021. Equally, in Australia, the space industry is pitched to outgrow other sectors of the economy at an average 7.1 per cent growth per annum over the next five years.

At the same time, global measures for gender equality plummeted, with COVID-19 and other political decisions setting women back decades. Whilst both the space age and civil rights activism developed at the same time, they developed almost entirely siloed – not impacting on each other. In Australia, some of our foundational space policies and initiatives seem to have left out hard-won policy inclusions usually made in public/private sectors around gender and other forms of diversity. Indeed, whilst government’s 2021 inquiry *The Now Frontier: Developing Australia’s Space Industry* recommended that “the Australian Government develop a community education and outreach program to promote the diversity of employment, careers and opportunities within the space sector”, diversity (with regards to people) is only mentioned four times throughout the entire report. It is understood in a narrow sense too, often centred on workforce participation, with less emphasis on business/entrepreneurship, leadership, policymaking, and governance around space, nor any insight into funding and other pathways to achieve diversity. No specific measures, policies or initiatives are canvassed, and whilst the Space+Spatial Industry Growth Roadmap 2030 advocates for the establishment of a coordinating diversity and inclusion group for the space, spatial and surveying sectors, this is just the start of what is possible – and needed.

In addition to these gaps, high level missteps have resulted in cases like NASA’s landmark 2019 all-female spacewalk at the International Space Station being cancelled due to not having enough spacesuits on board that would fit women. Women and people of colour remain under-represented – with a ‘double jeopardy’ evidenced for women of colour in astronomy and the planetary sciences. Additionally, the potential economic rewards delivered by the space industry may be one-sided without intervention, given that women-owned business receive less than one per cent of procurement globally. Indeed, a 2021 EY report imploring Australian businesses to source at least 3% of

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their supply chain from women-owned business is a call to action not only dismally small, but also emblematic of the size of the opportunity. If the status of procurement for women-owned business is so low, the potential impact of developing women's entrepreneurship in the space economy is truly massive. But, without addressing procurement, we fail women's entrepreneurship as a viable path for individuals and national growth in the space industry.

Like other nations, the Australian government and the emerging space industry are evidently not stopping in their ambitions in space, yet, without dedicated focus on equality, progress is not guaranteed on its own. Our gains so far remain in 'pockets'. In fact, in 2018, Dr Megan Clark AC, a woman, was appointed First Head of the Australian Space Agency. Not only was this an historic appointment for Australia, but globally. Even so, while 2024/5 marks the date that the "next man and the first woman" make it to the moon, women comprise only a third of NASA's workforce and even fewer positions in the aerospace industry. Furthermore, research on gender and other forms of diversity in space governance and industry are still in its infancy.

As Space 2.0 introduces new types of actors into space, dedicated attention to what kind of industry and policy settings we are creating becomes more critical. Early evidence from space exploration and related fields, like artificial intelligence, demonstrate that technological progress can often build-in bias and inequality, potentially setting back progress made on gender and racial equality each time a new technological milestone is achieved. Ensuring that the rapid development of the space industry does not outpace our development of the right kind of governance and industry remains a crucial challenge.

Whilst we know from certain cases that women's inclusion in international affairs results in better decision-making and higher levels of collaboration and consensus, and the 'business case' for diversity can be made on moral and strategic grounds, currently diversity in space is not guaranteed. Although we have significant data gaps in understanding how inequality (gender, racial and so on) applies in space, an emerging field of space studies is pioneering new ways of imagining our space economy. This includes feminist approaches to space law, as well as the opportunities that the birth of new institutions have for embedding equality from the start. Likewise, with Australia's newly minted First Nations Foreign Policy, we have an obligation to ensure First Nations inclusion goes beyond tokenism to true representation, opportunities to participate and lead, and define what both Australia's space policy and economy looks like.

Given the centrality of diversity to promoting ethical international collaboration, extending national capabilities, and building diverse and talented future workforces, diversity, access and inclusion are not just nice to have – they are critical to the Australian space agenda. Ultimately, if humans ever manage to "colonise" space (a word I use with caution – there is good reason not to), we must be sure that it is not only one type of human who is represented. Every stage of the journey before this point is therefore critical to ensuring diversity.

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