United Nations
Office for Outer Space Affairs

SPACE FOR WOMEN

LANDMARK STUDY ON GENDER EQUALITY IN THE GLOBAL SPACE SECTOR

PHASE 2

United Nations

ST/SPACE/96

Publishing production: English, Publishing and Library Section, United Nations Office at Vienna.

UNITED NATIONS
OFFICE FOR OUTER SPACE AFFAIRS

Space4Women Landmark Study on Gender Equality in the Global Space Sector

Phase 2: Experiences of Women in the Global Space Sector and Gender Representation and Policy Uptake in the Private Space Sector

UNITED NATIONS
Vienna, 2025

ACKNOWLEDGEMENTS

The United Nations Office for Outer Space Affairs (UNOOSA) expresses its sincere appreciation to all women who contributed to this study by sharing their time, experiences, and insights into entering and advancing within the space sector, despite the numerous challenges. Their voices are central to the findings and impact of this report.

UNOOSA also acknowledges the valuable support received from a wide range of stakeholders who helped disseminate the call for participation and contributed to the success of this initiative. This includes Permanent Missions to the United Nations, national space agencies, civil society organizations, private sector entities, and advocacy groups. Special thanks are extended to our Space4Women partner, the Cosmic Girls Foundation.

This study was made possible through the generous financial support of the Republic of Korea, the Korea AeroSpace Administration, and the Korea Aerospace Research Institute, whose commitment to advancing gender equality in the space sector is gratefully recognized.

UNOOSA further acknowledges the contributions of Elise Stephenson, lead researcher, as well as Soyoung Chung, Anne-Claire Grossias, and Martin Stasko, who coordinated and supervised the production of this report.

About the Space4Women programme

Space4Women is a programme of the United Nations Office for Outer Space Affairs (UNOOSA) to promote women's empowerment in space. Space4Women encourages women and girls to pursue Science, Technology, Engineering, and Mathematics (STEM) education and raises awareness about career opportunities and the importance of gender equality and empowerment in the space sector.

Visit https://space4women.unoosa.org/ for more information.

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FOREWORDS

The space sector has long stood as a beacon of innovation, exploration, and human achievement. But can we truly honour these ideals while women – historically excluded – continue to be significantly underrepresented in the field today?

As our space endeavours grow more sophisticated and ambitious, so too must our efforts here on Earth – to ensure that the future of space is not only innovative, but inclusive, equitable, and just.

The *Landmark Space4Women Study on Gender Equality in the Global Space Sector* marks a vital step towards building a more inclusive future. In 2024, the first phase of this pioneering research successfully quantified women's representation across the global public space sector – revealing findings that are both troubling and, regrettably, all too familiar. Women currently make up just 30 per cent of the public space workforce worldwide, with representation declining sharply at senior leadership levels.

Building on the solid quantitative foundation established in the first phase, the second phase of the Space4Women Study takes a qualitative, data-informed approach to explore the lived experiences of women in the space sector. It examines the biases, barriers, and cultural dynamics they face – deepening our understanding of gender representation while uncovering the root causes of inequality. These insights are critical to shaping evidence-based policy and driving systemic transformation across the sector. This phase also expands the study's scope to include the private space sector, offering a more comprehensive and nuanced view of gender dynamics across the global space industry.

The findings reveal a complex and often contradictory reality. While many women recognize signs of progress, a significant number continue to face bias, unequal treatment, and a lack of respect compared to their male peers – highlighting the persistence of deep-rooted structural and cultural barriers. Frustration with unresponsive leadership and limited opportunities for advancement was also widely voiced, reinforcing the urgent need for institutions to move beyond rhetoric and translate inclusion into a lived, everyday reality.

Yet, the study also offers a beacon of hope. Findings suggest that the private space sector – particularly start-ups, entrepreneurs, and small- and medium-sized enterprises – is emerging as a leader in gender representation, with the potential to redefine what inclusive leadership looks like. This is more than encouraging; it signals a transformative opportunity. With their agility, innovative spirit, and growing influence, New Space actors are uniquely positioned to drive a more equitable and inclusive future in space – one that delivers benefits for all.

In light of these realities, the responsibility to act is collective and urgent.

Our foremost priority is to embed gender equality into both policy and practice, fostering an enabling and safe environment where all women and girls can thrive. This requires not only advancing inclusive frameworks, but also championing organizations that are already leading by example.

A key tool in this effort is our *Gender Mainstreaming Toolkit*, developed to help organizations integrate gender considerations at every level of their operations. We encourage its global use as a practical and strategic resource to build inclusive environments, catalyse systemic change, and ensure the space sector's future is shaped by diverse perspectives and equitable opportunity.

At the same time, we must empower women and girls – regardless of background or origin – to pursue the educational and career paths that inspire them, free from bias, barriers, or limitation.

The United Nations Office for Outer Space Affairs, through its Space4Women programme, remains firmly committed to advancing gender equality across the global space sector. By supporting evidence-based policymaking, promoting inclusive access to STEM education and fostering mentorship and research, UNOOSA is helping to lay the foundation for a more equitable, innovative, and sustainable space future.

We express our sincere appreciation to the Republic of Korea, the Korea AeroSpace Administration, and the Korea Aerospace Research Institute for their generous support and invaluable partnership in enabling this study. We are equally grateful to the many women who shared their experiences, as well as to our partners whose insights and dedication made this important work possible.

This study does more than provide evidence – it serves as a compelling call to action. For policymakers and stakeholders, aligning national and organizational strategies with this global effort is not only a matter of fairness; it is a strategic imperative. Inclusive space development is a powerful driver of innovation, resilience, and sustainable progress that benefits all of humanity.

Aarti Holla-Maini

Director
United Nations Office for Outer Space Affairs

As space activities continue to evolve, ensuring inclusive participation from all sectors of society becomes more essential than ever – not only because it is equitable, but also because it brings diverse capabilities and perspectives that enrich humanity's knowledge and quality of life. This is particularly true when it comes to women's participation, as women represent half of the world's population. The Space2030 Agenda reflects this imperative by calling for inclusiveness and gender equality in space activities.

Women and girls around the world must be part of space activities – not only as beneficiaries, but also as leaders and innovators. Yet global indicators consistently show that women remain underrepresented in the space sector. This is largely due to both overt and invisible systemic barriers – including deeply embedded cultural norms and institutional practices – that hinder meaningful progress without deliberate and sustained efforts.

Recognizing this challenge, the United Nations Space4Women programme serves as a platform for shared vision, informed dialogue, and collective action to drive lasting change. A key outcome of this initiative – the Landmark Study on Gender Equality in the Space Sector – marks a significant step forward in the global pursuit of gender equality. As its title suggests, this milestone represents the first comprehensive, global assessment of the status of women in the space sector.

Importantly, this study stems from the outcomes of the 2022 Space4Women Expert Meeting, co-hosted by the Republic of Korea and the United Nations. Among its key recommendations was a call for a standardized global approach to collecting and analysing data to measure women's participation in the space sector.

The support of the Republic of Korea for this study reflects lessons drawn from our own experience. When confronted with data revealing the low representation of women in our space workforce, our community responded with action: we implemented initiatives at both the grass roots and policy levels to advance gender equity – efforts that continue to this day. Our experience affirms a simple truth: meaningful change begins with understanding. This study embodies that principle and translates it into a global context.

The findings from the Phase 2 survey, together with those of the Phase 1 survey published in 2024, offer valuable insights into the realities faced by women in the space sector, highlighting persistent challenges with greater clarity and shedding light on previously overlooked issues. Moreover, the newly available data allow for deeper analysis and reflection, offering new perspectives and alternative approaches for future action.

It is our sincere hope that the insights and findings presented here will support countries in developing effective, evidence-based policies. More importantly, we hope this study will catalyse meaningful dialogue, foster broader collaboration, and drive concrete actions towards systemic change, led by all relevant actors across the global community.

We sincerely thank the United Nations Office for Outer Space Affairs (UNOOSA) for its leadership, and all contributors for their dedication to this study. The Republic of Korea is honoured to be part of the Space4Women programme and remains committed to standing with the United Nations and all partners in this collective endeavour.

Youngbin Yoon

Administrator
Korea AeroSpace Administration (KASA)
Republic of Korea

EXECUTIVE SUMMARY

Gender equality has a transformative impact on everything from individuals to institutions and innovations in the space sector. Despite this, the space sector has many data gaps when it comes to gender equality, hampering our ability to know what to do, and how to do it, and impacting individuals' experiences in the sector. Gender inequality in the sector has broader implications for talent retention, recruitment, and the sustainable uses of outer space.

This study builds on the Phase 1 *Landmark Study on Gender Equality in the Global Space Sector* and the UNOOSA Space4Women Expert Meetings in the Republic of Korea, Canada, and Kenya. This report comprises two parts, launching the UNOOSA Phase 2 research into gender equality in the space sector. The first part of this report focuses on **women's experiences in the sector**, while the second part provides information on **gender representation in private space organizations** and examines policies or interventions that advance gender equality. The purpose of both is to drive transparency, action, and progress towards equality and inclusion in humanity's ambitions in space. Not only is this critical to the Space2030 Agenda and the Sustainable Development Goals but it is also a moral and strategic necessity.

Part one of this research finds substantial challenges that require urgent action to make all roles and parts of the space sector safe, respectful, and conducive not only to representing the full breadth of humanity, but ensuring the sector can use the full range of diversity's benefits.

For most women, the decision to join the sector is a deliberate choice. But even so, there is a large proportion of women who find themselves incidentally employed in the sector and coming through non-STEM (science, technology, engineering, and mathematics) career paths, highlighting an opportunity for space sector organizations to draw more broadly from those who may not yet know what the sector involves and from those who do not only have STEM skills. Women are persistently more likely to agree that women are not equally encouraged to study subjects that are a natural path to the space sector, and that women do not receive the social evaluation and same respect, funding, and professional development opportunities as men in the sector.

Further, research insights provide critical new knowledge on women's experiences in the sector. On the positive side, a majority of women consistently agreed to feeling respected (67 per cent), valued (61 per cent) and safe (70 per cent) in their organizations. Most were either satisfied or extremely satisfied with their organization with regard to psychological safety, cultural safety, feeling respected, and feeling like they belonged. Most women were satisfied or extremely satisfied with their organizations' other benefits and conditions of employment and mobility

(e.g. support to travel or take up other opportunities, conferences, or events). It is also encouraging to note that a higher proportion of women were either satisfied or extremely satisfied (compared to dissatisfied or extremely dissatisfied) with pay and remuneration, other benefits and conditions of employment, mobility, professional development and future career opportunities. Most women were satisfied with their organization's flexible work (71 per cent), parental leave and other kinds of leave provisions (59 per cent).

On the other hand, women were least satisfied with their organizations when it came to feeling like their concerns were heard and actioned, with participants consistently more likely to respond negatively (or neutrally) to this question than other related questions. Almost half of women surveyed have experienced covert bias at some point since joining the sector, and just under one in five have experienced it in the last 12 months. Concerningly, one in three women experienced overt bias (33 per cent) and discrimination (33 per cent) at some point since joining the space sector. One in five have experienced bullying (22 per cent) since joining the sector. Additionally, approximately one in six (16 per cent) had experienced sexual harassment at some point and about one in 10 (10 per cent) had experienced physical harassment. Almost a third of women (33 per cent) did not feel represented, and almost half (46 per cent) neither agreed nor disagreed to feeling safe in their organization.

An intersectional analysis of responses revealed areas where women of some backgrounds experienced fewer or greater challenges. For instance, neurodivergent women shared many examples where their neurodivergence was a key asset and benefit to their work. Women with caring responsibilities also shared how they felt their responsibilities had given them the upper hand – greater empathy, resilience and time management.

Yet, despite these many positives, there were also numerous negatives depending on women's backgrounds. For instance, women with caring responsibilities, women with disabilities, and women from certain cultural and ethnic backgrounds shared the need to balance competing needs between work and home, feeling they had to work twice as hard as others not from their background, facing duplicated challenges, reduced mobility, a lack of workplace accommodations, experiencing bias and being seen as though they were not committed to the sector, and feeling like they did not "fit in". Workplace accommodations for disability and neurodivergence were often not provided or inadequate, as were facilities to support childcare. Additionally, many spoke about being sexually objectified by their colleagues or participants at conferences in the sector, with a lack of safety more generally in the sector a primary concern for women. Women also reported feeling devalued and discredited to a greater extent than their men colleagues, facing a "credibility gap".

Women recommended many initiatives that could help improve experiences in the sector. These include: hiring and promoting more women (achieving critical mass across roles and levels); implementing equal pay policies; embracing

candid discussions on challenges and what needs to change; increasing accountability and consequences for perpetrators of harassment and discrimination; providing data transparency on women's representation (across roles and levels); investing in mentoring programmes and outreach to women in the space sector; raising awareness and transparency of continued issues; supporting and encouraging networking groups, including women in space networks and UNOOSA Space4Women spaces; reframing space sector language and recruitment, in ads, on websites, and other communications to appeal to women; implementing targets and quotas; and showcasing role models of all genders that model behaviours (not just rhetorical commitments to gender equality).

Part two of this research reinforces strong pockets of proactivity and progression on gender equality. It adds new insights and much-needed updates to global data sets on women's representation, representing the most comprehensive case study into gender equality in small and medium-sized enterprises (SMEs) and start-ups in the space sector. Although the study does not claim to be representative of the private sector more generally, it does showcase unique insights from a selection of New Space actors who are punching above their weight when it comes to many metrics around gender equality.

For instance, women in the SMEs studied represent 31 per cent of employees overall, 40 per cent of management positions, and 39 per cent of leadership positions (c-suite or executive) – outperforming the public sector space organizations studied in Phase 1, where women represented 30 per cent of employees overall, 24 per cent of management and 21 per cent of leadership positions. Women in the SMEs studied also represented parity at 50 per cent of all board positions, compared to only 19 per cent in the public sector.

Many of the correlations between the policies and initiatives undertaken, and an organization's achievement of parity or near-parity, are similar between the private SMEs studied and the public sector organizations studied in Phase 1. This includes such organizations being more likely to have and use quotas, having policies related to gender equality, gender mainstreaming or women's leadership, ensuring equal representation in conferences and events, dedicating funding for gender equality initiatives, collecting data and contributing to research on gender equality, and voicing support for gender equality. Private sector SMEs who had achieved parity were also much more likely to use gender-sensitive funding or procurement principles, contributing to more gender-equal supply chains in the sector and demonstrating an appetite and commitment to such principles that could be strengthened through government policies.

This research recommends that private and public sector space organizations alike continue to contribute to research, encouraging others who have not yet participated – including sector primes and other actors – to contribute to this growing, wanted, and needed global initiative. The research also provides guidance and advice on policies and initiatives that may support organizations to boost their representation of women.

Overall, both parts of this report reinforce the need for: 1) strengthening commitment to gender equality research, initiatives, and goals; 2) expanding participation in research and engagement opportunities, through UNOOSA Space4Women and beyond; 3) taking a mixed approach to implementing gender equality interventions, encouraging organizations to invest in a mix of gender equality practices that have high impact (but often take longer to achieve) and those that have lower impact (but may be quicker or easier to achieve), and; 4) taking a "fix systems" not "fix women" approach to interventions.

Gender equality in the space sector isn't just about counting how many women are in the room – it's about who gets heard, who gets funded, who gets flight time, and who gets to stay.

Astronaut,
Eastern Europe

My dream [is]. . .
to represent my country, prove its commitment to space, and show that women can bear responsibility and achieve anything.

Scientist,
North-East Africa

Representation matters and it is possible to have that in a space organization.
In my organization, especially my division (highly technical, in other orgs mainly male dominated) I have always seen and felt represented. . .
We make an effort to hire diverse backgrounds and keep that representation.

Project/programme manager,
Latin America

INTRODUCTION

Understanding women's experiences and representation in the space sector is vital. Women have been underrepresented in the space sector since the sector began, and remain underrepresented in most domains, including leadership and technical roles. While women's representation has gained increasing attention, these analyses do not always reveal the full scope of *why* women may be underrepresented – and what we can do about it. This is one of the many roles of research on women's experiences, including that it helps organizations in the space sector better understand key barriers and challenges, as well as enables an opportunity to learn directly from women who make up an increasing proportion of this critical technology domain.

As such, there is much to celebrate, and much more that requires work, in our quest to achieve gender equality and contribute to the Space2030 Agenda. The year 2024 saw the launch of the United Nations Office for Outer Space Affairs (UNOOSA) *Landmark Study on Gender Equality in the Space Sector*, which represents the most comprehensive study of women's representation and policy uptake among public sector space organizations to date. As per this research, and wider studies, women remain underrepresented in the space sector, sometimes critically so. Yet, on the positive side, research is identifying many important correlations between the policies and initiatives organizations undertake and better representation of women, signalling areas for further investment and action.

Building on recommendations from the Phase 1 of the *Space4Women Landmark Study* and the Space4Women Expert Meetings in the Republic of Korea, Canada, and Kenya, this report goes beyond understanding women's representation, to understand their experiences. This study seeks to understand how we can enhance the experiences of all in the space sector, learning from individual narratives and accounts. Not only is this understanding a critical moral imperative for humanity, but it is also a strategic necessity for humanity to be able to achieve its goals and ambitions in space, helping to shore up talent recruitment and retention and identifying gaps in the leaky pipeline where women's contributions are under-recognized and lost.

Part 1 of this report encompasses 505 responses collected through key informant interviews, focus groups and a survey of individuals in the space sector. Participants represent over 70 nationalities, across a span of public sector, private sector and intergovernmental organization employment and a range of roles and responsibilities. Survey participants were asked 18 main questions and 16 demographic questions, collecting mixed quantitative and qualitative data, while key informant interviews and focus groups followed an interview guide that allowed the research to explore research trends and overarching observations in women's experiences in more qualitative detail.

This study provides much-needed insights enabling the sector to track and celebrate progress, while shining a light on critical issues hampering equality and impacting women in the sector. The study provides an analysis of motivations and pathways to space, perceptions of gender equality in the sector, experiences in the sector and in organizations specifically, as well as some limited regional comparisons. The data also provide insights on what participants report works, and does not work, when it comes to achieving gender equality in the sector, contributing to recommendations and future directions for research. For individuals and organizations alike, this study provides important data, ideas and benchmarking, to enable improvements in the space sector.

Part 2 seeks to repeat many of the questions and research methodology used in Phase 1 research on gender representation and policy uptake in the public sector, but applied to the private sector. This enables a more holistic understanding of gender representation and policy/initiative uptake in the space sector as a whole. It seeks to understand: where are the women in the private sector of space? What interventions are most correlated with closing gender gaps in representation?

Part 2 comprises a case study of 41 private sector organizations in the space sector. These organizations are primarily small- and medium-sized enterprises (SMEs) and largely represent New Space actors that are, in comparison to the public sector, punching above their weight. While not claiming to be a study representative of the private sector of space, this study nonetheless provides an important insight into start-ups and SMEs that are increasingly active in playing a role towards achieving gender equality. The results from this case study provide much-needed insights enabling the sector to track and celebrate progress, while shining a light on critical issues hampering equality and impacting women in the sector. The study provides an analysis of gender-representational data, across levels and positions, alongside a study of policy and initiative uptake. This provides impetus for organizations seeking data, ideas and benchmarking, and provides suggestions on the next steps and actions that organizations can take.

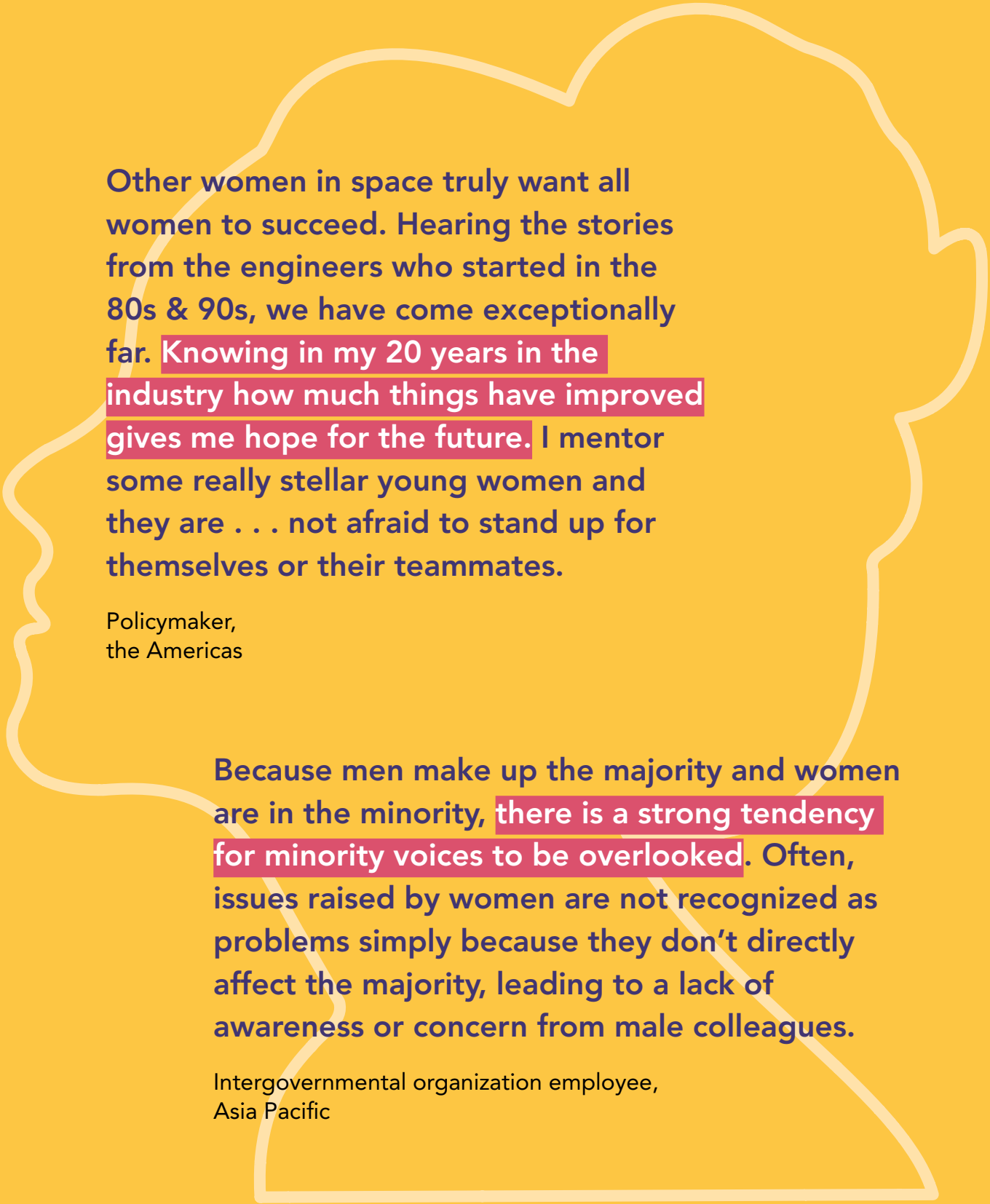
Why gender equality matters in the space sector

Gender equality in the space sector is crucial for several reasons. As in society generally, gender equality in the space sector matters because it is both the right thing and the smart thing to do. Gender equality is correlated with and contributes to innovation and productivity, global collaboration, moral and ethical imperatives, decision-making, comprehensive research and development, and fulfilling the Space2030 Agenda and Sustainable Development Goals.

For instance, research finds that diverse teams are correlated with varied perspectives and ideas, driving innovation and improving problem-solving – which may be particularly useful to overcoming obstacles that may arise in future long-term missions to outer space.[1] This diversity is correlated with enhanced productivity and profitability in organizations, as well as lower levels of groupthink.[2]

Gender equality is also correlated with strengthened international collaboration and consensus-building – key elements for addressing global challenges in space exploration and use.[3] Additionally, increasing women's participation in the space sector provides inspirational role models and visible career pathways that may inspire future generations of women and girls to pursue space careers. Over time, this is likely to contribute to addressing significant talent gaps and providing more equal and representative decision-making on space activities for the benefit of all humanity. As research and development remains central to this highly technical, innovative sector, gender balanced representation in the sector may help ensure that research and exploration considers diverse human experiences, such as understanding female physiology in space environments and other aspects crucial to any human futures in space, from extended missions to settlement. Indeed, research highlights, for instance, the potential advantages of all-female crews during future human space exploration missions due to lower resource requirements (e.g. water, food) during space exploration missions compared to male counterparts.[4] The benefits of equality in the space sector are therefore far-reaching and urgent.

Ultimately, there are moral and ethical imperatives to gender equality in the space sector. Ensuring equal opportunities for women and historically marginalized groups in the space sector aligns with broader societal values of fairness and justice, promoting a more equitable world.[5] This is also in alignment with the Outer Space Treaty 1967, which states: "… the exploration and use of outer space should be carried on for the benefit of all peoples…".[6] Further, the Space 2030 Agenda emphasizes space as a driver of sustainable development. Gender equality is integral to this vision, from space accessibility to ensuring benefits of space exploration and technology are inclusive and equitable.[7] Pursuing gender equality in the space sector supports the Sustainable Development Goals (SDGs) including SDG 5 (Gender Equality), SDG 4 (Quality Education), SDG 9 (Industry, Innovation, and Infrastructure) and SDG 17 (Partnerships for the Goals).



Other women in space truly want all women to succeed. Hearing the stories from the engineers who started in the 80s & 90s, we have come exceptionally far. Knowing in my 20 years in the industry how much things have improved gives me hope for the future. I mentor some really stellar young women and they are . . . not afraid to stand up for themselves or their teammates.

Policymaker,
the Americas

Because men make up the majority and women are in the minority, there is a strong tendency for minority voices to be overlooked. Often, issues raised by women are not recognized as problems simply because they don't directly affect the majority, leading to a lack of awareness or concern from male colleagues.

Intergovernmental organization employee,
Asia Pacific

LITERATURE REVIEW

The following provides an overview of the literature on gender equality in the space sector, with respect to 1) the **experiences of women** and 2) the **representation of women in the space sector**. While it is not exhaustive, it is intended to provide a brief global overview of trends from the available literature, providing a basis to explore the data collected for the Phase 2 of the Space4Women Study led by UNOOSA.

Women's experiences in the space sector

The experiences of women in the space sector broadly mirror trends evidenced in the STEM sector more generally. Even women's experiences as astronauts share some similarities with other kinds of analogous environments, such as women's experiences in related aviation and aerospace fields. Despite some of these similarities, there is high value in specific understandings of how experiences in the space sector differ by gender, a topic of research largely overlooked in the global evidence base. Men have often been assumed either as the main unit of analysis or as a perceived gender-neutral way to understand human experiences[8] – more generally and in the space sector. As such, there are many gaps in understanding how women get to, stay in, and grow in the space sector.

There are many positive aspects to women's experiences in the space sector, which align broadly with non-specifically gendered experiences of the space sector. This includes opportunities for mobility, meaningful work that furthers humanity's potential, science and innovation both in space and on earth, and the ability to work collaboratively across disciplines and nations.

Yet there are also a range of challenges that have specific gendered implications for women and minoritized groups. Many of these challenges have bases in long-standing systemic biases that have led to differences in how groups (across gender, ethnicity, experiences of disability, sexuality, and so on) are treated. Gendered challenges are usually grouped at three different levels: the individual level, organizational level, and systems or structural level. There is a high degree of overlap between these three levels. For instance, a lack of flexible work arrangements or parental leave at a national or organizational level also impacts on women's experiences at the individual level, such as women's decision to step away from the space sector workforce entirely if adequate flexibility, leave or family support is not available. Thus, women's individual choices can be seen to reflect individuals' wishes or desires within a constrained-opportunity environment.

Acknowledgement of the impact of structural and organizational factors is significant. It allows researchers and practitioners alike to press beyond what at

a surface level might look like women's intrinsically different choices (e.g. the choice to do more part-time than full-time work), to instead focus closer on the organizational and structural factors that either enable or constrain women's and men's different choices, and therefore experiences, in the space sector. This is in alignment with other studies. For instance, in their study of gender and STEM fields, the International Network of Women Engineers and Scientists (INWES) and Association of Korean Woman Scientists and Engineers (KWSE) argue that much current work focuses on changing or "fixing" women – not systems.[9]

The analysis by Stephenson et al. in Australia found that gendered issues in the space sector centred on structural or organizational level challenges primarily, such as problematic assumptions or stereotypes, harassment and experiences of intersecting sexism, ageism, ableism and racism, and a lack of safety within the sector. This sometimes stemmed from a lack of available or effective policy as well as pervasive gendered beliefs, norms, practices and attitudes. Some private sector actors tended to focus on "pipeline" issues – such as there not being enough women to recruit into the space sector or to change organizational structures to be more supportive of women (akin to studies advocating for a "critical mass" of women to change organizational culture). On the other hand, women and minoritized participants tended to identify the barriers as not relating to a lack of interest or lack of talent/pipeline, but rather as a problem of workplace conditions. For instance, in the United Kingdom, where it is a legal requirement for public authorities to publish the gender pay gap on an annual basis, the United Kingdom Space Agency reported in 2023 to have a nearly 50/50 split between men and women in the workforce, but a pay gap of 6.2 per cent.[10] The pay gap also exists in the wider space sector in the United Kingdom.[11]

In terms of joining the space sector, research highlights that such male-dominated industries pose several challenges to recruitment and retention. An extension to Stephenson's study looked at experiences *globally* in the space sector.[12] Comprising almost 400 respondents across focus groups, interviews and surveys in over 60 countries worldwide, Stephenson found evidence of gender pay gaps more broadly in addition to perceived differences in credibility, with women and other minorities groups perceived as less credible or expert in the sector. Women founding space sector start-ups reported challenges in accessing funding, which fits more broadly with research on women founders and entrepreneurs, such as that women-founded start-ups received only 2 per cent of venture capital funding in Europe and the United States in 2023 or that women-owned enterprises receive less than 1 per cent of total global procurement.[13] Respondents also reported "informal criteria" relevant to some space sector roles that had a gendered impact – such as employers often looking for evidence of extracurricular activities or experience coding, tinkering, and building in their free time, a reality not possible for all women or not encouraged due to gender norms. A lack of job security, particularly in countries with small or highly contingent space sectors, was also a compounding factor impacting women's choice to stay in – or leave – the space sector.

Other research points to issues such as competition for talent with other sectors, uncompetitive pay, difficulties in recruitment internationally, a skills gap and lack of development opportunities.[14] Education and other pathways to space careers also show gender differences. A study of over 8000 students in 11 European countries found that enthusiasm for space science was evident for all genders, yet fewer girls were interested in pursuing a career in space science.[15] There are many dynamics behind such gendered differences in space science career interest. We know from broader research that there remains an importance for role models, organizational culture and conditions that support diverse workers, and messaging and communication that appeals to diverse workers, among other things. While space careers involve all kinds of professions, from scientists and engineers, to educators, lawyers and policymakers, and everyone in between, space careers are typically associated with STEM professions and many of the imbalances in STEM education more generally may contribute to "pipeline" issues. To add to this, more research is needed on retention.

The African Girls/Women in Space Robotics initiative of the Nigerian Space Agency (operating across Benin, Cameroon, Gambia, Ghana, Kenya, Nigeria, South Africa and Zambia) identifies several socioeconomic opportunities and challenges for women. These include a lack of support and funding limitations for space robotics projects, a lack of infrastructure, a lack of technical know-how in space robotics technology, and a lack of space agencies in many African countries. Themes such as a lack of interest, family pressure, lack of role models, and lack of visibility of the space sector as a viable path for women to pursue were all found by the Regional Academy of the United Nations in 2019 as barriers to higher recruitment of women. Despite this, in the Space4Women *Landmark Study of Gender Equality in the Space Sector* led by UNOOSA, the African nations that participated in the study contributed to Africa as a region leading in terms of women's representation in the space sector. This highlights that there is more to learn from African countries when it comes to policies and practices that may benefit women's greater representation and equitable experiences.

In planetary science research, Liemohn et al note that deep-rooted systemic biases are evident in both implicit and explicit forms in space physics, resulting in dramatically different experiences for minority researchers as compared to their majority counterparts.[16] These trends combine with findings more generally for women in science research, with research highlighting that women are often subject to higher expectations from reviewers in addition to structural barriers that may push women off the career ladder. They are also underrepresented in scientific authorship.[17] The INWES and KWSE 2021 report on International Perceptions of Gender Barriers in STEM[18] found that women were much more likely than men to believe they had been personally affected by gender barriers in STEM. Women were also more likely to believe that women did not receive the same social evaluation and respect as men, and that women's work was not equally appraised or rewarded. Men were more likely to disagree to introducing quota systems or affirmative actions to solve gender inequality in STEM.

An Australian Centre for Space Governance study in 2024 found that men were more likely to provide a positive rather than a negative opinion on space activities, suggesting gendered differences in perspectives towards space.[19] In this study, women felt they possessed less knowledge and interest in space technologies and activities, with the authors reflecting that women's underrepresentation in the STEM and space workforces may partially contribute to this. Further, girls and women are more likely than men to underestimate their knowledge of science and technology if they are in non-STEM fields, and men continue to dominate the space sector both in their real proportion of space sector workers as well as high-profile roles and thought leaders in the sector. These dynamics may also have relevance for the themes raised in the Nigerian Space Agency research, regarding "lack of interest" among women in space robotics.

There remain many gaps in understanding gendered differences in the space sector. This includes understanding how gender impacts what gets prioritized and funded, and who gets to take key decisions in the global space sector. Suggestions for such analysis were provided at the Space4Women Expert Meeting co-organized by UNOOSA and Canada in 2023, with Breslin making suggestions such as analysing women's influence and power in positions of leadership, and how women's needs and priorities are accounted for and backed with adequate finance in the space sector.[20] Additionally, there is more potential to apply a gender lens to creation, access and use, and monitoring and accountability across the space sector. This includes understanding who creates inputs, processes and outputs, seeking to understand and account for women's differentiated perspectives, needs and realities in space activities, policies and developments. Questions remain around women's access to and use of space technologies and space opportunities. Additionally, ongoing monitoring and accountability is needed across a spectrum of activities, from the impact of different initiatives on increasing women's representation and improving their experiences, to understanding the impacts of different space technologies and decisions on women and girls.

Gaps also exist in terms of methodological rigour and research depth and scope. In particular, the literature could benefit from more in-depth case studies as well as more national and regional-level studies with a significant number of individuals. Additionally, studies may be needed on how the space sector is navigating backlash and pushback to gender equality, alongside more robust studies of the "push factors" impacting retainment of women in the space sector, and the efficacy and impacts of initiatives working towards gender equality in the sector.

Gender representation in the space sector

The UNOOSA Space4Women *Landmark Study on Gender Equality in the Space Sector* in 2024 presented leading data on women's representation in the space sector, highlighting significant gender imbalances in the global public sector space workforce. Women represent only 30 per cent of this workforce, with an

even lower proportion in senior roles – 24 per cent in managerial positions, 21 per cent in leadership roles, and just 19 per cent on boards. In scientific and technical roles and astronaut training programmes, women are significantly underrepresented compared to education and outreach roles, where they tend to be overrepresented. Women are also overrepresented in part-time work proportional to their representation overall in the sector, indicating further work is needed to ensure equal uptake of caring responsibilities and support for different kinds of flexible work arrangements and leave provisions (e.g. care leave, parental leave).

The study also revealed regional variations, with African countries in general leading in terms of gender representation, achieving near parity in some cases. However, other regions – such as the Asia Pacific, Western European and Other States, and Latin American and Caribbean States – lag, particularly in leadership and horizontal career segregation (e.g. men overrepresented in scientific and technical roles, while women remain overrepresented in human resources, education and outreach roles).

Key factors within organizations that correlate with higher levels of women's representation include adequate policies on harassment and discrimination, equal pay, public commitments to gender equality, and initiatives encouraging women and girls to pursue STEM education. Setting targets or quotas, collecting data on gender, having informal support networks and dedicated funding for gender equality are all measures that correlate strongly with women's equal or near-equal representation in the space sector. Further work to engrain data collection and research initiatives is advised, as is organizations taking a mixed approach utilizing both a) low impact but easy to achieve initiatives (such as making public statements supporting gender equality) and b) high impact but harder to achieve initiatives (such as setting a national strategy for gender equality in the space sector, with commensurate funding and power to act).

Compared to the UNOOSA landmark study, there is less comprehensive research available on the private sector space workforce, with data only available in some geographic locations. According to the OECD report on the Space Economy for 2019, women represent only 20 per cent of the space workforce. It is reported that these statistics have remained largely unchanged for the last 30 years.[21] Further, women make up an even lower proportion of prominent space roles; for example, women comprise just 11 per cent of astronauts worldwide.[22]

Focusing on women's representation without addressing broader issues that create barriers to their success and full participation in the space sector is insufficient, however. In alignment with other studies globally, approaches to increasing women's representation that do not also consider women's experiences are incomplete. As the INWES and KWSE 2021 report on International Perceptions of Gender Barriers in STEM highlighted, "just increasing the number of women . . . does not necessarily mean that gender barriers and issues disappear".[23] This reinforces the need for both Part 1 (on experiences) and Part 2 (on representation) of this report.

I experience "feelings" of covert discrimination that I don't necessarily have evidence for, but will notice a pattern over time that I can only attribute to gender inequity in my field. For example, work opportunities that just "happen" to land with my male colleagues, promotions that just "happen" to always land with my male colleagues instead of me, tones of messages and emails received from male colleagues being different to what my male colleagues receive, assumptions that my knowledge must not be as advanced as my male colleagues, "mistakes" being made where I am assumed to be in HR and not an engineer. Each of these things are generally small incidents which snowball into a strong feeling of not feeling like I belong. In space – the standards of performance are high and people are generally very passionate about their field, so if you don't fit into the elite stereotype (generally white, cis, straight male) you can be ostracized.

Engineer,
Asia Pacific

METHODOLOGY

This research comprised a mixed methods qualitative and quantitative study undertaken from February to July 2025. The following explores data collection and analysis, participant demographics, data sharing and ethics, and study limitations.

Data collection and analysis

To gain participants, multiple strategies were used, including outreach via formal invitation by way of a Circular to all United Nations Member States and international governmental organizations, direct email invitation sent to individual space agencies and research institutions, direct email outreach to individual space sector workers and space associations, and social media posts led by UNOOSA, Cosmic Girls, and the lead researcher to share the call for participation.

Part 1

Multiple data collection methods were utilized to derive a total sample of 505 participants who contributed to this study. This included participation in the following three data collection activities:

1. Key informant interviews (N=5)
    a. Held with senior leaders and thought leaders across the space sector, to gain key overarching perspectives and guidance on the research.

2. Focus groups (N=13 across 5 focus groups)
    a. Held with five groups across regions to test ideas and go further in-depth in order to better understand women's experiences.
    b. Regional groupings included Africa and the Middle East (10 April); Asia Pacific and Oceania (11 April); Latin America (10 April); North America (10 April); and Europe (11 April).

3. Survey (N= 487)
    a. Hosted via SurveyMonkey, comprising 35 questions (open-ended and closed-ended) designed to gain qualitative and quantitative data on women's experiences.

Participants were asked a range of questions, including a series of questions on their demographic details as well as their perceptions on gender equality in the sector, their experiences, and their recommendations on what has or has not worked. A full list of questions are provided in the appendix.

This research methodology allowed for triangulation of data via multiple approaches. Data were analysed according to commonly recognized gender-based research principles, seeking to understand structural, organizational and individual level challenges and opportunities. Qualitative, open-ended responses were coded and organized into themes, which were assessed for internal and external homogeneity. Closed-ended questions most typically used a five-point scale (e.g. strongly disagree, disagree, neither agree nor disagree, agree, strongly agree) to test perspectives relating to gender equality and the space sector.

Part 2

Data were collected via a survey distributed on SurveyMonkey comprising 23 questions (open-ended and closed-ended), repeating UNOOSA Space4Women Phase 1 questions previously developed for the public sector. Five additional questions were added to capture organizations' approaches to and adequacy of childcare, their knowledge of organizational gender pay gaps, and whether companies had recently started, or stopped, any initiatives relating to gender equality or diversity, equity and inclusion (DEI). These questions are provided in the appendix.

Data were cleaned and analysed by question to gain an understanding of gender representation overall, by level of employment (e.g. leadership, management), and role. Additionally, the prevalence of policy and initiative uptake among participating organizations was explored, followed by an analysis of new questions relating to childcare, pay gaps and recently stopping/starting new initiatives, to understand the private sector's appetite for action around gender equality. Further analysis tests the correlation of key factors (e.g. policy and initiative uptake) with descriptive representational statistics, without claiming causal effect, to inform a partial understanding of what may be working when it comes to organizational commitments and gender equality.

Participating entities and demographic details

Part 1

Participant demographics are outlined below. Among participants, 99 per cent identified as female or a woman, with 1 per cent using a different term or preferring not to say. One in ten (10 per cent) identified as Indigenous. 7 per cent had a disability and 3 per cent preferred not to say. 15 per cent identified as neurodivergent and 4 per cent preferred not to say. 40 per cent had primary caring responsibilities (of children, parents, wider family, people with a disability, etc.).

Participants fulfilled a range of roles in the space sector, with the largest in scientist or technical roles (40 per cent), followed by project or programme management (15 per cent), legal or policy roles (9 per cent), education and outreach roles (9 per cent), and other (9 per cent). A smaller proportion of participants held business development and financial roles, human resources and administrative roles,

advocacy roles, student roles, entrepreneurship roles, product management roles, and astronaut roles. Women were predominantly employed in the public sector (43 per cent), followed by private sector (36 per cent) and intergovernmental organizations (15 per cent).

Ethnically, half of participants (50 per cent) identified as European, 16 per cent from the Americas, 14 per cent from Asia, 6 per cent from Africa or the Middle East, 4 per cent from Oceania and 10 per cent from another ethnic background. Participants from 65 countries globally are represented, as in the table.

Table. Participant demographics – nationality

Western European and Other States	Africa	Latin American and Caribbean States	Asia Pacific	Eastern European States
Australia	Botswana	Argentina	Bahrain	Armenia
Austria	Cameroon	Bolivia	Brunei Darussalam	Bulgaria
Belgium	Egypt	Brazil	Cambodia	Hungary
Canada	Ethiopia	Chile	China	North Macedonia
Denmark	Ghana	Colombia	India	Poland
Finland	Kenya	Ecuador	Indonesia	Romania
France	Namibia	Jamaica	Jordan	Russian Federation
Germany	Nigeria	Venezuela	Kazakhstan	Serbia
Greece	Senegal		Malaysia	Slovakia
Israel	Sudan		Maldives	Ukraine
Italy	Tunisia		Oman	
Luxembourg			Pakistan	
New Zealand			Philippines	
Portugal			Republic of Korea	
Spain			Singapore	
Sweden			Tajikistan	
Türkiye			Thailand	
United Kingdom				
United States of America				

Figures 1, 2 and 3 show participant demographics. **Figure 1** shows participants' type of role.

Figure 1. Participant demographics – type of role (%)

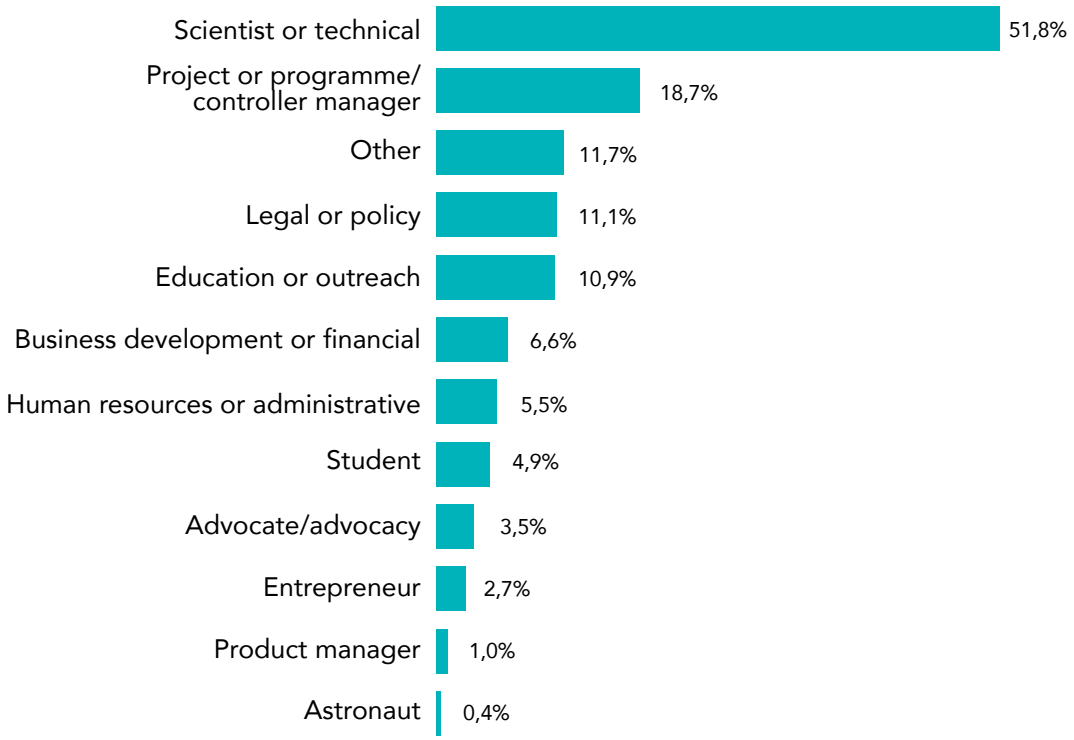


Figure 2 shows participants' work sector within the overall space sector.

Figure 2. Participant demographics – sector of work (%)

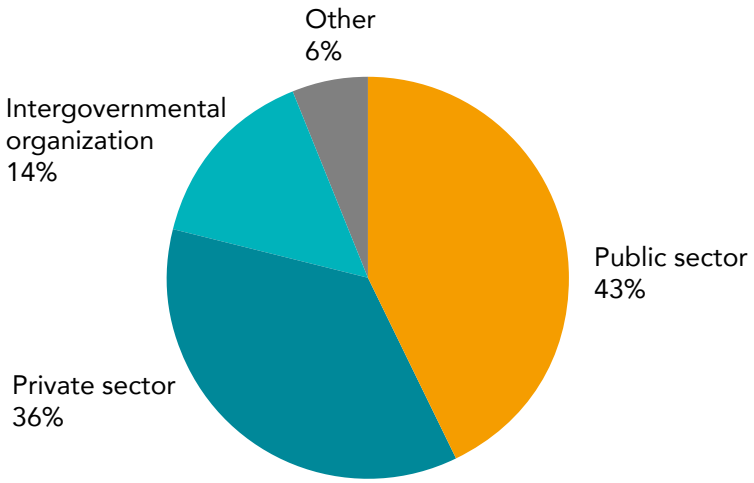
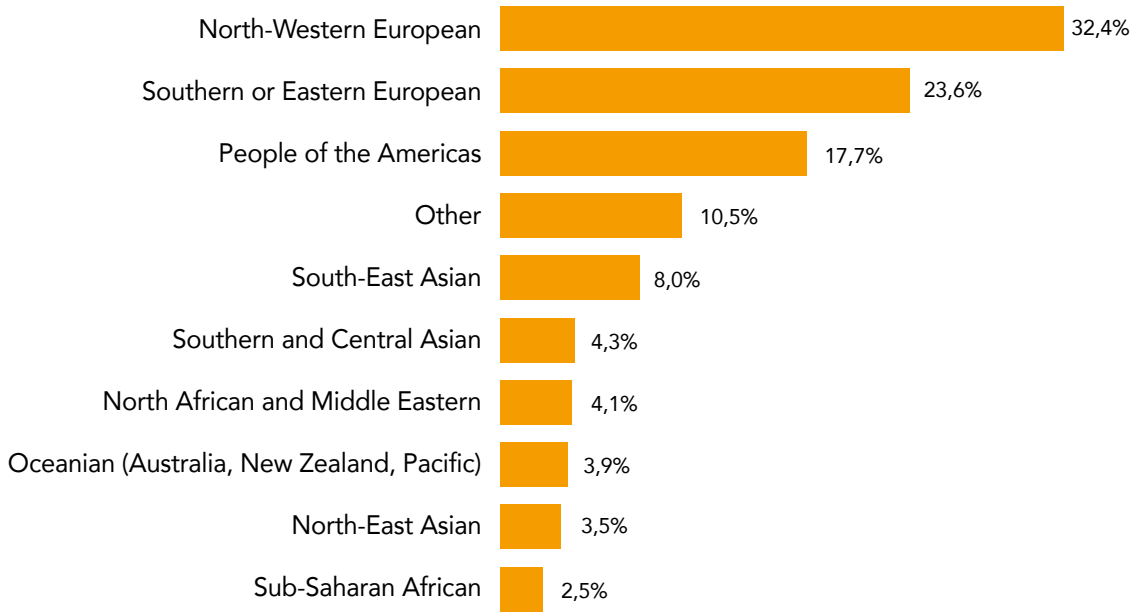


Figure 3 shows participants' ethnic backgrounds.

Figure 3. Participant demographics – ethnicity (%)



Part 2

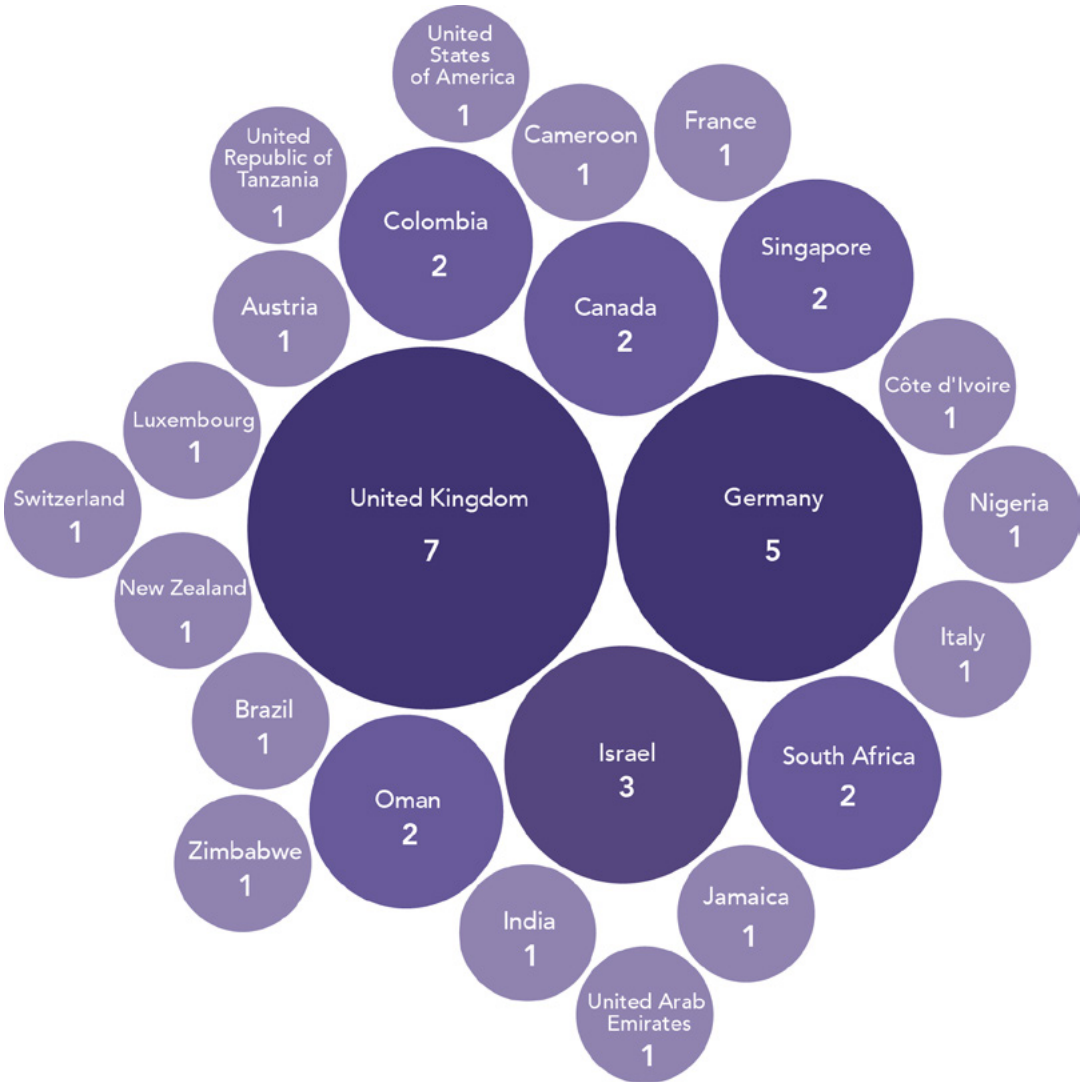
Private sector space organizations from every country and region were invited to submit data, as per the outreach method explained above. We received 101 entries in Survey Monkey, 41 of which remained complete after incomplete submissions and duplicates were removed. The 41 organizations who submitted data operated across 24 nations in total, as in **figure 4**. Further, the organizations tended to be young and small, primarily representing New Space small- and medium-sized enterprises and start-ups. On average, the organizations comprised 55 employees.

Data sharing and ethics

This data set was collected and processed in accordance with the principles outlined in the United Nations Rules and Regulations (ST/SGB/2024/3) on data protection and privacy policy for the Secretariat.

A mix of aggregated and disaggregated data and analysis is published in this final report, based on the data reported directly by individuals in the space sector. It is intended that the complete, de-identified and cleaned data set be published at a later date for additional analysis or presented to audiences through academic/non-academic outlets, respecting the United Nations Rules and Regulations.

Figure 4. **Private sector organization participant details: main country of operation**



Study limitations and further considerations

Part 1

Given that participation in this study was voluntary and no incentives were provided, it is possible that there is a degree of selection bias – with those most passionate about gender equality in the sector, or with the most to say on the topic, more likely to respond. As such, there are limitations to the generalizability of the study. Nevertheless, as the largest study to date on women's experiences in the sector, this study does provide an important contribution to our understanding.

Additionally, intersectional gender data were collected through this study. For the purposes of this report, the data shared focus on women. Intersectional analysis of how other factors (geography, caring responsibilities, disabilities, etc.) intersect with gender is provided to a limited degree, however it is intended that further analysis be undertaken at a later date.

Part 2

There were several methodological challenges with collecting data from the private sector. This included the fact that participation was voluntary, meaning that the final sample size is relatively limited, to only 41 organizations worldwide. Most organizations are of SME size, with no space "primes" participating in the research, which limited the generalizability of findings. Additionally, given that participation was voluntary, it is possible that there is a degree of selection bias in this study – that those who are interested in gender equality or performing better on gender equality metrics are more motivated to participate. Intersectional gender data were collected through this study. However, for the purposes of this report, the data shared focus on women rather than men.

As a case study, this research is an important opportunity to understand the status quo and actions of a selection of **New Space SMEs and start-ups – a critically missing analysis in the literature**. To help to mitigate some of these shortcomings, further private sector space organizations are encouraged to participate in future studies, particularly primes that hold large influence and represent a larger proportion of the private sector of space.

Part 1 of the report draws on 505 responses from individuals across 70+ nationalities and sectors in the space industry, using surveys, interviews, and focus groups to gather rich qualitative and quantitative data. It explores broad trends and lived experiences of women, shedding light on diversity, representation, and systemic challenges.

Across all roles and all parts of the space sector, women reported experiencing a mix of inspiration and the ability to lead innovation, alongside constrained career opportunities, entrenched discrimination and bias, and limited progression opportunities.

PART 1

Experiences of women in the global space sector

1. FINDINGS

1.1 Getting to the space sector

1.1.1 Motivations and pathways

For a majority of participants (53 per cent), joining the space sector was a deliberate choice. These participants demonstrated a strong desire and motivation to join the sector, contributing to a flourishing sector driven by innovation and new frontiers. One participant reflected that:

> **"I am a woman from a poor country torn by ongoing wars and conflicts. Yet, I carry a big dream – to advance my nation in the space sector and contribute to its development."**

Forty-three per cent of participants did not intend to join the space sector until the opportunity presented itself, highlighting a high preponderance for women to join the space sector incidentally. **This is an important insight for recruitment across the space sector more broadly, noting that women may not always be directly seeking opportunities in the sector when making career decisions.**

Indeed, a third (33 per cent) of participants responded that they worked in another sector first before joining the space sector. For 14 per cent of participants, someone recommended them for a job in the sector and a similar proportion (15 per cent) undertook an internship or apprenticeship to help get them into the space sector.

A majority of participants (64 per cent) studied a STEM-related degree, reinforcing that STEM qualifications remain important for women pursuing space careers. However, almost a quarter (24 per cent) of respondents studied something other than STEM, highlighting that other, non-STEM qualifications are also an important part of the pathway to space.

1.1.2 Perceptions of gender equality and the space sector

Using a five-point scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree), participants were asked to respond to a series of seven statements relating to gender equality and the space sector. The percentages for each response are shown in **figure 5**.

Figure 5. Survey respondents' perceptions of women's opportunities to enter and progress within the space sector

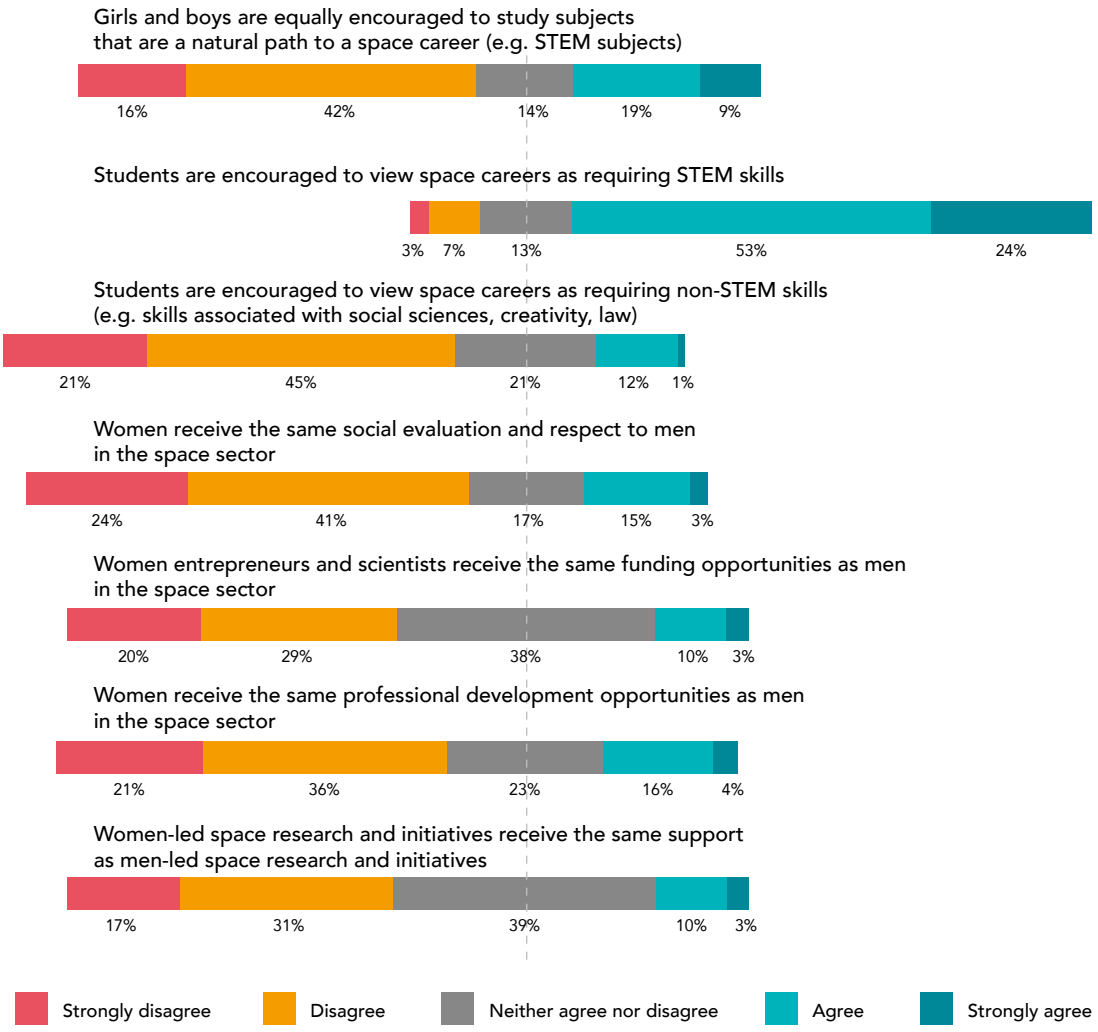


Figure 5 shows that a majority of women (58 per cent) either disagreed or strongly disagreed that girls and boys are equally encouraged to study subjects that are a natural path to a space career (e.g. STEM subjects).

The figure also shows that over three quarters of women (76 per cent) agreed or strongly agreed that students are encouraged to view space careers as requiring STEM skills.

By comparison, a majority of women (66 per cent) disagreed that non-STEM skills are seen in the same light, despite approximately a quarter of all participants having a non-STEM background.

Further, most women (65 per cent) did not agree that women receive the same social evaluation and respect as men in the space sector.

The figure further shows that almost half of women who participated (48.43 per cent) did not think women entrepreneurs and scientists receive the same funding

opportunities as men in the space sector. Additionally, a large proportion of participants neither agreed nor disagreed. While broader research does suggest that women do not receive the same funding opportunities as men,[24] responses to this question also highlight that the state of funding to women entrepreneurs and scientists may not be highly transparent or widely known.

When it came to professional development opportunities, the figure demonstrates that most women (57 per cent) disagreed with the statement "women receive the same professional development opportunities as men in the sector". This suggests a need for further space sector organizations to revisit their professional development opportunities and uptake for gendered discrepancies.

Finally, while a high proportion of women (39 per cent) are neither in agreement nor disagreement, almost half of participants (48 per cent) did not agree that women-led space research and initiatives receive the same support as men-led space research and initiatives.

1.2 Staying in the space sector

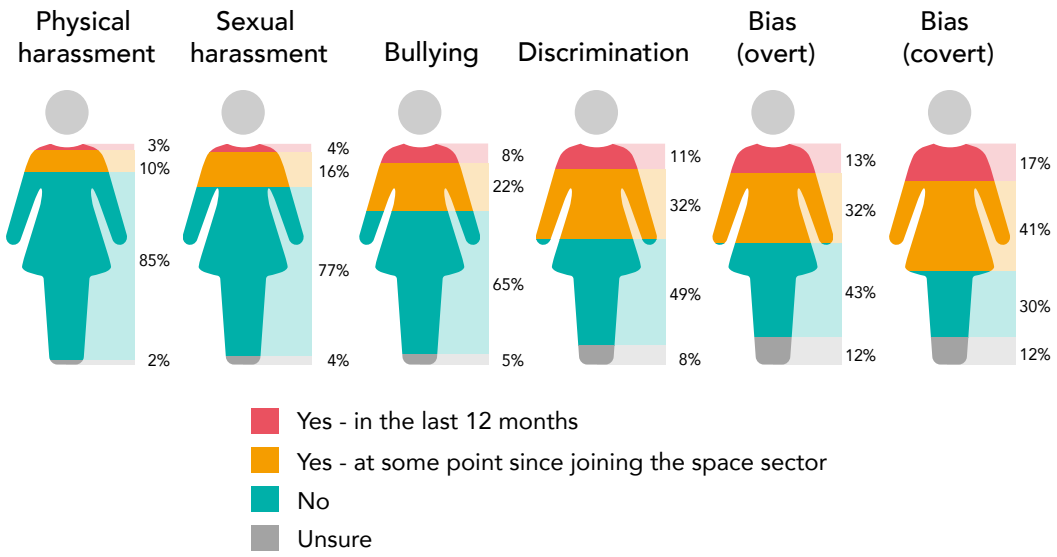
1.2.1 Perspectives and experiences in the space sector

This research sought to understand both positive and negative aspects of women's experiences in the space sector, which are shared next. Among the positives were the ability to work on meaningful and exciting work, travel, drive new technology development, and represent their countries at an international level. Yet, frequently women's abilities to maximize these opportunities were constrained by entrenched biases and a host of experiences that impacted their work and future career opportunities.

For instance, we asked women in this research about their experience of the following: physical harassment, sexual harassment, bullying, discrimination, bias (overt) and bias (covert), as explored in **figure 6**.

Figure 6 shows that a majority of women have not experienced physical harassment, sexual harassment, or bullying. However, almost half of participants have experienced covert bias at some point since joining the sector, and just under one in five have experienced it in the last 12 months. Concerningly, one in three participants experienced overt bias (33 per cent) and discrimination (33 per cent) at some point since joining the space sector. One in five have experienced bullying (22 per cent) since joining the sector. Additionally, approximately one in six (16 per cent) had experienced sexual harassment and about one in 10 (10 per cent) had experienced physical harassment at some point since joining the sector.

Figure 6. Experiences in the space sector



The prevalence of physical and sexual harassment in the sector is particularly concerning and was a strong theme throughout focus groups and the survey data. One woman shares:

"My career was completely derailed due to severe harassment and sexual assault from two male co-workers, and the company response to it being traumatically awful. I ended up leaving the field for nearly two years while I tried to recover from the PTSD [post-traumatic stress disorder] of what happened, right at the peak of my mid-career upward trajectory at my dream job."

There is a strong need for organizations to take measures not only to stop harassment before it occurs, but to develop mechanisms to support victim/survivors, and address perpetrators, after the fact. Further, leadership from managers and leaders is greatly desired, with one woman in the public sector in North Africa noting:

"Managers confuse 'avoiding discomfort' with 'avoiding harm'. Many managers wrongly believe that talking about bias, discrimination, or harassment causes harm – when in fact, the harm already exists. Addressing it may cause discomfort, but discomfort is part of growth. By trying to avoid uncomfortable conversations, managers end up protecting harm instead of healing it."

Depending on the participant's background, other intersecting challenges were raised. Out of the total sample, 32 women identified as having a disability. Women with a disability were less likely to agree that their gender identity had an impact on their career in the space sector (with 22 per cent of those with a disability indicating gender had an impact on their career compared to 37 per cent of those without a disability indicating the same). However, 53 per cent of those with a disability felt their disability impacted their career, which may indicate that for women with a disability in the space sector, the greater barriers experiences relate to disability rather than gender. Women with a disability – and those who identified as being neurodivergent – were generally much less likely to agree to statements regarding girls and boys being equally encouraged to study subjects that are a natural path to a space career, that students are encouraged to view space careers as requiring non-STEM skills, and that women receive the same social respect and professional development opportunities as men in the sector. Those with disability or who identified as neurodivergent were both much less likely to agree to feeling respected, represented, and safe in their organizations, and much less likely to agree that their concerns are heard and actioned or that they are provided with adequate mobility support.

Participants with disability reported: having their disabilities made invisible or unacknowledged; having to over-compensate and work twice as hard; experiencing bias, harassment and gaslighting; and facing career stagnation or career impacts. For instance, one participant explains that:

> **"There is a 'don't ask, don't tell' policy when it comes to disabilities, particularly when they are invisible. When you're disabled, you have to work harder than your non-disabled peers, and receive more criticism if you try to advocate for yourself or your needs. There is zero support structure in place, and anything that a company tries to pretend is in place to act as support is entirely performative."**

Others spoke of the need to overcompensate or work twice as hard. One participant shared the feeling that "no allowances [are] made to ensure inclusion" with another highlighting that:

> **"High paced environments are very competitive and are not willing to wait for chronic illnesses. There were some opportunities I missed out on because of medical absences and did not get a chance to catch back up. I had to work twice as hard as my peers to keep up."**

Not feeling on equal terms or an equal playing field with others was a common theme expressed by participants and was often coupled with experiences of overt bias or harassment. For instance, one participant shares that her disability is seen as "a liability", while another emphasizes how her disability means she is "passed over for work assignments". Others again experienced a form of

gaslighting from their organizations, particularly when raising issues, with one participant commenting:

"I was told 'I wasn't thinking right' when I wanted to raise concerns about bullying, harassment and discrimination."

Another shared overt harassment:

"I was treated very poorly, like a joke, when I was on two walking sticks awaiting hip replacements, and people would do things like knock my walking sticks onto the floor and leave them there."

Overall, there was a dominant feeling that disability had impacted these women's career trajectories relative to others.

Although there were some similarities in perspectives between people with a disability and those who identified as neurodivergent, as indicated above, qualitative responses from those who identified as neurodivergent were generally more positive. The following highlights both positive and negative differential treatment for those who identified as neurodivergent. Among responses, participants felt valued for their contribution and supported in a positive way; utilized for their perceived unique traits and characteristics, in both positive and negative, utilitarian ways; needing to "mask" their neurodivergence to fit in; experiencing a lack of accessible work environments or reasonable accommodations; experiencing bias or lack of understanding; having their "difference" viewed as a threat, and; encountering personal difficulties in navigating appointments and promotions.

For instance, many participants felt their **neurodivergence** was valued and supported, with participants sharing that "[her] differences were valued for providing creative solutions" and "[she] was supported and trained by [her] organization to use [her] potential to the fullest". However, this "valuing" of neurodivergence was also complex, and frequently veered into a utilitarian approach to gaining the most "use" out of those who were neurodivergent. One participant explains:

"Being neurodivergent has influenced my experience in the space sector in both positive and challenging ways. It has allowed me to approach problem-solving creatively, notice patterns others might miss, and bring a unique perspective to communication strategies. However, navigating structured environments and implicit workplace norms has sometimes been a challenge. Finding inclusive spaces and supportive colleagues has made a significant difference in ensuring that my strengths are recognized and valued."

Another expands on this, to note:

> **"People within many industries, but especially within privatized aerospace are practically giddy to take advantage of neurodivergent people. We struggle to set/hold boundaries, understand quickly when people are being inappropriate, and struggle with the sensory experience of working within the office (to name a few obstacles). The office space is intrinsically hostile to neurodivergency and the 'work from work' philosophy that companies are pushing (despite evidence that working from work adds minimal, if any, value) further exacerbates sensory struggles/sensitivities."**

Participants also spoke about the "need to mask a lot for typical office behaviour" in order to fit in. This reinforced a theme among participants, that many workplaces did not make reasonable accommodations for them, resulting in a lack of accessibility of workplaces or challenging working environments. Many spoke of not being accommodated, "adapting to rigid workplace norms", having "trouble concentrating in noisy environments or in long meetings", being "very susceptible to burn out", being impacted by harsh lighting, needing longer time frames to complete certain tasks, and struggling with connecting with co-workers or fast-paced communication. One participant summarizes that "stigma and [a] lack of understanding makes it difficult to obtain adequate workplace accommodations." Such stigma or bias was a common theme, with some participants sharing feeling "bullied and marginalized", while others explained that this made it harder to navigate career progression, for instance:

> **"It's harder to get positions as I struggle with the way most application and interview processes are held. Once in my role I need some reasonable adjustments which are mostly respected but sometimes they can feel like I am a nuisance."**

While it was clear from many experiences that some workplaces value and are proactive in their approach to supporting people who are neurodivergent, others spoke about being perceived as a threat, not trusted, or not best utilized in their role. One participant shares:

> **"I do tend to look at things differently, being capable of both big picture and detail, and think some people feel threatened by this."**

Another shares a feeling of not being trusted:

> **"I am very analytical and when interactions expected fluid and quick responses I normally did not fit well or provoked disruptions in others' conversations and for this I was avoided to be fully integrated or trusted."**

Although sexuality was not directly asked about, participants did indicate whether their **sexual orientation** has impacted on their experiences in the space sector. Some responses indicated that participants felt they were viewed as a potential sexual partner or otherwise objectified by colleagues, others spoke about the presumed heteronormativity of the sector, and bias. For instance, one participant recounts:

"As a heterosexual woman, I have been treated as a potential sexual partner by male colleagues or male business partners multiple times."

Others report feeling like "potential targets" for their colleagues or viewed for a potential relationship. Indeed, one woman was told "you want to be an astronaut? You will never find a husband." Another woman expresses the double bind she faces:

"I've faced a constant double bind: when I was thin and perceived as 'attractive', I wasn't taken seriously – people focused more on how I looked than what I had to say. When I gained weight, I was suddenly seen as less competent. Add to that being a woman – often dismissed as too emotional or 'unfit' for extreme environments – and navigating this field became even more complex. On top of that, I've been oversexualized simply for engaging in normal youth activities – from dancing at events to posting personal milestones. What should have been moments of celebration or expression turned into opportunities for others to project inappropriate suggestions, make sexualized comments, or engage in outright harassment. Being a woman – and especially one who doesn't conform to narrow expectations of appearance or identity – means constantly having to prove that your value lies in your work, your mind, and your mission, not in how others choose to perceive or objectify you."

Objectification was a common theme raised throughout the research, with some commenting they "received several objectifying comments about [their] sexual orientation from male colleagues", faced outright discrimination, were not taken seriously, disregarded in meetings, face fewer promotion chances, and chose to remain "in the closet" for fear of the impact of disclosing sexuality on their career.

Those with **primary caring responsibilities** also shared ways in which they felt their care responsibilities impacted their treatment in the space sector. Roughly a quarter of women responded that their caring responsibilities had an impact on their experiences as a space sector worker. They shared the need to balance competing needs between work and home; feeling they had to work twice as hard; facing duplicated challenges, reduced mobility, a lack of workplace accommodations; experiencing bias and as though they were not committed to the sector; not feeling like they "fitted in"; and, on the positive side, feeling like their caring responsibilities had given them the upper hand and greater empathy, resilience and time management. Additionally, out of the total sample, 50 participants identified

as **Indigenous**. Comparing Indigenous and non-Indigenous responses, a higher proportion of Indigenous women reported having primary caring responsibilities compared to non-Indigenous women (52 per cent compared to 37 per cent).

Regarding balancing competing needs, one woman commented "you have to be superwoman." Although many reinforced that having **caring responsibilities** did not impact the quality of their work, they felt they had to work twice as hard, placing them at risk of burnout. Although some organizations are evidently taking a proactive approach to helping staff manage caring responsibilities, some reported how this approach can sometimes be paternalistic and take agency away from them. For instance, one woman comments about the reality of being part of the "sandwich generation":

> **"Both my daughter and my now-elderly mother sometimes have needs that pop up, without pre-planning. It's up to me to take care of everything. Some projects went to others as a result, out of "concern and care" about my busy schedule."**

While many recognized that the challenges they faced may not be unique to the space sector, they nonetheless reinforced the challenges that caring responsibilities raise. Participants sought "more understanding for this double burden and active encouragement that time with the family is important" too.

Particular issues women with caring responsibilities raised included issues with time management, late meetings, business travel, slower career progress, and less opportunities to progress. Women also reported being asked invasive (if not illegal, depending on the jurisdiction) questions about motherhood or their intention to become parents if they were of a certain age colleagues expected them to be having children. Women also reported inadequate provisions for breastfeeding or parent-friendly workplace and conference facilities, and difficulties requesting flexible working options. Single carers also faced challenges gaining adequate support.

One woman expressed that as a carer, she "wasn't identified as a high potential." Others similarly had assumptions made about their commitment to the job, with one sharing that they had "been skipped in promotion selections due to assumptions that I would not be interested." Another reported biased views and behaviours of leaders, including:

> **"My last head of department said I was unreliable because I would stay at home when one of my children was sick. I was given work that wasn't worthy of promotion and didn't get any bonuses or promotions."**

Workplace differences in parental leave policies also impacted women, who were expected and assumed by their organizations to be the primary carer, even if they were not. One woman shared the decisions her and her partner had to make given this: "I had to take time out of work for maternity leave, to look after my child

as my male partner was not entitled to the same maternity pay as me." Others expressed overt discrimination and unlawful redundancies post maternity leave.

Although these trends are broadly consistent with other sectors, one participant noted that there may be particularly entrenched ideas and barriers against women in the space sector, expressing that "**space and cyber are sectors where, if accepted as a woman, you will not be accepted with personal responsibilities**."

On the other hand, there were also positive aspects of caring responsibilities shared by some participants:

> **"Balancing these responsibilities has had a significant impact on my career. It has required me to develop strong time management, prioritization, and resilience skills. At times, it has influenced the types of roles I pursued, the travel commitments I could accept, and the pace of my career progression. However, it has also strengthened my ability to lead with empathy, manage diverse needs, and maintain a strong focus on impact and efficiency. These experiences have shaped me into a more adaptable and thoughtful professional."**

Socioeconomic status and nationality also presented challenges regarding the need for mobility and to be part of, and be seen being part of, the global space sector. One woman shares the challenges of coming from a small country without a large space sector, highlighting the numerous ways that gender, socioeconomic status, caring responsibilities, and geography intertwine to create challenges. Despite this, she also shares her dedication and ambition in the sector:

> **"I had to fund every aspect of my journey alone – from international applications, training programmes, and courses, to travel, accommodation, and visa fees. There was no national space agency to support me, no institutional funding, and very few scholarship pathways accessible to someone from my region. . . Even when a position is publicly advertised as international, access often hinges on European Union citizenship, pre-existing residency, or fluency in local cultural codes . . . This isn't just a barrier – it's a glass wall that no amount of talent, experience, or dedication can break through unless the system itself changes. . . So when we talk about "caring responsibilities," mine include the burden of being the first, the only representative of a region rarely mentioned in global space discourse. It includes the pressure to succeed not just for myself, but to prove that someone from a country with such limited resources can break into the most advanced frontier of human exploration.** The combination of legal exclusions, cultural barriers, income inequality, and lack of systemic support means that many like me aren't just left out of the space sector – we're left invisible. And yet, we continue to push forward. Because for us, the mission isn't just personal – it's generational."

Other aspects of nationality, ethnicity and race were also raised by participants. One woman comments:

> **"I have experienced overt racism as in referring to my geographical origins as "uncivilized part of the world" under a fun tone. Thankfully, part of the management team were alerted and acted upon with proper discussion."**

Others noted that space-dominant countries "are sometimes dismissive of experience of space professionals from global south countries." For instance:

> **"There are claims that Sudanese engineers – especially women – are academically unqualified for space-related work. Additionally, there is clear discrimination against women, justified by stereotypes that women cannot handle demanding work due to marital responsibilities, childcare, and other domestic duties."**

Others explain **how race and gender intersect**:

> **"I worked in the South . . . I frequently encountered men hitting on me, including touching my back while talking to me, and men (especially older gentlemen) comfortably talking about their wives at work in a way that made me feel uncomfortable. It was also very common to encounter a handful of women that were not supportive and encouraged unhealthy forms of competition. And in the South, because I'm of Eastern European/Middle Eastern descent, I look different; so it was common to also go through conversations of "curiosity" to learn where I'm from and then have to defend that my countries are not actually as bad as the news plays them out to be. It wasn't until I moved . . . that I encountered working with people who just saw me as their peer. I have not encountered experiences that make me feel uncomfortable because the social and political culture in this area is more accepting of diversity and view curiosity as a positive thing."**

It is also key to note that while many aspects of discrimination reported by women were perpetrated by men, all genders are implicated in upholding patriarchal structures in the space sector. One participant comments: "discrimination comes from both men and women in management level. When it comes to women, it's usually about feeling threatened by other women and adopting a very masculine attitude."

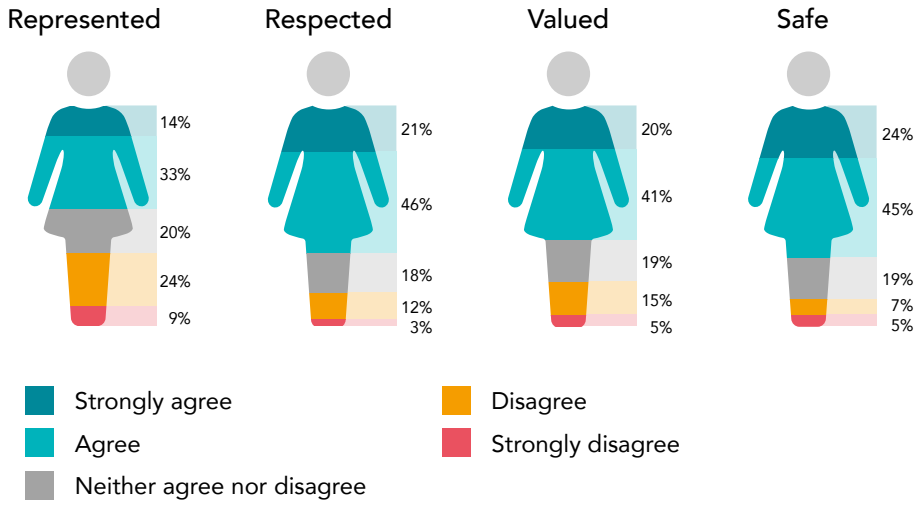
Of those who had experienced any of the above aspects of discrimination, harassment or bias, 62 per cent indicated that, at some point, they did something about it, with most reporting it to their supervisor or leader (28 per cent), followed by team/peers (21 per cent), and only 13 per cent of all participants reporting it to human resources. However, a majority also indicated that, at some point, they did not do anything about it – with 15 per cent not wanting to do anything about it,

18 per cent not feeling safe to do anything about it, and almost a quarter (23 per cent) not finding an appropriate mechanism to do anything about it. Additionally, a higher proportion of participants felt their organization's response was not adequate than those who felt their organization's response *was* adequate (27 per cent compared to 18 per cent).

1.2.2 Perspectives and experiences on participants' organizations

Figure 7 begins to explore women's experiences of feeling represented, respected, valued and safe in space organizations.

Figure 7. Responses to feeling represented, respected, valued and safe in space organizations



Overall, a majority of women consistently agreed to feeling respected (67 per cent), valued (61 per cent) and safe (70 per cent) in their organizations. The most notable difference in responses to this question was that **almost a third of women (33 per cent) did not feel represented, and almost half (46 per cent) neither agreed nor disagreed to feeling safe**.

The following questions asked for participants level of satisfaction with their organization, on a five-point scale from extremely dissatisfied, to dissatisfied, neither satisfied nor dissatisfied, satisfied and extremely satisfied.

Encouragingly, as in **figure 8**, a **majority of participants were either satisfied or extremely satisfied with their organization with regard to psychological safety, cultural safety, feeling respected, and feeling like they belonged**. Participants were least satisfied with their organizations when it came to feeling

like their concerns were heard and actioned, with participants consistently more likely to more respond negatively (or neutrally) to this question than other related questions.

Figure 8. Satisfaction with space organizations – experiences

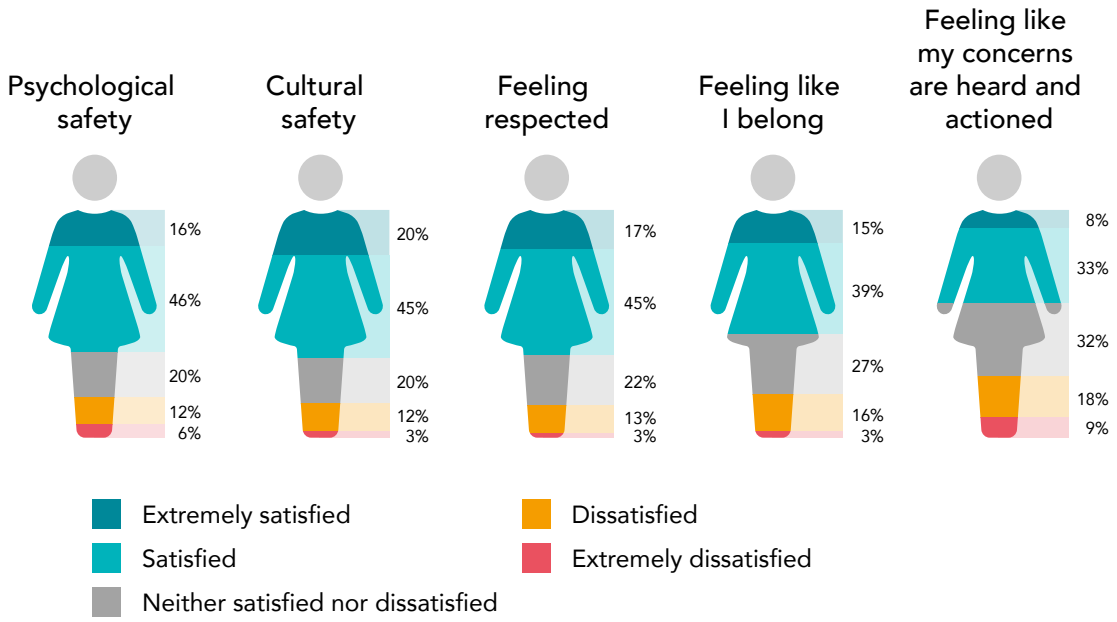


Figure 9. Satisfaction with space organizations – conditions

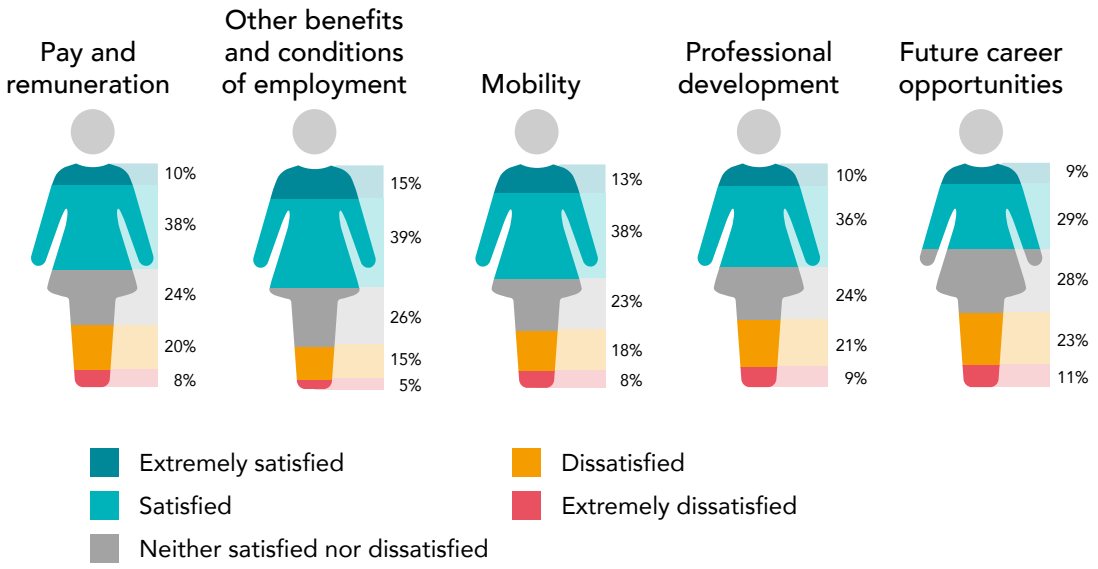


Figure 9 highlights that a majority of participants were satisfied or extremely satisfied with their organizations' other benefits and conditions of employment and mobility (support to travel or take up other opportunities, conferences, or events for instance). It is also encouraging to note a higher proportion of participants were either satisfied or extremely satisfied (compared to dissatisfied or

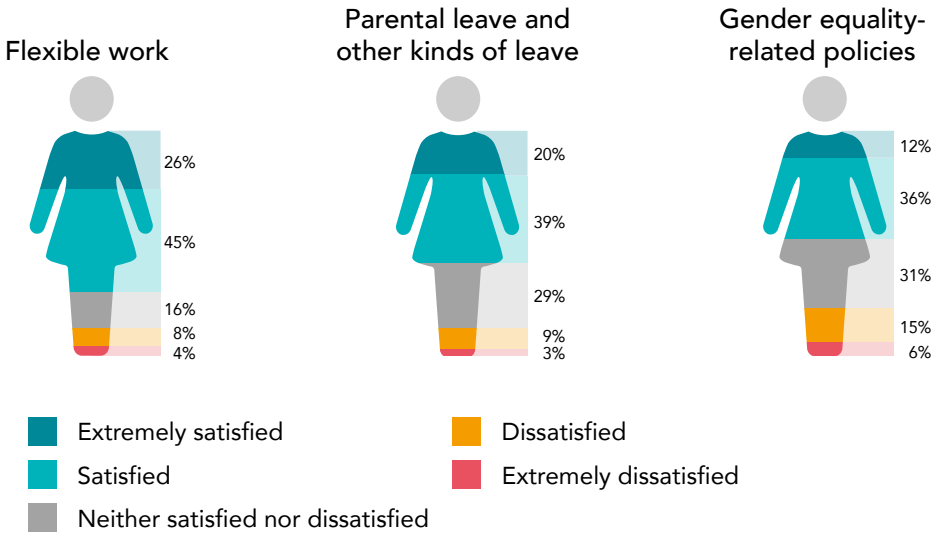
extremely dissatisfied) with all of the above options presented: pay and remuneration, other benefits and conditions of employment, mobility, professional development and future career opportunities.

Despite this, roughly a third (34 per cent) were dissatisfied or extremely dissatisfied with their organization when it came to future career opportunities, and almost a third similarly dissatisfied with their organizations' professional development opportunities. Over a quarter of participants were dissatisfied with pay and remuneration as well as mobility opportunities, and almost one in five with other benefits and conditions of employment.

Additionally, a quarter of participants were either dissatisfied or extremely dissatisfied with pay and remuneration. When further asked about pay, 18 per cent of participants responded that they knew there organization has a gender pay gap, and a similar proportion (18 per cent) were unsure whether their organization has a gender pay gap.

Again, **figure 10** demonstrates promise, with a majority of participants satisfied with their organization's flexible work (71 per cent) and parental leave and other kinds of leave provisions (59 per cent). However, it is also important to note that almost a third of participants were neither satisfied nor dissatisfied with leave provisions or gender equality related policies, and one in five were either dissatisfied or extremely dissatisfied with their organization's gender equality related policies.

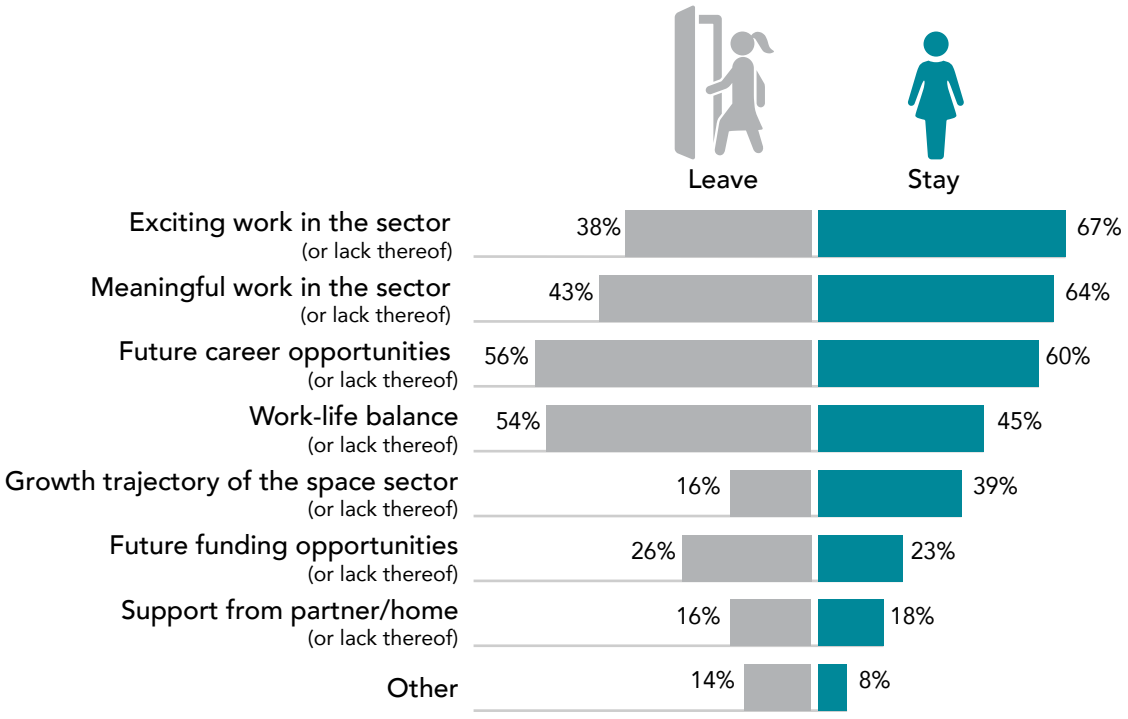
Figure 10. Satisfaction with space organizations – policies



1.3 Growing in the space sector

Participants were asked about the factors that would make them want to stay in the space sector. Responses to these questions indicated that the **presence (or lack of presence) of future career opportunities is key to both women's motivations to stay and leave the space sector** – being the only factor that a majority of participants ranked as important to staying or leaving (if there were a lack of opportunities). Besides this, a lack of work-life balance would motivate a majority of participants to leave the sector, while the achievement of work-life balance featured strongly for almost half of participants as a reason to stay in the sector. Besides these factors, the ability to do exciting or meaningful work was particularly motivating for staying in the sector. These insights are shared in **figure 11**.

Figure 11. Factors influencing staying in or leaving the space sector



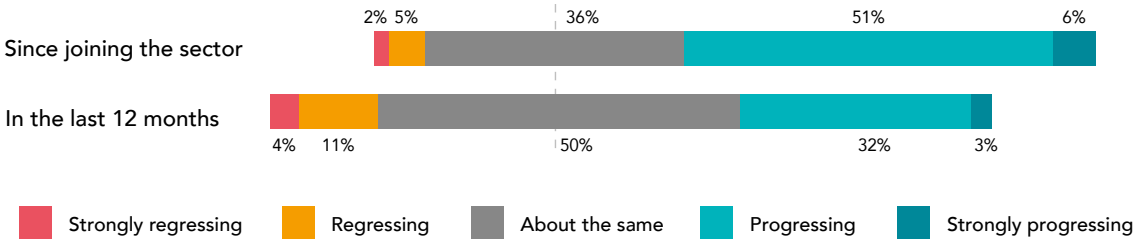
Participant open-text responses reinforced some of these trends, with one woman commenting "I'm confused about whether I should continue in this field or not" – concerned about (not) fitting in. Another from the Americas expands on this feeling:

> **"I do feel a sense of exclusion as one of very few women of colour – perhaps one in four – in my sector. My experiences are often not shared or understood by my peers, and I've noticed discomfort when I speak about my religious or cultural events and holidays. As a young woman of colour, I've consistently felt the need to go above and beyond to be**

respected. I strive to be the voice and presence I feel is missing in my workplace, but this work can feel isolating when done alone . . . While I appreciate that there are initiatives in place to promote diversity, equity, and inclusion, many of these efforts feel superficial and performative. Meaningful change requires more than symbolic gestures – it demands sustained commitment, representation, and accountability."

Additionally, perspectives on whether gender equality is progressing or regressing in the sector were asked, as in **figure 12**.

Figure 12. Perspectives on gender equality progress or regression in the space sector



Over the span of participants careers in the space sector, a majority do believe that gender equality in the sector is either progressing or strongly progressing (57 per cent). However, in the last 12 months in particular, only about a third believe the same (35 per cent), while half (50 per cent) feel things are about the same. Concerningly, over twice as many participants believe things are either regressing or strongly regressing in the last 12 months as compared to since they joined the sector, with almost one in seven participants believing things are generally regressing in terms of gender equality in the space sector. Responses do indicate regional differences, with focus groups in Europe and Africa for instance more positive about progress made, and focus groups in the Americas more negative, indicating regression.

Additionally, **almost a third of participants (29 per cent) have experienced backlash or pushback to gender equality in the space sector**. Examples of this backlash or pushback included: a perceived discrimination and inequality against men; the politicization of DEI; pushback to gender and diversity in multilateral forums; perceptions that DEI movements have gone "too far"; internalized sexism among all genders; minimization of women's concerns or denial of the problem; insistence on merit or that equality already exists; engrained inequalities; and perspectives that if women achieve certain roles, it is because of their gender, not merit.

Many participants expressed that men often perceived movements supporting gender equality or diversity as discrimination and inequality against men. For instance, one comments that "men consider diversity goals unfair", and another

similarly states that "men still think that if there is equality, they will lose privileges, so they ridicule it whenever it comes up". Another comments:

> **"When DEI rules are being implemented I always meet a lot of males (who were always in very advantageous situation) claiming that the new reality is very challenging for them and they feel discriminated."**

Many recognized that these views could be reasoned with, with data. For instance:

> **"I have interacted with people who assume that a push for gender equality would mean that there are fewer opportunities for men. Most of these people can be reasoned with when it is explained that opportunities are not being taken away from men, systematic barriers are just being removed for women (and other minorities). The explanation of 'equality is not pie' has also been surprisingly helpful. That is, more women in the workplace does not mean fewer opportunities for men."**

The impact of backlash and pushback in the space sector has included lay-offs, a culture of fear among some that their job will go or that they are unwelcome in the sector, and a rising permissiveness of discriminatory comments and actions. One woman comments that "women's presence is politicized to downplay their contributions and massive capabilities", and another again refers to the impact of government-specific rollbacks on DEI on the private sector, noting "private companies are doing the same, especially those that depend upon U.S. government contracts and funding." Such pushback is not new in the multilateral system, with some participants commenting that they have witnessed "mounting backlash to gender equality on outer space issues at the United Nations when it comes to advancing space policy".

Participants also shared that there is a perception among some in the space sector that DEI initiatives have gone "too far". For instance:

> **"I have heard statements from both men and women saying they think DEI has gone 'too far'. With groups of men discussing how they feel like they cannot even open a door for a women now without fear of harassment. This was said in front of a new female employee who was shocked as this was in response to hearing that our organization had 30 per cent reports of harassment."**

This speaks to a broader theme, of internalized sexism among all genders. For instance, one woman commented that in her country, "the work culture is quite aggressive. There's no good treatment among women, no sisterhood. The culture in general doesn't value doctors and technically strong people." Additionally, another comments:

"I personally experienced backlash when moved from space industry job to intergovernmental organization. I have experienced in this new job much more visible discrimination of female workers, heard comments (mainly from mid-age male colleagues which are majority of workers in my organization) about roles of women (suggesting that should be more home and children oriented). Surprisingly also heard from one young female colleague a comment that more women appointed in the organization in technical domain would result in drop of technical excellence in the organization."

This comment also references another form of backlash, an insistence that "merit" is threatened by proactive measures supporting DEI or women in the space sector. One person notes:

"One of the most frustrating forms of pushback I've seen is the idea that gender-focused initiatives are unnecessary – that 'everyone is treated equally' already. This perspective ignores the very real barriers that still exist, from unconscious bias in hiring and promotions to the underrepresentation of women in leadership and technical roles. There's also a tendency to celebrate diversity on paper while, in practice, decision-making structures remain largely unchanged. I've also observed that certain conversations – especially about work-life balance, parental leave, and career progression for women – are still uncomfortable for some to engage with openly. The reality is that inclusivity isn't just about numbers; it's about shifting workplace culture in a way that allows everyone to thrive. That said, I believe in pushing for progress, even when it's met with resistance. Visibility, accountability, and genuine commitment to change – not just symbolic gestures – are what will truly make a difference."

Participants also pointed to a more subtle form of backlash, the minimization of women's concerns or denial of the problem. This was experienced as "jokes, laughter, denial", and "colleagues who didn't believe there was any type of discrimination". Another mentioned that she has "experienced denial of the disadvantaged situation of women in the aerospace sector and in general in the academic and scientific sector, to which [she] belong[s]".

Others experienced devaluation. One woman said that she "had an immediate director say to a colleague that [she] only was considered for a (media) opportunity because [she is] a woman". Participants also highlighted techniques used to push back against gender equality including delaying or being slow to implement positive action, questioning robust evidence, and being resistant to acknowledge that men's overrepresentation is a problem in the sector.

1.4 Comparisons by region and by private/public sector

Although the data set does not claim to be representative, and generalizations should be undertaken with care, of those who participated there were some small differences in perspectives and experiences that warrant greater analysis in future studies.

Comparisons by region showed that a majority of participants from North Africa, the Middle East, and South-East Asia agreed that girls and boys are equally encouraged to study subjects that are a natural path to the space sector. This contrasts with participants from the other regions, whereby a majority disagreed with the same statement. Participants from Sub-Saharan Africa, Southern and Central Asia, South-East Asia and North Africa and the Middle East were also more likely than participants from other regions to feel respected in their organization. Regionally, the highest proportion of participants who felt safe in their organization came from South-East Asia.

Beyond these trends, women themselves highlighted differences and identified needs by country. One woman from the Colombian public sector noted:

> **"I think the experience can be quite different in countries that don't have experience in the sector; there are no opportunities and there is no knowledge, which opens doors to charlatans and disregards true professionals. In my experience, it has been better to work with Brazil and Argentina because they already have experience in the sector and there is no competitive environment among women. Perhaps the culture makes them more developed and they know how to work as a team."**

One woman from the Maldives highlights the importance of resources like the UNOOSA *Gender Mainstreaming Toolkit*:

> **"I think it varies hugely from country to country. Having a handbook or a set of guidelines or an easily accessible mechanism to integrate into an organization or an event could be really helpful, ideally with results or easy to implement. It sounds like I'm asking for a unicorn here. We don't have the time to think about the little issues when its always about the bigger picture, but the little issues really matter."**

There were also differences in women's responses depending on whether they were employed in the **private or public sector**. From the data gathered from individuals, women working in the private sector were more likely to think their gender had an impact on their experiences (51 per cent of participants thinking this compared to 41 per cent in the public sector thinking the same) and were

more likely to report backlash (32 per cent experiencing backlash in the private sector compared to 24 per cent in the public sector). This could in part be explained by additional government protections and standards around gender equality that may not always apply or be present in the private sector.

Further:

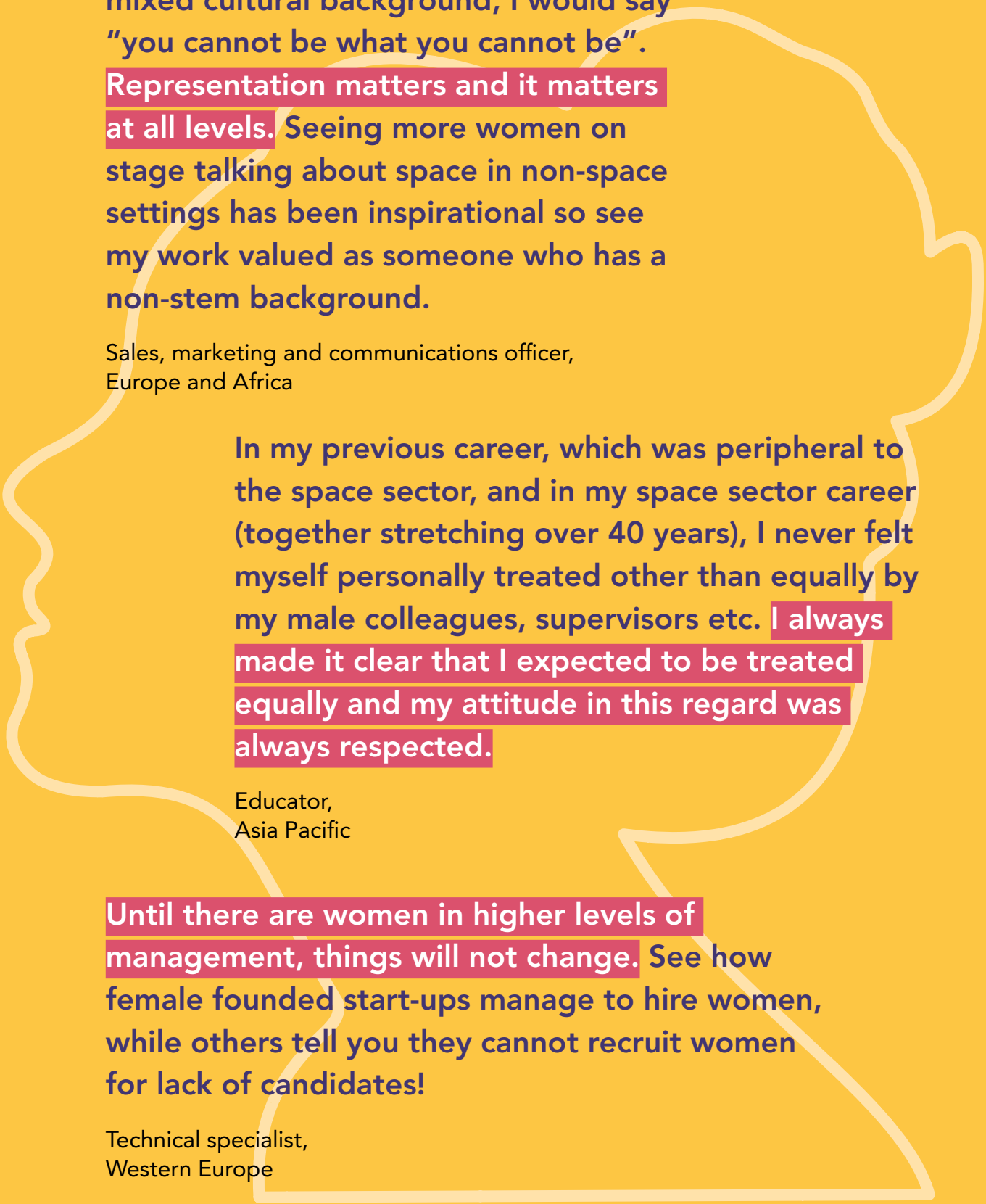
- Women in the private sector were more likely to be **dissatisfied or extremely dissatisfied with their future career opportunities** (30 per cent dissatisfied in the private sector compared to 22 per cent in the public sector).
- Women in the private sector were also **less optimistic on whether they thought the sector was progressing regarding gender equality since they joined the sector** (50 per cent believing it was progressing, compared to 62 per cent in the public sector believing the same).

The differences between public and private sector responses were reduced when we asked about the last 12 months in particular:

- Women in **both the public and private sector were less optimistic about gender equality progress in the last 12 months**.

On the other hand, more women from the public sector felt disability, neurodivergence and caring responsibilities had an impact on their experience to a higher degree than those in the private sector. Of those who had a disability, 35 per cent of those in the private sector felt their disability had an impact on their experience as a space sector worker, compared to 48 per cent of those in the public sector. Similarly, 37 per cent of those in the private sector felt their neurodivergence had an impact on their experience, compared to 46 per cent of those in the public sector. A similar proportion of those in the public and private sector have primary caring responsibilities, but again, 31 per cent of those in the private sector felt their caring responsibilities had an impact on their experience as a space sector worker, compared to 44 per cent of those in the public sector answering the same question.

These trends may indicate that while the public sector in general may be addressing *gendered* workplace concerns better than the private sector, the private sector may be better at addressing intersectional workplace concerns, for instance around disability and neurodiversity. While caring responsibilities remains a largely gendered concern, with women tending to undertake more primary care responsibilities and being expected to do so, it is surprising that women in the public sector reported this impacting their career to a higher degree than those in the private sector. All trends require further evidence and analysis yet provide a comparative snapshot of where the public versus the private sector may have an impact on women's experiences.



As a woman and as a woman with mixed cultural background, I would say "you cannot be what you cannot be". Representation matters and it matters at all levels. Seeing more women on stage talking about space in non-space settings has been inspirational so see my work valued as someone who has a non-stem background.

Sales, marketing and communications officer,
Europe and Africa

In my previous career, which was peripheral to the space sector, and in my space sector career (together stretching over 40 years), I never felt myself personally treated other than equally by my male colleagues, supervisors etc. I always made it clear that I expected to be treated equally and my attitude in this regard was always respected.

Educator,
Asia Pacific

Until there are women in higher levels of management, things will not change. See how female founded start-ups manage to hire women, while others tell you they cannot recruit women for lack of candidates!

Technical specialist,
Western Europe

2. UNDERSTANDING WHAT WORKS

More than one in five participants (23 per cent) reported being aware of a solution/s to gender inequality in the space sector that worked. This included: hiring more women (achieving critical mass); implementing equal pay policies; candid discussions and insistence on accountability/consequences for perpetrators; data transparency on women's representation (across roles and levels); mentoring programmes and outreach to women in the space sector; raising awareness and transparency of continued issues; networking groups, including women in space networks and UNOOSA Space4Women spaces (and ensuring they are adequately funded, supported by leadership, and paid or recognized formally); reframing space sector language and recruitment, advertisements, etc. to appeal to women; quotas; and role models.

For instance, one participant comments about the importance of having a "critical mass" of women and continued allyship:

"The presence of a strong group of women and gender minorities changed how the male colleague perceived us. They realized we were talking and we wouldn't let anything happen to any one of us."

Another comments on the importance of leadership:

"When the managers are aligned with the objective and push for an inclusive and open speaking environment, and the people around the table share the same beliefs, things can work."

Inversely, 16 per cent reported being aware of solutions that did not work. This included: principles or strategies only "on paper", that are never or ineffectively implemented; the tokenization of women; focusing on optics rather than impact – "pinkwashing"; a lack of funding and power; a lack of follow-through after initiatives; a lack of institutional support of initiatives; a focus on "fixing women" rather than addressing systemic barriers to inequality; and the reproduction of other kinds of inequalities – racial, geographical, or otherwise.

For instance, one person comments:

"I've seen several well-intentioned solutions that unfortunately haven't produced meaningful or lasting change – often because they focused on optics over impact. One example is the creation of women-focused initiatives that lack funding, decision-making power, or follow-through.

These programmes are often publicized heavily but are not backed by real resources or institutional support. They offer symbolic visibility but don't lead to promotions, missions, or long-term roles. In some cases, these efforts become 'pinkwashing' campaigns – more about organizational branding than genuine inclusion. Another approach that tends to fall short is one-off panels, workshops, or diversity days that don't translate into systemic change. While representation at events is important, without policy change, hiring reform, mentorship pipelines, or accountability, these moments fade quickly. I've also seen initiatives aimed at 'fixing the women' – teaching them to network better, pitch stronger, or be more confident – while ignoring the structural biases and gatekeeping behaviours that created the inequality in the first place. We don't need to fix women – we need to fix the system. Lastly, some programmes limit participation to women from already well-represented regions or academic institutions, which reproduces global inequality and excludes women from developing countries or marginalized communities who face multiple, overlapping barriers. True change requires depth, equity, and consistency – not just visibility."

3. CONCLUSION

Achieving gender equality in the space sector goes far beyond attaining gender parity in representation. It requires attention to the circumstances, experiences, and career paths of all genders in the sector, to understand where gendered differences exist, and why. Part 1 of this report has attempted to do just that, with a focus on 1) getting to the space sector, 2) staying in the space sector and 3) growing in the space sector. This research has derived many key insights to support policy and practical changes towards the vision of building a gender-equal space sector.

Participants have highlighted the sector's strengths, as well as key areas for improvement. Areas of concern span topics including safety, with the prevalence and nature of sexual and physical harassment shared throughout this research highly concerning. Additionally, attention to women being perceived as less credible, expert, and valued (financially and socially) in the sector is a major issue constraining the proper recognition of women's talent and their ongoing retention. Intersecting factors such as disability, sexuality, culture and ethnicity, neurodivergence and caring responsibilities add both benefits, and challenges, for women that require navigation, and present an opportunity for more sophisticated gender equality actions that also consider intersectionality.

Ultimately, it is clear that there is immense goodwill to continue to conduct research and action towards gender equality goals. However, progress will continue to be hampered without adequate policies and practices among organizations. More broadly, support from all parts of the sector, including increasing support from influential multinational and multilateral actors, is needed. Such support is urgently required, with the safety and opportunity of all workers at stake, hampering the overall flourishing and sustainability of the sector.

Part 2 presents a case study of 41 New Space SMEs that, while not representative of the entire private space sector, offer valuable insights into gender equality in the space sector. Through analysis of representation data and policy uptake, the study highlights both progress and persistent barriers, offering actionable pathways for change and benchmarking.

PART 2

Gender representation and policy/initiative uptake in the global private sector of space

1. FINDINGS

Across the 41 small- and medium-sized enterprises (SMEs) who submitted data, businesses reported a similar proportion of women overall in their organization to those in the public sector (women represent 31 per cent of the private sector compared to 30 per cent women in the public sector). Yet despite representing women overall at a similar rate, these SMEs generally did much better than the public sector at representing women in management, leadership and board positions in the space sector. For instance, while women only represented 24 per cent of managers and 21 per cent of leadership in the public sector of space, they were 40 per cent of managers and 38 per cent of leaders in the space businesses studied. Additionally, women represented 50 per cent of private sector boards studied, compared to only 19 per cent of public sector boards.

These findings are counter-intuitive to what we might have expected to see on three fronts. First, data on women's representation in the private sector have been incomplete, yet some sources report that women's representation has stagnated at around one in five space industry roles for the last few decades.[25] In the SMEs studied, who tended to be younger and smaller than a representative sample of the private sector might be, women were represented at a higher proportion compared to these data. Second, in many countries, the public sector often outpaces the private sector when it comes to the representation of women across myriad fields. Yet, the SMEs studied are outperforming the public sector of space in terms of representation particularly at more senior levels. Third, leadership studies typically demonstrate that more senior positions have fewer women relative to junior positions. This phenomenon is often referred to as a "glass ceiling" – where women are overrepresented in junior roles and underrepresented in senior roles. The SMEs studied demonstrate that while women are still underrepresented in senior roles, contrary to what we might expect, there is a higher proportion of women represented in senior roles compared to women's overall representation.

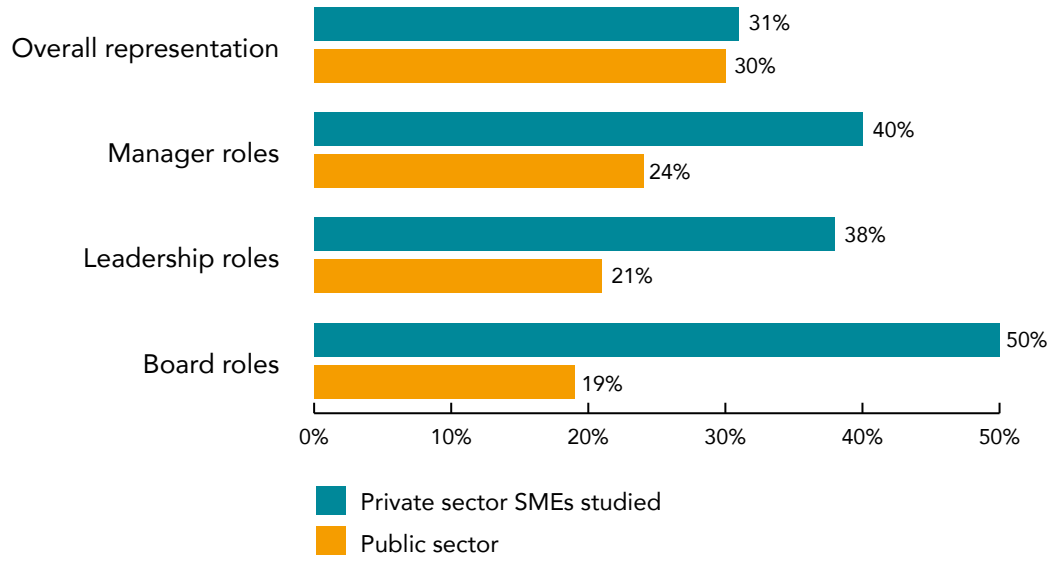
Although further research is needed to understand whether these trends exist more broadly in the private sector, **the SMEs studied may be indicative of a trend among New Space actors who do genuinely see a different vision for the space sector**. Such younger, smaller SMEs – New Space actors – tend to be closer to achieving representational parity than other studies indicate of the sector. These SMEs also evidenced a higher uptake of parental leave policies for any gender (85 per cent of businesses having this, compared to only 74 per cent of public sector institutions). They were also slightly more likely to have a policy relating to another kind of DEI policy (i.e. not just a policy for women or gender).

Detailed findings are shared in the following pages.

1.1 Representation of women – comparison between the private sector SMEs studied and the public sector

Of the private sector organizations studied, women represent 31 per cent of employees overall, 38 per cent of leadership positions (c-suite or executive), and 40 per cent of management positions. 73 per cent of SMEs surveyed have an advisory committee or board. Women represent 50 per cent of these board positions. Overall, this compares favourably to public sector organizations, with the private sector SMEs in general better at representing women. Indeed, 20 out of 41 of the SMEs studied reported either equal or more women overall in their organization. These data are shared in **figure 13**.

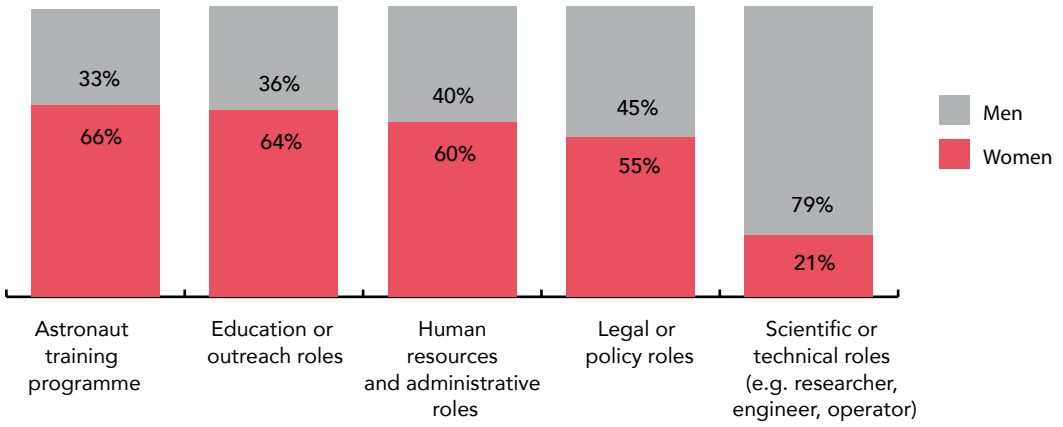
Figure 13. Representation of women in the space sector



1.2 Gender breakdown across roles and portfolios in the private sector SMEs studied

In the SMEs studied, women represent a majority of astronaut training programme roles (66 per cent), education or outreach roles (64 per cent), human resources and administrative roles (60 per cent), and legal and policy roles (55 per cent). Women represent a severe minority of scientific or technical roles (e.g. researcher, engineer, operator – 21 per cent). This is explored in **figure 14**.

Figure 14. Gender breakdown across roles and portfolios in the private sector SMEs studied

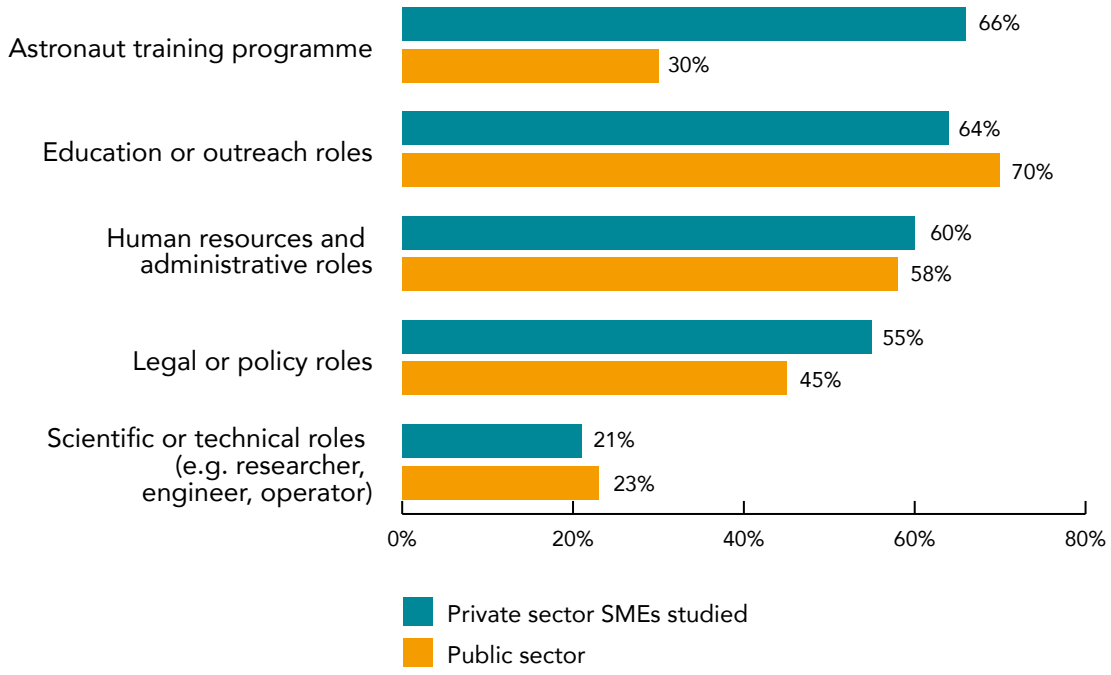


As per these data, women in the public sector and in private sector SMEs studied represent a similar proportion of roles in scientific and technical roles and human resources and administrative roles in particular, as in **figure 15**.

However, the **private sector SMEs studied are considerably better at representing women in astronaut training programmes** – representing women and men in roughly inverse proportions (women representing 66 per cent of astronaut training programmes in the private sector organizations studied versus 30 per cent in the public sector). This represents an exciting change from past patterns regarding astronauts, a role that has seen some of the lowest proportions of women of any role in the space sector. Although it is yet to be seen how representation in astronaut training programmes shifts the balance of those who make it to astronaut roles, this is a positive step witnessed.

On the other hand, the significant underrepresentation of women in scientific and technical roles, and their overrepresentation in human resources, administrative and education and outreach roles highlights continued gender segregation in the space sector that may have a reinforcing effect on the roles women and men are expected to perform and are rewarded for.

Figure 15. Percentage of women across roles and portfolios – comparison of SMEs studied and public sector

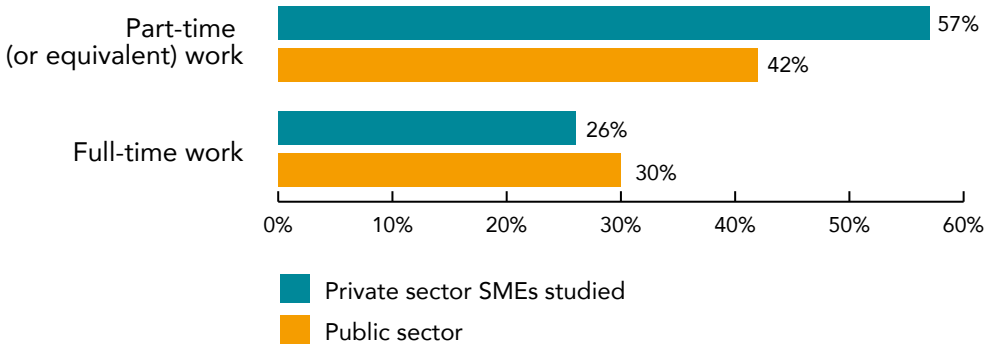


1.3 Gender breakdown across part-time (or equivalent) and full-time work

Relative to women's overall representation in the SMEs studied (31 per cent), women are overrepresented in part-time work (57 per cent of all part-time workers) (see **figure 16**). This finding was similarly reported in the UNOOSA *Landmark Study on Gender Equality in the Space Sector Phase 1* research, where women are also overrepresented in part-time work in the public sector.

These findings suggest that the burden of care work in the sector is still largely falling to women, who may be more likely to be primary carers and more likely to require part-time (or equivalent) working arrangements. These findings also suggest a need for further research to understand how space organizations allocate work and leave, including the circumstances around men's lower uptake of part-time work. This may also include an analysis of leave policies and flexible work arrangements to understand if there are significant gender differences in provisions offered and taken up. Learning may be found around what can be done to equalize the gender gap, including enabling more gender equal leave policies when it comes to parental leave (not assuming women will be the primary carers) and encouraging men to take up flexible and part-time work arrangements to normalize these practices for other men.

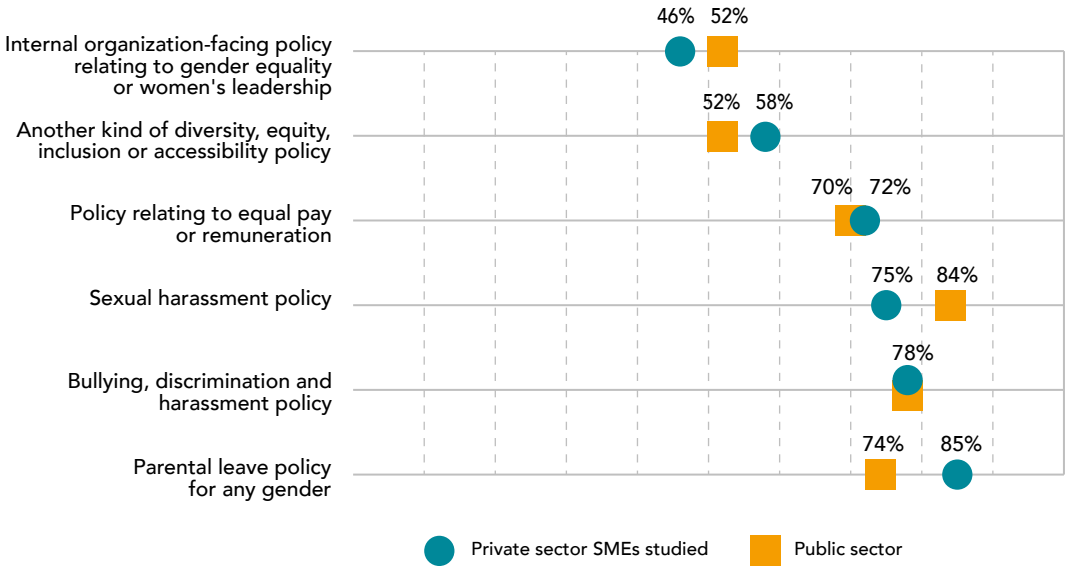
Figure 16. Percentage of women across part-time (or equivalent) and full-time work



1.4 Policy uptake relating to gender equality in the private sector SMEs studied

Most private sector SMEs studied reported having some sort of policy relating to gender equality or workplace conditions that could support women and reduce discrimination and unequal treatment. The private sector SMEs studied and public sector organizations studied in Phase 1 of this study had relatively similar uptake of many different types of policy. Where main differences existed, the private sector SMEs were more likely to have a parental leave policy available for any gender relative to public sector organizations, and public sector organizations were more likely to have a sexual harassment policy and internal-facing policy relating to gender equality or women's leadership. Over half of private sector and public sector organizations studied had some kind of other DEI policy. These findings are explored in **figure 17**.

Figure 17. Policy uptake relating to gender equality



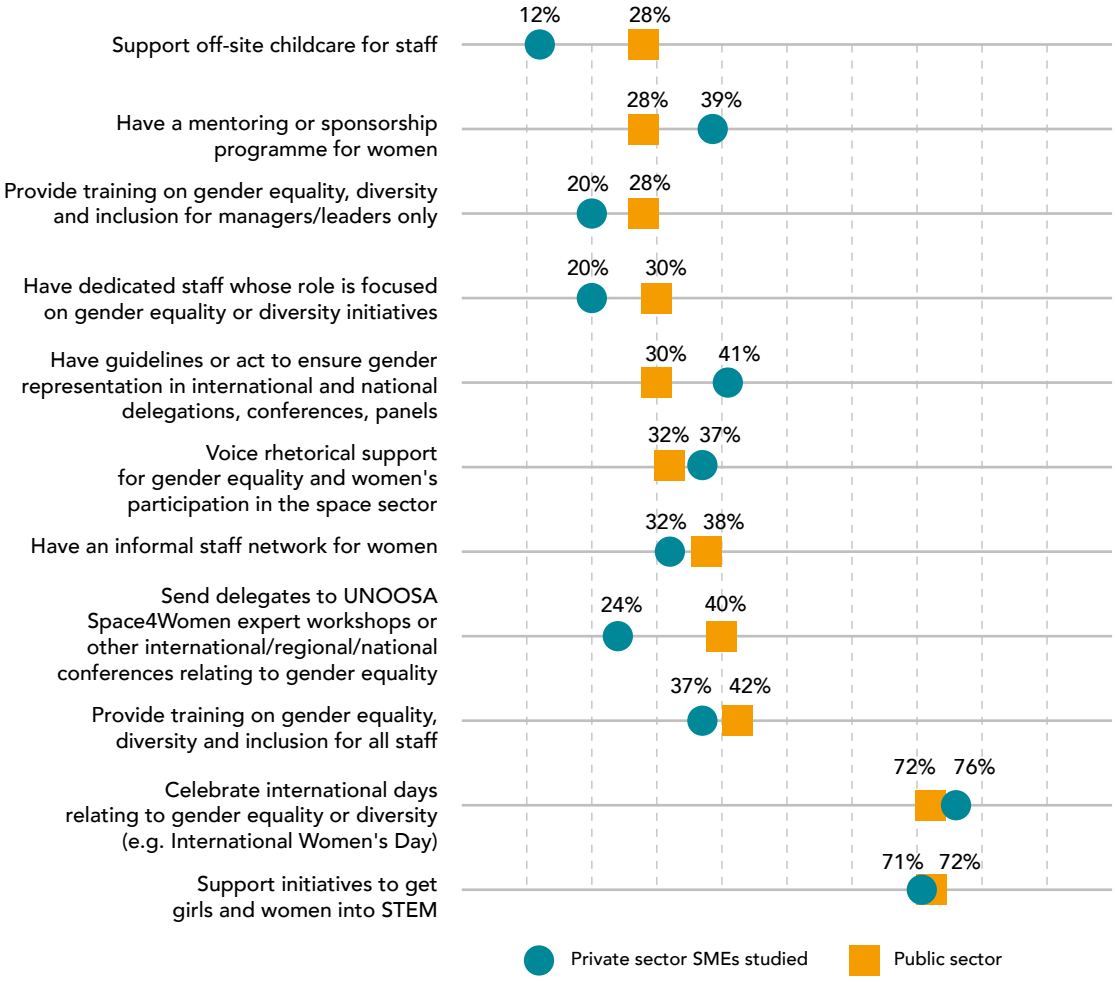
1.5 Activities and initiatives relating to gender equality in the private sector SMEs studied

Most of the private sector SMEs studied take part in additional initiatives or activities relating to gender equality. The top two most popular choices among SMEs were 1) celebrating international days relating to gender equality or diversity, such as International Women's Day, and 2) supporting initiatives to get girls and women into STEM – similar priorities for public sector organizations. **A higher proportion of public sector organizations compared to the private sector SMEs studied tended to**: provide gender equality, diversity and inclusion training for all staff (42 per cent compared to 37 per cent); send delegates to UNOOSA Space4Women Expert Meetings (or similar) (40 per cent compared to 24 per cent); have an informal staff network (38 per cent compared to 32 per cent); have staff dedicated to gender equality or diversity (30 per cent compared to 20 per cent); provide training for leaders only (28 per cent compared to 20 per cent) and; support off-site childcare (28 per cent compared to 12 per cent).

On the other hand, a larger percentage of private sector SMEs studied tended to: provide rhetorical support for gender equality in the sector (37 per cent compared to 32 per cent); have guidelines or act to ensure gender representation in international and national delegations (41 per cent compared to 30 per cent); and, have a mentoring or sponsorship programme for women (39 per cent compared to 28 per cent). This is detailed in **figure 18**.

A notable proportion of private sector SMEs studied engage in mentoring/sponsorship, have guidelines on representation, voice rhetorical support, provide training for staff, and participate in sector-wide initiatives to get women and girls into STEM. However, tangible supports like childcare provision remain enacted only by few SMEs studied, despite the clear benefits this provides families (and particularly, women, who are still more often expected to undertake primary care responsibilities). Further policy and normative shifts encouraging men to undertake parental leave and primary caring responsibilities should be supported.

Figure 18. Activity and initiative uptake relating to gender equality



1.6 Provision of childcare

Five additional questions were asked of the private sector SMEs studied that were not asked of the public sector organizations in 2024. Two of these questions relate to childcare: If you currently provide childcare facilities, are there any conditions individuals need to meet to gain access to these facilities? And, are current childcare facilities adequate for the number of staff that require this support?

A severe minority, **only 7 per cent of SMEs, indicated that their childcare facilities were adequate for the number of staff**. Some SMEs noted that they are planning to introduce childcare, while others noted that they already all work from home, so no extra facilities are provided. Only one out of the 41 SMEs responded that there are conditions individuals need to meet to gain access to these facilities, although from this SME's response (where they stated the condition was "pre-launch"), it is not clear what the exact condition is.

1.7 Gender pay gap

Almost half of the SMEs studied (20 out of 41) indicated they had no gender pay gap. Nine out of 41 (22 per cent) indicated they had a pay gap, with four indicating the pay gap was 30 per cent and others reporting pay gaps between 25-75 per cent. Two indicated they did not know. A further startup indicated they did not follow pay gap data.

These results should be taken with caution, noting that it is not clear what the SMEs based their assertion on when they submitted answer to this question regarding pay gap (we did not require proof – just their estimate). As such, we are unable to verify the veracity of these pay gaps. Regardless, it is clear there is a need to better understand pay gaps in the sector. If it is accurate that almost half of the SMEs studied had no pay gap, **there is an enormous need to understand how they were successfully able to do this – learning that could be critical to other organizations in the sector**. Likewise, f**or those who did indicate a pay gap, the pay gap is substantial**, also indicating the need to understand how it is recurring and how it may be reduced and abolished.

1.8 Recently stopping or starting new initiatives

Forty-three per cent of private sector SMEs studied indicated they had recently started or stopped initiatives regarding gender equality and DEI. Of this proportion, 83 per cent indicated they had recently started doing more, and only 17 per cent indicated they had stopped doing initiatives. **As such there are substantially more people *starting* new initiatives than *stopping* existing initiatives regarding gender equality and DEI.**

Of those who indicated they were doing more, private sector SMEs were starting new workshops on women's health in the workplace; starting girls in STEM programmes; implemented policies refusing to work with organizations that do not employ women (verifying that these women are not only in HR, marketing, or support positions, but also in management and leadership); reviewing pay gaps; developing women's mentoring or informal networks; introduced welfare specialists; set career ladders for teams; and introduced action plans for gender equality.

Of those who indicated they had stopped doing initiatives, most referenced a lack of time or resources.

Responses indicated that **most private sector SMEs studied intended to either keep or increase what they were doing for gender equality**.

2. UNDERSTANDING WHAT WORKS

From the data collected, SMEs who had achieved or surpassed parity (with 50 per cent or more women overall) were largely comparable across a range of policy areas to those SMEs who had yet to achieve parity (with less than 50 per cent women overall). However, **there were two kinds of policies that had significantly greater uptake among SMEs that had achieved or surpassed parity: 1) an internal organization-facing policy relating to gender equality or women's leadership** (70 per cent uptake in SMEs that had achieved or surpassed parity versus only 20 per cent uptake SMEs yet to achieve parity) and **2) a gender mainstreaming policy** (55 per cent uptake versus only 30 per cent in SMEs yet to achieve parity). This provides further impetus for the wider-spread take-up of the UNOOSA Space4Women's *Gender Mainstreaming Toolkit*, freely accessible to all.

SMEs in the space sector that had **achieved parity** were:

- More likely to set quotas for women's representation (19 per cent of SMEs who had achieved parity had done this, compared to 0% of those who had not achieved parity)
- Over three times as likely to have an internal organization-facing policy relation to gender equality or women's leadership
- Over two times as likely to have guidelines or act to ensure gender representation in international and national delegations, conferences, panels
- Over two times as likely to contribute to or undertake research on gender equality in their country's space sector
- Almost twice as likely to have a gender mainstreaming policy
- Almost twice as likely to have and use gender-sensitive funding or procurement principles (e.g. including minimum criteria around gender representation or commitment to gender equality on grants/funding opportunities)
- Almost twice as likely to voice rhetorical support for gender equality and women's participation in the space sector

These findings are explored in **figure 19** and **figure 20**.

Figure 19. Policy uptake comparison

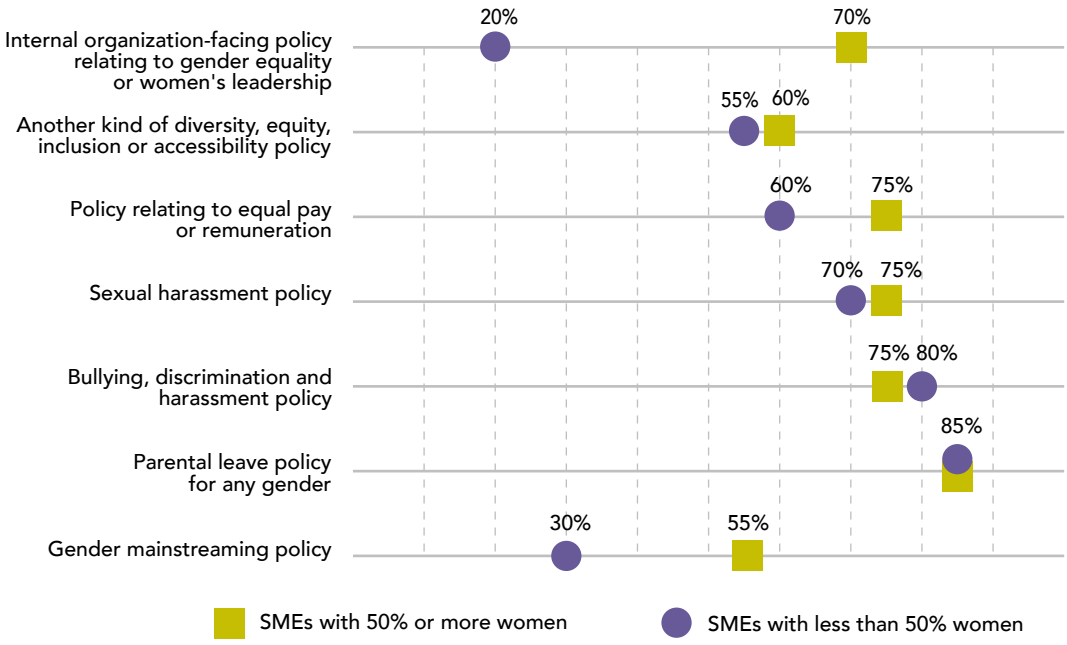
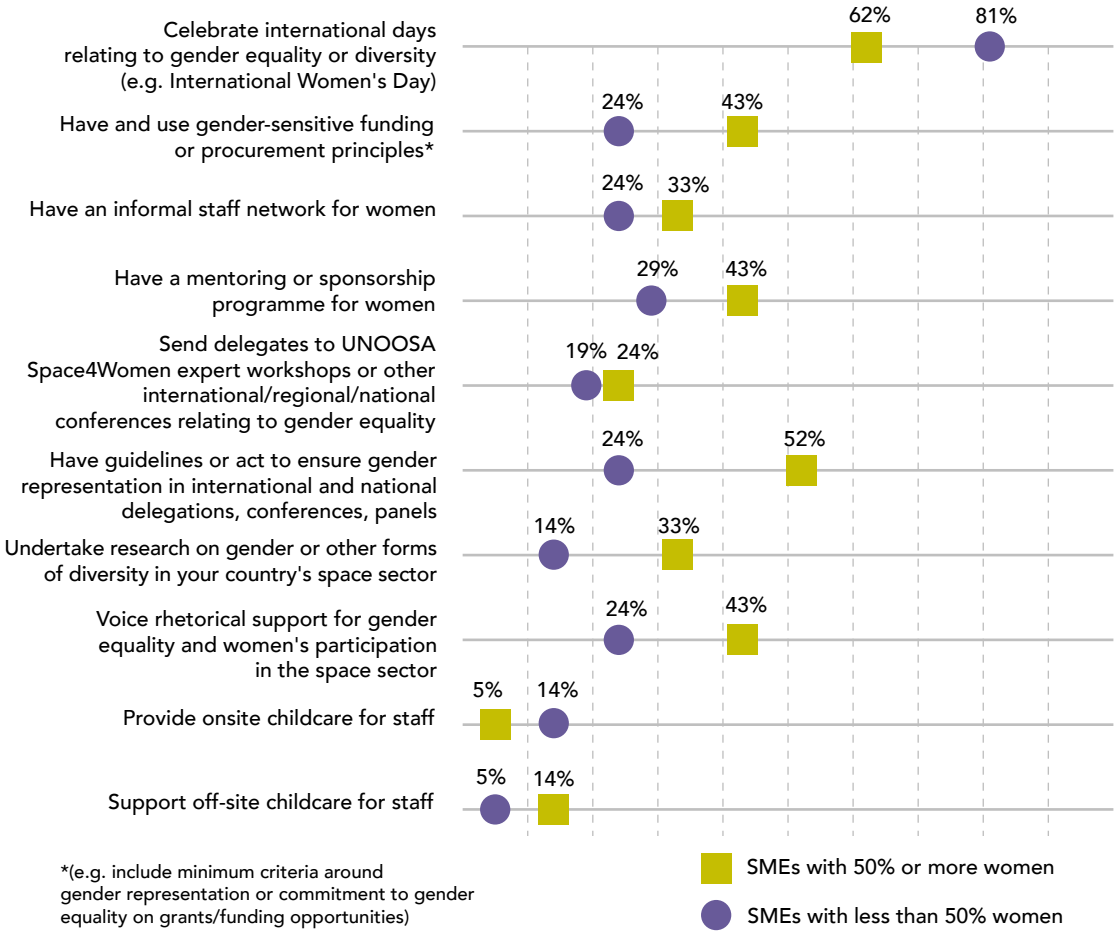
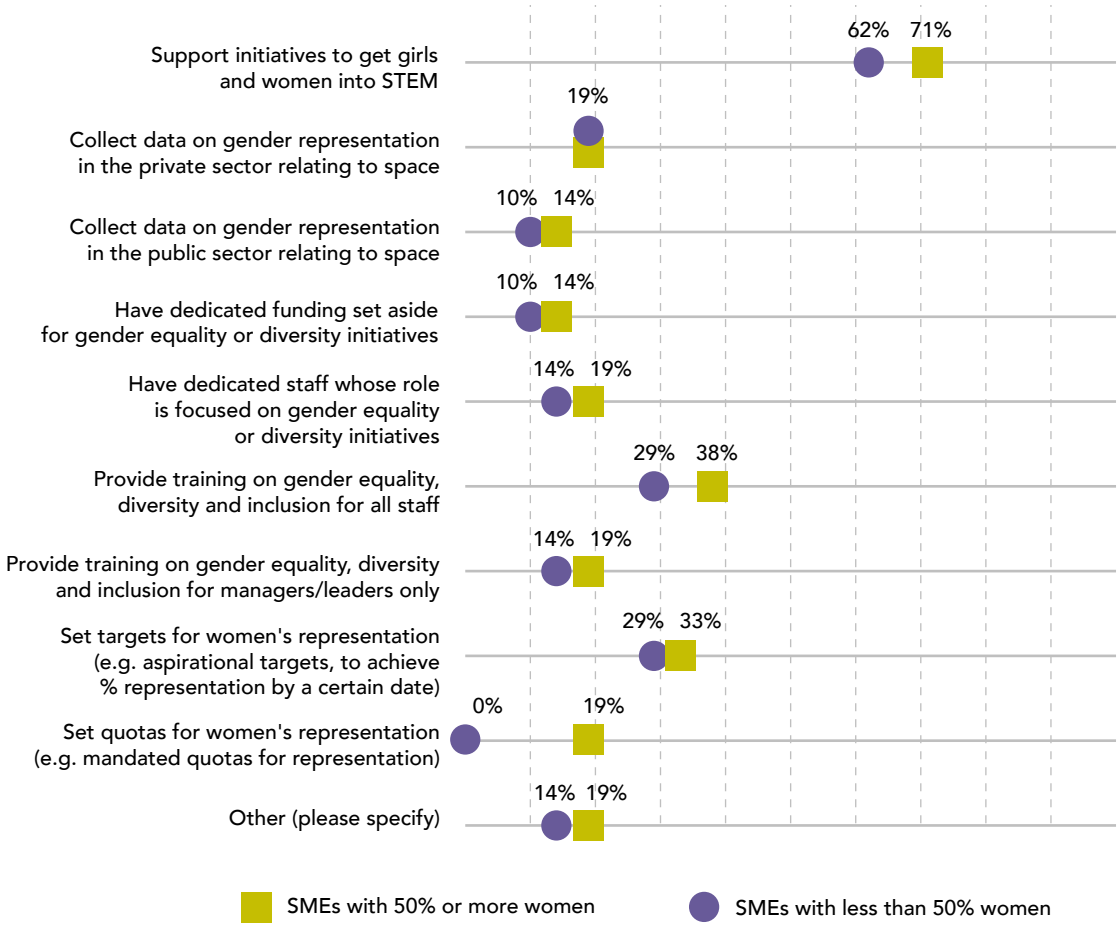


Figure 20. Initiative uptake comparison



*(e.g. include minimum criteria around gender representation or commitment to gender equality on grants/funding opportunities)

Figure 20. Initiative uptake comparison *(continued)*



Additionally, the **private sector SMEs studied shared case studies and insights they felt had made a difference for gender equality in the space sector**. These included promoting more women to leadership; inspiring and investing in women in the sector; monthly podcasts featuring diverse individuals, reporting this had had an impact in encouraging more women in space start-ups; and organizing workshops and networks to discuss women in aerospace and find solutions to challenges.

3. CONCLUSION

Gender equality is everyone's business in the space sector. Overall, Part 2 provides a critically needed insight into gender equality in the private sector of space, presenting an original case study of New Space SMEs in the sector. The results demonstrate that while the SMEs studied represent women roughly proportionally to women's representation in the public sector (as in the Phase 1 study), the **New Space SMEs studied are outperforming the public sector when it comes to women's representation in leadership and in certain types of roles such as astronaut training programmes**.

Further, a range of policies are correlated with higher representation of women, with many similarities between the SMEs studied and the public sector organizations studied in the Phase 1 report. These correlations reinforce the importance of implementing relevant policies that may support women's representation and positive experiences in the sector. For instance, **having an internal, organization-facing policy for gender equality or women's leadership, or a gender mainstreaming policy, were two important types of policy correlated with women's increased representation**. Enacting such policies may reflect an organization's commitment to understanding the status quo and exploring key circumstances, policies or practices they seek to change, in effect helping to set the agenda for action on gender equality in an organization. Although the content of such policies was not studied as part of this research, it is possible that such policy commitments helped to make transparent existing challenges and enable a layer of accountability towards progress. It is also possible that policy presence also dedicated resourcing (funding or staff) towards implementation.

Ultimately, the private sector increasingly drives innovation and advancement in the space sector and therefore represents an important driver of gender equality in the sector too. Boosting women's representation and ensuring their leadership and decision-making in the sector is not only important for women, but also important for organizations and the sector's sustainability and thriving more generally. Not only is reducing and eliminating gender gaps in the private sector crucial to the Space2030 Agenda, but it is also morally and strategically necessary for creating an innovative, productive, and sustainable space sector that can achieve the ambitions of humanity.

RECOMMENDATIONS AND FUTURE DIRECTIONS

> **You need to draw on all these women who have broken the barriers and who have amazing staying power in order to achieve gender equality in the sector. It's about showcasing these incredible women and highlighting female-friendly organizations – these are the best places to work in this war on talent. Women are going to be the advantage to space companies. And space companies that can be inclusive and welcoming towards women will see the best results.**
>
> **Mindy Howard,**
> **founder of Cosmic Girls Foundation and**
> **supporter of UNOOSA Space4Women**

Everyone can, and should, be able to play a role in the space sector. As a critical technology domain underpinning global society, economies, and increasingly, adaptation to climate change and other emerging challenges, the space sector represents an important sector for human flourishing. While progress is witnessed on many fronts in the space sector, there is much more to do to see progress on gender equality in the sector.

In combination with the Phase 1 *Landmark Study on Gender Equality in the Global Space Sector* and the Phase 2 report, there are several evidence-backed recommendations for organizations and the sector to take up. Women in the space sector remain largely positive about the progress made to date, however they are also wary of stagnation and regression in the space sector when it comes to gender equality and seek more support from their organizations. This reinforces a need from space organizations and leaders to re-commit to and strengthen gender equality research, initiatives and goals.

As such, this report shares key recommendations:

1. **Strengthening commitment to gender equality research, initiatives, and goals.**

   This is essential not only for strategic reasons, including talent recruitment and retention and the ability to achieve space sector goals sustainably, but also for moral reasons, with women comprising a significant and growing

proportion of the sector. Increased responsibility towards workplace safety and opportunity is necessary, for the benefit of all workers and the sector as a whole. Actions under this recommendation include:

a. Publicly and within organizations **re-committing to gender equality goals where this has lapsed**,
b. **Voicing support for gender equality** and encouraging support from other organizations and critical actors in the sector, and
c. **Putting further infrastructure and investment behind gender equality goals.** This includes implementing and expanding on the UNOOSA *Gender Mainstreaming Toolkit*; analysing current organizational policies for unequal impacts on genders; analysing current gender pay gaps; exploring gender differences in roles, levels, flexible and part-time work; and uptake of leave.
d. **Expanding role-modelling and mentorship programmes** in the sector.

2. **Expanding participation in research and engagement opportunities, through UNOOSA Space4Women and beyond.**

Input to research is critical to an evolving understanding of what is – and is not – working in the space sector. Such an evidence-based, data-driven approach is already best practice for many other aspects of the sector, which is highly scientific, relying on trialling and testing new innovations, checking for what does and does not work, and pivoting where necessary. Such an approach is critical also when it comes to gender equality in the sector, with research and evaluation enabling more effective investments and interventions towards key performance and sustainability metrics. Tied in with engagement through expert meetings, such an approach enables us to gain best practice and highlight useful case studies, as well as share insights and learnings across organizations and contexts.

3. **Taking a mixed approach to implementing gender equality interventions**,

encouraging organizations to invest in a mix of gender equality practices that have high impact (but often take longer to achieve) and those that have lower impact (but may be quicker or easier to achieve). This may include:

a. Investing in the interventions that demonstrate the highest correlation with women's representation, such as setting aside dedicated funding and organizational authority for gender equality and ensuring organizations have internal-facing policies or strategies around gender equality and/or women's leadership

b. Investing in actions such as voicing rhetorical support for gender equality – a "low hanging fruit" that voices organizational intentions and sets forth an agenda and vision for the sector

4. **Taking a "fix systems" not "fix women" approach.**

While there can be a tendency to frame gender inequality as a problem for women, primarily requiring women to fix, it is critical that gender equality is seen as everyone's responsibility. Gender inequality affects all genders, and all genders can be part of the problem, as well as the solution. It is important to focus as much as possible on structural, normative, legislative and policy-based changes that can facilitate a gender-equal space sector. Rather than one-off or disparate programmes that focus on building women's individual skills and confidence, there is a need to ensure interventions also focus on the environment women are employed within and the systems and structures that currently impact their work negatively in the sector.

Further research is needed to understand regional differences and other key demographic and organizational factors that contribute to better or worse experiences in the sector. Additionally, further research is needed to understand shifts in experiences as wider geopolitical and sectoral shifts occur, including attention to backlash and resistance to gender equality in the sector.

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APPENDIX

Part 1 focus group questions:

Background information

- **Can you please introduce yourself and your role/organization? [brief]**

Observations – general (all questions asked respective of the global *and* the local (country/organizational) level)

- **What feedback have you received about the space sector when it comes to gender equality?**
- **Joining/recruitment/pathways to the sector?**
- **Staying in the sector?**
- **Leading/growing in the sector?**
- **From your perspective, where have we made the most progress when it comes to gender equality in the space sector?**
- **From your perspective, where have we made the least progress when it comes to gender equality in the space sector?**
- **What challenges or difficulties have you experienced/you observed women experiencing?**
- **What barriers do you see affect women's *participation* in the space sector?**
- **What barriers do you see affect women's *experiences* in the space sector?**
- **What are the barriers that might be preventing space sector organizations taking more proactive action when it comes to gender equality in the sector?**

Recommendations and ecosystem considerations

- **What concrete, actionable changes would make the space sector more accessible and inclusive for all genders?**
  - At a global level?
  - At a local/country/organizational level?
- **What role would you like to see your organization play in enhancing gender equality in the space sector?**

Final thoughts

- **Is there anything else you'd like to share about women's experiences or gender equality in the space sector?**
- **Are there any resources, connections or case studies relevant to gender equality in the space sector you'd recommend we explore?**

Part 1 key informant interview questions:

Background information

- **Can you please introduce yourself and your role/organization?**

Observations – general (all questions asked respective of the global *and* the local (country/organizational) level)

- **What feedback have you received about the space sector when it comes to gender equality?**
  - Joining/recruitment/pathways to the sector?
  - Staying in the sector?
  - Leading/growing in the sector?
- **From your perspective, where have we made the most progress when it comes to gender equality in the space sector?**
- **From your perspective, where have we made the least progress when it comes to gender equality in the space sector?**
- **What challenges or difficulties have you observed women experiencing?**
- **What barriers do you see affect women's *participation* in the space sector?**
- **What barriers do you see affect women's *experiences* in the space sector?**
- **What are the barriers that might be preventing space sector organizations taking more proactive action when it comes to gender equality in the sector?**

Recommendations and ecosystem considerations

- **What changes would make the space sector more accessible and inclusive for all genders?**
  - At a global level?
  - At a local/country/organizational level?
- **What role would you like to see space organizations play in enhancing gender equality in the space sector?**

Final thoughts

- **Can you share any examples of actions you have taken towards gender equality in your leadership position? This might be examples of policy change, establishment of a new initiative, or a range of activities that advance gender equality.**
- **Is there anything else you'd like to share about women's experiences or gender equality in the space sector?**
- **Are there any resources, connections or case studies relevant to gender equality in the space sector you'd recommend we explore?**

Part 1 survey questions:

Main questions

1. **Did you always know you wanted to work in the space sector?**
   a. Yes
   b. No
   c. Unsure
2. **What was your pathway to the space sector? Select any answers that apply.**
   a. I studied a STEM-related degree (e.g. physics, maths, engineering, etc.)
   b. I studied a non-STEM-related degree (e.g. humanities, social sciences, law, etc.)
   c. I didn't study any degree.
   d. I worked in other sector first, then joined the space sector.
   e. I joined the space sector as soon as I could.
   f. I undertook an internship or apprenticeship in the space sector.
   g. Someone recommended me for a job in the space sector.
   h. I applied to as many jobs as I could in the space sector.
3. **To what degree do you agree with the following statements?**
   a. Girls and boys are equally encouraged to study subjects that are a natural path to a space career (e.g. STEM subjects).
   b. Students are encouraged to view space careers as requiring STEM skills.
   c. Students are encouraged to view space careers as requiring non-STEM skills (e.g. skills associated with social sciences, creativity, law, etc.)
   d. Women receive the same social evaluation and respect to men in the space sector.
   e. Women entrepreneurs and scientists receive the same funding opportunities as men in the space sector.
   f. Women receive the same professional development opportunities as men in the sector.
   g. Women-led space research and initiatives receive the same support as men-led space research and initiatives.
4. **How well represented do you feel you (or people like you) are in your organization?**
5. **How respected do you feel you (or people like you) are in your organization?**
6. **How valued do you feel you (or people like you) are in your organization?**
7. **With respect to gendered violence or harassment, how safe do you feel you (or people like you) are in your organization?**
8. **In the last 12 months, have you experienced any of the following?**
   a. Physical harassment
   b. Sexual harassment
   c. Bullying
   d. Discrimination
   e. Bias (overt or covert)
9. **[If yes to any of the above] Were you able to do anything about it? Select all that apply.**
   a. Yes, I reported it to my supervisor.
   b. Yes, I reported it to my peers/team.
   c. Yes, I reported it to HR.
   d. Yes, I did something else (please specify):
   e. No

10. **Did you feel the response was adequate?**
    a. Yes
    b. No
    c. Unsure
    d. Other, please specify:
11. **How would you rate your organization for the following? [Likert scale, 1-7]**
    a. Psychological safety
    b. Cultural safety
    c. Feeling respected
    d. Feeling like I belong
    e. Pay and remuneration
    f. Other benefits and conditions of employment
    g. Flexible work
    h. Parental leave and other kinds of leave (sick leave, carers' leave, etc.)
    i. Gender equality-related policies (anti-discrimination, harassment, DEI, etc.)
    j. Feeling like my concerns are heard and actioned
    k. Mobility (support to travel or take up other opportunities, conferences, events)
    l. Future career opportunities
    m. Professional development opportunities
12. **Are you aware of whether your organization has a gender pay gap?**
    a. Yes
    b. No
    c. Unsure
13. **[If yes], are you able to expand on what you think the current gender pay gap is, and how you know about it?**
14. **What would motivate you to stay working in the space sector?**
    a. Future career/funding opportunities
    b. Growth trajectory of the space sector
    c. Work-life balance
    d. Meaningful work in the sector
    e. Exciting work in the sector
    f. Support from partner/home
    g. Other, please specify:
15. **What would motivate you to leave the space sector?**
    a. Lack of future career/funding opportunities
    b. Growth trajectory of the space sector
    c. Lack of work-life balance
    d. Lack of meaningful work in the sector
    e. Lack of exciting work in the sector
    f. Lack of support from partner/home
    g. Other, please specify:
16. **Since you joined the space sector, do you feel things are generally improving or worsening when it comes to gender equality?**
17. **In the last 12 months, do you feel things are generally improving or worsening when it comes to gender equality?**
18. **[OPTIONAL] Would you like to share anything specific about your experience that can help us to understand gender equality in the space sector? (e.g. could be a story of something that either *really helped or really hindered* your career in the sector)**

Demographic questions

1. **What profession/role do you hold within the space sector?**
   a. Scientist or technical role (e.g. researcher, engineer, operator)
   b. Astronaut role
   c. Education or outreach role
   d. Legal or policy role
   e. Student
   f. Advocate/advocacy role
   g. Human resources and/or administrative role
   h. Other, please specify:
2. **What part of the space sector are you from?**
   a. Private sector
   b. Public sector
   c. Intergovernmental organization
   d. Other, please specify:
3. **What is your age?**
4. **What is your nationality?**
5. **How would you describe your cultural background? Select all that apply.**
   a. Oceanian (e.g. Australia, New Zealand, Pacific)
   b. Northwestern European
   c. Southern or Eastern European
   d. North African and Middle Eastern
   e. Southeast Asian
   f. Northeast Asian
   g. Southern and Central Asian
   h. Peoples of the Americas
   i. Sub-Saharan African
   j. Other, please specify if you wish
6. **Are you of Indigenous or First Nations origin?**
   a. Yes
   b. Unsure
   c. Prefer not to say
   d. No
7. **How do you describe your gender?**
   a. Female/woman
   b. Prefer not to say
   c. I use a different term (please specify if you wish):
8. **Have you ever felt your gender identity had an impact on your experience as a space sector worker?**
   a. Yes
   b. No
   c. Unsure
   d. Prefer not to say
9. **Have you ever felt your sexuality had an impact on your experience as a space sector worker?**
   a. Yes
   b. No
   c. Unsure
   d. Prefer not to say

10. **Do you have a disability?**
    a. Yes
    b. No
    c. Prefer not to say
11. **[If yes] Have you ever felt like your disability impacted on your career in space? If so, how?**
12. **Do you identify as someone who is neurodivergent?**
    a. Yes
    b. No
    c. Unsure
13. **[If yes] Have you ever felt like your neurodivergence impacted on your career in space? If so, how?**
14. **Do you currently have primary caring responsibilities (that is, you would classify yourself as the primary carer – of children, parents, wider family, people with a disability)?**
    a. Yes
    b. No
15. **[If yes] Have you ever felt like your caring responsibilities impacted on your career in space? If so, how?**

Part 2 survey questions:

1. **Contact name**
2. **Organization name**
3. **Country of organization**
4. **Email**
5. **How many of the following do you employ overall in your organization? (Note: non-binary or other may refer to a person who does not identify exclusively as a man or a woman).**
   i. Women
   ii. Men
   iii. Non-binary or other
6. **How many women do you employ in the following capacity?**
   i. Part-time or casual (or equivalent)
   ii. Full-time
7. **How many men do you employ in the following capacity?**
   i. Part-time or casual (or equivalent)
   ii. Full-time
8. **How many of the following do you employ in leadership positions in your organization? (Note: we define leadership positions as c-suite or executive leaders for the purpose of this study.)**
   i. Women
   ii. Men
   iii. Non-binary or other
9. **How many of the following do you employ in management positions in your organization? (Note: we define management positions as non-executive, management roles (e.g. mid-management) for the purpose of this study).**
   i. Women
   ii. Men
   iii. Non-binary or other
10. **Do you have an advisory committee or board?**
    i. Yes
    ii. No
11. **OPTIONAL: If you have a board or advisory committee, how many of the following are on your organization's highest level board or advisory committee?**
    i. Women
    ii. Men
    iii. Non-binary or other
12. **In your organization, how many women are in the following positions? (Note: please include all positions including management/leadership)**
    i. Human resources and administrative roles
    ii. Scientific and technical roles (e.g. researcher, engineer, operator)
    iii. Legal or policy roles
    iv. Education or outreach roles
    v. Astronaut training programme/s
    vi. Other

13. **In your organization, how many men are in the following positions? (Note: please include all positions including management/leadership)**
    i. Human resources and administrative roles
    ii. Scientific and technical roles (e.g. researcher, engineer, operator)
    iii. Legal or policy roles
    iv. Education or outreach roles
    v. Astronaut training programme/s
    vi. Other
14. **For the above questions (Q5-Q13), what year/s is this data from?**
15. **Which, if any, of these policies does your organization have?**
    i. Sexual harassment policy
    ii. Parental leave policy for any gender
    iii. Parental leave policy for women only
    iv. Parental leave policy for men only
    v. Policy relating to equal pay or remuneration
    vi. Bullying, harassment or discrimination policy
    vii. Space sector-wide policy or strategy relating to gender equality or women's leadership
    viii. Internal organization-facing policy relating to gender equality or women's leadership
    ix. Gender mainstreaming policy (e.g. assessing the implications for people of different genders in a planned policy action)
    x. Another kind of diversity, inclusion or accessibility policy (e.g. for cultural and linguistic diversity, disability diversity, LGBTIQ+ or other)
16. **[SUB QUESTION FOR EACH OF ABOVE POLICY OPTIONS] If you have this policy, is it specific to your organization or whole-of-government?**
    i. This policy is specific to my organization
    ii. This policy is not specific to my organization
    iii. My organization has both a policy specific to my organization and a general whole-of-government policy that applies
    iv. My organization does not have this policy
    v. A whole-of-government policy exists, but it does not specifically apply to my organization
    vi. Not applicable
17. **Which, if any, of these initiatives does your organization do?**
    i. None of the above
    ii. Celebrate international days relating to gender equality or diversity (e.g. International Women's Day)
    iii. Have and use gender-sensitive funding or procurement principles (e.g. include minimum criteria around gender representation or commitment to gender equality on grants/funding opportunities)
    iv. Have an informal staff network for women
    v. Have a mentoring or sponsorship programme for women
    vi. Send delegates to UNOOSA's Space4Women expert workshops or other international/regional/national conferences relating to gender equality
    vii. Have guidelines or act to ensure gender representation in international and national delegations, conferences, panels
    viii. Undertake research on gender or other forms of diversity in your country's space sector
    ix. Voice rhetorical support for gender equality and women's participation in the space sector
    x. Provide on-site childcare for staff

xi. Support off-site childcare for staff
xii. Support initiatives to get girls and women into STEM
xiii. Collect data on gender representation in the private sector relating to space
xiv. Collect data on gender representation in the public sector relating to space
xv. Have dedicated funding set aside for gender equality or diversity initiatives
xvi. Have dedicated staff whose role is focused on gender equality or diversity initiatives
xvii. Provide training on gender equality, diversity and inclusion for all staff
xviii. Provide training on gender equality, diversity and inclusion for managers/ leaders only
xix. Set targets for women's representation (e.g. aspirational targets, to achieve % representation by a certain date)
xx. Set quotas for women's representation (e.g. mandated quotas for representation)
xxi. Other (please specify)

18. **If you currently provide childcare facilities, are there any conditions individuals need to meet to gain access to these facilities?**
    i. No
    ii. Not applicable
    iii. Yes (please specify)

19. **Are current childcare facilities adequate for the number of staff that require this support?**
    i. Yes
    ii. No
    iii. Other (please specify)

20. **What is the current gender pay gap in your organization? (Please share as a percentage.)**

21. **Have you recently stopped doing any initiatives, or started going any initiatives relating to gender equality, diversity, equity and inclusion?**
    i. Yes
    ii. No

22. **If yes, can you please share what you started or stopped, and why?**

23. **OPTIONAL: Are there initiatives that have improved women's participation in the space sector in your country that you would like to share as case studies?**

24. **OPTIONAL: Please provide links to any relevant publications on gender in your country's space sector (including where this may be in a language other than English) / please feel free to share any other comments. You can also share these files/comments via email directly:** elise.stephenson@un.org.

ENDNOTES

1 Williamson 2020.
2 Williamson 2020; International Labor Organisation 2022; Criscuolo et al 2021.
3 UN Women 2024; Stephenson 2024.
4 Scott, et al 2023.
5 UNOOSA 2024a; Steer 2021; Cass & Rubenstein 1995.
6 Outer Space Treaty 1967.
7 UNOOSA 2024b.
8 Jewkes, et al 2015.
9 INWES & KWSE 2021.
10 UK Space Agency 2024.
11 Space Skills Alliance 2021.
12 Global Institute for Women's Leadership 2025.
13 World Economic Forum 2024a.
14 Space Skills Alliance 2023.
15 DeWitt and Bultitude 2020.
16 Liemohn, et al. 2023.
17 Son and Bell 2022; INWES and KWSE 2021.
18 INWES and KWSE 2021.
19 Deejay and Steer 2024.
20 Breslin 2023.
21 UN News 2021.
22 UN News 2021.
23 INWES & KWSE 2021.
24 Stephenson et al. 2024; Stephenson 2023.
25 UN Women 2021.

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