



**World Space  
Week** ASSOCIATION

# ***World Space Week Association 2021***

# ***Annual Report***



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# World Space Week 2021 Celebrates WOMEN IN SPACE

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# SUMMARY



***Addressing a key issue for the global space community, the World Space Week Association (WSWA) chose “Women in Space” as the theme for World Space Week (WSW) 2021.***

*Using leading female space role models, we highlighted both the wide range of space-based careers where women have excelled and inspired more people than ever to see space as something they can be involved in, work in or study. UN figures show that only around 20% of the global space workforce are women. NASA, one of the world’s leading space agencies, still sees only around a third of their workforce being women, and 16% being what they term senior scientists.*

*In 2021, we began building momentum for World Space Week early, beginning online and social media activities during Women’s History Month in March, building a sense of excitement and momentum through online and social media activities. With ongoing restrictions around the world continuing due to the Covid-19 pandemic, we wanted to ensure that we could build interest and awareness using new tools. As the world enters a “new normal” we saw a growing number of virtual and hybrid events alongside the traditional in-person events taking place. Within this Report you will see case studies of some of the most compelling events taking place in person or online.*

*The growth of WSW in 2021 was phenomenal, with 770 million social media impressions – our highest ever number of engagements. Participants held 6,418 events in 96 countries.*

*In 2021, hundreds of millions of people engaged in WSW in some way, whether they simply viewed information about WSW online through social media, or ran an event. It was also a year which gave us the chance to reflect on some of the challenges that continue to face women in the workplace, and that the space sector, like many other industries, has much more to do in order to make itself safe and welcoming to women. Within the report you will read more about our stance on this, and the importance of tackling these issues head on.*

*In 2021, the Association saw record donations to support our growing outreach. We were invited to present at major events around the world, including two panel events at the World Expo in Dubai. As an organiser, we also arranged a series of webinars, and a series of social media biographies highlighting 41 female role models. We also brought together 58 of our National Coordinators for the first time, to share their own learning and experiences from around the globe.*

*The Association congratulates the global space community for the stunning achievements and impacts of World Space Week 2021. We remain grateful to our highly committed Board of Directors, partners, volunteers, and sponsors, all of whom have contributed in a major way to these successes by allowing us to serve the many WSW participating organizations. As we head into 2022 and our sustainability theme, WSWA hopes that World Space Week will continue to unite the space community in sharing its passion for space through the biggest space event on Earth – World Space Week.*

# A LETTER FROM THE 2021 HONORARY CHAIR

*Lockheed Martin has been a long-time anchor sponsor for the World Space Week Association, so it was a great honor for me to serve as the Honorary Chair for the 2021 events celebrating Women in Space.*

*I am proud to have served this past year to help the Association further promote global celebrations to raise awareness of human and planetary space exploration and all the benefits those efforts bring home to our own planet Earth through STEM education, social media, and other programs focused on space exploration.*

*Throughout history, women from all professions and all parts of the globe have made significant contributions to human and planetary space exploration. Many of these women were featured throughout the year on the World Space Week Association's social media sites, furthering our own knowledge and awareness of their impact on today's interplanetary endeavors.*

*Lockheed Martin is committed to fostering an inclusive work environment with diversity and inclusion at the foundation. Our steadfast focus on promoting women into leadership roles provides strong business performance, and made us a great partner for the 2021 World Space Week events showcasing the contributions of women in the aerospace industry – past and present.*

*Across the company and around the world, Lockheed Martin enhances the growth of our diverse workforce by providing mentoring, networking, and opportunities for professional and personal development. We foster an engaging environment to empower women through sponsorship, coaching, community outreach, and the sharing of best practices to inspire our next generation of leaders.*

*I encourage other individuals and companies alike to get involved in the 2022 World Space Week celebrations to further expand the enthusiasm and passion for space exploration and foster a better understanding of how we can protect and improve our own planet by exploring others.*

*Best wishes for a successful and prosperous year in 2022!*

*Lisa*

*Lisa Callahan, Lockheed Martin's Vice President & General Manager for Commercial Civil Space, And WSW 2021 Honorary Chair*



# FOREWORD

***Dear Supporters,***

*We are excited to present the World Space Week 2021 Report. This year, WSW focused on “Women in Space.” There were thousands of events, both virtual and physical, that addressed this important issue for the global space community. Some events focused on inspiring girls to pursue STEM education and an aerospace career. Other events dealt with the importance of diversity and inclusion in the space workforce. WSW 2021 broke records in virtual participation. The hashtag #wsw2021 made over 700,000,000 impressions on Twitter.*

*Virtual highlights included a White House message on STEM with Vice President Harris and the crew of the International Space Station. Mattel, National Geographic, and other consumer-oriented business celebrated WSW on-line in various ways. But the heart of WSW 2021 were the many virtual events addressing the Women in Space theme in a multitude of imaginative, meaningful ways. Physical events were also impressive, with 6,418 reported in 96 countries, similar to 2020’s level, as both years were constrained by the pandemic.*

*It was a memorable year as well for World Space Week Association. It was our first year governed by a smaller, more hands-on Board of Directors. WSWA had a record year in attracting critically need resources thanks to the tremendous support of Honorary Chair Lisa Callahan of Lockheed Martin. These resources will permit the Association to ramp up its support to the thousands of organizations and individuals worldwide who will participate in WSW 2022 with its relevant theme of “Space and Sustainability.”*

*It is my honor to share with you this report on the biggest space event on Earth! Thank you for all that you do to support World Space Week and the Association.*

***Dennis Stone***  
***President, World Space Week Association***



# FOREWORD

***When I was approached to serve as Chair of the Board of Directors of the World Space Week Association (WSWA), I was undoubtedly thrilled knowing the important role that the Association plays on a global scale.***

*Yet, I was also somewhat hesitant being aware of the challenges that this position would bring along and the difficulties to fill up the shoes of those who preceded me. Despite these concerns, I was honored to accept this role and ready to give my contribution to the success of the Association, particularly to extend its reach into the Asian continent.*

*After nearly one year of acting as Board Chair, I must admit that reality has exceeded expectations; indeed, as time went by, I have gained great admiration for the job that the Association does in promoting awareness of the benefits deriving from the exploration and utilization of outer space, highlighting the importance of equal opportunities in space activities and inspiring a new generation of space enthusiasts all over the world. These elements were perfectly incorporated in the initiatives celebrating the 2021 World Space Week (WSW)'s theme, namely 'Women in space'. Women are often the unsung heroes of a successful space project; from this perspective, WSWA did a wonderful job not only in showcasing the role played by women in space but also in making their stories accessible to an audience that probably would have not had the opportunity to hear them otherwise. Equally important is the theme selected for WSW 2022, namely 'Space and Sustainability'; the relevance of this theme stems from the fact that the issue of 'sustainability' will be addressed in a broader manner, meaning that events will not only be focused on the long-term sustainability of space activities but also on how space improves sustainability on Earth, especially in the less developed areas of the world.*

*Another element that has caught my attention through 2021 has been the ability of the WSWA to quickly adapt to the current (challenging) circumstances and to find various ways to be an impactful player in the space domain. In this respect, not only 6,418 events were recently organized in the context of World Space Week but also a series of webinars were held to discuss various space topics, from "The promise of the future of space" to "Women on the Moon". I had the pleasure to be invited to speak at the webinar entitled "Empowerment through education"; this webinar was particularly insightful in terms of the advices that were given to the younger generation on how to navigate through a 'space career'.*

*Finally, I would like to add that acting as WSWA Board Chair has given me the opportunity to work with several amazing people both within and outside the Association; their encouragement has made my job way easier and extremely enjoyable. I am very thankful to all of them.*

*All in all, my experience as WSWA Board Chair has been extremely positive and rewarding; I look forward to continuing my work in 2022 with renewed enthusiasm.*

*Fabio Tronchetti, Chair of the WSWA Board of Directors*





# FOREWORD

**Dear World Space Week Supporters and Participants,**

*This year's theme is very close to my heart. As a young woman working in the space sector, I consider myself lucky to have the opportunity to work with an amazing group of people who share my values and are always supportive of my vision. I recognize that this is not the case for all women and that there are many challenges that women have to overcome simply because of their gender. In my view, gender should never be the reason you are not given the opportunities that would allow you to be the best version of yourself.*

*One of our goals this year was to celebrate women's accomplishments and contributions to the space sector. We've done that with a 'Notable Women' social media campaign and a new webinar series; both were a great accomplishment and I am grateful to all those who contributed to their success. We also had to address difficult questions and I would like to commend all those who had the courage to start discussions that will, hopefully, lead to positive change in the near future. Yes, we wanted to celebrate women's achievements, but we also wanted to shed light on unique challenges that women face every day and contribute to possible solutions. I like to say that participation in an international event such as WSW gives participants the voice; the voice to bring more attention and awareness to the issues that should be of concern to all of us. Looking back to WSW 2021, I strongly feel that we achieved what we aimed for. Yet, our work is by far not done and we will remain committed to supporting women in the space community.*

*WSW 2021 might be (very successfully) concluded, but we are a long way from reaching gender equality. On that note, I would like to invite all of you to read some of the incredible stories from WSW participants that are mentioned in this report. Bringing awareness to these stories is key to future improvement of conditions for all humankind.*

*End of the year is always a good time to look back and reflect, while looking forward to the future and making plans for achieving the set goals. Now that we finished an incredible WSW 2021, I am already looking forward to WSW 2022 and our theme "Space and Sustainability". It is my firm belief that space technologies are the future, and that the only way we can achieve Sustainable Development Goals, is by recognizing the importance of space exploration in a sustainable way, while also recognizing the importance of space technologies for the improvement of our lives here on Earth.*

*Thank you, dear Participants, for supporting WSW and for making "Women in Space" a success!*

**Maruška Strah**  
Executive Director, World Space Week Association



# SPOTLIGHT

## **SIMONETTA DI PIPPO: AMPLIFYING THE NECESSITY OF GENDER EMPOWERMENT IN SPACE**

*In 2021, we celebrated the 22nd edition of the World Space Week commemoration, mandated by the United Nations General Assembly in 1999. World Space Week, as an annual celebration of the role space activities play for society, is an important endeavour for inspiring the next generation of space professionals and enthusiasts and building an even stronger appetite for international cooperation.*

*The theme of this year's World Space Week "Women in Space" is a timely one. After decades of efforts, we are still far from fully capitalizing on the talent, skills and ideas of women and girls in one of the most forward-looking sectors that sits at the frontier of human capabilities and imagination. With barely one-fourth of the workforce represented by women, we are on par with figures from decades ago underscoring the insufficient pace of progress.*

*This is of great concern as gender inequality is unequivocally a societal and cultural issue. The lack of diversity, equal opportunities, and treatment hold the development of women and girls, hindering their financial as well as personal freedom, limiting academic and professional careers, and holding them back from childhood to retirement. As a woman, but even more so as a human, I am disappointed that in the 21st century, we must constantly remind ourselves of the same thing. Diversity is not an issue; it is an asset. Gender equality benefits not only women and girls, but ultimately the civilization as it profoundly underpins our collective progress as a species.*

*It is high time we take advantage of the untapped potential of women and girls in all sectors and industries, with the Office for Outer Space Affairs devoting its attention specifically to STEM and space. Education and careers in these fields not only empower financial and intellectual freedom, but they are also the key to a better life down the road with 9 out of 10 future jobs demanding STEM-related skills. It is not a matter of choice to draw women and girls into these sectors, it is a necessity if we are to achieve a truly just and equal world.*

*In this context, I commend the work done by the World Space Week Association in raising awareness about these issues under a dedicated theme week.*

**"D**iversity is not an issue; it is an asset."

*With its global reach, evidenced by the 6,418 events spread throughout dozens of countries registered under this year's World Space Week, it spreads the word across generations. At the United Nations Office for Outer Space Affairs (UNOOSA), we feel a great connection with the WSWA and align our activities closely with the annual themes. To celebrate "Women in Space", we organized a webinar focusing on the women actively engaged in the capacity building activities under the UNOOSA Access to Space for All Initiative. Recognizing their contribution and exhibiting that the space sector is for everyone provides a strong impetus for the future generation of female explorers, scientists, engineers, even citizen enthusiasts.*

*Factors that hold girls back are very well documented and the lack of role models and mentorship are at the top. At UNOOSA, we strive to address these issues through a dedicated Space4Women project.*

*Space4Women has facilitated activities in developing nations to provide advice, expertise, knowledge and data to relevant institutions and governments to improve access and use of space technology. This is with the overarching goal to motivate, educate, and train women and girls in their respective regions and ultimately, internationally. With dozens of mentors and mentees, we have established a valuable platform – the Space4Women Network – to support diverse and impactful projects. I am convinced that with the right approach, international cooperation, and consistent funding, the Space4Women project will contribute significantly to finally making that giant leap towards an equal society in STEM and Space.*

*I want to congratulate WSWA for all the work it has been putting into making the space industry more inclusive and diverse and for shaping the space ecosystem more collaboratively. The efforts through the 2021 World Space Week are truly helping the international space community to achieve the goals and targets related to gender equality as envisioned in the 2030 Agenda. At UNOOSA, we look forward to continuing our fruitful partnership in the years to come.*

*Simonetta Di Pippo  
Director, United Nations Office of Outer Space Affairs*



Above: Simonetta Di Pippo tweets for UNOOSA on the first day of World Space Week 2021

# CHALLENGES FOR WOMEN IN SPACE

***A part of ensuring that space can be a welcoming sector for all is understanding the barriers that some face to being a part of the community.***

*In choosing the 2021 theme, Women in Space, the Association recognised that sometimes women face greater barriers than others. Like many sectors, the space industry is not immune to issues faced by women around the world. In the developed world, women still commonly face a glass ceiling, and the gender pay gap remains a serious issue even in the most forward facing economies. Around the world, mistreatment of women persists even in 2021 and is a normality that must change. Women we work with in some countries face huge challenges in carrying out their scientific studies – these are countries where simply being a woman is a life-threatening status, with greater protections for men than for women. These are serious issues on a spectrum of essential change.*

*As an Association we strongly condemn all acts of harassment, misconduct, prejudice, or discrimination against all people on the basis of gender, age, race, nationality, or beliefs. We take a strong stand against harassment, or any actions that create division or go against building an inclusive community. From a moral standpoint, we are of the view that kindness is important – both in real life interactions, and on social media. We believe that positive action can encourage and support others to grow.*

*At the starting point for many of our supporters, this includes avoiding preconceptions and unconscious bias. It includes actively promoting the role that a diverse workforce can play within the space sector. And it also includes allyship – those who hold respect within the sector speaking up for those communities who sometimes face difficulties. In a sector which has historically been male dominated, we applaud those men who work with WSWA to create real and genuine change within the sector, as we see a much more equal and diverse crowd of role models rising through the ranks.*

*Just as importantly, female community support is vital - women supporting other women. This includes women who have gained senior roles uplifting their peers and those still on the ladder; as well as those who are still climbing, celebrating the successes of others who pass them along the way. Gone are the days where a female leader might enjoy the privileges of being the only woman in the room – actively bringing in other women at the same level is vital. In an industry that needs a greater senior gender balance, women, as well as men, must take leadership in celebrating diversity at all levels, including in the boardroom. There can be no more room for competitive tokenism.*

*We also call on everyone, no matter who they are, to drive for a better future. Many of us have and will face challenges, but it is how we react to these, and how we use learning opportunities to shape our experience that can create change. For many, adversity can be a catalyst to try new approaches, to take responsibility for how we – as individuals – can promote new ideas for the benefit of a more diverse society.*

*The space sector must be open to all – our aim is to ensure that as many people as possible can be involved in space, whether through their work, their studies or through a personal interest. Anyone can enjoy space – whether at the top of their career, or simply star-gazing in the evening. The space community must be united, across the world, to grow our understanding. This is only possible by ensuring that a diverse and inclusive group makes up the leaders of the sector, ensuring we can learn from those who have gone before, and creating a community that is open to everyone, whoever and wherever they are.*

# ABOUT WORLD SPACE WEEK ASSOCIATION

*World Space Week Association (WSWA) is an international non-government organization and a registered 501(c)(3) non-profit educational corporation in the United States. It is led by an esteemed volunteer Board of Directors comprised of global space leaders and a Board of Advisors of very senior space executives and dignitaries. Implementing the Association's programs are volunteer officers, a small staff, and supporting volunteers.*

*WSWA and its national coordinators work year-round to encourage the space and education sectors to hold events during WSW to inspire youth and educate the public about space. The result is the largest network of space-supporting organizations on Earth which participate in this annual event. WSWA supports these coordinators and participants with services to help maximize the visibility and impact of World Space Week.*

*The Association works with educators, space industry, space agencies and other organizations to advocate Science, Technology, Engineering, and Mathematics (STEM) education by inspiring students through space during WSW. WSWA encourages the use of WSW as a platform not only for STEM education but to involve the public in space programs and to encourage people around the world to express their passions for space.*

*One of the oldest space advocacy organizations in the world, WSWA has permanent observer status in the UN Committee on the Peaceful Uses of Outer Space (COPUOS), is a member of the International Astronautical Federation, and is supported by numerous global sponsors and partners.*

*As the success of the Week continued to grow, we remain committed to our values and especially to working towards achieving the UN Sustainable Development Goals, specifically SDG 4 Quality Education, SDG 8 Decent Work and Economic Growth, SDG 9 Industry, Innovation and Infrastructure and SDG 17 Partnerships for the Goals.*

***The mission of WSWA is to strengthen the link between space and society through public education, participation, and dialogue on the future of space activities, using UN-declared World Space Week, October 4-10 annually, as a focus.***



*A mother and daughter attend a WSW 2021 event in Karbala, Iraq to learn about the Solar System*

## ***World Space Week Association***

- *Supports the UN in the global coordination of World Space Week;*
- *Expands World Space Week and its impacts on education and society;*
- *Is volunteer-managed and funded through voluntary contributions;*
- *Is a non-profit, non-government organization founded in 1981;*
- *Takes no positions on space policy to ensure that WSW is open to all.*

# WSWA ACHIEVEMENTS

*As the world continued to tackle the Covid-19 pandemic, people and organizations globally adjusted to new ways of working and collaborating. Through 6,418 events and millions of social media impressions, World Space Week 2021 participants harnessed this to see the most successful year ever in terms of on-line and social media engagement. World Space Week continues to be the largest and most diverse global celebration of space on Earth.*



*WSWA Executive Director Maruška Strah presents on space sector equality at the World Expo Dubai*

## *This past year, World Space Week Association has...*



*...raised a record \$107,000 in donations to support the growth of World Space Week.*



*...presented around the world on the impact of World Space Week, including at the World Expo in Dubai where our Executive Director was invited to deliver a keynote address on the topic of Space Sustainability and participate on a panel on gender equality.*



*...released social media biographies about 41 inspirational female role models, often with hidden stories.*



*...brought together 58 National Coordinators from different countries in our first community session to share knowledge and understanding.*



*...organised a very successful series of webinars to celebrate women in the space sector bringing together hundreds of attendees.*



*...seen recognition for World Space Week grow with National Geographic, Mattel and the White House highlighting WSW 2021.*



# WSWA DONOR AWARDS

*Our Annual Awards were presented to the Association's largest sponsors, during the 36th Space Symposium at Colorado Springs in August 2021.*

*This very special event is hosted by our Honorary Chair - this year LMCO Vice President, Lisa Callahan – who personally presented each of the awards. The attendees are senior executives of companies which support World Space Week Association, and the event represents a unique opportunity for WSWA to recognise the impact these organisations allow us to make.*

*Each of these companies had made a contribution of over \$10,000 USD to World Space Week Association, supporting our goals for 2021.*

*The 2022 awards will be hosted by our 2022 Honorary Chair. For more information on how you can make a difference by sponsoring our work, please contact us..*

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## Sponsor Awards Ceremony

Lisa Callahan, Vice President & GM, Lockheed Martin Commercial Civil Space  
WSW 2021 Honorary Chair  
SPACE SYMPOSIUM 2021



Above: Lisa Callahan hosts the WSWA Donor Awards at the Space Symposium 2021

**LOCKHEED MARTIN**



*Generous WSWA sponsors hold their WSWA Donor Awards at the Space Symposium, Colorado Springs. The awards were presented by **LMCO** Vice President, Lisa Callahan – Galaxy Sponsors. Awards were presented to Galaxy sponsor **Jacobs** represented by Dr Steve Arnette, Senior Vice President; Stellar sponsors **ASRC Federal** represented by Jennifer Felix, President and Chief Executive and **SES** represented by Diego Paldao, Director, Latin America and Caribbean.*

# OTHER WSWA ACTIVITIES

*In line with our normal activity, we continued to operate the global World Space Week website and event calendar, share space education resources, create and distribute the annual WSW poster, support WSW National Coordinators, and communicate with key stakeholders.*

*Our Board of Directors and Board of Advisors have continued to be invaluable in driving forward the work of the Association, its ability to create new networks and raise funds for outreach activities.*

## **Partnerships**

*WSWA values its partnerships with other organisations and strives to strengthen those partnerships by working together. This year, we formed new partnerships with Phoenix Space and Serbian Case for Space. WSWA also collaborated with Women in Aerospace Europe (WIA-E) and the Moon Village Association (MVA), furthering our theme and reach.*

## **National Coordinators**

*For the first time, we brought together our National Coordinator network, beginning to grow a sense of community. Volunteers based around the world, these are the individuals and representatives of organisations who make World Space Week the success that it is. We furthered this by spotlighting a National Co-ordinator on social media at regular intervals, sharing best practice and new ideas.*

## **Leveraging Social Media**

*Social media continues to be a key method to reach the public, with growing usage of major platforms every day, by people of all ages. As well as encouraging our global network to use this, the Association made use of social platforms in the run up to the Week itself, and we now use social media to target professionals, students and the public.*

*From March onwards we began using social media as a primary method of communication with a much wider audience, beginning with a regular spotlight on individual female role models within the space sector throughout the summer. In total, we featured 41 stories which, highlighted the WSW theme over a six-month period. We saw high levels of engagement, with our first spotlight tweet celebrating Kalpana Chawla gaining nearly 100,000 impressions alone. Some of these stories featured hidden backgrounds to the role that women play in the space sector, such as Margaret Heafield Hamilton who helped develop the Apollo flight software; and Mary Golda Ross, the first known Native American female engineer and the first female engineer in the history of Lockheed.*

*We also began highlighting the work and achievements of our National Coordinators, with a weekly feature recognizing a different Coordinator from such nations as Venezuela to Malta, Ukraine to Zimbabwe. We will continue to showcase around the year the diverse talent and range of interests that our National Coordinators bring to the World Space Week.*

**WSW NATIONAL COORDINATOR**

**PETER NJUGUNA**  
National Coordinator for Kenya

"Understanding and appreciating the space is practically within our reach, particularly for the young generation! Join World Space Week"



World Space Week OCTOBER 4-10

**WSW NATIONAL COORDINATOR**

**VERONICA ORTEGA CUETO**  
National Coordinator for Dominican Republic  
Club Astronómico de Santiago

"Humanity has gone through its existence, now we are greatest of all, the conquest this path can be the greatest"



World Space Week OCTOBER 4-10

**WSW NATIONAL COORDINATOR**

**VICTORIA CHETVERTAK**  
National Coordinator for Ukraine  
The S. Korolev National Space Museum

"Space is for everybody. It's not just for a few people in science or math, or for a select group of astronauts. That's our new frontier out there, and it's everybody's business to know about space." — Christa McAuliffe (Columbia astronaut)



World Space Week OCTOBER 4-10

Left: National Coordinator Thursdays celebrate WSW coordinators around the world each week, recognising the extensive work led by these volunteers in their nations.

Below: Our first meeting bringing together WSW National Coordinators, which took place on 12th May 2021.



Today we celebrate Mary Golda Ross (9 August 1908 – 29 April 2008), the first known Native American female engineer, and the first female engineer in the history of Lockheed. 🏆👩🔧

#WSW2021 #WomenInSpaceWSW #worldspaceweek #WSWA



10:49 AM · Aug 9, 2021 · Twitter Web App

TWEET HIGHLIGHTS

**Top Tweet** earned 97.3K impressions

Today we celebrate Kalpana Chawla (17 March 1962 – 1 February 2003). She was a NASA astronaut 👩🚀, an engineer and the first woman of Indian descent 🇮🇳 to fly in space 🚀. While serving as a mission specialist on STS-107, her life tragically ended minutes before its landing.



5:36 PM · Mar 17, 2021 · Twitter Web App

145 Retweets 12 Quote Tweets 927 Likes

Above: WSWA tweets through the year highlighting Women in Space.  
Below: Facebook posts, including sharing USA Vice President Kamala Harris's World Space Week video.

Today marks the 1st day of the UN General Assembly declared World Space Week! 📅🌍

On October 4, 1957, the first human-made Earth satellite 🌌, Sputnik 1 was launched, thus opening the way for space exploration. That is why it is also fitting to start the global week of celebrating space on this day, don't you think?

#sw2021 #womeninspacewsw #worldspaceweek #swa... See more



In this video for #worldspaceweek #NASA astronaut Shane Kimbrough teams up with US Vice President Kamala Harris to inspire kids around the world to find an interest in space. This ten-minute video explores making a telescope and some important life lessons.

Check it out: <https://spaceexplored.com/...vice-president-kamala-harris-a.../>

#WSW2021 #WomenInSpaceWSW #WSWA... See more



SPACEEXPLORED.COM

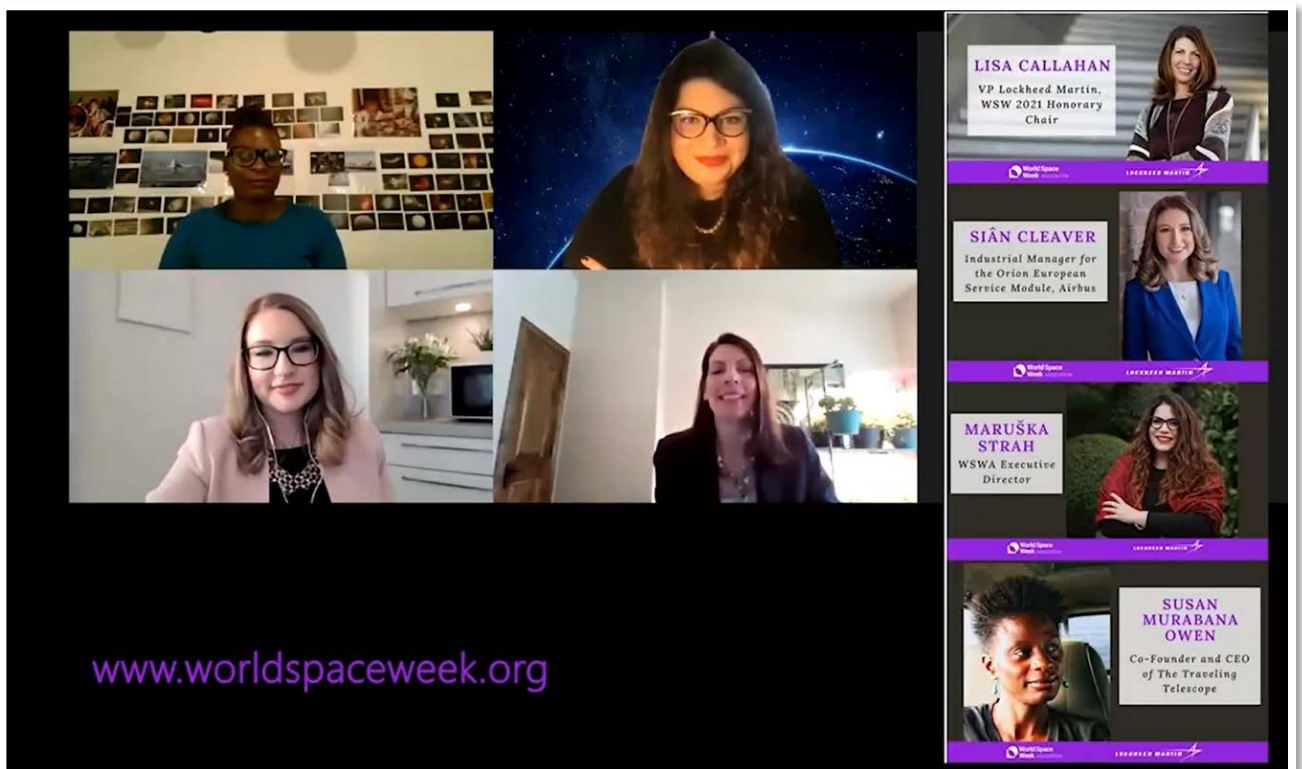
Vice President Kamala Harris and Astronaut Shane Kimbrough team up for World Space Week [Video]

## Webinars

This year, the Association also took a role as an event organiser in running Webinars with female-dominated panels in keeping with the WSW 2021 theme. These sessions were held online with topics including empowerment through education, and putting women on the moon.

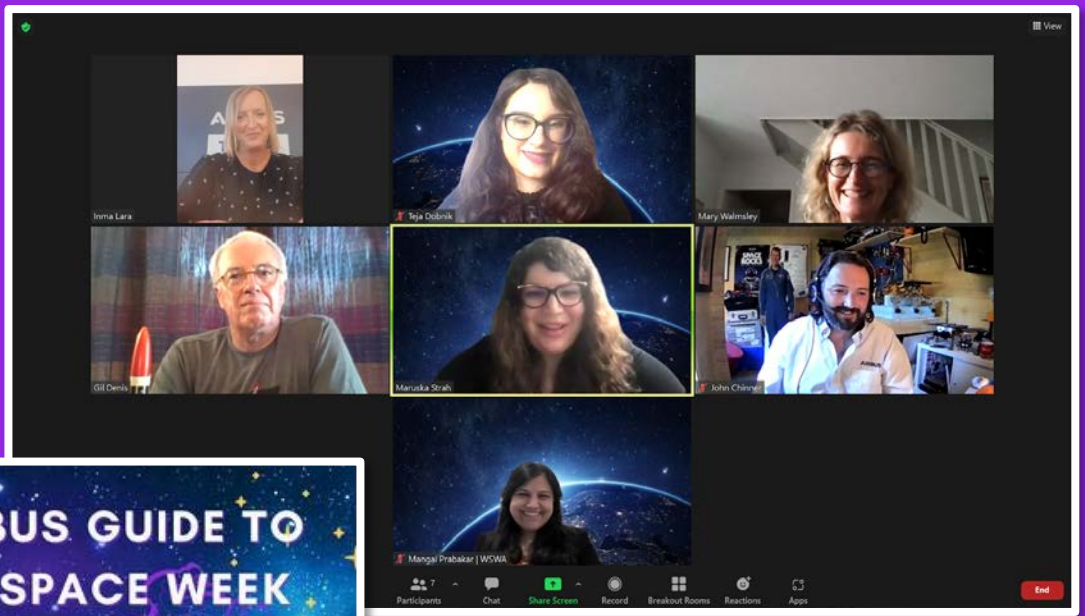
As virtual events, they provided an opportunity for members of the space community from all over the world to take part in the discussion. As well as hearing from our varied speakers and guests from industry and academia, they brought a range of different experiences as they contributed to the discussion.

We plan to continue our year-round use of social media to promote our 2022 theme and build participation in World Space Week, October 4-10, 2022, as well as expanding our virtual and hybrid events.



Above: The Future Promise of Space Webinar

Next page: Shots of our webinars and marketing materials. From top: An Airbus Guide to WSW with panelists (clockwise L-R) Inma Lara, Teja Dobnik, Mary Walmsley, John Chinner, Mangai Prabakar, Gil Dennis and Maruška Strah (center) | Marketing the Airbus webinar | Empowerment of Women Webinar showing panelists (clockwise L-R) Lulu Makapela, Maruška Strah, Teja Dobnik, Fabio Tronchetti, Shelli Brunswick, Mahulena Hofmann | The Women on the Moon: Bridging the Gender Gap webinar with the Moon Village Association with panelists (clockwise L-R) Kyle Acierno, Teja Dobnik, Andrea Jones, Dennis Stone, Soyeon Yi, Sarah Noble, Pavithra Manghaipathy and Maruška Strah (center) | and Marketing for that Moon Village collaborative webinar.

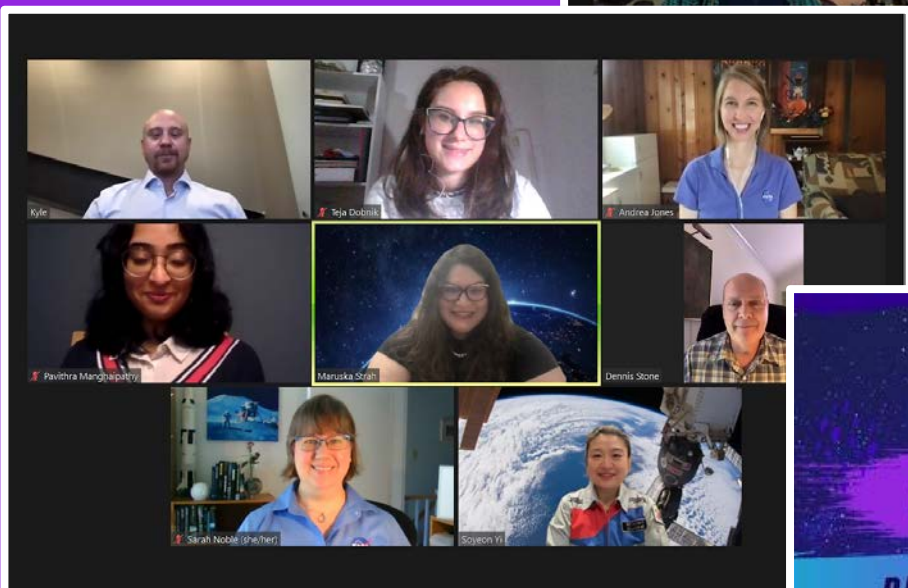


**THE AIRBUS GUIDE TO  
WORLD SPACE WEEK**

**THURSDAY, 16 SEPTEMBER 2021**

9:00 AM MDT  
11:00 AM EDT  
5:00 PM CEST

**AIRBUS** World Space Week ASSOCIATION



World Space Week ASSOCIATION  
X  
MOON MOON VILLAGE ASSOCIATION

**WOMAN ON THE MOON:  
BRIDGING THE GENDER GAP**

7 OCTOBER 2021 • THURSDAY  
11:00 AM MDT  
1:00 PM EDT  
7:00 PM CEST

# WSWA EDUCATION AND OUTREACH

***Alongside a global celebration which is open to all ages, WSWA works with organisations around the world to ensure that more formal educational opportunities can be maximised for young people around the world during World Space Week.***

*As in previous years, we are delighted to have received support from the NASA's Marshall Space Flight Center at the Office of STEM Engagement; the Education and Outreach department of the DLR (German Space Agency); and the Science Education Department from Scientix, STEM Alliance, European Schoolnet.*

*We are also delighted to have welcomed new support from ESERO (European Space Education Resource Office) & the STEM Education and Outreach Unit of the European Space Agency, and the Education Department of the International Space Station US National Laboratory Office.*

*These partnerships add value to the events and activities highlighted at country level by our National Coordinators, and allow some of the world's leading space bodies to share their work and knowledge with wider groups.*

*Our Vice President Education and Coordination, Armengol Torres has also been nominated to sit on the Space Education and Outreach Committee (SEOC) Committee of the International Astronautical Federation (IAF) - representing the World Space Week Association on these group alongside space agencies, space societies and industry bodies.*



Children in Bangladesh participate in a World Space Week celebration on 9 October 2021



# WSW 2021 STATISTICS

Against a background of the ongoing pandemic, World Space Week took place with a range of events of different types, both in person and online, and registered by a broad range of different organisations and individuals, including government agencies, schools, universities, space societies, businesses and more.

This year, WSW saw 6,418 unique events registered in 96 countries, after our careful moderation process had removed 360 duplicate or ineligible events. The Association was delighted that every continent bar Antarctica saw registered World Space Week events for 2021, alongside over 50 events which were marked as global as attendance was not highly specific to one nation. We continued to see very high levels of participation from Pakistan and Saudi Arabia, with the top six countries remaining the same as 2020, although with some ranking positions changed.

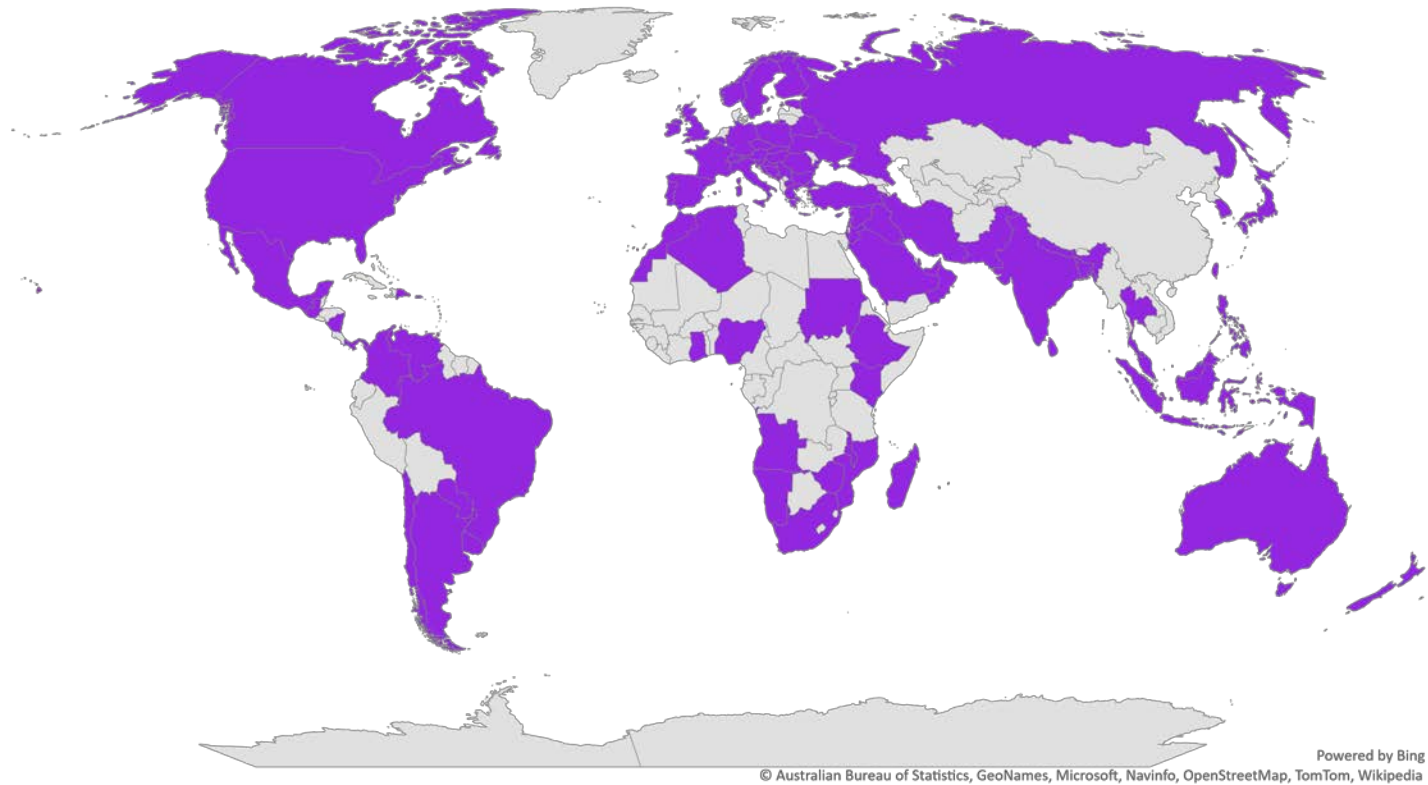
| Rank | Country        | Number of events |
|------|----------------|------------------|
| 1    | Pakistan       | 2687             |
| 2    | Saudi Arabia   | 1780             |
| 3    | Ireland        | 601              |
| 4    | Iran           | 225              |
| 5    | Brazil         | 196              |
| 6    | United Kingdom | 96               |
| 7    | India          | 95               |
| 8    | Romania        | 67               |
| 9    | Croatia        | 63               |
| 10   | Russia         | 44               |

We remain aware that under reporting of events continues to be an issue, and we are working with our National Coordinators and others to ever advance how we can make collection of WSW event data as simple as possible to encourage entry of information. We are also conscious that organisations and individuals are marking WSW in different ways as Covid-19 changes how people come together. Social media is one big example, but television interviews, blogging and use of technology will change how global celebrations operate, especially in a post-Covid era.



Left: The Irish Minister of State for Business, Employment and Retail presents a video encouraging participation in World Space Week with a particular focus on the industry opportunities afforded by engaging with the sector. He also made special mention of the role played by women in the industry. Ireland registered the third highest number of WSW events in 2021.

*World Space Week 2021 registered activities took place in all countries marked magenta on the map below:*



*...6,418 events*



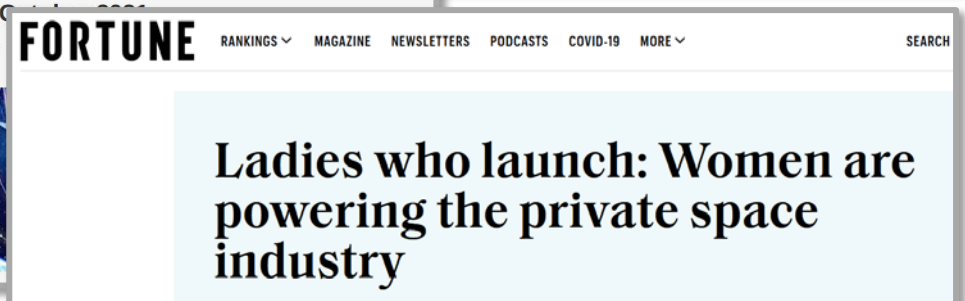
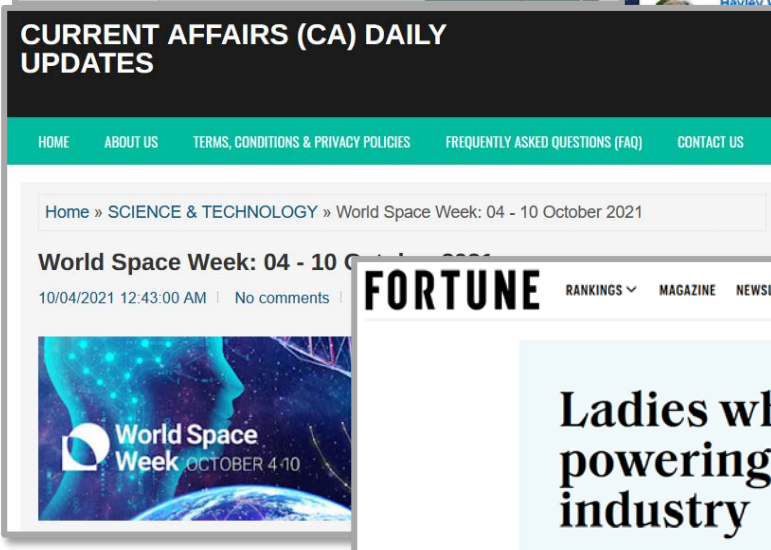
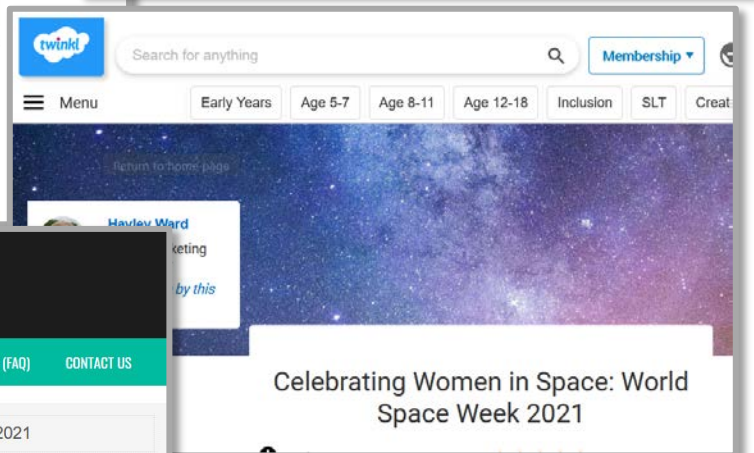
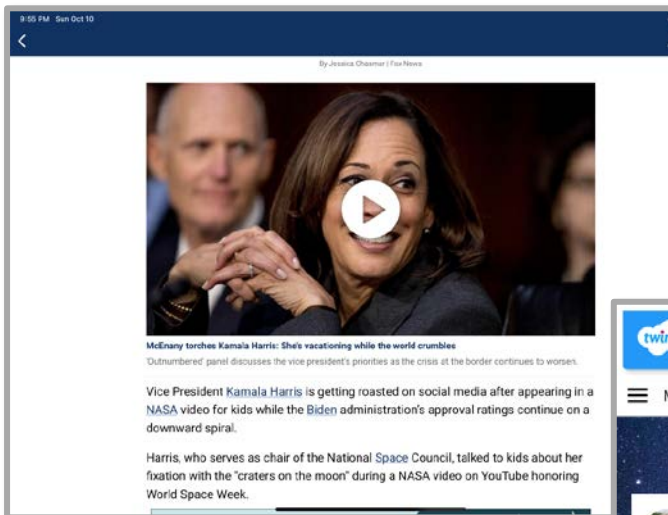
*...96 countries*



*...770 million social media impressions*

# WSW 2021 MEDIA

World Space Week 2021 received media coverage around the world through both print and online news services, interviews, and even outdoor advertising with Janet's Planet featured on billboards (Alabama electronic billboard shown below). Additionally, interviews with the World Space Week Executive Director were syndicated around the world to celebrate the launch of the Samantha Cristoforetti Barbie.



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# marie claire

NEWS FASHION HAIR & BEAUTY SHOP LIFE VOUCHERS ENTERTAINMENT VIDEO

WOMEN'S NEWS FUTURE SHAPERS HORMONES DRIVEN

HOME / NEWS

## World Space Week: Barbie is going zero-gravity in this important new campaign celebrating women in

MENU **6** LIVE @4PM

"It's not just a beautiful doll, it's a smart, accomplished woman. It makes a much difference. I think it's remarkable," says Maruška, director of the World Space Week Association.

Samantha's doll isn't the first astronaut Barbie. Mattel first introduced the astronaut doll in 1965, even before NASA sent astronauts

# DELO

Novice Gospodarstvo Mnenja Šport Kultura Magazin Sol

Predsedovanje svetu EU Slovenija Lokalno Svet Znanost

## V vesolju je prostor za vse

Historica World Space Week Association Maruška objavila prvo pristanka prve ženske na Luni.

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Home > Science > Women pioneers to be focus as World Space Week kicks off today

science

## Women pioneers to be focus as World Space Week kicks off today

The week from 4-11 October was designated annual World Space Week by the United Nations in 1999. It involves events and outreach activities globally related to space.

SANDHYA RAMESH 4 October, 2021 3:04 pm IST

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Home > News > Science & Astronomy

## SETI Institute, Unistellar and Planetary Society Announce Plans to Host World Space Week 2021

Published October 05, 2021

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## Aim Higher for Women in Space

October 4, 2021 · 5 min read

A giant Earthwork portrait of a NASA Artemis Astronaut will be displayed in downtown Atlanta on Monday, October 11 in celebration of World Space Week and International Day of the Girl.

ATLANTA, Oct. 4, 2021 /PRNewswire/ -- A 4,800 square-foot natural Earthwork by renowned crop artist Stan Herd will be created to commemorate World Space Week and International Day of the Girl to raise awareness about NASA's Artemis Program and inspire women and girls through the high-profile STEAM (Science, Technology, Engineering, Art, Mathematics) exhibit. The theme for World Space Week 2021 is "Women in Space."

# WSW 2021 HONORARY CHAIR

*by Linda Singleton, Lockheed Martin Integrated Projects Manager and WSWA Vice Chair*

**As one of the lead sponsors for the 2021 World Space Week celebrations honoring Women in Space, Lockheed Martin participated throughout the year in a variety of ways. Lisa Callahan, Lockheed Martin's Vice President & General Manager for Commercial Civil Space, accepted the role of 2021 Honorary Chair which set the activities in motion. Lockheed Martin Senior Graphic Designer Doug Shuler was tasked to create a unique design for the 2021 World Space Week commemorative posters.**

*Inspired by a passion for Manga-style art that Doug and his daughter share, the illustrated characters are an artistic nod to these four women who inspired millions through their brave and unparalleled contributions to space:*

- *Kalpana Chawla, the first woman of Indian origin to fly into space.*
- *Katherine Johnson, an extraordinarily skilled Mathematician who became one of the first African American "computers" during the early phases of the Apollo Program.*
- *Sally Ride, the first American woman in space.*
- *Naoko Yamazaki, a Japanese engineer and former JAXA astronaut.*

*These posters were distributed around the world and to employees at Lockheed Martin space facilities across the U.S.*



*Lisa Callahan moderated a webinar panel during International Women's Month in March. "The Promise of the Future of Space" featured a panel of professional women from organizations around the world to hear their perspectives of the challenges and opportunities ahead for future space exploration and commerce in space. In addition, Lisa participated in a webinar interview with World Space Week Association Executive Director Maruška Strah.*

*At the 2021 Space Symposium conference in Colorado Springs, Colorado, Lisa Callahan presented appreciation plaques to fellow executives from the Association's sponsor companies SES, Jacobs and ASRC Federal.*

### **Did You Know?**

- *Lockheed Martin is a leading corporate role model among the aerospace industry in terms of advancing professional women into leadership positions throughout the company:*
  - ✓ *22% of Lockheed Martin's Leaders are Women*
  - ✓ *36% of Lockheed Martin's Board of Directors are Women*
  - ✓ *Lockheed Martin employs 7,800 international employees*
  - ✓ *Nearly half of our workforce are Millennials*
  - ✓ *Mary G. Ross was a former high school teacher who became the first female Native American engineer and the first woman engineer ever hired by Lockheed Martin in 1942.*
- *Diversity and inclusion are the foundation of our culture, and through Women of LM, we celebrate the women who make Lockheed Martin better each day.*
- *Lockheed Martin is the prime contractor to NASA to build the Orion spacecraft – America's next human space exploration system that will send astronauts, including the first woman, on long-duration missions to explore the Moon and other destinations throughout our solar system.*
- *Artemis, the twin sister of Apollo and Goddess of the Moon and the hunt, encompasses all of our present efforts to return humans to the Moon – to prepare us and propel us on to Mars. Through NASA's Artemis Program, we will see the first woman and the next man walk on the surface of the Moon.*

### **ORION SPACECRAFT, KSC**



**Kelly DeFazio**

**Lockheed Martin Director of Production for Orion**

*Orion Production Director Kelly DeFazio's congratulatory video message on Lisa Callahan's appointment as Honorary Chair for the 2021 World Space Week celebrations.*

# WSW 2021 HIGHLIGHTS

*During October 4-10, 2021 the world celebrated Women in Space. The Association encouraged people to be creative and use new technology, as well as bringing people together for in-person events where this was safe and permitted under Covid-19 restrictions. As well as a celebration, it was also a chance to reflect on how we can break down barriers for women across the space sector, creating a safe and welcoming environment for all, no matter their gender or background.*



**ASRC Federal**  
24,745 followers  
12h · Edited · 🗨️

+ Follow

It's World Space Week! With this year's theme being "Women in Space", we are proud to support the many women behind the future of the global space ecosystem. ...see more

**ASRC FEDERAL**

Celebrating  
**World Space Week 2021**  
Women in Space

Learn More

**NASA - National Aeronautics and Space Administration** + Follow  
5,546,987 followers  
2d · Edited · 🗨️

Happy #WorldSpaceWeek! Celebrate this year's theme of #WomenInSpace by checking out our new #WomenInSTEM website to learn more about the women of NASA ...see more

**U.S. Embassy in the Philippines**

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U.S. Embassy Celebrates World Space Week with Virtual Event

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NASA SPACE APPS CHALLENGE 10th Anniversary

UPGRADE



**Joana Afonso** 🇵🇹 · 1st  
Manager, Mobility and 5G Solutions, SES Satellites, Networks, Marketing Strategy, Co. 11h · 🗨️

World Space Week 2021 is back with the theme "Women in Space". At **SES Satellites** we are celebrating the stories and contributions of five SESers doing extraordinary in the space industry.

To learn more about this week #womeninspacewsw, visit **World Space Week Association** and join events in over 90 countries that are celebrating accomplishments of women to the space sector.  
#WSW2021 #worldspaceweek #wswa #space #womenempoweringwomen #events

**WORLD SPACE WEEK**  
OCTOBER 4-10, 2021  
Celebrating Women in Space

U.S. Space & Rocket Center  
Home of Space Camp®

presented by **ULA** **ASTC**

Celebrating our SES women in the space industry  
ses.com · 4 min read



*The European Space Agency partnered with Mattel to send a Samantha Cristoforetti inspired Barbie doll on a zero gravity flight on 4 October, kicking off its WSW celebrations and launching a Mattel funded bursary. The collaboration was featured widely including in top women's magazines such as Marie Claire.*

*In Iran, activity generated over 50,000 social media impressions nationally, and trending across 5 capital cities on Instagram and Google. A special episode of the Channel 4 TV programme, Galaxy Guide Traveler (in Farsi راهنمای مسافران کهکشان) was aired focusing on the role of women in the world of astronomy and space during World Space Week aired on Channel 4. This was alongside a packed programme of awards, lectures, media and digital activities led by the WSW organising committee and Space Generation Advisory Council leaders in Iran.*

*In Pakistan, the Space & Upper Atmosphere Research Commission (SUPARCO) reported that "WSW activities are catalytic in providing opportunity to the academia and public to connect with the space work force of the country", as they ran a wide range of Women in Space themed activities, including online events, schools events and competitions attracting participation from schools across the country, including many rural areas.*



*In Iraq, a free public camping opportunity was set up for a day and night at Eridu in the Thi Qar Governorate of Southern Iraq, an ancient Sumerian sight that is listed as UNESCO World Heritage Site, to observe the skies.*





*Filming for the Iranian Channel 4 TV programme, Galaxy Guide Traveler, WSW 2021 special*

# SPOTLIGHT

## AN ONGOING STRUGGLE IN AFGHANISTAN

*This year, we have to recognise the huge work of a team in Afghanistan, who have truly excelled, even though they could not hold their planned activities during World Space Week. We have not included the names of individuals or the team in order to mitigate against any dangers to those involved. We are fulfilling their wishes that we tell their story - for us, it truly demonstrates the massive barriers that women - and others - face, especially in trying to broaden education and grow knowledge within the space sector, and is perhaps the most bittersweet WSW tale we have ever heard.*

*The group is an astronomical organisation based in Herat. Since 2018, founded by a team of two - a female technical surveyor and a male engineering student, they have sought to bring astronomical knowledge to children and young people within the city, paying all expenses themselves.*

*Their work had been extremely challenging - astronomy having no recognised place in education in the nation, and concern amongst local residents who consider astronomy to be a form of magic. Slowly bringing together a larger team of volunteers, and with hundreds of people*



*Artwork created by the group*

*expressing an interest in becoming involved finally, in 2021 the team won a major international programme, picked from 225 applications from around the world, to receive space observation equipment to really take their work to the next level. Just as the team was gaining traction and international support, and with plans for WSW 2021 in place, the political situation in Afghanistan changed rapidly, and the role of women changed overnight.*

*Our female contact would not see all of her work to date wasted. Instead, she worked with her team to produce a documentary and bring an online exhibition to life, in her own words, as a form of silent 'protest' shared between the active members of the group. As a result of her work, she had to leave Herat, because not only was her own life threatened, the safety of her family was also in serious danger. Our contact writes:*

*"All our dreams and goals have been dashed, now we have to sit in a corner and wait for our death, if they know who we are, they will not wait a minute to kill us ... I do not know if anyone hears our voice or not, but I hope that if one day [you will remember us and] you talk to the world about who we were."*

*This determination in the face of such incredible adversity shows a strength of character and conviction that leaves our team in awe. It is terrible that in modern times women's lives can be at risk for choosing to learn about space. Everyone at the World Space Week Association has nothing but admiration for the work of this organisation, their founders, and their members - and we wish them the strength and safety to continue their work.*



*Artwork created by the group*

# ESA & MATTEL: BARBIE GOES ZERO GRAVITY



***A big impact of World Space Week is to reach new audiences in new ways. So the collaboration between the European Space Agency and Mattel to use World Space Week to launch their Samantha Cristoforetti Barbie doll was an exciting beginning to the WSW Women in Space theme.***

*The idea built on the Mattel “Dream Gap Project”, and sought to address studies that show that girls begin recognising gender stereotypes at a young age. These beliefs are likely to impact on their education and careers, as they see common cultural representation impacting their own ambitions and aspirations, potentially missing out on learning skills and going into careers where they could excel. This special doll sits alongside a wider collection of astronauts Barbie dolls, seeking to show girls that they can be anything they want, just like their favourite dolls.*

*ESA sent the Cristoforetti Barbie doll on a zero gravity mission of her own on a Zero-G parabolic flight, but built a much larger programme of activity around the release.*

*Samantha Cristoforetti herself met with children from around Europe, answering their questions and inspiring them at the European Space Agency Astronaut Centre in Cologne, Germany, with this content filmed to inspire many more young children to think about a career in space. ESA worked with Mattel to produce resources that could be used by parents and teachers, signposted from the Barbie website, to educate and excite.*

*Ensuring long term impact, a percentage of profits from the sale of the doll were earmarked to fund the ESA x Barbie Bursary, hosted by Women in Aerospace: Europe (WIA:E). The €5,000 prize was offered by WIA:E with the aim of funding an outreach project focusing on bringing women into STEM or successful collaboration between genders. The call for proposals closed on 1st December 2021, with the winner to be announced in February 2022 - just one way that the impact of the WSW Women in Space theme will not end in year. We are grateful to our partners at WIA:E for their huge support of our theme this year.*

# WSW 2022 THEME: SPACE AND SUSTAINABILITY

*"The idea of sustainability perfectly embodies the invaluable contribution that space gives to the betterment of mankind."*

*Dr Fabio Tronchetti, Chair of the Board of Directors, World Space Week*

***WSWA has chosen "Space and Sustainability" as the theme for World Space Week in 2022. Through this, we see two branches of the topic to be covered - achieving sustainability in space, and achieving sustainability from space. These are two very different but interconnected areas of work for the space community.***

*Sustainability in space relates to how humanity uses space, most pressingly, the orbital area surrounding Earth - itself a finite resource. At the start of 2021, there were 6,542 satellites listed as being currently in orbit by the UN. Close to half of these were no longer active. In 2020 alone, around 1,200 new objects were launched into space, with space activities conducted by 65 countries. In order to ensure the sustainability of future space activities, we must ensure that space debris can be cleaned up, and not pose a threat to future missions, included crewed craft where lives could be endangered.*

*Achieving sustainability from space is a different ask - this addresses how space can help to achieve a cleaner, fairer and safer planet Earth. There is a much greater story to tell in terms of how space exploration and remote Earth observation can help drive change for our own home planet. This includes measuring climate change, identifying pollution on land and at sea, supporting agriculture in developing nations - an endless list. Of the 169 targets that form the 17 UN Sustainable Development Goals, 65 directly benefit through Earth observation satellites and related technologies. Achieving the SDGs would be so much harder without the tools and techniques available to scientists through space exploration.*

*We are excited for the 2022 theme, and how our supporters will use this opportunity to spread awareness of the link between space and sustainability, grow new knowledge and make creative connections.*

# WSWA LEADERSHIP



*From left – Fabio Tronchetti, Linda Singleton, Dennis Stone, Maruška Strah, Armengol Torres, Catherine Doldrina*

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## **BOARD OF DIRECTORS**

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*Participants at WSW 2021 workshop in Oradea, Romania*

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| <i>Ethiopia</i>               | <i>Biniyam Kebede</i>             | <i>Spain</i>                    | <i>Antoni Paz</i>                 |
| <i>France</i>                 | <i>J.B. JB Desbois</i>            | <i>Sri Lanka</i>                | <i>Gihan Dahanayaka</i>           |
| <i>Ghana</i>                  | <i>Reagan Masud</i>               | <i>Sudan</i>                    | <i>Moutaman Mirghani</i>          |
| <i>Greece</i>                 | <i>Zoulias Manolis</i>            | <i>Syrian Arab Republic</i>     | <i>Muhammed Alassiry</i>          |
| <i>Guatemala</i>              | <i>Vinicio Montoya</i>            | <i>Tajikistan</i>               | <i>Saidbeg Kalandarov</i>         |
| <i>Hungary</i>                | <i>Laszlo Bacsardi</i>            | <i>Thailand</i>                 | <i>Wares Chancharoen</i>          |
| <i>India</i>                  | <i>Sachin Bahmba</i>              | <i>Turkey</i>                   | <i>Ksenia Synkova</i>             |
| <i>Indonesia</i>              | <i>Angga Risnando</i>             | <i>UAE</i>                      | <i>Maitha Al Romaiti</i>          |
| <i>Iran</i>                   | <i>Saeed Jafari</i>               | <i>Uganda</i>                   | <i>William Asiimwe</i>            |
| <i>Iraq</i>                   | <i>Eyad Khailany</i>              | <i>Ukraine</i>                  | <i>Victoria Chetvertak</i>        |
| <i>Ireland</i>                | <i>Rob O' Sullivan</i>            | <i>United Kingdom</i>           | <i>Victoria Southgate</i>         |
| <i>Israel</i>                 | <i>Tal Inbar</i>                  | <i>United States</i>            | <i>Allegra Searle-LeBel</i>       |
| <i>Italy</i>                  | <i>Tommaso Marino</i>             | <i>Uruguay</i>                  | <i>Fernando Gimenez</i>           |
| <i>Japan</i>                  | <i>Taichi Yamazaki</i>            | <i>Venezuela</i>                | <i>Jose Godinho</i>               |
| <i>Kazakhstan</i>             | <i>Nazifa Baktybayeva</i>         | <i>Yemen</i>                    | <i>Abdulmalek Saad Jassar</i>     |
| <i>Kenya</i>                  | <i>Peter Njuguna</i>              | <i>Zimbabwe</i>                 | <i>Kuhamba K Timothy Udzanayi</i> |



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