



Event Transcript  
**Reducing Space Threats: A Resolution**  
December 8, 2020  
Virtual Event

**Speakers:**

- Aidan Liddle, UK Ambassador and Permanent Representative to the Conference on Disarmament in Geneva
- Rajeswari Pillai Rajagopalan, Distinguished Fellow & Head of the Nuclear and Space Policy Initiative, Observer Research Foundation
- Victoria Samson, Washington Office Director, SWF
- Alexandra Stickings, Research Fellow for Space Policy and Security within the Military Sciences team at RUSI
- Jessica West, Senior Researcher, Project Ploughshares

**Moderator:** Daniel Porras, Director of Strategic Partnerships and Communications, SWF

**Nathan Johnson:** Oyez, oyez, oyez. I call the Space Court Foundation video series to order. My name is Nathan Johnson and I am the Co-Founder and Executive Director of the Space Court Foundation. On behalf of ourselves and our co-hosts at Secure World Foundation who have also sponsored today's closed captioning, I'd like to thank you for joining us for our video series on reducing space threats of resolution.

The Space Court Foundation is a 501(c)(3) educational nonprofit corporation that promotes and supports space law policy and education in the rule of law. The Space Court Foundation produces educational materials and scholarship through the administration of two major projects, Stellar Decisis and the Space Court Law Library.

The Foundation engages in partnerships and collaborations that help grow greater awareness of space law and how disputes in space may be resolved as humans venture further from Earth in the not too distant future. For more information about our mission, programming and internship programs, we ask that you visit our website at [spacecourtfoundation.org](http://spacecourtfoundation.org).

If you enjoy our programming, you can support us by becoming a patron on our brand new Space Court Foundation Patreon page offering multiple levels of monthly subscriptions with a variety of benefits that offer pre-release content and exclusive ways to get involved with our work.

You can also support us by purchasing Space Court Foundation merchandise online at Celestial Objections Apparel available on our website. We offer clothing, accessories, and decor, with proceeds going to support our nonprofit.

Finally, I invite you to check out all of our videos on the space corps foundation's YouTube channel we produce content every month on important topics relating to the rules that govern space activities. Please remember to subscribe and follow us on social media for the latest updates.

Our moderator today is Daniel Porras. Daniel serves as the Director of Strategic Partnerships and Communications at the Secure World Foundation. Previously, Daniel served as a space security fellow at the UN Institute for Disarmament Research, where he focused on political and legal issues surrounding space security.

He was the resident technical expert for multiple UN bodies working on space security issues, including the group of governmental experts on prevention of an arms race in outer space. Recently, Daniel joined the Board of Directors for the Space Court Foundation, and has been an invaluable supporter of the foundation from the beginning.

Thank you again, Daniel for putting this excellent program together.

**Daniel Porras:** Thank you so much, Nathan. I appreciate it. Welcome to everyone. Thank you so much for joining us early, certainly late for others. It's wonderful that we're all able to come together during this virtual period of our world. Wanted to thank a few folks real quick as we're kicking things off.

In particular, Space Court Foundation for giving us this platform, and in particular my producer Laetitia Zarkan. She's absolutely invaluable. We wouldn't be able to put all these events together without her. I also want to thank Secure World Foundation and many thanks also for the closed captioning.

If anybody is interested, you can turn on the closed caption function down here, where it says more. It's got the three little breadcrumbs. Also, thank you very much to the UK mission for agreeing to do this event with us, to Ambassador Aidan Liddle, who's going to be speaking with us today, and of course to Simon Cleobury, who is always very helpful in helping us to work together with the UK government.

Today's event is near and dear to my heart. Mostly because, as many of you all know, I focus a lot on space security, and so I was delighted to hear that the UK government was putting forward a new initiative at the United Nations to look at space security and how we might be able to deal with some of the challenges and threats that are occurring.

To give a little bit of context, for about 40 years we've had an agenda item at the UN called the Prevention of an Arms Race in Outer Space. As some of you have already heard me and many of my other colleagues here today talk about, there are some worrying trends that we're seeing in terms of development of not what is an arms race in outer space, but there is an arms race potentially happening, and outer space is simply a part of it.

The Secure World Foundation does a publication every year on counterspace capabilities, using publicly available data to show that there is a development and a lot of the technology to try and target satellites for disruption or potentially destruction. I've also recently, as you'll know, participated in putting together of a paper with Ben Silverstein and John Borrie of UNIDIR here.

We analyze indicators of potential arms race in outer space. It's great to see that the UK government is putting forward a new initiative to try and look out maybe some of the solutions that could be available to us.

With that, I would like to introduce Ambassador Aidan Liddle, an old friend now. Ambassador Liddle, he is the ambassador and permanent representative to the Conference on Disarmament in Geneva. He was appointed in 2018.

He joined the Foreign Commonwealth Office in 2003. During the course of his career, he has served as the deputy head of mission at the British Embassy in Stockholm, at the EU internal department. He was the head of the South African section and private secretary to the permanent undersecretary in London. It's a very impressive CV.

I would also like to congratulate him, as the UK resolution passed yesterday in the General Assembly. We'd now like to hear from him about what this resolution is, what it could mean for future work on space security, and what the next steps might be. With that, Ambassador, take it away.

**Ambassador Aidan Liddle:** Thank you so much, Daniel. It's brilliant to be with you virtually this...well, it's afternoon here in Geneva, or whatever the time, wherever you are.

Thank you very much to you, Daniel, for putting this event together. Thanks to Space Court Foundation and Secure World Foundation as well. It's really good to be able to have the opportunity to talk about this.

Thanks in advance as well to my extremely distinguished fellow panelists. It's really great to be sharing a virtual stage with you.

As you say, this is quite a timely session. The resolution, which we gave the snappy title "Reducing Space Threats Through Norms, Rules, and Principles of Responsible Behavior" passed the First Committee just over a month ago at the beginning of November and was adopted formally by the General Assembly in New York yesterday afternoon.

We had 164 votes in favor with 12 against and 6 abstentions. We were really, really pleased to see a really wide range of support from across the UN membership for this initiative.

It's now an official UN General Assembly resolution. The number isn't actually yet up on the system, which is really annoying. I think it's going to be 75/38. Anyway, I'm probably the only one who gets excited about that sort of thing.

Before I say more about what the resolution does, I think it might be worth saying a bit about the state of space security diplomacy and why we thought the time was right for a new approach.

Daniel, you've already touched on some of it in your introduction, but I think it might be worth spending a bit of time on that because it's important background.

I think the first thing to say is that there are some fundamental rules that govern peace and security in outer space. The UN Charter itself applies in outer space. There's some controversy about exactly how, but I think everybody accepts that it does.

There has been some progress on establishing guidelines for safe and sustainable operations in space as well. Already, back in 1959, which was only two years after the launch of "Sputnik," the

UN set up a Committee On the Peaceful Uses of Outer Space, UN COPUOS, which sits in Vienna.

UN COPUOS agreed on a series of important conventions in the late 1960s and early 1970s. For our purposes, I think the most important of those is the 1967 Outer Space Treaty, which amongst other things banned the placement of weapons of mass destruction in orbit or on celestial bodies.

The 1963 Partial Test Ban Treaty already prohibited nuclear tests in space, but this was the first one to talk about weapons in space. The latest thing COPUOS did was last year to adopt 21 guidelines to long-term sustainability of outer space activities. Really, what COPUOS focuses on is safety and sustainability and the peaceful uses of outer space, the civilian uses of outer space.

Obviously, the Outer Space Treaty from 1967 has some important guidelines on military activities as well. Military uses of space really falls under the purview of the Conference on Disarmament, which I'm accredited to here in Geneva and the UN General Assembly's First Committee, which we've mentioned already.

In the early to mid 1980s, both the Conference on Disarmament and the UNGA First Committee started discussions on PAROS, on preventing an arms race in outer space, which Daniel mentioned. This was really motivated by the prospect of not WMD but conventional weapons' being deployed in space.

I think after many, many years of fairly circular discussions, the main initiative in this field up until now, I would say, was the proposal for a draft treaty prohibiting the placement of weapons of space which was proposed by China and Russia at the Conference on Disarmament in 2014. The most recent version was tabled in 2014.

The CD never agreed to launch formal negotiations on this draft. The group of government experts, but Daniel expertly supported to consider the whole question of a legally binding instrument on outer space broke up without agreements in 2019. The line of work has never really taken off.

It's probably worth exploring the reasons why that is and a bit more detail before we get on to what we're trying to do with our new initiative. I suppose the first problem that we and many others see with, particularly, the PPWT, but I think the whole line of work is that it ignores the problems effectively verifying the capability of objects in orbits and dealing with dual use systems.

Basic relational awareness, technology is getting good at tracking the behavior of objects in outer space. We don't yet have the technical means to ascertain the capabilities of objects once they're in orbit. Frankly, I don't think there's any prospect of states allowing blanket inspections, on site inspections of objects before they get launched into space. We certainly wouldn't do that, and I don't expect anybody else would either.

Even if there were prospective of that inspection regime, it wouldn't help with the fact that space objects designed for perfectly legitimate civilian purposes can also be used to disrupt or destroy other objects in space once they're out there. For example, a satellite with a grappling arm or a harpoon to strike space debris out of congested orbits such as the University of Surrey have been developing could also be used to knock military communication satellites out of position.

The line between what is perfectly legitimate, very welcome civilian capability and lots of military capability is approaching to anyone. This dual use problem isn't a new problem in disarmament diplomacy. We deal with this problem in chemical and biological weapons, for example.

The stakes are higher in space, partly, because of the nature of the environments, because objects are out of reach of inspection once they're launched, and of course, because of the potential consequences of miscalculation, which I mentioned a bit earlier. That's also the first set of problems with this legally binding approach.

The second problem is specifically with the PPWT, the Russian and Chinese draft is it largely ignores the fact that the rest of the space systems don't just or even primarily emanate from kinetic methods in space. That's not to say that those threats aren't present or serious because they are.

It's also important when you're considering the whole range of threats to space systems to look at ground-based anti-satellite capabilities, which many states have demonstrated already, threats to ground stations or communication links between ground stations and space objects, and various techniques for temporarily or permanently disabling of space objects remain such as cyber electronic or directed energy, which stop short of physically destroying satellites and creating debris, but otherwise disable it and put it out of action, whether temporarily or permanently.

The main lesson takeaway from this is that we can only avoid weaponizing space if we manage threats from the Earth. You can't look at the different domains in isolation.

Alongside the PPWT initiative, there have been two other strands of work in space security diplomacy which don't take a legally binding treaty as they go or at least not explicitly.

One was a draft International Code of Conduct for outer space activities, which the European Union began work on back in 2008. But that sort of hit the buffer in 2015 in face of some pretty concerted opposition from many different players on both substance and process grounds. That hasn't gone anywhere in the last five years or so.

The other strand of work in the various UN mandated efforts dating back to the early 1990s is developed transparency and confidence building measures with TCBM in outer space. That came up with a set of voluntary TCBM being drawn up by another UN group of governmental experts and adopted by the General Assembly back in 2013.

That's something that exists and was adopted by consensus and is widely acknowledged to be a good piece of work, but again, it was only voluntary and TCBM is really only go so far. It's as much about transparency and communication as setting rules of the world, as it were.

There have been things going on but, of course, as developments have rather outpaced UN diplomacy. This audience will be very familiar with what's been going on in space over the last few years, but it's important to recognize a few particularly important here.

One of which of course is the number of space actors back in the '70s when these issues were first being talked about in terms of security. It was a US-Soviet discussion. There weren't any other serious space players.

Today, there are at least 30, I would say, spacefaring nations. Many more have realistic aspirations to become spacefaring nations in the not-too-distant future. And as I'll say a bit more about later, almost every country depends on space systems in some sense, whether it's communications, position, navigation, timing, all sorts of other things.

I suppose the other thing is the fact that space is becoming increasingly congested, not, just by the increased of spacefaring nations but because of the rise of commercial actors, non-state actors from space. There's a huge number of objects going up in space every year, states with developing [inaudible 16:57] technology.

Of course, there was competition and congestion in space involving not just asymmetries, but increasingly now civilian commercial operations and the fact it's probably civilian commercial operations that were in the forefront of space, where the military forces before.

I would say that poses two main challenges from a security perspective. The first is, as I suggested just now, is that because states depend on space systems for their civilian and their economic life as well as their military operations, space systems are now part of state's critical national infrastructure.

That means that they represent a point of vulnerability, which can be exploited by emissaries in the crisis. It means that the states that depend on them have a legitimate interest in protecting and defending those systems, and that comes back to what I was saying earlier on about needing vulnerability of space systems when you're looking at weaponization.

I suppose the second challenge from a security perspective is that the existence of these vulnerabilities and the existence of these sorts of ambiguous dual-use capabilities that I was talking about earlier can lead to heightened tensions between states. That, in itself, can lead to a vicious circle of escalation both in space and on Earth. This isn't necessarily new.

The pace of technological change and the rapid growth in the number and diversity of actors in space makes the risks of misunderstanding or miscalculation between space actors increasingly dangerous and, I would say, urgent.

If a state doesn't understand or misinterprets the maneuvers of a potential adversary space object near a sensitive system of their own or isn't sure what capabilities it might possess, you can see how the situation could escalate.

The conclusion that we drew from all the factors that if we want the space environment to remain peaceful, protected, accessible, and free from conflict, then we need a new approach to space security. That leads me on to the UK's resolution. Our idea for breaking this deadlock was to look at the drivers for arms race in outer space in a different angle.

As Daniel said, I don't think anyone would deny that there is at least the beginnings of an arms race or the condition for an arms race in place at the moment. Trying to separate space from Earth and different systems is pretty nonsensical. If we're looking at the drivers of that race, we need to look at things from a different angle.

I would suggest that our resolution departs from previous attempts to do this in three main ways. The first way is that we focus on behaviors, not objects. The traditional arms control

disarmament diplomacy approach is to look at objects or capabilities. We put qualitative and quantitative controls on systems to remove the need for competition.

That traditional objects-based approach, as I was suggesting earlier, hasn't got us very far. The other way of looking at what drives arms races is not looking at the adversary's capabilities and trying to match them or counter them.

It's to look at the behaviors or actions of the various parties that might exacerbate tensions and drive competition, and, therefore, fuel the need to develop new capabilities. That approach for us as well as being a perfectly sensible way of looking at arms racing also has the benefit, particularly for space, of not getting tied up in the verification and definitional issues that I touched on earlier.

This isn't about trying to define what is a weapon in space or to look at verification regimes and that sort of thing, which the object approach leads you to pretty quickly. You can use this behavioral framing to get you into a conversation which covers all space legitimate concerns, and thereby, hopefully, leads to a process whereby you can identify common ground and look for solutions.

That's the first difference in our approach. The second is that, in contrast to other initiatives which have been tried from time to time, this is an organic, bottom-up approach. We take as our starting point, the threats and challenges that exist today. We acknowledge that different problems will lend themselves to different solutions.

Rather than suggesting a comprehensive top-down legal framework, which is what other both legal and non-legally-binding proposals have tried to do, we try and look at the problem from the bottom up and do it in an organic way. The important thing to emphasize in that is that this process doesn't presuppose or rule in or out any particular outcome.

It is not aiming at a particular instrument, or a particular format, or a particular set of issues. The idea of a legally binding treaty is still very important to a lot of member states. We have to recognize that. This work is perfectly capable of that ambition, but it doesn't predetermine that as an outcome.

If it looks, from this conversation, like there are certain problems that lend themselves to being solved by a legally binding treaty or by some other mechanism, those options are left open from the start, which is important.

The third main difference is that we wanted to get away from the idea that this is an issue that primarily concerns the spacefaring nations and particularly, what you might call, the great space powers or the military space powers.

Perhaps it's never been explicitly stated but it's been implicit in the way that the UN and the Conference on Disarmament has approached these issues for decades, that this is one for the big powers and everybody else has to come along. For the reasons I was saying earlier, this is no longer something that the P5 or the spacefaring powers can sort out amongst themselves.

There are plenty of big spacefaring powers who are outside those traditional arms control mechanisms. There are plenty of very influential actors who aren't spacefaring nations at all. Some of them might aspire to be, others don't.

The most important thing to realize is that if this is a question about collective security, as I suggested earlier, every state has a stake in this. Every state depends on space for their security, both economic and physical security, if you like.

As well as having a process that involved everybody in coming up with solutions and identifying threats and concerns, we also wanted to start a process which would create a better collective understanding of the current threats to space security and the implications for all states, whatever their capabilities and aspirations in space.

That's partly a trust and confidence building measure in its own right. It's also a way forward. If we all fail to understand the motivations and aspirations of every other state, then we're going to go around in circles as we have done before. That's the conceptual framing of the new resolution.

In terms of what the resolution does, frankly, it seeks to start a conversation. It's no more ambitious than that.

There are three or four key provisions, I would say. One is that states are invited to start a conversation about it. Operative paragraph 4, for example, invites states that already have space defense policies or space security policies to present them formally in various fora, the Conference on Disarmament, or the UN Disarmament Commission, or wherever else.

That's a transparency measure. It's to encourage dialog. In operative paragraph 5, we encourage member states to start doing the work themselves to understand these issues. A lot of these issues are new to a lot of states. A lot of these issues haven't been on the table in this way before.

In operative paragraph 5, we ask member states to study existing and potential threats and security risks to space systems, including those arising from actions, activities, or systems in outer space or on Earth. We ask them to characterize actions and activities that can be considered responsible, irresponsible, or threatening and assess their impact.

We ask them to share their ideas on the further development and implementation of norms, rules, and principles of responsible behaviors which might reduce risks of misunderstanding and miscalculation. That's setting the homework, if you like, for all of the UN member states.

In operative paragraph 6, the General Assembly asks member states to submit their views on these issues, once they've studied them, to the UN Secretary-General. It asks the UN Secretary-General to compile a report which analyzes the submissions from member states and makes recommendations back to the General Assembly on future work.

Finally, in operative paragraph 7, we create a new agenda item on the General Assembly's agenda next year under the overall prevention of an arms race in outer space agenda item which gives this process a institutional home to develop over the coming years. The resolution was adopted yesterday. These provisions will start to kick in very soon.



We expect the Secretary-General to write to member states in January to request their views with a deadline in May. The Secretary-General will then write the report. I expect he'll have his people do it for him. That report will come out in August. That'll be in time for the next General Assembly first committee session in October.

What we're going to be focusing on as the UK now over the next few months is to work with member states to make sure as many as possible submit their views to this report. It's really important to us that a broad range of member states engages with this process and submits their views.

We're planning a number of events in the first half of next year to workshop these ideas, talk them through, trying to understand each other's perspectives, and to help states think through what they want to see in that report. We're also going to be putting our own national submission together as early as possible to help stimulate conversation.

Perhaps just a few final thoughts before I finish, which we might pick up more in the discussion. The first thing to say is that we want people to understand that this initiative is about space threats. This is about threats to space systems. It's not about space weather. It's not about reducing debris. It's not about rules of the road for commercial operators.

They're all incredibly important for preserving the space environment. They also have knock-on effects to security, by the way. Our focus on this is primarily on threats to space systems and the implications that those threats have for strategic stability and for the security for states on Earth. This is about avoiding conflict first and foremost.

Second, Daniel, you alluded to the fact that you've had previous conversations about this. I won't go into too much detail -- these are real problems. Nations are still developing anti-satellite missiles and lasers that can destroy sensors on satellites. We see the use of jamming equipment that impact some civilian air and maritime traffic as well as our military systems.

Some of the activities that you can see developing in space might impact on nuclear systems, commander control or early-warning sensors. This is serious stuff. If a nuclear weapon state has its early warning capabilities messed about with to think that a nuclear strike is coming, that matters for everybody. These are incredibly important issues.

It also underlines why you need to take a very holistic view of all of this. You can't just look at different vectors or different aspects of the infrastructure in isolation.

That's probably all I need to say. This is important work but it's only the beginning. This process of dialog and conversation, it's important for its own sake but I really hope, over the years to come, this is going to lead to a serious discussion about what we might do to try and mitigate these threats, and reduce the risks of conflict, and reduce the risks of miscalculation and misunderstanding. That's a good thing to look forward to. Thanks very much.

**Daniel:** Thank you, Your Excellency. That was a very thorough presentation. Like I said, a lot of the things that you're saying and the starting-off point is really good news for those of us who have been working in this field.

We do want to see the conversation moving. We want to make sure that there are some legitimate efforts going towards focused tangible measures that could actually improve security in space. This is a great way to get things started. We're always in favor of having a good conversation.

I've got tons of questions for you, but you know what? I'm going to defer. I am very proud to say that we have an all-lady panel of experts to talk with us today. In the American parlance, I think we would call this murderers' row just because they are all at the top of their game. I don't envy whoever's on the other end of their barrage of questions.

I would like to start out. Just to remind everybody, we have a quick format. I'm going to introduce each one of our expert panelists, give them an opportunity to make a quick statement, and then ask the ambassador a question. Then after that, we'll switch back over to Q&A and try to take some of the questions from the audience.

I would also like to remind everyone, we are living in a COVID world which means everyone is at home. Some people have puppies. Some people have kids. These things happen. Sorry about that, Your Excellency, just in case the little critters start yelling at each other.

I would like to start off first with my colleague, Ms. Victoria Samson, the Washington Office director of the Secure World Foundation, and also one of my old friends. She's co-editor of the counterspace assessment that is done every year.

She is an expert in this field. She started off doing a lot of work on missiles in the first place. She also understands the importance of space systems to the wider military capabilities. Victoria, please.

**Victoria Samson:** Thank you, Daniel. I'd like to say hello, everyone. Thank you, Ambassador Liddle, for that interesting overview. I'd like to extend my congratulations to United Kingdom for the successful passage of this resolution, recognizing that time is an issue.

Let's start with just making the point that outer space activities are more important than ever. Any significant interruption, whether it's delivered or even implied, could have serious implications for national security and socioeconomic ripple effects.

This creates both opportunities and challenges, require timely policy responses and a concerted approach in multilevel fora like the United Nations. Since 2005, there have been 20 anti-satellite weapons test in space or against satellites by four different countries, a rate of testing that has not happened since the 1960s.

In addition to outright weapons testing, there have been a growing number of concerning activities in space. Many of these concerns are rendezvous and proximity operations or deliberate close approaches of outer space objects by satellites.

There's a growing concern that such activities might increase tensions between countries or could be misinterpreted as hostile actions that precipitate an armed attack. Various multilevel fora have discussed current space security challenges. These discussions focusing on legally binding approach have yielded very limited progress.

Our approach to space security and stability has not been working. We need to change it before the changing space domain precipitates a crisis, unintended or otherwise. Ambassador Liddle mentioned the PPWT, and that as well as the proposal for no first placement of weapons in space have not had much traction.

I'd like to point out between 2017 and 2019, three different UN bodies tried and failed to create any significant progress on space security issues in multilateral setting again, talking about it from mostly a legally binding approach, the Group of Governmental Experts on PAROS, CD Subsidiary Body 3, and the UN Disarmament Commission.

There needs to be a recognition that there is no silver bullet for solving the core space security challenges. They are complex. They'll require multiple approaches that involve both voluntary and legally binding efforts that work together as part of a comprehensive whole.

There are a number of concerns and issues that can serve as a starting point of further discussion on developing a substantive framework to enhance space security and stability. It is time that all possible options to bolster international strategic stability and space security are fully explored.

That's why things like this UK resolution is such a welcome change to how we're even approaching ensuring space security and stability. With that, I'd like to ask the Ambassador Liddle. Space security and stability has long been viewed as an issue that primarily affects the superpowers and established space actors.

How do we make sure this discussion of responsible space behavior is relevant to the emerging space actors and space data users? Along those lines, how do you assuage concerns that the mandate of responsible behavior won't put an undue burden on emerging space world? Thank you.

**Ambassador Liddle:** Thanks very much. Yeah, it's a really good question. As I've alluded to earlier, this has too long been seen as something for the big powers to talk about amongst themselves for the reasons I said. It's certainly not legitimate now, if it ever was.

Our work leading up to this resolution is underlying for us that a lot of states are getting scripts with this problem now. As part of our preparation for this resolution, we ran a series of Wilton Park workshops, conferences in various regions of the world, in Africa, Latin America, Asia.

The message we got from there was that the people are focused on the importance of space systems and the reliance they place in space systems but haven't perhaps necessarily made the link to national security from that. People are looking at it from a peaceful users' point of view and a technological point of view but not necessarily from what that means for your security.

I hope that parts of this resolution, part of the benefits to this resolution, is that it starts that conversation going and fuels the awareness of the different threats and vulnerabilities that are out there.

In our consultation, this idea about making sure that space is a domain for peaceful use was really important. Another of the implications of the Outer Space Treaty is that this is a domain which has got to be kept open and accessible for all. This is a common domain, a global commons.

We've been very careful to say that this is about maintaining access to space and certainly not about trying to restrict it. The reason for doing this in a collective way is precisely to avoid the problem about being seen to impose rules or burdens on others and raising a barrier to entry.

As I say, this is about trying to keep space open. I'm sure that we'll come out in the Secretary-General's report and inform the future direction of this project.

**Daniel:** Thank you, Ambassador. That was a great question also from Victoria. Up next, a dear friend of mine, Dr. Raji Rajagopalan. Raji is a distinguished fellow and head of the Nuclear and Space Policy Initiative at the Observer Research Foundation in New Delhi.

She was also one of the in-house experts for the Group of Governmental Experts on the Prevention of Arms Race in Outer Space. She and I went through a lot throughout that process. I'm sure she also has a stimulating question for you, Ambassador. With that, Raji, fire away.

**Dr. Rajeswari Pillai Rajagopalan:** Thank you, Daniel. Thank you to the Ambassador for the very straightforward but is very crystal clear in that sense, outlining the resolution as of now. This is a welcome break because you have had PPWT as one particular option for a very long time.

The main question was, what is the alternative? OK, you don't like PPWT, but what's the alternative? The UK's step to coming up with this proposal, that's a very welcome thing and also provides us an alternative. PPWT or even NFP, the EU ICoC, none of these have led us to a favorable destination.

We need to see what went wrong. That's important. When you look at space, it does become so important in our lives. At the same time, some of the recent developments, and especially in the security sector, are very damaging. We see these consequences.

Unless we take certain measures to restrain and restrict the kind of activities that we engage in space, our access to space will not be safe, secured, or guaranteed. Like you said, you outlined very clearly some of the very recent developments over the last decade or so. Like I said, none of these have led to very clear, favorable outcome.

That is primarily because, to me, the biggest challenge facing the development of an outer space regime is the lack of consensus among the media powers. That's the key problem. These are essentially political impediments. They are not technical or legal issues. They are political issues and, therefore, that much harder to resolve in some ways.

This also comes from the fact that major power relations today are characterized by serious lack of confidence and trust in each other. The trust that's so absent in today's political relations among major powers has become a big problem.

Therefore, I would say, even though your proposal, you don't look at one particular outcome or one particular format as the outcome of this process, but we need, in the first instance, measures that would strengthen trust and confidence in each other.

Again, TCBMs have proven to be one good measure to go about because they are essentially an intermediate step between a functional need of regulating space and finding a binding instrument, developing a binding instrument.

We have witnessed number of debates in this regard on the need for binding and nonbinding measures. They haven't had much success, so far. TCBMs can tackle that one particular issue, which is the biggest challenge today of political issues. TCBMs are simply raised to strengthen dialogue, openness, greater transparency, and information sharing.

Of course, these are voluntary in nature, but that can also increase the attraction for confidence in each other. That's an important aspect, which we haven't generally seen. There are several advantages and some disadvantages as well, advantages being this is a voluntary commitment and, therefore, easier to reach a political agreement.

There could be sufficient interest in all sides of other possibilities of an agreement. That is something that you can work out. At least in the first instance, develop the kind of trust and confidence in each other. TCBMs precisely do this particularly.

Second, there are no complications as to what is that you're agreeing to, what is that going to be enforced, verified, and so on and so forth. There are no extended set of a legislative process.

There is a disadvantage to many of the people and many of the folks who are against the TCBMs, that it can be broken without any penalties. To me, one single advantage outweighs the disadvantage. These are excellent measures targeting the political aspects of addressing outer space challenges.

That is important. These are excellent platforms. It opens up dialogues and periodic interactions between states and precisely what your proposal seeks to do. Therefore, we should have an end goal of developing more binding instruments. In today's political and security environment, reaching a political consensus among states are going to be difficult.

We need to invest a great deal in developing trust in each other as the first point. The UK proposal, not looking at one particular format, is a very encouraging sign. More importantly, you have an alternative to PPWT or the EU ICoC.

My one question I wanted to ask you is we have had two GGEs in recent years, the 2013 TCBMs and the 2019 on PAROS. Of course, you have also seen the worsening political climate by the turn of the second GGE to the point where there is not even a consensus report. The divisions appeared to have become much sharper.

I would like to understand from you what are the various steps that you might have taken by the UK government to narrow down the differences and build greater support for the UK proposal? Again, thank you. Best wishes on your proposal. Thank you.

**Ambassador Liddle:** Thanks very much. Just before I answer the question, it's a really good point on TCBMs. What we're trying to do is to very much build on the work that's been done on TCBMs but then look to see where we can move beyond there.

That's why appreciation for the role of TCBM can play, but as you suggest, they are a necessary but not sufficient tool for what we're trying to do. It's sort of bridging the gap in a way. Building on TCBMs is moving towards a more normative approach, that which we're trying to do.

Yeah, it's no secret that the political climate is pretty extraordinary right now. It's very difficult to get consensus on. It's difficult to have a conversation based on trust, which is why our resolution is so important. It also means that there are quite little headwinds that we need to navigate as well.

I mentioned earlier that 164 states supported that. That's brilliant. It includes a lot of states who have existing or future aspirations in space. A lot of states have been engaged in these issues from all over the world. We had strong support from Latin America, from Africa, from Asia, as well as from Europe and North America. That's important to us.

We also have to recognize the 12 states that voted against. States like Russia, China, Iran, DPRK all have space capabilities of various degrees. There were a handful of states who abstained as well. In particular, India and Israel are major space players and whose views matter in it.

The first important thing today is that we engage everybody in working up this proposal, including and in particular, Russia and China. We work hard with them and with India to explain what we are trying to do and to get that buy-in.

Obviously, it wasn't enough this time around. Our hope is that those states will, at least, engage with the process. Just because they didn't support the resolution doesn't mean to say they can't submit their national contributions to the Secretary-General's report.

I would hope they do that, because it's important to understand why those states didn't see this as a worthwhile exercise, and to try and to persuade them that there's some merits in it. We will carry on working with them, and talking to them, and engaging with them, and trying to keep open that space for dialogue because it's important.

**Daniel:** OK. Thank you very much, Ambassador. Up next, we have Ali Stickings. Ali Stickings is the research fellow for space policy and security with the Military Science team at the...I've already forgot the RUSI acronym again. The Royal...I'll let you do it, Ali. Royal Utility Services Institute?

**Alexandra Stickings:** Royal United Services Institute.

**Daniel:** United. That's it. I don't know why. RUSI just gets me every time. As you're a fellow countryman of the Ambassador and coming from the UK perspective, we'd have a lot to hear from you, in particular, in the context of this resolution in wider UK policies on space at the moment.

**Alexandra:** I agree. Thank you, Daniel. Ambassador, thank you so much for your remarks as well. I'm going to just put this in a little bit of context of the UK and what's happening at the moment.

The UK is currently undergoing what's called the Integrated Review. This is a major review across UK's defense national security and foreign policy objectives. Of course, space is

something that cuts across all of that. It's important to understand this in that broader context. Similarly, we're seeing quite a lot happening with space in the UK in terms of ambition.

The current UK government has been very clear about its desire to increase the UK space ambition and, at the same time, increase the UK standing internationally as a space power while still understanding it's a medium space power and doesn't have the capability to the budgets necessarily to compete with the major powers.

We've seen this in a number of ways, particularly the appointment of a director space for the UK administrative defense and also the forthcoming Space Command. I'm aware that the announcement of the Space Command probably has caused some confusion.

On the one hand, you see the UK putting forth this resolution. It's about being responsible. Of course, a space command can lead some to perhaps think this means the UK is now going to be developing very sophisticated counterspace capabilities and start to engage in those. Again, we need to understand where the UK is coming from.

Also, something the Ambassador said about looking at space in isolation and also not looking at this resolution in isolation, and understanding how it cuts across all of those different aspects of defense and national security.

You can't separate the military from these discussions. Sometimes it's easy to see this as being mutually exclusive, to say the military is doing this. They're not going to be engaged. They're not wanting to discuss some of these other conversations that we're having.

What we see with this new resolution can start to bridge that divide. It isn't about preventing militarization or weaponization. I've argued that that's already happened. It's more about accepting this reality.

The focus on behaviors is very important instead of saying, "We need to prevent satellites with RPO capabilities." It's about that behavior, and how do we understand threat? Therefore, how does the military need to react? How does the military say, "We are now threatened. We might respond"?

It's something that is threatening that as well as long-term sustainability. Militaries are invested in long-term sustainability. They don't want to lose access to space because of their reliance on it. This resolution and the way we're now approaching it can help bridge that divide and can help to bring those communities together. We can't do it without everyone's involvement.

My question for the ambassador is to come back to that UK context and think what's your opinion or what's your view on how the work that you've been doing does fit within the UK's broader ambition, both for space but also with the Integrated Review, and how it can link up with what else is happening perhaps to give it even more emphasis?

**Ambassador Liddle:** Great. Thanks. It's certainly something that's been rising up in the agenda in the UK over the last few years. Last year, we announced that we're going to be setting up - we have set up a new National Space Council.

That speaks to some of the issues you're bringing up. It brings together, yes, the commercial and civilian bits of space through the UK Space Agency and the Department for Business. It also brings together the Foreign Office and the Ministry of Defense as well. That's a way, really, of us domestically trying to reconcile the commercial and economic aspirations we have as an emerging space player.

We're looking at a commercial launch capability in the UK in the coming years. We're developing our national expertise particularly in small satellites, small commercial satellite technology, but also looking at the security implications for space as well.

We're doing that in our domestic structures. As you say, the integrated review will put more flesh on the bones of that, I think, and set up our strategy and our interest in a slightly longer-term way.

It's also worth looking at what's happening in NATO. NATO has also declared space an operational domain. What it means by that is not, as you say, this is not like Space Command. This is not about "Moonraker"-style space army or anything like that. It's about recognizing that space is an enabling domain for security on Earth.

It's about understanding the role that space play in terms of what I was talking about earlier -- communications, positioning, navigation, early warning, all that sort of thing.

Of course, if you have that infrastructure you need to defend it, like any other military capability. Defending something and protecting something doesn't just mean developing a weapons capability around it. It also means developing norms and rules.

What I do as a disarmament diplomat is to try and put norms and rules around the uses of weapons, and the uses of military technology, and the conduct of war.

I suppose what we're doing in space is an extension of that in that we are talking about how to reach a common understanding as a global community about what is and isn't acceptable in space, recognizing that we all have these objectives.

I hope it's all one of a piece really, but it certainly, as you say, highlights the greater interest in the UK, and I think in lots of other comparable mid-level states across the world in these sort of issues.

**Daniel:** Thank you, Ambassador. I think that's a really excellent remark as well about the place of diplomacy within the wider context for national security. Secure World Foundation actually just made some recommendations to the Biden administration precisely on this point and the important role of diplomacy, as well as other types of developments.

OK, finally. This could be our big hitter. Jessica West, senior researcher with Project Ploughshares. She's also in charge of all their space studies and has been doing some really excellent work recently on the development of norms and what are some possible areas that we can be looking at for some tangible measures.

She's also come up with some of the best terminology I've seen in a while on space security, including taking the low-hanging fruit and making fruit salad. With that, Jessica, please.



**Dr. West:** Yes. Well, I would be remiss if I didn't start by pointing out that four decades is really too long to wait for concrete collective security measures in space.

When I put that in perspective, I realize that my organization, Project Ploughshares, has been engaged in this field for roughly the same amount of time and we've seen significant progress in almost every other arms control file except for space. I fully understand the frustration that many feel who are following this file.

Particularly the stalemate, or tug-of-war, between norms on one hand, and hardware approaches to security on the other. On that note, I really appreciate this resolution, particularly because we've been hearing refrains repeatedly over the years calling for norms, but we haven't really seen any concrete proposals offered. That, to me, risks making norms a rhetorical device.

Norms are so much more than rhetoric. Personally, I approach norms as the hygiene of international security. During a global pandemic, we can all appreciate the value of good hygiene even while we wait for a vaccine. How do we get there?

Recently, my work has been focused on the question on how we can build on the recent successful efforts to identify best practices related to safety and sustainability and start thinking about security concerns. It turns out that security norms aren't quite as straightforward as hand-washing. To succeed, norms must be inclusive and fair.

They must be rooted in shared values, principles, and expectations, and they really have to extend beyond the like-minded to include the other-minded. This is where the UK initiative really gets off to a good start. Looking down the road, implementation must also be inclusive and fair.

Norms also need mechanisms in place to make implementation possible, to make the conduct of good behavior possible. This problem of missing mechanisms, such as verification, is often used to derail arms control efforts. Norms also require mechanisms.

The premise is that they inform individual action, but most efforts to reduce threats and misperceptions involve communication and engagement with others. Processes for verification and accountability are also important.

The question. My question is really focused on how we move the resolution forward beyond the discussion, which is the starting point, and the report that will hopefully come out of this process to the next step. A key source of deadlock in the first committee has been competing perspectives and different prioritizations of threats.

Some states have expressed concerns that unlike their perceptions of safety and sustainability, they see a focus on responsible behavior and perceptions of threats as subjective. How will you grapple with potentially competing interpretations going forward? What else is needed?

Are there practical tools or mechanisms that you might identify as helpful or feasible to facilitate the emergence of a shared perspective going forward, and also actual implementation of good behavior? Thank you.

**Ambassador Liddle:** Wow, there is loads in there. We could probably spend the rest of the afternoon talking about those things. There is probably three things I'd really pick up from that. First is the question about norms. I mean, the resolution talks about norms, rules, and principles. In certain ways, you could see those three words as being slightly interchangeable or synonymous.

I don't think they are. They're deliberately chosen really to be inclusive and to give you lots of cover for what you might want to do, but they are very specific types of process. There is lots of dispute, by the way, about exactly what all of these different words mean.

For me, a norm is something that emerges not quite naturally, but it's a generally accepted standard or way of behaving which you can then codify later. I'm not one of the people who believes that you can declare a norm by fiat.

A norm is something that you codify later, but you do so on the basis of an existing consensus that there is a particular way of behaving or a particular goal that we need to achieve.

One of the things I hope comes out of this process is that we can have a discussion about what ways of behaving in space already command that common ground, that norm, or pre-norm status, which you can then go on and codify? That comes onto the next thing you were talking about, about then what processes do you put in place?

Once you've got a norm, you can then codify. That becomes a rule, and a rule then have the enforcement mechanisms verification, institutional apparatus that goes round it. We're not there, obviously, but I think this process is definitely designed to try and move, at least in some areas...

As I said earlier, this isn't going to be a one-size-fits-all, this is something where different aspects of the problem might lend themselves to a norm, to a rule, to a principal, or even to a legally binding treaty. This is designed to give us scope to do all of those different things.

The other point I'll pick up is the subjectivity point because this is something that came up a lot in the consultations on the resolution. Some states who ended up supporting it, and some states who didn't raised concerns about whether responsible behavior itself was a subjective concept.

We talk in the resolution about perceptions of threats, whether these sorts of concepts have any place in arms control processes in the UN. We're unashamed to say that, yes, they are subjective, but that they matter.

In a way, it's more important to talk about these things precisely because they are subjective. If I have a space object and a state with which I have difficult relations park something next to it, then the way I react to that is necessarily subjective because I have no idea what that object is, what it's going to do, what it's not going to do.

My subjective perception of that threat is going to drive my own behavior and that leads to the the sort of escalation that we were talking about earlier. It's really important to talk about subjective issues because that's how you get to understand what behaviors are helpful or not helpful. That's why you might get into that norm-setting process about how you then put some boundaries around that.

**Daniel:** Fantastic. Jessica, you didn't disappoint. That was quite a question. With that, folks, I think we're running out of time. I've still got tons of questions. I also see that in the Q&A, it's filled up. Ambassador, if you don't mind, we'll forward those to you and hopefully you can maybe jot down a few notes, and we'll post those up on the website.

This video has been recorded. We'll be posting this on our website hopefully in the next couple of days. Many thanks, again, to everyone. Jessica, Raji, Ali. Ambassador, particular to your good self. Thank you for giving us an hour of your time.

Victoria, is there anything you would like to say in closing as our co-host?

**Victoria:** Yes. Again, thank you everyone for their participation and insights. Two quick things.

We had a discussion about the need to understand the nature of the threat. Daniel brought up Secure World's counterspace threat assessment. I'd like to point out it's available on our website. We have the executive summary in French and Spanish, as well the whole thing is available in English. That is a resource we'd love people to check out if they're interested.

The other thing is I'd like to point out that later on today actually, at 14:00 or 2:00 PM Eastern Time, Secure World will be having an event, the release for space policy sustainability briefing for the incoming Biden Administration.

That's where we have a briefing document where we give recommendations on anything from national security, to SSA, to China, to mega constellations, to space weather, to planetary defense.

We encourage anyone who's interested to see what we think the next US administration should be focusing on. Please come and check it out. It's there for everyone.

I'd like to thank everyone for participating, and we look forward to seeing you at the next SWF event. I'm sure Space Court Foundation will be happy to see you at the next one as well. Thank you, you all. Have a great day.

**Daniel:** Thank you very much, everybody. Take care.

**Ambassador Liddle:** Thanks very much.

**Dr. Rajagopalan:** Thank you. Stay safe, everybody. Take care.