Rethinking PAROS and looking ahead at multilateral approaches

Speakers

- Moderator: Natalia Archinard (Switzerland)
- Presenters: Ben Silverstein and Daniel Porras (UNIDIR)
- Respondent: Kazuto Suzuki (Hokkaido University)

Natalia Archinard: We are opening the fourth episode of "The Launch Pad" webinar series by UNIDIR and its partners. The title today is "Rethinking PAROS and Looking Ahead at Multilateral Approaches."

I have the great pleasure. I will be the moderator today. My name is Natalia Archinard. I work with the Federal Department of Foreign Affairs of Switzerland on space policy issues. I've been active in different settings, especially at the UN COPOUS, the UN General Assembly, within ESA, and also following the Code of Conduct project by the EU for Switzerland.

Let me do a bit of housekeeping here. The participants/attendees, we'll have polls that they can answers.They already answered to the first one, I believe, either through the multimedia box on the screen in the system or through the menti.com website.

You can access this website, enter the code, and you'll be able to give your answer to different polls, which will be performed during this session. There will be three -- one, which has started already, a second one in the middle, and the last one at the end.

This is the occasion to thank UNIDIR and its partners -- the Secure World Foundation, FRS, Fondation pour la Recherche Stratégique, the European Union, and the Swiss government -- for the organization of this series of events. UNIDIR is also wishes to thank their general funders, the government of New Zealand, the Russian Federation, and Sweden.

Before presenting our three fantastic speakers today, I'd like just to recall that we are in the fourth and last episode. We've heard in the first episode about SSA, how it is a strategic to stability in space.

We've heard about cyber warfare, how important it is to build resilience-based systems, especially for deterrence. We've heard in the last episode on the Hague Code of Conduct for ballistic missiles how transparency among states is key for space security and stability in space.

Without further delay, you had the chance to express yourself foretell the biggest challenges to PAROS, dear attendees. I see quite a few interesting elements here -- political influence, lack of concise approaches to prevent global public policy.

I'm thrilled by the discussion we'll hear among these three fantastic speakers. Without further delay, I will introduce the first of them. Ben Silverstein. Ben is a fellow with the Pacific Northwest National Laboratory. He works in Washington DC.

In his prior research at the Lawrence Livermore Laboratory and at UNIDR, he examined how states consider the use of force in outer space and how they integrate emerging counterspace technologies into their traditional deterrence models.

Ben is the co-author of a new study together with Daniel Porras, our second speaker, which is precisely on the topic of this episode of this webinar, "Rethinking PAROS and The Way Ahead." I'm very much looking forward to hear you, Ben, to enlighten us what is PAROS, what are the challenges, and are we in an arms race in outer space? Ben, over to you.

Ben Silverstein: Thank you very much for that kind introduction. I am a co-author of a recent report at UNIDR that many of you may have seen on this topic, "Arms Racing in Space." It came up when I was sharing an office with Daniel a few years ago at this point in preparation for the GGE on alternative approaches to PAROS.

We would get into discussions about how can you prevent something that is so nebulous and potentially ill-defined? If you don't know what it is, can you truly prevent it? We developed this idea that maybe it would be a good idea to have a field guide to something like an arms race so that you can easily identify one in the wild.

Oftentimes, we fall back on looking to the nuclear arms race in the Cold War, potentially the Dreadnought Race. You can go back further and there are other pretty interesting instances of arms racing in the international community.

But the arms race has become this dirty term where if you really want to grab a headline, you might say there's an arms race happening. We see this with hypersonic missiles, with cyber capabilities, and in space as well.

The prevention of an arms race in space really comes down to, do we know what we're looking at? Can we prevent the de-stabilizing or negative aspects of that? If we don't know what we're looking at and we don't know how to talk about this thing, what do we talk about when we talk about arms racing? Can we effectively prevent those negative aspects?

If there is the slide that I sent forward. Thank you. This is pulled directly from the paper. It might be familiar to some of you who have seen it, but we settled on essentially three main categories that you would use to identify an arms race that you have to have. You have to be first and foremost in rivalry. There's no such thing as a one-person arms race.

Just on background, we were looking at this from a state perspective. It was easily understandable that you could have an arms race at a sub-state level or a non-state level. But this is really looking at state to state.

That rivalry is two or more states. It's important to remember that this doesn't have to be just two. It could be three. It could be four. It could be seven. The number is really insignificant as long as it's greater than one. In an adversarial rivalry, a search for influence, or geographic influence, whether that's territorial reach, minerals, or water, it could be any of those.

Those two or more states have to be developing corresponding capabilities. It doesn't make a ton of sense. If I'm producing I, as a country, as a state, and producing land mines, and Daniel is producing fighter jets, that's not really an arms race necessarily. It's difficult to say that those two capabilities would engage the two states in a competitive dynamic.

But this is something that's very difficult to do in space because as we've heard over the past three episodes, there are so many capabilities in space and through space that are, let's say, not necessarily weapons. We get into this in the paper a little bit more in detail, but it's difficult to have like-for-like capability developments in space.

If I'm developing an anti-satellite missile and Daniel is developing an anti-satellite missile, one country or one person's development of that weapon does not greatly affect the other person's availability or applicability of that same capability, unlike, let's say, in the nuclear arms race where nuclear weapons are both very strong offense and weapons, and also counterforce weapons.

In space, the borders between these things are very fuzzy, but it is difficult to say that an arms race is only like-for-like. You have to look at things like capabilities, writ large. That might include situational awareness that can be used for targeting these things in space.

It seems trite to say, but space is very far away. Things move very fast and that makes it very difficult to see those things that move very fast. Having robust SSA is very important in your targeting. If you don't have good targeting, any weapon that you might have or capability that you might have is significantly less effective.

The third that is also a little bit nebulous in the general sense, not just specifically in the space context, is the acceleration of capability development. A lot of scholars and people have written dissertations on arms races. There's a lot of material out there.

Some say it must be an eight percent or more increase in your year-over-year defense spending. Some people have other pretty hard, fast, and firm metrics. That's not something that we can really do in space.

In general, in the current modern military environment, budgets are just very difficult to compare if you can even get down into the line items. That was a pretty big stick for us to get out of. The acceleration of capability developments does not necessarily mean that it has to be a numbers game. It can be qualitative or quantitative.

You can see in a lot of countries now there's a rapid increase in political development. Looking at things like your doctrines or your demonstrations and testing, those are proxy indicators that we can use. If you had no anti-satellite missile tests in the last decade and now, all of a sudden you've had three or four in the last couple months, that's a pretty strong indicator of acceleration.

When compounded with the prior two categories, it becomes a little bit more clear that there might be an arms race going on.

Again, the arms race, as a term, is pretty maligned in the international discourse, but it is important to understand that it is a form of competition. As a form of competition, it's something that we might actually be -- I hesitate to say in favor of -- in comparison to other forms of competition like outright conflict.

An arms race that is wasteful for spending is potentially destabilizing, but doesn't actually turn into a hot conflict. It might be better or you might choose that over having fighting a war essentially.

With that in mind, we don't mean to name and shame or call out specific instances or states for engaging in any of these behaviors. We can see in space that some of these indicators are...You can positively identify that there are rivalries in space. Space is pretty much always been since we've gone in the mid-60s, since we started engaging.

In a two-state race in space, there's the space race. It's a rivalry. Those rivalries have changed. More have come up, expanded, and contracted. The landscape is changing, but the existence of rivalry is pretty clear.

The corresponding capabilities again, this is very difficult just because you can't necessarily say, "Oh, this capability and this capability clearly correspond in space." It's a little bit fuzzier, but we do see a lot of the same capabilities popping up in multiple states in their doctrine, in their testing, and in their spending and development.

The acceleration of capability development, as I mentioned before, the pretty market increase of anti-satellite missile testing over the past few years, especially in the past -- what is it now? -- two to three years. This is debatable. It's probably the most difficult one to put a positive identifier on.

But the policy shifts that have been coming thick and fast -- we see this in Japan, in France, in the United States, in China -- and the impact of anti-satellite missiles impacting satellites. Those are pretty strong indicators that there is an acceleration going on.

To address this, the impacts of the arms races as the PAROS debate first started by saying, "We must address not necessarily the arms race itself, but instead, let's look at the negative aspects of the arms race." Maybe, we don't need to prevent an arms race. We just need to prevent the adverse effects thereof. That's what we get into the second half of the paper. Daniel has that queued up.

Daniel Porras: Thank you very much, Ben.

Natalia: Thank you very much, Ben, indeed for this insightful thoughts. Now, I'll go right over to Daniel to complete the presentation now of your joint study. Daniel Porras, let me introduce you. You are the Space Security Fellow at UNIDIR for another two weeks, I understand. You've done a great job in this position.

You've been working on political and legal issues with respect to space security and the development of sustainable norms. You've looked at new approaches to stability in space. Today, indeed, you will introduce new approaches to PAROS. Daniel, over to you.

Daniel: Thank you very much, Natalia. Yes, I am both delighted and a little bit sad. It's a bittersweet moment to let everyone know that I'll be with UNIDIR for two and a half weeks before I start a new position with the Secure World Foundation as the Director of Strategic Partnerships and Communications.

I will still be working with many of you, but I am certainly going to miss Geneva and, of course, miss my UNIDIR colleagues. I would also like to point out that this paper was also co-authored with my supervisor, the Head of the WMD program at UNIDIR, Dr. John Borrie.

He really gave us a lot of input and helped out quite a lot in shaping this paper and making sure that we really address a wide variety of perspectives in this paper because the PAROS dilemma, it seems to be slipping away, given everything that Ben has just been discussing.

We wanted to make sure that we look at some ways to address PAROS in a more concrete and perhaps focused approach. That way, we can figure out what some next steps might be in the coming months and years.

Now, as Ben was saying, we've been talking about PAROS for quite a long time. Yet, we're seeing all these indicators that the world is moving away from PAROS and maybe into an arms race in outer space. When I look at PAROS, I see two pretty big problems with the discussion that we have on the issue.

One, it's very broad. When we talk about PAROS, we usually try to bring in all these different technologies, try to find a one-size-fits-all solution for all these different space security threats. It hasn't really worked very well. The technologies are nuanced. They're different. Maybe, we need to try and be more focused in our approach.

Second, what does success with PAROS look like? Ben was just mentioning that perhaps an arms race is preferable to conflict in space, but is that success? Could we say that we have achieved success if states continue to ramp up their capabilities, their counter space capabilities, but then never use them? Is that a success? Perhaps.

One of the things that we offer in the paper is the idea that perhaps we should also enunciate what is success for PAROS. Maybe, that could just be maintaining the status quo that we can all continue to use space for commercial and economic purposes, for scientific research, and also for some limited military purposes. We look at three approaches that can help us to achieve that precise goal.

The first approach is something that we discussed in the group of governmental experts on PAROS over 2018 and 2019, as well as in the CD Subsidiary Body 3 on PAROS. This is three vectors. These vectors are sort of where's the weapon based and where is it going?

The three vectors are Ground to Space, Space to Ground, and Space to Space. These are three categories that we tried to look at on their own to see what are the really disruptive technologies that we see in these.

First, Ground to Space. There are ASAT missiles out there. There's jamming capabilities. There are high-energy lasers, lots of different capabilities.

The most concerning, the one that folks really seem to identify as the potentially most destabilizing is anti-satellite missiles -- missiles going from the ground hitting objects in space and creating a lot of debris. Even the testing of this type of technology can be very bad for the space environment.

Next, we looked at Space to Space. What's the technology that's really disrupting that vector? It's co-orbital vehicles. The small probes that can move close to satellites either inspect them or refuel them. They can also be used for espionage or they could be used to physically grab a satellite, move it out of orbit or something.

We just don't know what the capabilities are with those until they've done them. As a result, for states that really rely a lot on satellites for military capabilities, they get very nervous when these co-orbital vehicles move around or particularly move close to some of their satellites. We see that technology as potentially being very disruptive.

Then, Space to Ground. Now, in this sense, as far as we know, no weapons that have been put in space that are pointing down towards the ground, although we have heard, for example, about the possibility of using space-based missile interceptors in the future. Now, most experts will tell you, "That's not happening anytime soon."

But what we have seen is that a number of states are quite concerned about potential of there being missiles in orbit, even interceptors in orbit, that could either on your mind nuclear deterrence or that could even hit targets on the ground. We see these discussions in the General Assembly, in the CD, in the First Committee.

Even if space-to-ground weapons are not an imminent threat, they do have an impact on the discussions about space security. They still need to be taken into account. What we see there is that the anti-satellite missiles that are based on the ground are being held on as a deterrent for potentially having weapons in space.

Maybe, we can't separate those two. That might need to be a discussion that has to be had together. That actually comes into even more prominent view in the second approach, which is looking at cover space capabilities in terms of threats to space systems and threats from space systems.

If you look at the statements that states make in the UN, in the Conference on Disarmament, the Western countries will often talk about threats to satellites, threats to their space capabilities. Whereas a lot of other countries, they'll bring that up as well, but they also talk about the threats coming from space systems.

Now, space capabilities. Satellites are integral part of many militaries and they project force all over the world. As the technology gets better, some of that force is also going to become much more prominent.

One area where we have seen there's a threat from a space of system is actually in the area of strategic stability. The United States is now talking about deploying new advanced space-based sensors in orbit in order to provide early warning detection systems and missiles that might be coming towards the United States.

When you combine that with the policy shift that the United States recently took in developing missile defense, not just for Rogue States but also for other major nuclear powers like Russia and China, the development of space-based missile defense has potential destabilizing effect on the current balance that we have between the major nuclear powers.

Again, very difficult to talk about anti-satellite weapons that some states would see as being necessary in order to counter the development of space-based systems that undermine or undercut nuclear deterrence.

Essentially, you can't talk about taking away the guns if you don't talk about, also taking away the shields. Unfortunately, given the political situation right now, that discussion is probably going to have to be much more intimate.

Finally, the third approach we looked at was just destructiveness. This is something we discussed a lot in the GGE on PAROS as well. We put the destructive capabilities of counterspace on all the different types of we have on a spectrum.

On the left side, we had jamming and on the right side, we have nuclear explosions in space. While we couldn't necessarily come to any agreement on what is the attack or when does something become the use of force in space, we did see that the destructive capability of anti-satellite missiles really brought a lot of concerns to folks because of the debris.

The idea that this debris is just going to be turning around and could potentially hit other satellites. There, from the destructiveness perspective -- it's almost environmental perspective -- it becomes very clear that what people are worried about is satellites getting blown up, particularly during development, not even in an actual conflict.

Those are the three approaches that we've looked at. We thought that it highlighted a number of focused for tools that we could use to talk about outer space security, and maybe come up with some measures that would actually have concrete effect.

Now, we know that there is going to be more activity in the UN later this year. We've been hearing from a number of sources, for example, that some states will be calling for the work of the GGE on PAROS to be continued. There was a lot of work that was done there. If there's another group that comes along, they can certainly continue some of the progress that was made. We'll see how that goes.

We also understand that there's another group of like-minded states, who are also putting together a proposal to look at reducing threats through the development of responsible behavior. Both of these initiatives could provide a good opportunity to talk about new solutions.

We hope that our paper and our research will provide them with some good food for thought during discussions. I'll stop there as well and hand it over to you, Natalia.

Natalia: Thank you very much, Daniel, for your analysis and your proposals together with Ben and John. If I summarize that you develop the indicators to measure whether there is an arms race in space. Your conclusion is that there are presently indeed indicators that currently, we are ongoing an arms race in outer space.

Then, next steps is what to develop Daniel is avenues to go around the blockade on PAROS discussions in the multilateral fora on how to make progress, maybe step-by-step approach, to make progress without maybe just having the ultimate goal of preventing arms to be placed in outer space but with the overall goal to ensure stability in space.

Now, I'm very curious and thrilled and excited to discover what Kazuto will tell us in reaction to the presentation by Ben and Daniel. Kazuto, a few words of introduction on you.

You are a Vice Dean and Professor of International Politics at the Public Policy School of Hokkaido University in Japan. You have contributed drafting the basic space law of Japan and you're active in the National Space Policy Commission of Japan in two sub-committees -- one, on industrial policy and the other one, on space security policy. Over to you, Kazuto.

Kazuto Suzuki: Thank you, Natalia. Thank you, Ben and Daniel, for excellent presentation. My name is Kazuto Suzuki. I've been working on this space security issue for many years. We've been working together.

I'm very glad that Daniel, Ben, and John has formulated the typology of the space weapons or space disruptive technologies, which eventually needs to focus on putting in these technologies into a frame of how to control within the PAROS negotiation.

Couple points that I like to make for the paper that you have already wrote. One of the issue is that whether the space race or the acceleration of the developing capabilities for disruptive technologies, can we regard this as an arms race?

Because the space technology is a typical dual-use technology. The developments of the civilian, very public, and even commercial activities may turn into the capabilities for disruptive technology. That is very difficult to control because you have the very legitimate reasons for developing such technologies and accelerating their capabilities.

You can either disguise if you have the intention of developing a military capabilities, but you can disguise that this is a civilian technology, but on the other hand, for example, if you look at

the on-orbital servicing or refueling the satellites, these are very commercial activities, which are done by the commercial companies.

Also, the debris removal. There are a lot of civilian agencies as well as private companies are now working for the commercial purposes without any military or arms intention of improving or developing the arms capabilities. That is the big question. How to characterize such development by the civilian and the commercial activities?

The second point is often, the arms race associates with the concept of deterrence. Typical [inaudible 30:05] like deterrence has been the motivation behind the arms race. If you look at the nuclear arms race or the naval arms race, these are basically an extension of the capabilities to deter others to behave in a certain way. That's the problem.

As Ben mentioned, that it is very unlikely that the like-for-like deterrence can take place. What would be the elements that complements or let's say that supplements the gap between these two rivalries?

If there is a gap between these two rivals or multiple levels, rivals having a capability gap and then still, if this rivals promoting the arms race, is there any implications that these arms racing in space may turn into the arms race on the ground on the conventional arms or even the nuclear arms?

The third point that I'd like to make -- it's related to the first one -- is how to involve the private industry? Because there are a lot of private and commercial activities such as debris removal or on-orbital services, these can be seen as one of the space-to-space disruptive technology.

You can start negotiating outside of the state-to-state, harrows type of arms control discussion and try to regulate the activities of both state and the private actors because if you don't have that such rules or the regulations, then somehow you may have some private actors doing something wrong.

They can be accidentally involved into the disruptive technology, which may lead to the arms race. Also, I think the advantage of having the private or the civilian entities into this negotiation would provide more transparency and more confidence-building measures because these commercial and private entities are not intending to use those capabilities for the military purposes.

Therefore, they are more enthusiastic, more committed, to be more transparent, and to build the confidence building measures. These activities may build up or set up some good practices. If we involve the private industries and let them do their work under the surveillance or under the watch of the multiple state actors to say, "Hey," this is how you trust.

You're being transparent. This is how you build the confidence-building measures. They may be setting up some good practices, which eventually leads to the much facilitated discussion in PAROS. I'll stop here. Back to you, Natalia.

Natalia: Thank you very much, Kazuto. I think we shall have now our second poll on the screen. That's very good. I let the audience a bit of time to give their assessment of whether they feel we are in an arms race currently or not.

I like your ideas. Kazuto, if I may comment that you brought that the role of the private sector, which is indeed obviously bigger and bigger in space. The different comments you made on that, which is indeed that the private sector is now also conducting or planning to conduct activities, which were the real move of states in the past.

Some kinds of new activities like on-orbit servicing or active debris removal, which obviously, as you were mentioning, really do dual use because they can be used in aggressive manner and they certainly also very much contribute to the long-term sustainability of space activities.

Fully agree with you that such kind of activities and the private sector needs to be part of the discussions. Such kind of activities need to be addressed also in correlation with security concerns in space, but it's always double for me. It's also with sustainability concerns in space.

I'll stop for my comments and look at what the audience is thinking of the arms race in outer space. There seems to be a clear majority agreeing with the fact that we are currently experiencing an arms race in outer space. I got in the Q&A field by the audience a quite interesting question commenting that if there is an arms race, then there must be an end to it.

The question by this person is, "What is the end of the arms race? What would be the end of the arms race in outer space?" Which one of you who would be keen on replying to this question, Ben, Daniel, and Kazuto?

Daniel: Maybe, I'll take a first crack at that. I'm not sure if there ever really is an end to the arms race. We alluded earlier to the fact that there seems to be, very clearly, an arms race going on, but it's cutting across all domains. It's not just outer space.

You can't look at PAROS necessarily in isolation because we see that there are certain rivals and they're trying to develop capabilities across the board -- cyber capabilities, new types of missile delivery systems. We're seeing new types of weapons and capabilities across the board.

What is the end? The end, one of the ultimate goals that you have is to ultimately gain an advantage over your rival. We saw that with the Cold War, for example, that went on and on and on until the collapse of the Soviet Union. Yet, here we are again in another arms race with some of the very same characters and then some new ones.

Hopefully, there won't be an end to it because there will be some kind of a balance that just gets established where, "OK, fine. Maybe, there are stockpiles of weapons, but they never get used." That I think is, maybe, the most realistic scenario. Best-case scenario, everyone realizes that it's very expensive to develop weapons. We all just put them down and become friends or worst-case scenario, we use these weapons and we could potentially change our civilization for a very long time.

Ben: One of the things that Daniel picked up on there is very important. Again, just to make sure that everything is clear here, I'm speaking just from personal opinion, not on behalf of any former or current employer. The end point to an arms race in space...

I'm not sure that the question necessarily posed this as what is the end point to a space arms race, but what is the point to an arms race at writ large.

One of the things that when I consider the current environment is that none of the things in space -- space is a vacuum but things in space don't happen in a vacuum -- the impetus for engaging in arms race in space is not born above the Kármán line. It's born on Earth.

This arms race that we may or may not be seeing depending on which side of the pole you fell on. That arms race is not necessarily restricted to space. It definitely exists on the ground and is prodded forward by terrestrial tension.

One of the things, the end point must also, therefore, be on Earth. I don't fundamentally believe that the endpoint is in space. I hope that the end won't be a hot conflict in space. I think that would be a bad idea for many, many reasons. But the end point, I think it also depends on the state that you're asking about. If you're asking about how...

On background, NATO just announced they now have a space policy. Last year, they announced a few steps forward to recognize spaces and operational domain. That has a very different implication than the US individually going forward in developing a lot of policies and doctrines.

Those two actions might be part of a larger and broader arms race, specifically one that addresses space. The end goal for both of those is very different. NATO obviously, the goal is to preserve and protect European and Transatlantic stability and security.

The United States, it's a little bit more explicit in that there's a goal to achieve and maintain space superiority or dominance in space depending on how you read between the lines of these doctrines.

There might actually be endpoints (plural), depending on who you ask and depending on whether a state is looking for exclusively parody. The French have a pretty interesting way of thinking about active defense and protecting their flexibility and their ability to continue operation of space assets.

The Chinese, Russian, Japanese, US, Indian ideas of where this ends might be completely different and not having the finish line be the same for all of these groups really makes this a tricky dynamic to manage.

Kazuto: I'll just make a brief comment. I think one of the possibility is to have the some sort of a negotiated outcome if you look at INF, if you look at START. There are a number of the space race in the past and there was an end to it.

INF was a good example, although it was revoked and then their arms race started again. Nevertheless, at one point, there was an end to the arms race. I would say there are much potential to have the negotiated, agreed rules-based agreement on what are the things that you can do and you cannot do in space and make sure that you don't cross this line.

This can be an arms control, but not really the end of the arms race. As long as you're under control, then the risk is much lower than what is happening now.

Natalia: Thanks very much. It was mentioned by you, just now, Kazuto and Daniel also before, the question of defining responsible behavior of space actors. There was an attempt by the EU actually to promote responsible behavior in outer space, especially through the draft proposal for an International Code of Conduct for Outer Space.

We heard from you, Daniel, that there may be a group of states pushing for new works in this area under the UN, I understand, which is certainly a good news.

How do you reconcile this fundamental element, which is the responsible behavior with what seems to be a priority for all the states in prohibiting the placement of weapons in space? What could be the approach to satisfy both sides if I may say so and still make progress?

Daniel: Thanks, Natalia. That is one of the million-dollar questions that we've been trying to get passed because a number of states, for example, see the solution as being a legally binding instrument and other states very much prefer political and voluntary measures in order to get there.

Perhaps, the first thing I really think we need to establish is a common vision for what it is that we want to achieve. What is the end goal for PAROS and where do we want to get to? Once we figure out how we would like space to be and how we want to continue carrying out space activities, this will be a lot easier.

But perhaps one thing that we could do is to say, "OK, we have a common vision. We can figure out something that is broad enough that can encompass all of our desires and hopes for national activities and commercial activities in space. Now, let's figure out what are the steps we need to get there."

We've talked about this before. Legally binding instruments are hard to negotiate. I've been involved in four major discussions now on developing rules for space on a number of fronts. I'll tell you it's very, very complicated. You got to find small steps.

What are the steps that you can actually take, the ones that are within your reach? Slowly, you start working towards that vision. To be more explicit, one of the things that I have suggested in the past is let's go for voluntary measures. Maybe, there are a few things like anti-satellite test guidelines or space traffic management that we can work on, that could start as being voluntary.

Let's not discount the idea that maybe sometime in the future, we could have a treaty, a legally binding instrument that puts obligations on people that is independently verifiable and that could really bring a great deal of stability to space.

Now, that might still be a long way down the road, but let's not discount it. What if you put in a resolution or voluntary TCPMs a provision of something in the little provision in the preamble that says, "With the view towards creating the conditions, that could eventually lead to the negotiation of a treaty on the prevention of an arms race in space."

You just put it in there. You don't necessarily have to commit right this second to anything, but you're just saying, "We're willing to go the distance if the conditions are right and if we're all willing to take this first step in a voluntary measure for norms and behavior, then maybe we can continue taking more steps to eventually get down to the end of the line."

But, that means everyone is going to have to give a little bit on their positions. Hopefully though, that way, we can respect everyone's legal and political cultures and ultimately achieve the common vision we have.

Natalia: Any other view on this one, Kazuto, Ben?

Kazuto: I'll just make a quick comment. Yes, I fully agree with what Daniel said. One of the problem of the traditional arms control mindset is that you set up the framework and then you put it on to the all participants. That means that you are always top-down approach.

We need to leave this mindset and try to establish something that you voluntary commit to do things that these unilateral and not binding but at least contributing for the safety of the activities in space, which doesn't necessarily reflect on the security of the state.

It, at least, gives the environment that would create a much safer environment in space. That is a starting point, which is more bottom-up approach. This is not a PAROS or CD culture, but the participants for those arms control, people who are engaged in arms control in their lifetime may start to think in a different way.

Whether it's legally binding or not, that's not going to be the starting point. It will be the end of the whole exercise or practices. Once everyone agrees and everyone feels safe, then you can start codifying those behaviors or the practices. Thank you.

Daniel: Natalia, since we're talking about process and discussions on various initiatives, I just wanted to come back real quick to something that Kazuto said in his opening remarks about getting commercial actors involved.

I'm actually quite open to this as well, because in our work, one of the things we have found is [coughs] it's actually quite tricky to get the commercial sector to voice their opinions about space security. We've had a number of consultations with commercial actors.

Really, the bulk of the things that they're worried about in the future, it's not about getting attacked. They're just worried about getting into essentially satellite racks given all the new launches that are taking place.

What we try to talk about intentional activities and the possibility of them being intentionally targeted by others, at this point, the commercial sector still feels quite hesitant to step into that realm.

I've been looking for ways that we can encourage the commercial sector to voice their opinions, not get in trouble with their governments under whose jurisdictions they fall, but to allow them to come forward and be more transparent about the activities that they're doing and what the intentions are behind a lot of their activities. It's a tricky road to go down.

Natalia: Thank you. I can confirm it, Daniel. It's a very tricky road. [laughs] as a representative of Switzerland to COPUOS, I see the difficulty to bring the private sectors' views in the debate among governments.

I think it's indeed a very tricky. It is certainly necessary to bring them in because they are becoming actors, which are more and more important in space, but actually they are not waiting. You know it better than I do.

They're not waiting for states to allow them to exchange information, exchange data, participate themselves into making the space environment or space operations safer, at least, for them. This is going to remain a challenge most certainly.

I'm looking at the clock, unfortunately. Since I understand it's not because I'm in Switzerland, but from the organizers, I heard we really have to close in now seven minutes at three o'clock. We have another poll.

Maybe, we can have it on the screen to hear what the audience thinks is the most important now or what could be the concrete next steps for multilateral discussions even the different challenges we've heard from us from our discussion.

ASAT test guidelines like the one proposed by UNIDR, that's quite a good example. Code of Conduct discussed behaviors as we heard. Yes. ASAT test guidelines.

Daniel: I really do feel strongly that there is a fair amount of appetite for anti-satellite test guidelines at the moment. One, because it can mitigate the amount of debris that is generated during testing. That's something that benefits everyone.

Also because it still permits the development of anti-satellite weapons, provided you just don't hit anything. The alleged Russian ASAT test that took place a couple of months ago is a good example.

They launched an ASAT and it went through space. They got the data that they needed, but they didn't hit anything. At least from that sense, perhaps we could say that, or at least under the guidelines that we've proposed, it was responsible.

Natalia: Absolutely, it was very good proposal, Daniel. I'm looking now at wrapping up. I will give each of you the floor for a very short comment, maybe from my side. What is on the agenda at inter-governmental level?

We have the new working group on long-term sustainability at COPUOS after the adoption last year of 21 guidelines on the long-term sustainability by the UN General Assembly. COPUOS is continuing to work on this topic.

As you mentioned Daniel before, there are several proposals for further discussions under the UNGA on PAROS and on responsible behavior. Now, I want to give each of you, the speakers, the floor for short comment. Maybe, in the order we began with Ben first. Please, Ben.

Ben: There are a few things about now that we're on the topic of ASAT guidelines. That's a huge topic. The paper by UNIDIR is a really good starting point as not only a primer but a solid set of recommendations.

There's something else that stood out in the Q&A and it's the fact that there is sometimes a dissonance between negotiating parties or engaged parties -- even if they're not negotiating -- on what guidelines mean. On the one hand, like the UNIDIR paper offers, you can say, "Low, no, or avoid debris," in that.

If you are trying to test your ASATs, you should aim for no debris. If you can't do that, then low debris is the next best solution. At the same time, guidelines could be interpreted by certain negotiating states as, "Let's set off a section of space to use for ASAT testing independent of the debris that you create."

It's not cordoned off with ropes, but everybody would have an understanding how we divide the radio frequency spectrum. You could divide orbits up into, "It's OK to test here. It's not OK to test here." There are differences in the way that states understand things like guidelines.

That's a fundamental thing. We spent a lot of time looking at how we identify an arms race. Maybe, we should also identify how we view guidelines. It's a fascinating topic. I think that guidelines are necessary, but I would encourage a little bit more of a broad understanding of what the term guideline could potentially mean to certain states.

Natalia: Thank you very much, Ben. Daniel, over to you.

Daniel: Sure. I think we put out a lot of really great ideas here today. For me, what I think the member states of the United Nations, the best thing they could do at this point is really to define success for PAROS to try and get a common vision of what is the goal, where are we trying to get to, and then start working out how to get there.

We might be surprised that we do not all share a common vision for what space and space activities should be in the future. Maybe, that's something that we need to discuss now, at an early stage, before we start trying to craft rules that might not necessarily work.

Also, since this is going to be the last time I'm speaking in my role, I just want to thank everyone who I've engaged with over the last two and a half years at UNIDR. I'm going to miss you all, but I will also still be working with you just in my new capacity at the Secure World Foundation.

Natalia: Thank you very much, Daniel. We will look forward to continuing working with you. Kazuto, please.

Kazuto: The ASAT guidelines seems to be very interesting. These guidelines need to be assured by the practices. I don't want to see a lot of ASAT happening here and there. At least, the gradual number of the ASAT practices will set up and consolidate the guidelines, and what are the dos and don'ts of the guidelines, how to interpret the guidelines.

At the end of the day, this kind of things requires the practices and also the practices of the commercial actors and the new space actors from the emerging countries. I'm not too pessimistic about the future, but if people have conscious and try to use space as safe as possible, then future may be bright.

Natalia: Thank you very much, Kazuto, for these last words, which give us hope. Let's take them all with us and let's work on that. I will close this last episode with great pleasure after this exciting discussion.

Thank you very much, the three of you and every attendee, for following us from anywhere around the world. This closed a brilliant Launch Pad series organized by UNIDIR and their partner, Secure World Foundation, Fondation pour la Recherche Stratégique, the European Union, and the Swiss government, which by the way, supported this precise study on the subject we've heard today.

Also, a special thanks to Laetitia Zarkan from UNIDIR for her tremendous work at the background to make this happen. Thanks very much, and all other people that I happen to meet in a remote manner and realize how many they are to make such an event possible. Thank you very much all of you.

Thank you to UNIDIR for the kind invitation to moderate this event. I wish you all a good end of the day and a good health to everyone. Looking forward to meeting you around the world. Bye-bye, everyone. Thank you.