



7th Prague Space Security Conference
**Forging Strategic Partnerships
in the Global Space Race**
Prague, 16–18 June 2024

**CONFERENCE SUMMARY
REPORT**



MONDAY MORNING OPENING REMARKS

JAN LIPAVSKÝ, MINISTER OF FOREIGN AFFAIRS OF THE CZECH REPUBLIC

On Monday morning, June 17, Jan Lipavský, Minister of Foreign Affairs of the Czech Republic, opened the Prague Space Security Conference with a clear message concerning the requirement to address the consequences of a substantially weakened international order. He pointed out that since he addressed this gathering two years ago, new and grave threats have emerged, including information that Russia is moving to place a nuclear weapon into Low Earth Orbit (LEO).

Russia's aggression against Ukraine, China's expansive terrestrial and space ambitions, as well as tightening of the strategic partnership between these two authoritarian police states require a proactive diplomatic effort – backed up by military capabilities – to protect our societies and way of life.

Minister Lipavský observed that the global space race does not necessarily need to be antagonistic or a zero-sum game. There are new fields for scientific cooperation, as well as competition, such as mineral extraction, human travel to Mars, or planetary defense. He emphasized that space technologies could hold the key to resolving some of the challenges that we face on Earth, such as the climate crisis. Moreover, such vitally important global challenges offer opportunities for new partnerships.

To make new partnerships and alliances durable, the Minister called for achieving a common understanding of applicable standards. These standards need to reflect our values and principles and be built upon international norms and regulations.



Jan Lipavský, Minister of Foreign Affairs of the Czech Republic, delivering Monday Morning Opening Remarks



SUMMARY OF KEY FINDINGS

- **Challenges to the Global Order:** Jan Lipavský emphasized the growing threats to international security, including Russia's potential deployment of a nuclear weapon in Low Earth Orbit (LEO) and broader concerns linked to Russia's aggression against Ukraine and China's expanding space and terrestrial ambitions.
- **Need for Proactive Diplomacy:** With authoritarian powers increasingly collaborating, Mr. Lipavský underscored that proactive diplomatic efforts and international cooperation are essential to safeguard societies and maintain global stability in the contested space environment.
- **Opportunities in Space Beyond Competition:** While acknowledging the competitive nature of the global space race, there is potential for collaboration in areas like mineral extraction, human space travel, and planetary defense and new fields for joint science and technology projects.
- **Call for Common Standards:** The need for a shared understanding of international norms and regulations was stressed, with an emphasis on building durable partnerships based on common values and principles to ensure the long-term sustainability and security of space activities.



PANEL 1 SPECTRUM OF SPACE THREATS AND AWARENESS

The 7th Prague Space Security Conference's opening panel, entitled "*Spectrum of Space Threats and Awareness*", brought together prominent experts to describe the threat landscape over the past two years and our ability to detect, monitor, prepare, and react to them. The panel, moderated by Dr. Peter Hays, Adjunct Professor, George Washington University, featured remarks from Gen. (Ret.) Michel Friedling, Former Commander, French Joint Space Command and Co-Founder and CEO, LookUp Space; Paul Graziani, Chief Executive Officer, COMSPOC; Dr. John Huth, Chief, Office of Space & Counterspace, U.S. Defense Intelligence Agency (DIA); and Dr. Regina Peldszus, Space Policy Officer, European External Action Service (EEAS).

Dr. Hays emphasized that the swiftly unfolding threats, including a very real possibility of a nuclear detonation in space by Russia, indicate more hostile domain behavior than two years ago. Dr. Hays concurred with PSSI Chairman Roger W. Robinson Jr., noting that the "good old days" may indeed be behind us.

Paul Graziani focused on the increasing orbital congestion, leading to an increased risk of collisions. He emphasized that damage to – much less the destruction of – a satellite would deeply impact not only military calculations but civil/commercial activities. Mr. Graziani also discussed the problem of space debris generated by kinetic anti-satellite (ASAT) tests, obscuring potentially malign activities and complicating Space Domain Awareness (SDA). Dr. Huth noted that China's space program aligns with its broader strategic goals, including global influence and economic rejuvenation, as well as integration of space more tightly into modern operations – both regional and in more distant parts of the world. It is also rapidly developing counterspace systems against regional adversaries (notably the US).

Russia similarly views space as a warfighting domain and is developing technologies to disrupt military and commercial space services, including potentially a satellite carrying a nuclear weapon. Despite Western sanctions against Moscow related to its continued aggression against Ukraine, Russia is still able to invest quite heavily in its space sector.

Dr. Huth likewise observed that since our last space security conference in 2022, threats from strategic rivals have grown substantially. Of particular concern are the implications of non-democratic international space partnerships and the use of commercial interactions to advance their military and strategic objectives. He observed that the allies need to better leverage the growing commercial space sector as well as government-to-government partnerships to enable a robust space posture globally.

Dr. Hays revisited the devastating impact of any nuclear detonations in space, using the historic example of the 1962 Starfish Prime test. A similar event today could cause catastrophic failures of satellites and even constellations, leading to enormous economic costs due to a much larger global dependency on space-derived services.

Michel Friedling argued for greater involvement of private companies in developing Space Situational Awareness (SSA) and Space Domain Awareness (SDA) capabilities. He noted that traditional military and government approaches are often too slow to respond to the rapidly changing threat environment, citing the agility of employing the capabilities of start-ups and smaller companies.

Dr. Regina Peldszus explained the European Union's evolving approach to space security, marked by the 2023 publication of the EU Space Strategy for Security and Defense. It prepares the EU for a more competitive and contested space domain. She emphasized the need for interconnected and comprehensive threat awareness, integrating space security with broader geopolitical challenges. The EU is investing in SSA capabilities and exploring voluntary information-sharing on SDA to enhance its ability to respond to emerging threats.

During the Q&A session, the discussion focused on improving SSA sensors to increase early warning capabilities, permitting quick responses to potential threats. The panelists agreed that the current SSA/ SST capabilities are insufficient, and if more sensors are absent, we may miss indicators of menacing behavior on the part of our adversaries.



SUMMARY OF KEY FINDINGS

- **Growing Threat Landscape:** The rapid evolution of space threats was highlighted, including the increased risk of hostile actions by the two major authoritarian space powers, as well as the devastating implications of any nuclear detonations in space.
- **ISpace Domain Awareness (SDA) Needed More Than Ever:** SDA is essential to monitoring and addressing the rising challenges posed by orbital congestion, space debris, and adversarial activities.
- **Strategic Partnerships Key To Addressing Threats:** A functioning partnership among allied governments, as well as with agile industry partners, will be key to effectively managing the vast complexity of today's space landscape – much less what is coming.
- **Integration of Space into Broader Geopolitical Strategies:** Space can no longer be sidelined in broader geostrategic policy decision-making, including how to employ space assets in military conflicts and disrupt and/or defeat the predations of non-democratic space alliances.
- **EU's Evolving Space Security Strategy:** The increasing role of the European Union in space security has been formally recognized, including containing and deterring emerging threats through enhanced cooperation and investment in capabilities.



Panel 1 Speakers: Dr. John Huth, Chief, Office of Space & Counterspace, U.S. Defense Intelligence Agency (DIA); Paul Graziani, Chief Executive Officer, COMSPOC; Dr. Peter Hays, Adjunct Professor, George Washington University; Gen. (Ret.) Michel Friedling, Former Commander, French Joint Space Command and Co-Founder and CEO, LookUp Space; and Dr. Regina Peldszus, Space Policy Officer, European External Action Service (EEAS)



PANEL 2 KEY DIMENSIONS OF THE GLOBAL SPACE RACE

The second panel, entitled “*Key Dimensions of the Global Space Race*,” illuminated the increasing significance of space across various domains, including national security, economic and commercial activities, and global governance. The panel featured Mr. Rodrigo da Costa, Executive Director of the EU Space Programme Agency (EUSPA); Dr. Namrata Goswami, Professor at the Thunderbird School of Management; Ms. Julie Sheetz, Director of Strategy and Analysis for Space Policy at the U.S. Department of Defense; and Mr. Václav Kobera, Director of ITS and Space Activities at the Czech Ministry of Transport. The panel was moderated by Dr. Scott N. Pace, Director of the Space Policy Institute at the George Washington University’s Elliott School of International Affairs.

Mr. da Costa emphasized the growing reliance on space assets, noting that nearly 50% of smartphone apps use satellite data. He warned of the escalating threats, including cyberattacks, satellite jamming, and the dangers posed by anti-satellite (ASAT) weapons. EUSPA’s efforts focus on protecting these systems through cybersecurity measures, physical security, and cooperation with member states to monitor and secure space assets.

Dr. Goswami discussed the evolution of today’s global space race, contrasting it with the Cold War era. She highlighted that space is now a strategic domain, involving not just traditional powers like the U.S., China, and Russia but also emerging nations. These countries view space as essential for military and economic power projection. Dr. Goswami also noted that countries like China and Russia are increasingly

integrating space resources into their national strategies, with China considering space assets as critical infrastructure.

Ms. Sheetz outlined the U.S. perspective on space security, stressing that space is vital to national defense and America’s economic interests. She discussed the growing risks posed by adversaries like Russia and China, which view U.S. space systems as integral to military operations and, hence, are developing sophisticated counterspace capabilities. Ms. Sheetz emphasized the need for international cooperation, the integration of commercial space capabilities, and reforms in information-sharing to enhance the resilience of the U.S. space architecture and deter hostile actions.

Mr. Kobera provided the perspective of a smaller nation, the Czech Republic, which also views space as critical to its national interests, particularly as a landlocked country. He discussed the importance of access to space, the need for robust debris mitigation strategies, and the necessity of international cooperation on space resources. Mr. Kobera also highlighted the importance of building public understanding of the value that space-related investments bring to society. During the Q&A session, discussions focused on the challenges of enforcing international space law, the implications of nuclear weapons in space, and the role of international diplomacy in space security. The panelists agreed on the importance of a coordinated response to space threats and the need for clear norms and standards to manage the growing complexities of space operations.



SUMMARY OF KEY FINDINGS

- **Space as a Strategic Domain:** The reliance on space assets across a number of sectors makes it integral to national security, economic prosperity, and global governance.
- **Escalating Threats:** Increasing risks posed by adversaries through cyberattacks, destructive anti-satellite weapons, and jamming and spoofing. These concerns must be met by more robust allied coordination.
- **Global Participation in the Space Race:** Unlike in the Cold War era, today's space race involves both traditional powers and emerging nations, with China and Russia integrating space capabilities into their broader military and economic strategies.
- **Enhanced Resilience:** Greater resilience against multi-pronged space threats can only be achieved through greater information-sharing and the integration of commercial space capabilities.
- **Bolstering Public Awareness and Active Space Diplomacy:** space security policy solutions need broad public support, including global efforts to preempt, manage, and respond to space-related incidents and/or crises.



Panel 2 Speakers: Mr. Rodrigo da Costa, Executive Director of the EU Space Programme Agency (EUSPA); Dr. Namrata Goswami, Professor at the Thunderbird School of Management; Dr. Scott N. Pace, Director of the Space Policy Institute at the George Washington University's Elliott School of International Affairs; Ms. Julie Sheetz, Director of Strategy and Analysis for Space Policy at the U.S. Department of Defense; and Mr. Václav Kobera, Director of ITS and Space Activities at the Czech Ministry of Transport



MILITARY PARTNERSHIPS – BIENNIAL UPDATE

The Conference held its now-traditional special panel convening space military chiefs from allied nations. Overall, the panel underscored the critical importance of international collaboration, interoperability, and shared strategic goals to maintain space as a secure and sustainable domain for global security. It featured Lieutenant General Thomas L. James, Deputy Commander of U.S. Space Command; Major General Paul Tedman, Commander of UK Space Command; Major General Michael Traut, Commander of German Space Command; Major General Philippe Adam, Commander of French Space Command; and Colonel Giuseppe Gentile, Chief of Space the Space Policy and Innovation Branch for the Space Policy Office of the Italian Defence General Staff. It was moderated by Dr. John Stopher, PSSI Senior Fellow and former Principal Assistant to the Secretary of the U.S. Air Force for Space.

Lt. Gen. James explained the different roles of the U.S. Space Command and Space Force¹ and laid out the yet unfulfilled potential for effective collaboration between the military, commercial, and academic sectors. He noted that space was always essential for maintaining a strategic advantage and that adversaries are actively trying to undermine these capabilities. US SPACECOM has a number of key missions, including space operations, missile defense, and joint force provision. Collaboration, especially through initiatives like the Combined Space Operations, enhances deterrence, defense, and shared situational awareness. He also mentioned that successful partnerships among allied nations are expanding, with space operations becoming more normalized and prioritized.

Maj. Gen. Tedman explained that the UK Space Command, though relatively new, has made significant strides in organizing, training, and equipping its forces. He outlined five key challenges, including increased strategic competition and dependency on space, which underscore the need for operational advantages. UK Space Command aims to integrate with partners more effectively and build a common

plan for addressing security threats, particularly with regard to the rapid expansion of space capabilities among rival nations like China and Russia.

Maj. Gen. Traut provided a German perspective, noting that the country has significantly modified its space strategy in response to new geopolitical realities, including Russia's war on Ukraine. Germany's Space Command focuses on space domain awareness and increasing public recognition of the importance of space to the citizens — hence the urgent requirement to protect Germany's and Europe's space assets. Gen. Traut pointed out the value of U.S. leadership in expanding partnerships and the need for more collaborative efforts, particularly in areas like detecting, tracking, and defeating hypersonic missiles. The integration of space into broader European defense initiatives, such as the European Skyshield initiative, is also key to enhancing space-related defense capabilities.

Maj. Gen. Adam, the French Space Commander, emphasized practical collaboration across partners, pointing out that time is critical in developing actionable protection for space infrastructure. He advocated for greater harmonization of efforts and enhanced interoperability across nations and domains. Gen. Adam also emphasized the importance of training and joint exercises, such as France's yearly AsterX exercise (the most recent one taking place in March 2024), and stressed the need to maximize readiness through partnerships that span both the military and civilian sectors.

Col. Gentile argued for the importance of shared definitions and norms among space-faring nations, particularly within the Western alliance. Italy's focus has been on joint collaboration, both within Europe and with partners like the U.S. He underscored the need for inclusivity in space collaboration and the preservation of space as a peaceful and sustainable domain. Italy's joint operations and data-sharing initiatives reflect its commitment to collective defense and

¹ *The Space Force is a service branch focused on training and equipping personnel, while Space Command is a command structure that executes military operations in space.*



international stability, even as space becomes a more contested domain.

In the discussion, the panelists agreed that while space collaboration has advanced significantly in recent years, there is still much room for improvement, particularly in areas like interoperability, defining common threats, and interdicting dual-use

technologies. Several panelists called for greater standardization and clearer collective responses to emerging space threats. Lt. Gen. James added that while progress has been "pretty good", the pace of the threat, particularly from China, requires an accelerated allied effort.

SUMMARY OF KEY FINDINGS

- **Building Stronger Military Partnerships:** Continued efforts to strengthen allied military-to-military ties and enhance policy efforts to ensure domain stability and sustainability, including via shared strategic goals and interoperability.
- **Bolstering Military Space Capabilities:** The U.S., UK, Germany, France, and Italy are rapidly developing their space commands and integrating space into their nation's broader defense strategies to prepare for and react to space threats from adversary nations.
- **Harmonization and Interoperability:** Greater harmonization of efforts, standardization, and interoperability across nations are needed to effectively protect space infrastructure and ensure readiness through joint exercises and collaboration.
- **Example of U.S. Leadership:** The U.S.-led *Combined Space Operations (CSpO)* initiative is a prime example of strengthening allied coordination, including through joint operations, intelligence sharing, and combined efforts to protect and defend space assets.
- **Responding to New Space Threats:** Countering new threats, such as hypersonic missiles and new dual-use technologies, requires continuous adaptation and innovation.



Military Partnerships Panel Speakers: Co. Giuseppe Gentile, Chief of Space the Space Policy and Innovation Branch for the Space Policy Office of the Italian Defence General Staff; Maj. Gen. Paul Tedman, Commander of UK Space Command; Maj. Gen. Michael Traut, Commander of German Space Command; Dr. John Stopher, PSSI Senior Fellow, and former Principal Assistant to the Secretary of the U.S. Air Force for Space; Lt. Gen. Thomas L. James, Deputy Commander of U.S. Space Command; Maj. Gen. Paul Tedman, Commander of UK Space Command; and Maj. Gen. Philippe Adam, Commander of French Space Command



SPECIAL GUEST SESSION

JUN KAZEKI, DIRECTOR GENERAL OF THE NATIONAL SPACE POLICY SECRETARIAT AT THE CABINET OFFICE, GOVERNMENT OF JAPAN

In the Special Guest Session, Jun Kazeki, Director General of the National Space Policy Secretariat at the Cabinet Office of the Government of Japan, provided an overview of Japan's current space policy priorities, with an emphasis on international partnerships and Japan's dual focus on civil and defense space activities. He explained how Japan adapts to the rapidly changing global security environment, especially in the Indo-Pacific region, where countries like China are challenging the international order and attempting to change the status quo unilaterally.

Mr. Kazeki outlined Japan's specific security challenges in the region, such as territorial disputes in the East and South China Seas, piracy, terrorism, and natural disasters. In response, Japan has developed key policy documents – the National Security Strategy (2022), National Defense Strategy (2022), and Defense Buildup Program (2022) – that reflect the growing importance of space in national security and highlight the need for Japan to achieve autonomy in space while contributing to global space governance.

He discussed the revised Basic Plan on Space Policy (2023), which aims to ensure space security, enhance national resilience, foster innovation in space industries, and strengthen Japan's industrial base. Mr.

Kazeki also highlighted the Space Security Initiative of June 2023, which focuses on securing stable and free access to space in cooperation with international partners.

Kazeki introduced Japan's new Space Architecture for National Security, which includes capabilities on the ground (like satellite jamming detection and radars) and in various orbits, as well as advancements in space transportation. He also mentioned recent achievements in Japan's space sector, such as the new Economic Stimulus Package for space (2023), the successful H3 Rocket launch (2024), the SLIM lunar landing mission (2024), and the comprehensive Space Technology Strategy (2024).

Finally, Mr. Kazeki addressed Japan's efforts to manage space debris and the role of the National Space Policy Secretariat in promoting sustainable space development. He mentioned the annual National Space Policy Secretariat Symposium, which encourages international collaboration and dialogue on space issues. The next symposium is planned for early next year, with a focus on enhancing international partnerships and leveraging industry collaboration to drive innovation in space.



SUMMARY OF KEY FINDINGS

- **Parallel Efforts in Civil and Defense Space Activities:** Japan's space policy prioritizes both civil and defense sectors, adapting to evolving security challenges, particularly in the Indo-Pacific region, where threats like territorial disputes and piracy are prevalent.
- **International Partnerships:** Japan engages in a number of efforts to strengthen international partnerships that enhance stable and free access to space, as reflected in the Space Security Initiative, part of broader efforts to strengthen national security, economic development, and technological competitiveness.
- **National Security and Space Autonomy:** Japan's recent defense and space policies emphasize the growing role of space in national security, with a focus on achieving autonomy in space capabilities while contributing to global governance and addressing regional security threats.
- **Sustainable Space Development:** Japan is committed to managing space debris and promoting sustainable development through initiatives led by the National Space Policy Secretariat while encouraging international dialogue and collaboration.



Jun Kazeki, Director General of the National Space Policy Secretariat at the Cabinet Office, Government of Japan, during the Special Guest Session



PANEL 3 DEFINING SUCCESSFUL STRATEGIC PARTNERSHIPS

The third panel, entitled “*Defining Successful Strategic Partnerships*,” was moderated by Dr. Kai-Uwe Schroggl, Special Advisor for Political Affairs at the European Space Agency. The panelists were Dr. Jong-Shinn Wu, the Director General of the Taiwan Space Agency (TASA); Dr. Pascal Faucher, Chairman of the EUSST Partnership and Programme Manager in Centre national d’études spatiales (CNES); Deanna L. Ryals, Director of the International Affairs, Space Systems Command in the U.S. Space Force; and Dr. Il-Seok Oh the Vice President of the Korean Academy of Space Security (KASS).

Dr. Jong-Shinn Wu emphasized the importance of information-sharing in strengthening space security, particularly via intelligence gathering. He highlighted Taiwan’s contributions, including its involvement in Sentinel Asia since 2010 and its remote sensing satellite FORMOSAT’s support for various disaster events. Dr. Wu expressed Taiwan’s readiness to share cybersecurity data to strengthen partnerships amidst frequent cyberattacks from China targeting Taiwan’s Space Agency.

Dr. Pascal Faucher stressed the critical role of partnerships in Space Situational Awareness (SSA) amidst a changing and increasingly contested space environment. He outlined three forms of strategic partnerships: European cooperation within the EU SST, partnerships with the private sector, and international collaboration with like-minded countries. Faucher

described the EU’s efforts to include commercial SSA capabilities and the need for greater international data sharing to improve space safety, criticizing China’s lack of transparency. He emphasized that working closely with allies remains the most effective way to build trust and ensure security in space.

Deanna L. Ryals provided a military perspective on strategic partnerships, defining them as collaborations that share resources, risks, and rewards. She emphasized the importance of partnerships in maintaining space superiority, particularly in protecting assets in orbit. Ryals underscored the need for transparency and coordination across military, commercial, and academic sectors to ensure adequate space security. She warned of increasing competition from China and argued that only by uniting with allies can the U.S. maintain its strategic advantage.

Dr. Il-Seok Oh discussed the growing space security challenges on the Korean Peninsula, exacerbated by North Korea’s recent launch of a military reconnaissance satellite aided by Russian technology. He underscored the importance of South Korea’s strategic partnerships with the U.S., Europe, Japan, Taiwan, and other key partners in countering threats from North Korea and Russia. Dr. Oh emphasized that South Korea needs to play an active role in shaping international norms and standards in space governance, including by strengthening its cooperation with the US and the EU.



SUMMARY OF KEY FINDINGS

- **Information-Sharing:** Enhances space security by fostering situational awareness among various stakeholders and enabling early threat detection and mitigation, transparency, norms compliance monitoring, including in cyberspace and disaster management.
- **Strategic Alliances and Trust Building:** Strong partnerships – public-private and among nations – help build trust and support collective security goals in an increasingly contested space environment.
- **Military and Commercial Collaboration:** Partnerships that share resources, risks, and rewards across military, commercial, and academic sectors are key to maintaining space superiority and protecting assets in orbit, especially amid growing competition from China.
- **Regional Security Concerns:** Security challenges in the Indo-Pacific theater, especially Taiwan and the Korean Peninsula, require greater SDA-related efforts.
- **Bolstering Space Governance:** Sustainable global governance requires strengthened transparency and trust, the development of majority consensus on international norms and standards, the mitigation of space risks and threats, and the enforcement of accountability, all of which are enabled by Space Situational Awareness.



Panel 3 Speakers: Deanna L. Ryals, Director of the International Affairs, Space Systems Command in the U.S. Space Force; Dr. Pascal Faucher, Chairman of the EUSST Partnership and Programme Manager in Centre national d'études spatiales (CNES); Dr. Kai-Uwe Schrogl, Special Advisor for Political Affairs at the European Space Agency; Dr. Jong-Shinn Wu, the Director General of the Taiwan Space Agency (TASA); and Dr. Il-Seok Oh the Vice President of the Korean Academy of Space Security (KASS)



PANEL 4 SECURING THE STABILITY OF THE SPACE DOMAIN

The fourth panel focused on "Securing the Stability of the Space Domain." The panel featured Ms. Theresa Hitchens, Reporter on Air and Space Force at Breaking Defense; Ambassador Marjolijn van Deelen, EU Special Envoy for Space at the European External Action Service; Mr. Dean Cheng, Senior Advisor at the United States Institute of Peace; and Ms. Mallory A. Stewart, Assistant Secretary of State for Arms Control, Deterrence, and Stability at the U.S. Department of State. It was moderated by Dr. Deganit Paikowsky, Lecturer for the Department of International Relations at the Hebrew University of Jerusalem.

Ms. Hitchens began by reflecting on the progress made in space security, particularly regarding Space Situational Awareness (SSA). She noted how, over the past 20 years, transparency in space activities has increased while major challenges remain. She expressed concern over the lack of optimism concerning various space governance efforts, emphasizing the ongoing arms race between the U.S., China, and Russia. She called for greater honesty about the militarization of space and urged stakeholders to address security concerns, including the rise of counterspace capabilities.

Ambassador van Deelen focused on the parallels between space security and other areas, such as nuclear non-proliferation. She felt that there was a need for new international norms and principles to manage space threats. The Ambassador stressed how the European Union's approach seeks to address this through cooperative mechanisms, highlighting its efforts to build cooperation among member states and international partners to address space security and threats from actors like Russia and China.

Multilateralism was also seen as an important factor in addressing space governance and preventing arms races.

Mr. Cheng provided insights into China's strategic perspective on space stability, noting that China's concept of deterrence differs from that of the West. He explained that China views space deterrence not as preventing conflict but as using space disruption to compel adversaries to submit to its will. He raised concerns about the lack of transparency in China's space activities, contrasting it to Western approaches to crisis management and stability.

Ms. Stewart acknowledged the rapid evolution of space threats since the early 2000s, particularly after events like China's 2007 anti-satellite test. She emphasized the need for ongoing diplomatic efforts to foster responsible behavior in space despite the trust deficits among nations. Ms. Stewart also underlined that international law and treaties like the Outer Space Treaty remain essential, but cooperation and dialogue must continue, particularly to reduce risks of misinterpretation and escalation.

In the Q&A session, the panel discussed the role of international law in stabilizing space activities and the challenges created by the blurred lines between military and civilian developments. Mr. Cheng noted that China strategically uses international law to achieve political goals, making it difficult for it to function as a stabilizing force. Panelists agreed on the need for new frameworks and global consensus, though they recognized that various crises may outpace these efforts. This extended to satellite servicing technologies, where transparency may not suffice.



SUMMARY OF KEY FINDINGS

- **Deteriorating Space Security Landscape Despite Technical Enhancement in Space Situational Awareness:** Despite rapid advances in Space Situational Awareness over the past decade improving transparency of the space domain activities, the growth of counterspace capabilities in the arsenals of an increasing number of actors creates uncertainty tied to the persistent arms race.
- **New International Norms Development:** New international norms and principles that would help manage space threats were called for, drawing parallels to nuclear non-proliferation efforts and advocating for upgraded multilateral cooperation.
- **Diverse Strategic Perspectives:** Insights were shared on how different countries, particularly China, approach space stability and deterrence, with China using space to exert malign influence rather than merely preventing conflict. Concerns about transparency and adequate crisis management were also expressed.
- **Relevance of Existing Legal Frameworks:** Despite evolving space threats, the existing international legal framework, including the Outer Space Treaty, retains its relevance, including for diplomatic efforts to foster responsible behavior and prevent misinterpretation and escalation.



Panel 4 Speakers: Ms. Mallory A. Stewart, Assistant Secretary of State for Arms Control, Deterrence, and Stability at the U.S. Department of State; Ms. Theresa Hitchens, Reporter on Air and Space Force at Breaking Defense; Dr. Deganit Paikowsky, Lecturer for the Department of International Relations at the Hebrew University of Jerusalem; Mr. Dean Cheng, Senior Advisor at the United States Institute of Peace; and Ambassador Marjolijn van Deelen, EU Special Envoy for Space at the European External Action Service



TUESDAY MORNING OPENING REMARKS

LT. GEN. KAREL ŘEHKA, CHIEF OF THE GENERAL STAFF OF THE CZECH ARMED FORCES

On Tuesday morning, June 18, Lt. Gen. Karel Řehka, Chief of the General Staff of the Czech Armed Forces, addressed the evolving significance of space in military operations and the transformative impact of emerging technologies on modern warfare. He emphasized that while the fundamental nature of war has remained constant, the character of warfare is rapidly evolving due to advancements in technology and the greater integration of the cyber and space domains.

Drawing parallels to World War II, Lt. Gen. Řehka noted that just as the German military gained a strategic advantage by integrating existing technologies with new doctrines, today's military faces the challenge of understanding and integrating disruptive technologies and new operational domains to gain a strategic edge. He stressed that these changes are not confined to

the military sphere but are also pervasive across civilian sectors, where technological advancements are often more rapid. He highlighted that even basic commercial devices now offer capabilities that surpass some military technologies, underscoring the need for the military to catch up.

Lt. Gen. Řehka focused on the specific impact of space on military operations, noting that space capabilities – such as satellite communications, positioning, navigation, timing, and weather forecasting – are crucial for modern military effectiveness. While the Czech Armed Forces are in the early stages of leveraging these assets, there is a growing recognition of the need for space and cyber awareness at the tactical level, given the deep interconnection of these domains.



SUMMARY OF KEY FINDINGS

- **Evolving Role of Space in Military Operations:** The key themes were the growing significance of space in modern warfare and the transformative impact of emerging technologies on military operations, including their integration with the cyber domain.
- **Integration of Disruptive Technologies:** The discussion drew parallels to historical advancements, emphasizing the need to understand and integrate disruptive technologies with rapid technological changes impacting both the military and civilian sectors.
- **Technological Advancements and Military Adaptation:** It was noted that commercial technologies often exceed military capabilities, underscoring the need for the military to adapt and keep pace with these advances to maintain a strategic edge.
- **Space and Cyberspace Important For Tactical Operations:** The space and cyberspace domains are increasingly significant in modern military operations and planning. Both domains offer critical capabilities that enhance situational awareness and enable communication and coordination on the battlefield.



Lt. Gen. Karel Řehka, Chief of the General Staff of the Czech Armed Forces during Tuesday Morning Opening Remarks



PANEL 5 ALLIED INDUSTRY STRATEGIC SPACE COMPETITIVENESS

The fifth panel, entitled “*Allied Industry Strategic Space Competitiveness*”, convened leading experts to explore the evolving dynamics of space competitiveness among allied nations. Moderated by Hermann Ludwig Moeller, Executive Director of the European Space Policy Institute (ESPI), the panel featured insights from Richard DalBello, Director of the Office of Space Commerce at the U.S. Department of Commerce; Isabella Poldrugo, Acting Head of Unit for Space Policy at the Directorate-General for Defence Industry and Space (DG DEFIS), European Commission; Dr. Hiroshi Koyama, Fellow at the Defense and Space Systems Group at Mitsubishi Electric Corporation; and Rob Baker, Vice President of Strategic Space Protection at System High Corporation.

Mr. Moeller opened the panel by discussing the strategic importance of collaboration among allied nations in the space sector. He emphasized the difficulty of replicating special partnerships and highlighted the importance of speed, market access, government funding, and public perception in achieving strategic competitiveness. He likewise underscored the need for allies to convey the utility and critical role of space in the civilian infrastructure, noting that a significant portion of the economy depends on space capabilities. Mr. DalBello explained the evolution of the U.S. commercial space sector, describing it as a long-term effort beginning in the Reagan administration. He noted initial challenges, such as mistrust and cultural resistance between the government and commercial entities, particularly regarding costs and security concerns. Mr. DalBello pointed to significant progress made over the past decades, with NASA and the Department of Defense (DoD) now heavily reliant on commercial entities for launch and remote sensing. He concluded that the commercial sector's integration into national security priorities is a successful, cost-effective, and enduring trend.

Ms. Poldrugo detailed the European space program's initiatives to strengthen strategic autonomy and

resilience in space. She highlighted key programs – Galileo, Copernicus, and IRIS² – and stressed the need for a robust, competitive space ecosystem in Europe. Poldrugo emphasized the importance of partnerships with allies, including the U.S., Japan, and NATO, to address common challenges and reduce dependence on external entities while enhancing Europe's capabilities in space.

Dr. Koyama discussed Japan's priorities in international space partnerships, particularly in space situational awareness (SSA) and space traffic management (STM). He emphasized the importance of data sharing, hosted payloads, and command and control collaborations to establish a competitive SSA system. Dr. Koyama also described Mitsubishi Electric's initiatives, such as investments in start-ups and its partnerships to strengthen Japan's capabilities in space security and sustainability.

Mr. Baker focused on the need for enhanced security and protection of space assets. He discussed the increasingly contested and competitive space environment and the importance of resilient and protected space architecture to safeguard against the disruptive activities of adversaries. Mr. Baker stressed the need for deeper protection of intellectual property and the benefits of being proactive in security measures to maintain a competitive edge within the industry and against authoritarian regimes.

During the Q&A session, Mr. Moeller facilitated discussions on expanding opportunities for European and Japanese companies to engage with the U.S. Department of Defense, the strategic direction of the European economic space strategy, the dual use of space technologies in Japan, and the complexities of collaboration involving classified activities. The panelists called for stronger partnerships, streamlined regulatory frameworks, and increased awareness of mutual challenges to reinforce strategic space competitiveness among allies.



SUMMARY OF KEY FINDINGS

- **Integration of Commercial and Government Sectors:** The success of integration of commercial entities into national security frameworks enhances cost-effectiveness and operational efficiency.
- **Strengthening Strategic Autonomy:** Efforts to enhance strategic autonomy and resilience in space means balancing dependence on external entities and fostering a robust, competitive, and reliable space ecosystem.
- **Importance of Space Assets Protection:** Strengthened security measures to protect space assets and intellectual property are required in an increasingly contested environment, including agile solutions to safeguard competitive advantages.
- **Coordinated Strategic Space Competitiveness:** Streamlined regulatory frameworks, increased mutual awareness of key obstacles, and expanded engagement opportunities for international companies are key to protecting allied strategic space competitiveness.



Panel 5 Speakers: Hermann Ludwig Moeller, Executive Director of the European Space Policy Institute (ESPI); Dr. Hiroshi Koyama, Fellow at the Defense and Space Systems Group at Mitsubishi Electric Corporation; Isabella Poldrugo, Acting Head of Unit for Space Policy at the Directorate-General for Defence Industry and Space (DG DEFIS), European Commission; Richard DalBello, Director of the Office of Space Commerce at the U.S. Department of Commerce; and Rob Baker, Vice President of Strategic Space Protection at System High Corporation



PANEL 6 GROUND-BASED SPACE RACE IN THE ECONOMIC & FINANCIAL DOMAIN

The sixth panel, entitled “*Ground-Based Space Race in the Economic & Financial Domain*” panel, moderated by Laura Winter, Host & Editor of The DownLink Podcast, featured insights from Peter Marquez, Head of Space Policy at Amazon Web Services (AWS); Kari Bingen, Director of the Aerospace Security Project at the Center for Strategic and International Studies (CSIS); Dr. Yuka Kobayashi, Assistant Professor in the Department of Politics and International Studies at SOAS, University of London; and Kevin O’Connell, Former Director of the Office of Space Commerce, U.S. Department of Commerce, and Founder and Chief Executive Officer of Space Economy Rising LLC.

Ms. Winter opened the panel by describing the ground-based space race as a strategic effort to win alliances and influence nations, emphasizing the West’s advantages in infrastructure, mature space capabilities, and open space economies. She pointed out the opportunity to use space to build friendships and alliances, especially with the Global South.

Mr. O’Connell emphasized that we must pay attention to the “space down here” – the economic and financial aspects of space activities on Earth. He emphasized that private capital plays a crucial role in accelerating the space economy and called for a whole-of-government approach to integrate various ministries and leverage private sector capabilities. Mr. O’Connell stressed that the private sector’s agility and speed are significant advantages that the West must capitalize on, but cultural friction between the government and industry often hinders progress. He argued for more proactive collaboration and faster decision-making to fully utilize the power of the private sector in the space domain.

Ms. Bingen highlighted the rapid growth of international and commercial activities in space, noting that over 90 nations now have space programs driven by the pursuit of national prestige, security, and economic benefits. She underscored the economic potential of the space economy, drawing parallels to the growth of the internet economy, and added that space is a significant tool of soft power. Ms. Bingen also pointed out that new space applications are emerging beyond traditional military and intelligence uses, such as maritime awareness and climate monitoring. She stressed the

urgency of leveraging existing commercial capabilities and infrastructure to address current geopolitical challenges and enhance global connectivity, particularly in light of the conflict in Europe.

Mr. Marquez took a more critical stance, arguing that there is no real “space race” if the West fully leverages its capabilities. He expressed frustration with the lack of action despite the significant talent and resources available, suggesting that the barriers to progress are often self-imposed, such as slow, cumbersome policy changes and bureaucratic inertia. Mr. Marquez called for a shift from theoretical discussions to concrete actions, emphasizing a “whole of nations” approach that leverages economic, technological, and financial strengths to achieve strategic objectives. He challenged the audience to overcome cultural barriers and adopt a more innovative mindset, focusing on execution rather than endless planning.

Dr. Yuka Kobayashi framed the discussion within a broader geopolitical context, describing space as a tool of economic statecraft, particularly for China, which is reshaping the world order both in space and on Earth. She explained how China uses infrastructure development, such as building ports, roads, and satellites, as part of its broader strategy to extend influence and establish new norms in the Global South.

Dr. Kobayashi noted that Chinese investments often come with their own practices and standards, which can be appealing to countries with less developed legal and regulatory systems. She warned that this approach not only brings economic benefits to China but also shapes global governance in ways that may challenge the current international order. Dr. Kobayashi urged the West to understand these dynamics and respond strategically to China’s coordinated efforts. **China’s clever and calculated moves are reshaping not only global infrastructure but also global norms, creating deeper ties between itself and other nations and solidifying its influence across continents.**

The panel concluded with a discussion of how the West could better leverage its tools and strategies to engage the Global South and other emerging powers in the space economy, emphasizing the need for agile regulation, increased private sector involvement, and a clear understanding of the geopolitical landscape.



SUMMARY OF KEY FINDINGS

- **Strategic Alliances and Influence:** Space represents a potent tool for building alliances and influencing nations, particularly in the Global South, highlighting the West's advantages in infrastructure and mature space capabilities.
- **Economic and Financial Impact:** To build a viable space economy, there needs to be a sustainable formula for leveraging private capital and streamlining government and private industry efforts.
- **Global Competition and Soft Power:** The role of space as a soft power tool has been strengthened by the rapid growth of international and commercial space activities. Addressing the current key geopolitical flashpoints cannot be done without capitalizing on commercial capabilities and infrastructure.
- **Challenges and Barriers:** Key barriers include slow policy changes, bureaucratic inertia, and too many theoretical discussions that do not lead to a more innovative and execution-focused approach.
- **Ground-Based Space Race:** The major authoritarian space powers use economic statecraft and infrastructure development to extend influence and reshape global norms. The West must understand these dynamics and respond strategically to maintain its competitive edge.



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