



NATO PARLIAMENTARY ASSEMBLY

SUMMARY

OF THE MEETING OF THE

SCIENCE AND TECHNOLOGY COMMITTEE

10 October 2021

Senados, Portuguese Parliament, Lisbon,
Portugal

166 STC 21 E | Original: English | 8 November 2021

ATTENDANCE LIST

| | |
|---------------------------------|------------------------------------|
| Committee Chairperson | Kevan JONES (United Kingdom) |
| General Rapporteur | Nusrat GHANI (United Kingdom) |
| Special Rapporteur | Karl-Heinz BRUNNER (Germany) |
| President of the NATO PA | Gerald E. CONNOLLY (United States) |
| Member delegations | |
| Belgium | Leo PIETERS |
| Bulgaria | Velizar SHALAMANOV |
| Canada | Cheryl GALLANT |
| Croatia | Ante BACIC |
| Estonia | Ants LAANEOTS |
| | Andres METSOJA |
| France | Christian CAMBON |
| | Philippe MICHEL-KLEISBAUER |
| Germany | Dagmar FREITAG |
| | Wolfgang HELLMICH |
| Greece | Manousos Konstantinos VOLOUDAKIS |
| Hungary | Agnes VADAI |
| | Andrea VARGA-DAMM |
| Iceland | Njall Trausti FRIDBERTSSON |
| Italy | Andrea CANGINI |
| | Fabrizio ORTIS |
| | Michele SODANO |
| Lithuania | Tomas BICIUNAS |
| Luxembourg | Sven CLEMENT |
| Montenegro | Vladan RAICEVIC |
| Norway | Lene WESTGAARD-HALLE |
| Poland | Pawel BEJDA |
| | Przemyslaw CZARNECKI |
| Portugal | Olga SILVESTRE |
| Romania | Sorin-Dan MOLDOVAN |
| Slovakia | Ludovit GOGA |
| | Peter KMEC |
| Slovenia | Andrej CERNIGOJ |
| Spain | Begona NASARRE |
| | Carlos ROJAS |

Turkey

Hisyar OZSOY
Kamil Okyay SINDIR
Taner YILDIZ

United Kingdom
United States

Stuart ANDERSON
Collin ALLRED
Ami BERA
Jenniffer GONZALEZ-COLON
Rick LARSEN
Linda SANCHEZ

Associate delegations

Armenia

Arusyak JULHAKYAN
Andranik KOCHARYAN
Kamran BAYRAMOV
Irakli BERAIA
Karin ENSTRÖM
Mauro TUENA
Solomiia BOBROVSKA
Yehor CHERNIEV

Azerbaijan

Georgia

Sweden

Switzerland

Ukraine

Speakers

David van WEEL,
Assistant Secretary General for
Emerging Security Challenges, NATO

Wendell WALLACH,
Carnegie-Uehiro Fellow, Artificial
Intelligence & Equality Initiative (AIEI)

Major General Jürgen BRÖTZ,
Deputy Assistant Secretary General for
Intelligence, NATO

Nuno CABRAL,
Head of Unit for NATO Affairs at the
Ministry of Foreign Affairs of Portugal

International Secretariat

Paul COOK

Assistant Secretary General and Director,
Economics and Security Committee
Coordinator, Economics and
Security Committee

Matthew Thomas
JABLONSKI

Sunday 10 October 2021

I. Opening Remarks by Kevan JONES (United Kingdom), Chairperson

1. The Chairperson of the Science and Technology Committee (STC), **Kevan Jones** (UK), opened the meeting by welcoming all participants and thanked the Portuguese delegation for hosting the 2021 Annual Session. He then gave some practical information regarding procedural rules for the day's meeting, as the meeting would proceed in hybrid format, with some members joining online via the KUDO platform.

II. Adoption of the Draft Agenda [[128 STC 21 E](#)]

2. The Draft Agenda [[128 STC 21 E](#)] was adopted.

III. Adoption of the Summary of the Meeting of the Science and Technology Committee held in Stockholm, Sweden, on Sunday 16 May 2021 [[089 STC 21 E](#)]

3. The Summary of the Meeting of the Science and Technology Committee [[089 STC 21 E](#)] was adopted.

IV. Consideration of the Revised Draft General Report of the Science and Technology Committee, *Enhancing S&T Cooperation with Asian Partners* [[023 STC 21 E rev. 1](#)] by Nusrat GHANI (United Kingdom), General Rapporteur

4. **Nusrat Ghani** (UK) then presented her revised Draft General Report on *Enhancing S&T Cooperation with Asian Partners*. She began by outlining the need for greater Science and Technology (S&T) cooperation with NATO's Asian partners. The international security environment is changing rapidly, she said, driven by the emergence of new, disruptive technologies and an increasingly aggressive China. It is only logical, she continued, that NATO looks to tackle both of these challenges together with its Asian partners Japan and the Republic of Korea (ROK).

5. She then informed the Committee of updates that were made to the report since the Committee last met at the Spring Session in Stockholm, Sweden. For the section on Japanese technological prowess, she said, greater information was provided on their military innovation efforts; and for Korea, she noted, more information had been added on their semiconductor industry, amongst other dual-use technologies. Beyond this, she concluded, more recommendations had been added to the report – namely, how to boost youth participation and the participation of women in NATO S&T efforts. She thanked the Japanese delegation for their significant assistance in drafting the report.

6. In the ensuing discussion **Sven Clement** (LU) offered his strong support for the Rapporteur's recommendation that NATO boost youth participation in S&T activities. It is essential, he said, that NATO and Partners tap into the considerable talent that exists in their societies, especially those talented individuals that prefer working for start-ups and other innovation-heavy industries. **Velizar Shalamanov** (BG) inquired if Asian partners could be included in the work of the Defence Innovation Accelerator in the North Atlantic (DIANA). He also asked the Rapporteur why India had not been considered in this report and whether NATO had discussed including them as an S&T partner in the future. The Chair then took the opportunity to pose the next question, asking the Ms Ghani for her thoughts on what kinds of relationships – whether formal or informal – were best for developing S&T

cooperation. Finally, **Kamil Sindir** (TR) asked Ms Ghani whether she knew of any S&T cooperation between NATO and Taiwan.

7. In response, Ms Ghani stressed that engendering youth participation in S&T affairs is critical for long-term Allied security. Greater participation of younger generations could be boosted by investing directly in start-ups and small-and-medium enterprises (SME) instead of traditional defence contracting companies, she argued. As to the inclusion of partner nations in DIANA, the Rapporteur reminded the Committee that this is a relatively new project for NATO and that discussions are still ongoing on whether – and how - to include NATO partners in the programme. Regarding India, the Rapporteur explained that her report focuses on existing NATO partners in (East) Asia. She added, however, that NATO should remain open to a partnership with India, if Delhi were to desire such a relationship. Ms Ghani remarked that formal agreements between countries tended to stifle innovation in advanced technology sectors. The ideal, she stressed, was to have informal, flexible relationships that could boost growth in emerging technology firms. Finally, regarding a possible NATO S&T cooperation with Taiwan she said that she was not aware of any cooperation.

V. Panel on Artificial Intelligence & Ethics

8. **David van Weel**, NATO Assistant Secretary General for Emerging Security Challenges began his presentation by emphasising that Emerging and Disruptive Technologies (EDT) will revolutionise the security landscape in the coming years. It is not the development of EDTs that will determine NATO technological edge over its competitors, he said, but rather the speed at which NATO nations adopt them. As a result, he said, NATO has agreed to two new initiatives to boost both innovation and technology adoption over the coming decades. First, he noted, NATO has launched DIANA, which will foster greater ties between the private sector, academia, and national governments when it comes to technological innovation in areas like Artificial Intelligence (AI). DIANA, he noted, would provide advisory teams, a trusted capital database to ensure vetted funding, and a network of sites that start-ups could rely on to help incubate in their early stages.

9. Second, he continued, the Allies had also agreed to the NATO Innovation Fund, which will provide multinational venture capital for promising start-ups working on cutting edge dual-use technologies. The Fund, he noted, should function not to replace private capital, but instead to signal to private venture capital firms which companies and start-ups are most promising from a NATO perspective. In doing so, NATO could emerge as a thought leader in ethical technological investment and innovation moving forward, the Assistant Secretary General said. He also stressed that NATO was developing NATO Principles for the Responsible Use of AI in Defence, which should be released soon. In conclusion, he said, NATO wants to set a global example for ethical use and development of EDTs, especially AI. This, he said, would be critical not only for the long-term maintenance of NATO's technological edge, but also to ensure that NATO remains an Alliance committed to democratic values now and in the future.

10. **Wendell Wallach**, Scholar at Yale University's Interdisciplinary Center for Bioethics and Senior Fellow at the Carnegie Council for Ethics and International Affairs, argued that new technologies are often misunderstood. Optimists believe that we are headed for a techno-utopia, while pessimists see us careening towards a techno-dystopia instead, he noted. In general, though, neither outcome is likely, he said. Still, considerable caution will be needed from an ethical perspective in engineering the next generation of AI, he warned.

11. AI, Mr Wallach said, is not well understood. While AI increasingly touches every aspect of daily life, we continue to believe that AI approaches a human form of intelligence, which is not the case, he underlined. Instead, he said, what AI makes up for in processing

power and the ability to draw impressive correlations, it lacks in semantic understanding, common sense, higher-level reasoning capabilities, theory of mind, consciousness, empathy, and moral and emotional intelligence. The main concern was that the learning process that AI uses to develop its skillset is not transparent to human beings, Mr Wallach admitted. There is a clear gap in our understanding of how AI goes from input of information to output of information, he stressed, and this lack of transparency raises serious security concerns.

12. AI systems that lack transparency, Mr Wallach warned, lack predictability. This, of course, is particularly concerning when AI is implemented in a system that has the capacity to cause harm, he said, as is the case with AI-powered defence systems that NATO Allies and adversaries rely on. Furthermore, he continued, AI programmes can learn and adapt on their own, and who are by definition not static in their approaches to the problems they are tasked with. This, he said, creates major difficulties for testing, compliance, and effective command and control. To that end, he said, meaningful human control of these systems is an illusion, and this raises serious ethical concerns when deploying Lethal Autonomous Weapons Systems (LAWS). Even so-called “joint-cognitive” systems that blend human and AI control together, he admitted, will face problems in these circumstances, as the human operators will lack a clear understanding of the AI’s modes of thought and introduce new information that could exacerbate already negative outcomes. In conclusion, Mr Wallach said, a serious ethical debate is needed prior to the deployment of these systems. These ethical debates will require more than just rules and laws, he said, but a clear discussion of values from an Allied and global perspective.

13. In the ensuing Q&A **Agnes Vadai** (HU) noted the difficulties that parliamentarians face when drafting ethical legislation on technology. The issue, she continued, relates not only to the opacity of these technologies, but also in determining how best to regulate private companies who may elevate profits over ethical concerns. How, she asked, should legislators approach the question of technology regulation from an Alliance-wide perspective? Equally, she also probed both speakers for their thoughts on the fine line in keeping certain technologies a secret, which is essential for NATO security, while also maintaining transparency for the broader public, which is a core democratic principle.

14. Mr van Weel reminded Committee members that private companies have taken the lead in developing new technologies due to their greater investments over the past few decades. As a result, he said, governments have lost the technological expertise and thus the in-house legislative guidance that policymakers used to possess. The solution, he stressed, was to boost investment in technological innovation at the government level, thereby rectifying some the imbalance between the private and public sectors. Regarding AI governance Mr Wallach noted the paradox that it is easiest to regulate a technology when it is early in its development, as the transfer of that technology is still in its early stages, but at the same time the hardest time to determine what to regulate in the first place, as the implications of the technology remain embryonic. He concluded that governments cannot keep up with technological development from a legislative point of view. Instead, he said, one way forward is to establish new, multilateral institutions that promote international “soft laws” – or norms and principles as opposed to hard rules and regulations – that are flexible and can adapt to new technologies as they emerge. Another possibility is to establish expert workshops frequently and consistently as regulatory questions emerge on individual technologies, he noted.

15. **Stuart Anderson** (UK) inquired how NATO’s can ensure that the trusted capital database establish its credibility early on. He also asked how Allies should counter the effects of AI that are developed by NATO adversaries that do not share Allied ethics and values. Sven Clement pressed the panel for their thoughts on how to ethically aggregate and protect the data sources that AI systems rely on. He also asked how data sources could be

cleansed of any biases they might contain. Nusrat Ghani pushed back on Mr Wallach's suggestion that soft law could be used to govern the deployment of AI systems worldwide, arguing that NATO adversaries who do not share the values of the Alliance could not be trusted to follow norms that are set out by Allies. She asked how Allies should confront the challenges presented by Russian and Chinese AI-backed systems. Finally, the General Rapporteur also asked Mr van Weel whether he believed that AI systems should be centralised or decentralised in our societies.

16. Mr van Weel explained that most Allies already have mechanism in place to screen capital, therefore the question of trust in the database as a whole should not be a major concern. Mr Wallach concurred with Mr van Weel, adding that the main concern is not having vetted capital, but in determining the maliciousness of the technologies those funds are invested into. As to the issue of the integrity of data, Mr van Weel thanked Mr Clement for this important yet often underappreciated question. Data protection, the Assistant Secretary General said, is something that many private companies have mastered due to their long-term investment in data collection, but a practice that governments must develop quickly. Mr van Weel expressed his hope that NATO could help coordinate Allied government policies on data if Allied governments so desired. Mr Wallach agreed with his fellow speaker, noting that Allied governments and partners are fortunate that they can access the highest technical expertise available towards the question of data integrity and protection. Still, he admitted, more had to be done to gain the consent of Allied publics when it came to collecting data on their private lives.

17. Mr Wallach also argued that Allies were not immune to the criticism regarding the misuse of data and AI that Russia and China faced. Indeed, while he did not personally agree with the principles that govern Russian and Chinese approaches to data and AI, he emphasised that their use strategies were rooted in their own cultural and historical experiences. More empathy was needed, he said, to understand the Russian and Chinese perspectives on AI – noting, of course, that we had no obligation to accept those perspectives. By contrast, Mr van Weel demurred, noting that NATO's position on the Russian and Chinese uses of AI were clear and did not align with Mr Wallach's viewpoint. To that end, he said, the upcoming NATO Strategic Concept would likely address this debate directly.

18. **Carlos Rojas** (ES) inquired how the Alliance could bolster its cyber-defence capabilities and whether the implementation of DIANA could be advanced. **Fabrizio Ortis** (IT) asked whether Allies should look to govern – indeed, limit – the use of LAWS deployments. **Andrea Cangini** (IT) posed the question whether it was actually possible for a world governance of AI to emerge alongside the protection of national interests both within and beyond the Alliance.

19. Mr van Weel said that our modern societies are vulnerable to mass cyber-attacks by adversaries like Russia and China. We must do everything in our power, he noted, to ensure that our infrastructure and systems are resilient, especially since there is likely no way to stop all attacks from occurring. Regarding DIANA, there is not much that can be done to speed up the process, he lamented, as it requires collaboration from all 30 NATO nations which necessarily makes things difficult. Mr Wallach responded to the Italian members' questions. He suggested that, broadly speaking, the defence community does not want limitations to be placed on LAWS systems, in part because they do not want to limit their capabilities and in part because it is difficult to determine rules for autonomous systems that are still embryonic in their capabilities. He strongly agreed with Mr Ortis, though, that some kinds of constraints would be essential sooner rather than later. Returning to the question of AI global governance, Mr Wallach admitted that the persistence of the national interest is a significant impediment to AI global governance. The best solution that he could foresee, he

said, would be to establish new multilateral institutions, which Mr Wallach noted could influence national governments and offer regulatory guidance.

20. The Chairperson then thanked both Assistant Secretary General David van Weel and Mr Wallach for leading an engaging, thought-provoking, and comprehensive discussion on AI.

VI. Panel on Iranian Nuclear and Missile Programmes

21. Chairperson Jones then invited the next panel to take the floor. Mr Jones thanked both speakers for taking time out of their schedule to speak to the Committee, inviting General Brötz to give his presentation on Iran's nuclear programme first.

22. **Major General Jürgen Brötz**, NATO Deputy Assistant Secretary General for Intelligence, provided a brief overview on the current status of Iran's nuclear programme. Since 2018, when the United States withdrew from the Joint Comprehensive Plan of Action (JCPOA), Iran has expanded its nuclear programme by enriching more uranium and installing more centrifuges. NATO, he said, sees these developments as unacceptable, and is working closely with the International Atomic Energy Agency (IAEA) to ensure that Iran returns to its international commitments to denuclearise. Iran's new President Ebrahim Raisi, the General noted, has expressed his intention to engage in diplomatic talks over the JCPOA, but the elevation of a new conservative cabinet in Iran makes these negotiations more difficult. The new nuclear negotiator appointed by President Raisi, he continued, is a staunch critique of the previous Iranian regime's approach to the nuclear question. Furthermore, he said, as long as Iran's Supreme Leader, Ayatollah Ali Khamenei, remains in power, significant policy changes regarding cooperation with the West appear unlikely.

23. Meanwhile, he said, Iran continues to engage in behaviour that destabilises the region. Iran's missile programme in particular poses a serious threat to regional security, he stressed. Iranian missiles are a potent power projection tool in the Iranian toolkit and a credible threat to NATO and partner forces in the region, he continued. Of course, he said, Iran's missile capability goes hand-in-hand with its policy of supporting non-state groups that destabilise Iran's neighbours, including in Lebanon, Gaza, Yemen, Iraq, and Syria, amongst other locations. In conclusion, he said, Iran's ongoing nuclear programme, its potent missile arsenal, and its support of non-state groups across the Middle East pose a serious threat to Allied security. Three steps need to be taken in response: first, he said, Allies must preserve and uphold the Nuclear Non-proliferation Treaty (NPT); second, he continued, Allies must strengthen and modernise arms control for a new era; finally, and most importantly, he said, Allies must maintain their unity when treaties are violated. In closing, he hoped these recommendations would be reflected in the forthcoming NATO Strategic Concept.

24. **Dr Nuno Cabral**, Head of the Unit for NATO at the Portuguese Ministry of Foreign Affairs, gave the members a brief historical overview of Iran's nuclear programme, which dates back to the earliest days of the Cold War when the country was still ruled by Shah Reza Pahlavi. At that time, he said, Iran had ambitions to develop a significant civilian nuclear capability, which the Allies supported as an element of their partnership with the Shah's Iran. In 1979, this all changed with the Islamic Revolution. With this regime transition, Dr Cabral noted, Western nations withdrew their technical and political support for the Iranian nuclear programme, which presented a serious setback for the Iranians. As a result, Iran eventually turned to Russia for assistance. In 2002, a uranium enrichment facility and a heavy water facility were discovered at Natanz and Arak, respectively. Iran refused to grant IAEA inspectors access, which led to the imposition of sanctions on Iran.

25. The situation, Dr Cabral remarked, remained relatively stable from 2003 to 2015, with outside actors and Iran engaging in a cycle of diplomatic engagement and disengagement, sanctions relief and reimposition. In 2015, however, the JCPOA was struck, which cut Iran's stockpile of enriched uranium significantly, reduced its number of centrifuges and heavy water facilities, and gave IAEA inspectors access to Iranian facilities. In exchange, Dr Cabral said, Iran received major sanctions relief. In 2018, however, the United States withdrew from the agreement, reimposed sanctions, and led us to where we stand today, he said.

26. Dr Cabral concluded by examining why Iran seeks a nuclear programme in the first place. Iran, he said, is a proud, historically significant nation that feels threatened by Russia and other regional actors. To that end, the programme is both a source of national pride and a source of national security. Unless Iran is given a deal that preserves both, he stressed, the cycle of sanctions imposition and relief will continue into the future.

27. The Chairperson thanked General Brötz and Mr Cabral for their thoughtful presentations and invited members to pose their questions to the speakers. Stuart Anderson asked whether the COVID-19 pandemic or the withdrawal from Afghanistan had weakened NATO's ability to offer a unified response in the face of treaty violations. Sven Clement inquired which states aided Iran in developing its ballistic missile programme, as well as describe Iran's indigenous missile capabilities.

28. Russia and China offer Iran political support for its ballistic missile programme, thus protecting Iran from sanctions that would be imposed on it through the UN Security Council (UNSC), General Brötz said. China and North Korea, however, are Iran's main sponsors on a technical level, he added. At the same time Iran is rapidly developing its own indigenous capabilities as well, he warned. Responding to Mr Anderson's question, General Brötz noted that in his view the solidarity of the Alliance had not been weakened. This, he stressed, is exactly why the Alliance needs to keep evolving under the NATO 2030 rubric, as solidarity today does not result in solidarity tomorrow.

29. Nusrat Ghani asked Dr Cabral to expand on the Iranian public's view of the nuclear programme – especially considering the sanctions, which bear heavily on Iranian citizens. Ms Ghani also asked if Allies could leverage the weaknesses in Iran's scientific infrastructure in future negotiations. Furthermore, she also asked if the ongoing Arab-Israeli rapprochement (via the Abraham Accords) had any effect on Iran's nuclear policy. Kevan Jones asked Dr Cabral first on the future of the Iranian nuclear programme once the JCPOA's provisions had expired. He also asked the General to expound on Iran's newly minted membership in the Shanghai Cooperation Organisation (SCO). Finally, **Njall Trausti Fridbertsson** (IS) asked the panel to expand first on Iran's relationship with Persian Gulf monarchies, and how this relationship affects negotiations for the JCPOA, and second on Iran's relationship with Afghanistan, and how that relationship affects Allied policy in the region.

30. Dr Cabral iterated that the Iranian public sees the nuclear programme as a source of national pride. The sanctions, he noted, were instead seen as a separate issue by the Iranian public, and one that was primarily directed against their country as part of a broader anti-Iranian campaign. Regarding Iranian weaknesses in its technical expertise, General Brötz said that Allies could limit the transfer of key technologies to Iran. On to the question of a post-JCPOA future, Dr Cabral stressed that the 15-year window laid out by the JCPOA was deliberately chosen. Indeed, he said, negotiators believed that, after 15 years of sanctions relief, Iran's economic situation would be improved enough that the public would have forgotten about the nuclear programme and the issue more broadly would have lost its salience in Iranian debates. Regarding Iran's new membership in the SCO, General Brötz noted that this would not take effect for another two years but would enhance Iran's technical capabilities through the SCO's training drills and military cooperation mechanisms. Overall,

the General concluded, joining the SCO is a step forward from Iran's perspective. Iran's primary focus in Afghanistan was to stabilise the security situation there, General Brötz said. Beyond this, he said, there is a possibility that Iran will try to use its influence in Afghanistan as a bargaining chip in future negotiations with Allies. Dr Cabral also added that Iran's relationship with the Gulf monarchies was mixed. They are facilitators of negotiations on the one hand, he said, but they also host major US military bases on the other.

31. With that, the Chairperson thanked both speakers for their excellent contributions.

VII. Consideration of the Revised Draft Special Report of the Science and Technology Committee, *Space and Security – NATO's Role* [025 STC 21 E rev. 1] by Karl-Heinz BRUNNER (Germany), Special Rapporteur

32. Special Rapporteur **Karl-Heinz Brunner** (DE) presented the revised Draft Special Report on *Space and Security – NATO's Role*. The Special Rapporteur began his presentation by reminding the Committee that space technologies and space-based data and services are more important than ever before. They are critical to global economic and financial systems, communications, and scientific progress. Space, he continued, is also critical to Allied security, which explains why NATO Allies have been hard at work implementing new space commands within their armed forces. The Rapporteur then outlined some of the changes that had been made since his Spring Session presentation, offering his thanks to the French delegation for their helpful comments and for organising an informative visit in July during which the Committee learned a great deal on space issues.

33. Space technologies are undergoing rapid change, Mr Brunner explained. Through technological progress, he said, outer space is more accessible than ever before. This brings great benefits, but it also carries serious security risks as well. Second, then, Mr Brunner noted that space systems are not resilient enough relative to their importance. With increasing amounts of space debris orbiting the Earth, he warned, our critical space-based platforms are increasingly at risk. Third, he continued, the vulnerability of space assets is compounded by the emergence of offensive space-based capabilities, especially those deployed by NATO adversaries Russia and China. As such, he said, the risk of a space arms race is currently high, which requires Allies to pursue arms control and new international agreements in space, if possible. Indeed, he said, deterrence in space is a solid foundation on which to base Allied security, but it is not enough on its own. We also need comprehensive treaties that govern the use of assets in space, he emphasised. The Outer Space Treaty of 1967 is the cornerstone of space governance in that respect.

34. In conclusion, Mr Brunner highlighted some recommendations for the Committee. First, he said, NATO should be elevated as an ideal forum for debate regarding space developments. Equally, he continued, those debates should also be included in the update of the forthcoming NATO Strategic Concept. Another step could be to elaborate on common standards and definitions between Allies, he said. Allies should also look to elevate NATO as a platform within which common positions on arms control in space can be forged. Here, he said, the NATO Parliamentary Assembly has a critical role to play, especially in raising awareness of security in space.

35. Chairperson Jones then thanked Mr Brunner for a fascinating presentation. Fabrizio Ortis mentioned to the Rapporteur that Italy has made major strides in its space-based capabilities since establishing its space command in 2019. If possible, Mr Ortis said, the Italian delegation would be appreciative if information on Italy could be included in the report before its publication. The Rapporteur agreed.

VIII. Consideration of Revised Draft Report of the Sub-Committee on Technology Trends and Security, *Biological Threats: Technological Progress and the Spectre of Bioterrorism in the Post-COVID-19 Era* [024 STC 21 E rev. 1] by Sven CLEMENT (Luxembourg), Acting Sub-Committee Rapporteur

36. Next, the Chairperson moved to the consideration of the revised Draft Report of the Sub-Committee on Technology Trends and Security on *Biological Threats: Technological Progress and the Spectre of Bioterrorism in the Post-COVID-19 Era*. Mr Jones invited Sven Clement to introduce the report as the Sub-Committee Rapporteur, Leona Alleslev, had not been re-elected to the Canadian Parliament and could therefore not present the report.

37. Mr Clement expressed his gratitude to Ms Alleslev for the excellent report and for all of her hard work. The Committee, he acknowledged, would miss her presence dearly in future meetings. Turning to the draft report he said that the COVID-19 pandemic has exposed Allies' vulnerabilities and unpreparedness in the face of biological events. Considering these vulnerabilities, he continued, there has been major progress in the development of biotechnology and other EDTs. He warned, however, that these new technologies can also be used for malicious purposes. This allows states on the one hand to develop powerful bioweapons, while also lowering the barrier for non-state actors and individuals to access these technologies as well, he said.

38. However, there remain considerable obstacles for malicious actors when it comes to acquiring bioweapons, Mr Clements remarked. As such, he stressed, both NATO and individual Allies have an important role to play in strengthening biodefence and deterrence policies. To that end, the Rapporteur gave the Committee six recommendations. First, he said, NATO must elevate biodefence on its security agenda. Second, he continued, Allies must re-examine their biodefence capabilities to ensure their effectiveness. Third, he said, Allies' approach to biodefence must be comprehensive so that the Alliance can better adapt to the rapid development of biotechnology and other EDTs. Fourth, Allies must work together to strengthen existing arms control regimes to prevent the proliferation of knowledge and material, he stressed. Fifth, Allies should make better use of NATO as a forum to exchange experiences and best practices on biodefence. Finally, he concluded, Allies must be better prepared to counter disinformation.

39. In the ensuing Q&A Velizar Shalamanov asked if Mr Clement could expand on NATO's strategic communications efforts when it comes to the relationship between disinformation and an effective pandemic response. Agnes Vadai also asked Mr Clement if he could speak to some of the lessons learned by Allies during the pandemic, especially those regarding the effects of the pandemic on Allied solidarity. Kamil Sindir inquired about the difference between research on bioweapons versus research on the anti-agents to those bioweapons.

40. In his response, Mr Clement noted that the key to effective strategic communication is targeted outreach to communities that are most vulnerable. Reaching people in general is not enough, he said, as NATO must also reach the right people. The Acting Rapporteur also suggested that Allies' strategic communications during the pandemic could have been more unified. He proposed that Allies make use of the techniques and tools that are already available. Mr Clement agreed that solidarity among Allies had perhaps come a bit late in the early stages of the pandemic, although he noted that this was due to the unique challenge that the pandemic presented. That said, more could be done to promote solidarity amongst Allies in the future, he added. Regarding research on biological pathogens, he acknowledged that this is a complicated issue as research simultaneously facilitates the dissemination of bioweapons to malicious actors, but also enhances Allied biodefence and

deterrence. Overall, he said, Allies must pursue research, but apply strong safety standards when conducting that research.

41. The Chairperson thanked Mr Clement for the excellent presentation of the report. Mr Jones then called on the Committee to vote on all three Committee Reports in order. **The Revised Draft General Report [023 STC 21 E rev. 1], the Revised Draft Special Report [025 STC 21 E rev. 1], and the Revised Draft Report of the Sub-Committee on Technology Trends and Security [024 STC 21 E rev. 1] were all unanimously adopted in sequence.** The Chairperson also thanked Ms Alleslev and Mr Brunner for their longstanding service and contribution to the Assembly and the Science and Technology Committee's work.

IX. Consideration of Amendments and Vote on the Draft Resolution *Arms Control in a Dynamic Strategic Environment* [129 STC 21 E] by Nusrat GHANI (United Kingdom), General Rapporteur

42. The Committee then considered and discussed seven proposed amendments to the draft Resolution. The following amendments were accepted: Amendments 4,7 (Cantara, ES). The following amendments were rejected: 1,2,3,5,6 (Azubalis, LT).

43. **The draft Resolution [129 STC 21 E], as amended, was adopted unanimously.**

X. Election of Committee and Sub-Committee Officers

44. All Committee officers eligible for re-election were re-elected. The following new officers were elected by acclamation:

Science and Technology Committee (STC)

| | |
|---------------------|--|
| Vice-Chairpersons: | Dina TITUS (United States) Fabrizio ORTIS (Italy) Agnes VADAI (Hungary) |
| Special Rapporteur: | Sven CLEMENT (Luxembourg) |

Sub-committee on Technology Trends and Security (STCTTS)

| | |
|--------------------|--|
| Vice-Chairpersons: | Andrea CANGINI (Italy) Andrej CERNIGOJ (Slovenia) |
| Rapporteur: | Njall TRAUSTI FRIDBERTSSON (Iceland) |

Ukraine-NATO Interparliamentary Council (UNIC)

| | |
|--------------------|-------------------------------|
| STC Representative | Fabrizio ORTIS (Italy) |
| STC Alternate | Sverre MYRLI (Norway) |

XI. Summary of Past and Future Activities of the Science and Technology Committee and the Sub-Committee on Technology Trends and Security

45. **Philippe Michel-Kleisbauer** (FR), Chairperson of the Science and Technology Sub-Committee on Technology Trends and Security, informed the Committee that their next visit would be to Norway. Mr Jones then took the floor and thanked the French delegation for hosting the Committee's virtual visit to France, which took place on 2 July. Regarding the visits of the STC and the STCTTS in 2022 he said that the Committee would consider visits to the United Kingdom, Israel, and Japan.

XII. Any Other Business

46. No other business was raised.

XIII. Date and Place of Next Meeting

47. Chairperson Jones noted that the next Committee Meeting would take place in Norway, at the end of 2021.

XIV. Closing Remarks

48. The Chairperson thanked all Committee members and speakers for their active participation and the NATO PA staff and the interpreters for facilitating the meeting despite difficult circumstances. He also praised the Portuguese delegation for their hard work in making the Assembly's first in-person meeting in nearly two years a major success. The meeting was adjourned.
