

OSCE Forum for Security Cooperation opening session: UK statement

I would like to warmly welcome H.E. Peter Launsky and thank him for clearly outlining Austria's priorities for the Forum for Security Co-operation (FSC) this trimester. I would also like to thank Armenia for its chairing of the FSC last trimester, and welcome Azerbaijan to the Troika.

Mr Chair, Austria assumes the FSC Chair at a particularly challenging time. First amongst the challenges remains Russia's blatant violation of OSCE principles and commitments, through its ongoing aggression against Ukraine, and its illegal annexation of Crimea. While the levels of violence remain lower than before the July 2020 measures to strengthen the ceasefire, we continue to observe an increasing upward trend in ceasefire violations, restrictions to the OSCE Special Monitoring Mission to Ukraine (SMM), and targeting of SMM assets. This is against a backdrop of continuing civilian casualties and human suffering caused by the actions of Russia and the armed formations it backs.

We continue to have significant concerns about the heightened tensions caused by Russia's increased and sustained military activity on Ukraine's border and in illegally annexed Crimea. We are disappointed that Russia did not, and still chooses not to, engage with OSCE processes and mechanisms available to provide the necessary transparency with regards to this activity. Russia is also dismantling existing OSCE efforts to building confidence and enhance transparency, as indicated by their announcement last week that they refuse to extend the mandate of the OSCE Border Observer Mission – effectively shutting it down.

The UK strongly supports Ukraine's sovereignty and territorial integrity within its internationally recognised borders, including its territorial waters. We have consistently stood with Ukraine in opposing all instances of Russian aggression towards Ukraine and we will continue to do so, including through sanctions, together with our international partners. The UK does not and will not recognise Russia's illegal annexation of Crimea.

Mr Chair, in December we will celebrate the 25th Anniversary of the [Lisbon Framework for Arms Control](#). It is a timely opportunity to reflect on the current state of the OSCE security architecture and the events which led to the deteriorating security situation we find ourselves in today.

It has been repeatedly emphasised in this forum that for Conventional Arms Control and military confidence and security building measures to be effective, all participating States must fully and faithfully implement the commitments they have undertaken. But Russia's actions – as mentioned above – show that they have little interest in doing so.

Mr Chair, we believe that before embarking down a path advocating for a new security architecture for the OSCE, we first must understand why certain

participating States are not fully implementing their existing obligations in letter and spirit. This failure to implement is not driven by issues with the content of existing Treaties or agreements. The failure is a failure of will. The will of certain participating States to engage in good faith, and the will to genuinely seek to build transparency and trust. We must actively question the motives for why they do not seek to do this.

However, we are clear that the transparency and confidence building tools of the OSCE are in need of updating. We have long argued that a modernised Vienna Document, fully implemented in letter and spirit by all OSCE participating States, would be a powerful tool in increasing reciprocal military transparency and reducing the risks of misperception and unintended escalation. We know from Tirana that [forty-four other participating States agree](#). And we call on Russia to constructively engage in this important and long overdue task.

Mr Chair, the promotion of the Women, Peace and Security agenda is not an attempt by some OSCE participating States to impose their values on others – women's rights are human rights. On a practical level – women's full, equal and meaningful participation ensures better outcomes, whether that be in the prevention, management and resolution of conflict; increasing the operational effectiveness of our armed forces; or increasing the impact of projects on small arms and light weapons (SALW) and stockpiles of conventional ammunition (SCA). In June the 10th Annual Discussion on the Code of Conduct reinforced the call of fifty-two participating States to implement the concrete menu of actions in the [Tirana Joint Statement](#).

And so we recognise the intent to give particular emphasis on the integration of women in the armed forces at the Code of Conduct Security Dialogue. Thank you for your comments today on mainstreaming Women, Peace & Security and UNSCR 1325 into the work of the FSC. However, we regret there is not a dedicated Security Dialogue in this crucial area – recognising the overwhelming support of participating States for furthering implementation of UNSCR 1325 at and through the OSCE and the FSC.

We welcome discussion on SALW & SCA which can and do pose a serious threat to societies. Their diversion and misuse cost hundreds of thousands of lives every year, undermine security and sustainable development, and fuel conflict, crime and terrorism.

We continue to value the Structured Dialogue as an additional platform for discussing current security threats and challenges, including hybrid. The joint Forum for Security Cooperation/ Permanent Council (FSC/PC) on the 3rd of November will be a good opportunity to take stock on progress thus far and to look forward to where our Dialogue may go in 2022.

I would like to conclude by congratulating Austria on taking on the role of the FSC Chair in this trimester, an important one as we approach the Ministerial Council. I wish you Secretary General, Ambassador Raunig, and your able team here in Vienna the best of luck in the coming months and assure you of the full support of the UK Delegation.

COP26 President concludes constructive discussions with China on climate action

- Visit focused around discussions with Special Representative for Climate Change Affairs of China, Xie Zhenhua on China's central role in addressing the global climate crisis, in their first face-to-face meeting
- COP President stressed the need for China and all countries to take urgent action over next decade to pursue efforts to keep the 1.5 degree temperature goal within reach, including on coal, finance, deforestation and zero emissions vehicles
- The pair underscored their commitment to multilateralism and a safe and COVID-secure COP26 which accelerates climate action and addresses gaps in climate ambition in this critical decade

Alok Sharma has completed constructive talks with Special Representative Xie Zhenhua during his first visit to China as COP26 President-Designate.

With less than two months to go before the UK hosts the crucial UN climate change conference, COP26, Mr Sharma travelled to Tianjin for two days of discussions, to accelerate action ahead of the Glasgow summit.

The COP26 President pointed to recent warnings from the Intergovernmental Panel on Climate Change, which China is party to, as evidence that all countries needed to pick up the pace and take urgent action over the next decade to deliver on the Paris Agreement and pursue efforts to keep global temperature rise to 1.5C. This is a message he has been taking around the world over the past eight months.

During a series of meetings with Special Representative Xie Zhenhua, the pair discussed President Xi Jinping's commitments to achieve carbon neutrality by 2060, peak emissions before 2030 and reduce China's use of coal. Mr Sharma welcomed China's intention to outline detailed policy plans to meet these, following on from commitments made at the G20 for countries to publish enhanced Nationally Determined Contributions ahead of COP26.

They discussed opportunities for China to go further and build on its world-leading position as the largest investor in renewable energy, and the largest domestic market for zero emission vehicles. The COP President Designate also highlighted in discussions how China could demonstrate global leadership by

ending overseas coal financing. The pair also discussed the vital importance of protecting nature and China's presidency of CBD COP15.

The COP President and Special Representative also discussed the detailed Covid measures to hold a safe and secure event in Glasgow, which was welcomed by the Chinese delegation.

During his visit Mr Sharma met other senior ministers virtually including Chinese Vice Premier Han Zheng, as well as the Governor of the People's Bank of China Yi Gang and UK and Chinese business representatives to encourage greater ambition for decarbonisation and participation at COP26.

Speaking at the end of his visit, Mr Sharma said:

I have had constructive discussions on my first visit to China in the COP26 role, but time is running out to prevent a climate catastrophe, and so the discussions I have had here are nothing short of crucial.

The commitments President Xi has made over the last year are welcome and China's pledge to tackle climate change as a shared mission for humanity is encouraging. The choices that China makes, on their energy mix, and on coal specifically, will shape our shared future.

The question that remains is how fast they put these into action, along with other major emitters. I look forward to more detailed plans being published setting out how China's targets will be met.

The clock is running down fast and the next decade will be decisive. All countries need to pick up the pace on driving down emissions and safeguarding people and nature from the worst effects of climate change.

Ends

- Some meetings were held virtually so as to reduce numbers inside the Covid-19 secure bubble
- Strict Covid-19 protocols were followed by all members of the delegation, including regular testing

RACE lends a hand to Sellafield robotic dog trials

UKAEA's robotics team RACE was at Sellafield recently to advise and support

on how canine-like robots could help the clean-up of Western Europe's largest nuclear site.

Sellafield Ltd held a three-day trial of Spot, the agile mobile robot developed by Boston Dynamics, at the Calder Hall nuclear power station, which is now being decommissioned.

The building offers challenging terrain in a risk-managed environment, providing ideal conditions to test Spot's agility, scanning and radiation detection capabilities.

If successful, Spot could be deployed at locations across the Sellafield site to carry out routine tasks like inspections, mapping, data capture and characterisation. The four-legged robot is able to perform autonomous missions and can be controlled remotely via an operator, which significantly improves safety by allowing the robot to enter hazardous, contaminated areas in lieu of a person.

Spot is also expected to speed up inspection times, as robots do not require as much personal protective equipment, and help save money by ensuring more frequent data collection and better predictive maintenance.

[RACE – the Remote Applications in Challenging Environments centre at UKAEA's Culham site](#) – owns two Spot devices and has been working on applications for them in industrial locations where it's difficult or unsafe to send humans. One of its Spots last year carried out a radiation mapping project at Chernobyl for the University of Bristol.

RACE's Guy Burroughes commented: "We've been using Spot for over a year in our work to develop robotics for challenging environments like nuclear facilities. We were delighted to bring this experience to support the trials at Sellafield and hope it can lead to safer, more efficient decommissioning."

The demonstration of the Spot unit was held in conjunction with Cumbria-based engineering consultant Createc and UKAEA. If the trial phase proves successful, Createc would be Boston's Dynamics' preferred UK partner for Spot operations at Sellafield and UKAEA would continue its role of providing expertise on robotics deployments in nuclear environments.

[Demonstrating quadrupedal robots for nuclear applications](#)

[Teaching a new dog nuclear tricks](#)

Spot the robot dog has been going through its paces at Sellafield as part of an active demonstration.

Sending robots into hazardous environments is nothing new at Sellafield.

A fleet of land, air, and underwater vehicles are already contributing to the site's decommissioning and clean-up mission.

Using robots for routine tasks in hazardous environments removes people from harm's way and frees them up for more urgent tasks.

But before technology can be deployed on the site it must be rigorously tested.

Spot underwent 3 days of trials at Calder Hall, the former nuclear power station which is now being decommissioned.

[VIDEO – Demonstrating quadrupedal robots for nuclear applications](#)

The demonstration was held in conjunction with US manufacturer Boston Dynamics, Cumbria-based engineering consultant Createc, and the UK Atomic Energy Authority (UKAEA)

Calder Hall's former turbine hall provided the perfect tricky terrain to test Spot's agility.

If successful, Spot could join Sellafield Ltd's fleet of robots, carrying out tasks like inspections and data capture across the site

Rav Chunilal, head of robotics and artificial intelligence for Sellafield Ltd, said:

Our mission is to create a clean and safe environment for future generations.

Robots like Spot are an integral part of our future.

They offer us a way of getting jobs done in hazardous environments while keeping people out of harm's way.

Robots are excellent at performing repetitive and time-consuming tasks. This allows us to free up our people to undertake more fulfilling work contributing to our purpose: creating a clean and safe environment for future generations.

Spot's active demonstration has given us great insight into its capabilities. We'll now study the findings before we take a decision on whether to deploy this technology at Sellafield.

Guy Burroughes, senior control systems engineer at UKAEA, said:

We've been using Spot for over a year in our work to develop robotics for challenging environments like nuclear facilities.

We were delighted to bring this experience to support the trials at Sellafield and hope it can lead to safer, more efficient

decommissioning.

Will Newsom, head of nuclear at Createc, said:

Spot is the ideal tool to deploy equipment into industrial environments which have been designed for bipedal human exploration only.

It will be an important part of the toolset to add to Sellafield Ltd's remote-operations capability.

We are working with Boston Dynamics as their preferred partner for nuclear applications to deliver this cutting-edge technology and integrate new capabilities, making the solution business-as-usual for our customers.

UK Fusion Materials Roadmap will boost progress in developing fusion power plants

The UK Atomic Energy Authority (UKAEA) and The Henry Royce Institute for advanced materials (Royce) have today published a roadmap for developing materials for fusion energy.

The roadmap, developed with the input of over a hundred materials experts from the UK research community and industry, highlights five major areas of work required to enable the materials for future fusion power plants.

[UK Fusion Materials Roadmap](#)

Fusion – the same principle by which the sun creates heat and light – has the potential to be an abundant, low-carbon and safe part of the world's future sustainable energy supply.

Recent advances in the technology mean that prototype fusion power stations are now being designed, with the UK's STEP plant due to go online in the early 2040s.

The leading contender for fusion power plants is the 'tokamak' – a ring-shaped machine in which fuel is confined with powerful magnets and heated until particles fuse together. The fusion process produces high-energy neutrons that can be turned into electricity, but which could also significantly damage and irradiate materials within the device.

Identifying, developing and qualifying the right materials is key to delivering commercial fusion for two reasons. First, plant efficiencies, safety and availability often hinge on the quality of the component materials. Second, a sustainable fuel cycle requires highly productive fuel breeding materials. Both plant components and fuel breeder materials will need to withstand a highly challenging combination of neutron bombardment and thermal, magnetic, electric and mechanical loads in a tokamak power plant.

The five priority areas identified by the UK Fusion Materials Roadmap are:

- Novel materials to minimise the amount of activation in the structure of the fusion power plant;
- Compounds that can be used within the power plant to optimise breeding of tritium fuel to sustain the fusion process;
- Magnets and insulators that are resistant to irradiation from fusion reactions – especially under cryogenic conditions;
- Structural materials able to retain their strength under neutron bombardment at high operating temperatures (over 550 degrees C);
- Engineering assurance for fusion materials – providing irradiated sample data and modelled predictions such that plant designers, operators and regulators have confidence that materials are suitable for use in future commercial power stations.

Dr Amanda Quadling, Director of Materials at UKAEA said:

“This roadmap is a national tool that aims to give UK materials researchers common themes to collaborate around. We hope to generate momentum in the testing, mechanistic understanding, and surmounting of, irradiation damage from fusion.

“The roadmap is also a teaching document for those who wish to learn more about fusion materials from a supply chain and regulatory point of view.

“It will help to form new partnerships across a wide range of materials stakeholders so we can bring fusion electricity to the world as quickly as possible.”

Professor David Knowles, CEO, Henry Royce Institute, said:

“The technological challenges of delivering fusion energy into practical application demand the development of materials which can withstand the extremely severe operational conditions of fusion power plants. We now need to pursue, as a matter of urgency, the development of novel materials which engineers can use to reliably withstand fusion plants demanding environments such high temperatures, severe irradiation and rapid thermal cycling gradients.

“This important materials roadmap published by Royce and UKAEA sets out what we need to do to ensure we can deliver on one of the most challenging technological missions we have ever faced; the controlled exploitation of fusion using a tokamak technology has the potential to deliver low-carbon fuel abundance to the benefit for millennia to come.”

The UK Fusion Materials Roadmap is available from The Henry Royce Institute website at:

<https://www.royce.ac.uk/collaborate/roadmapping-landscaping/fusion/>

For media enquiries and further information about this report please contact: