



Emerging Security Challenges (ESC) Division

# Science for Peace and Security (SPS) Programme



*'SPS cooperation with Ukraine  
is a win-win collaboration  
for all parties.'*

Dr. Antonio Missiroli,  
Assistant Secretary General  
for Emerging Security Challenges

## Practical Cooperation with Ukraine



NATO SPS INFORMATION DAY

IN KYIV, UKRAINE

21 November 2019



## NATO and Science: Potential for Innovation

On 29 November 2018, at NATO headquarters, the Organization and its partners celebrated the sixtieth anniversary of the Alliance's leading initiative for science, innovation, and research.

The NATO Science Programme was created in 1958 to promote the training of scientists, encourage the sharing of knowledge, and build networks of experts. The current SPS Programme inherited a wealth of knowledge and human potential. It has grown into one of NATO's major partnership programmes generating practical scientific cooperation between scientists from NATO countries and Ukraine, promoting regional security through advanced research and offering grants on a wide range of topics through multi-year projects, training courses, and various workshops. Over the years, it has created an international network of civilian scientists and experts. More than 20 Nobel Laureates are associated with the SPS Programme.



*'It is science that provides our understanding of emerging security challenges, and it's science that will underpin our solutions.'*

The Honorable Rose Gottemoeller,  
Former NATO Deputy Secretary General

*'Given the high standards of Ukrainian science and know-how, working with Ukrainian researchers and scientists has also been an invaluable occasion for their counterparts in NATO countries to study specific areas of research, for instance in Hybrid Warfare.'*

Dr. Antonio Missiroli,  
Assistant Secretary General  
for Emerging Security Challenges



*'For Ukraine this Programme is not merely a useful means of bringing together experts to enhance security and progress. Ukraine recognizes SPS as a true and devoted friend, which has supported Ukrainian scientists for more than 20 years.'*

H.E. Vadym Prystaiko  
Former Ambassador of Ukraine to NATO

## Ukraine and SPS

Active engagement between Ukraine and the SPS Programme dates back to 1991. In April 2014, as a response to Russian illegal annexation of Crimea, Allies decided to intensify practical cooperation with Kyiv in the field of security-related civil science and technology. Today, SPS activities in Ukraine address a wide variety of emerging security challenges such as counter-terrorism, advanced technologies, cyber defence, hybrid warfare, energy security, and defence against chemical, biological, radiological and nuclear (CBRN) agents. SPS activities also deal with human and social aspects of security, such as the implementation of United Nations Security Council Resolution 1325 on Women, Peace and Security; support the development of advanced technologies with security applications; and assist with the detection and clearance of mines and unexploded ordnance. Many current activities help Ukraine to deal with the negative effects of its conflict with Russia, engaging Allied and Ukrainian scientists and experts in meaningful, practical cooperation, forging networks and supporting capacity-building in the country.

Since 2014, Ukraine has been the largest beneficiary of the SPS Programme. In the past five years, a total of 69 SPS activities with Ukraine as leading partner were launched, with Ukrainian scientists and experts participating in a number of additional SPS-supported projects or workshops as researchers or speakers. Ukrainian institutions often became the end-users of SPS projects, and also benefited from the provision of equipment for research and stipends for young scientists. In 2019, Ukraine remains the lead Partner with 28 ongoing SPS projects, which represents 24 percent of the overall SPS Programme.

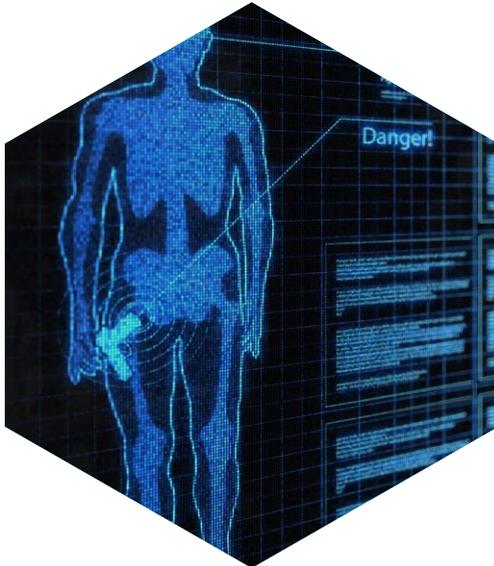


*“In view of the successful implementation of research projects under the NATO Science for Peace and Programme in recent years and the growing interest of Ukrainian scientists in participating in the programme, effort will be intensified to mobilize cooperation with NATO in 2019 as part of the scientific sphere.”*

Ukrainian Annual National Programme for 2019, under the auspices of the NATO Ukraine Commission

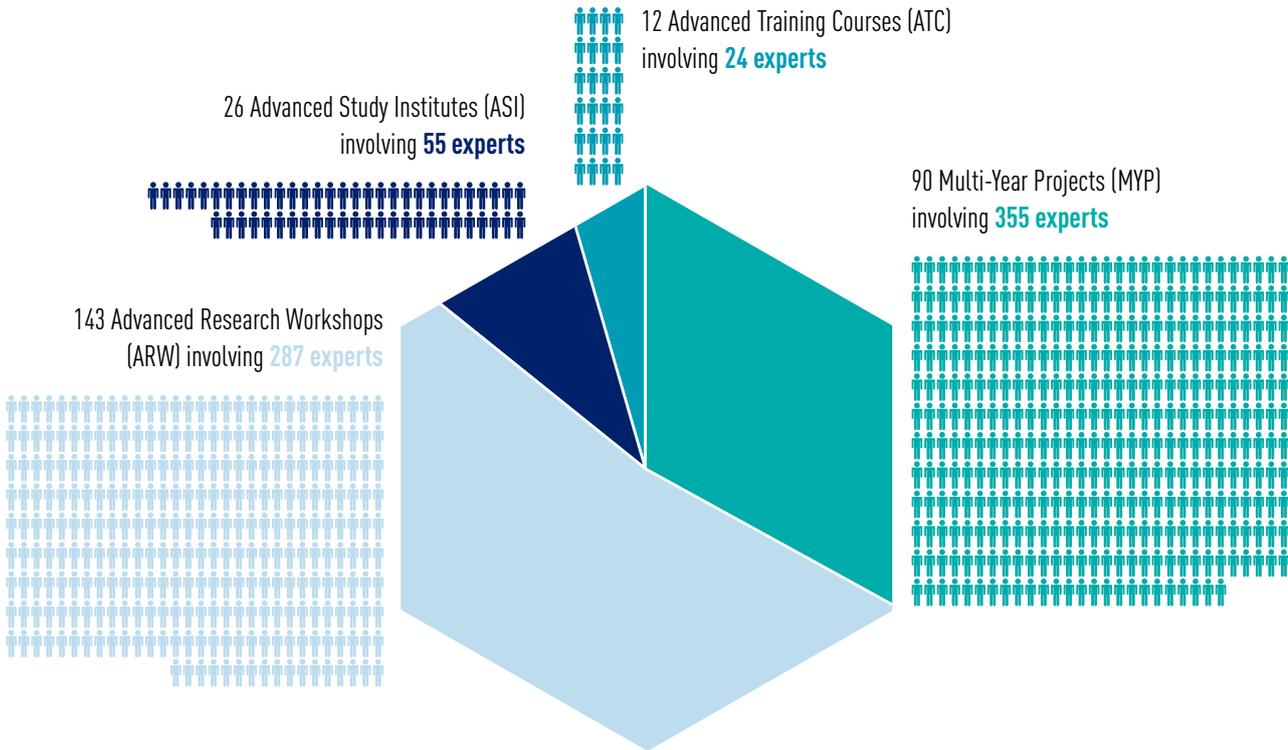
### Flagship Project: DEXTER

Ukrainian experts are currently involved in a significant new SPS initiative developing innovative technologies for the stand-off detection of explosives, a project that is contributing to NATO’s enhanced role in the international fight against terrorism. Ukraine is a key contributor to the SPS flagship programme DEXTER (Detection of Explosives and firearms to counter terrorism) as part of 8 Allied and Partner countries developing an integrated system that can detect explosives and firearms in public places, remotely and in real time without disrupting the flow of pedestrians.



# Facts and Figures 2019

Since 1991, more than **721 experts** from Ukraine have participated in the SPS activities as follows:



Over the past 28 years the SPS Programme has facilitated the exchange of more than **945 young scientists**.

Thanks to the SPS Programme more than **146 experts** from NATO countries have visited scientific establishments from Ukraine with the aim of knowledge sharing and exchange of good practices.



**83 publications**



The SPS Programme also supported **44 Ukrainian young scientists** who studied abroad to continue their research in Ukraine.

Cooperation with a wide range of NATO and partner countries:

- |                |             |                |            |                   |
|----------------|-------------|----------------|------------|-------------------|
| Belgium        | Greece,     | Romania        | Armenia    | Kazakhstan        |
| Bulgaria       | Hungary     | Slovakia       | Australia  | Mauritania        |
| Canada         | Italy       | Slovenia       | Azerbaijan | Morocco           |
| Croatia        | Latvia      | Spain          | Belarus    | Republic of Korea |
| Czech Republic | Lithuania   | Turkey         | Egypt      | Serbia            |
| Denmark        | Netherlands | United Kingdom | Finland    | Sweden            |
| Estonia        | Norway      | United States  | Georgia    | Tunisia           |
| France         | Poland      |                | Israel     | Uzbekistan        |
| Germany        | Portugal    |                | Japan      |                   |

# Key Achievements

## Humanitarian Demining in Ukraine

Through various tailored capability and capacity-building measures, the SPS Programme provided support to the Comprehensive Assistance Package (CAP) for Ukraine, endorsed at the 2016 NATO Summit in Warsaw. As a practical result, one important project has assisted Ukraine in the area of humanitarian demining by enhancing the capacity of the State Emergency Service of Ukraine (SESU) in undertaking demining operations in eastern parts of the country (Donetsk and Luhansk regions) with the aim to allow the return of displaced persons. Through this project, the SPS Programme was also able to immediately respond to an urgent request for equipment following the Balaklia Arms Depot explosion in Ukraine, in March 2017.



## A Multinational Telemedicine System

The Programme also helped to build capacity in the sphere of telemedicine and paramedicine in the framework of the CAP. The SPS project enables medical specialists to engage in major disasters and incidents that require specialized expertise in first response humanitarian aid through the use of modern communications to provide recommendations in real-time to the caregiver on site. As part of the project, two paramedic centres in Ukraine were equipped and 30 Ukrainian paramedics took part in a 'train-the-trainer' course in Romania. During the Euro-Atlantic Disaster Response Coordination Centre's (EADRCC) field exercise in Lviv, Ukraine, in 2015, the telemedicine capabilities were successfully live-tested for the first time, allowing medical specialists to engage in disasters or incidents across national borders. The project has now been brought to a successful completion.



## Compact Sensor Systems for Unmanned Aerial Vehicles

This multi-year project developed a sensor for Unmanned Aerial Vehicles (UAVs) able to provide knowledge about an enemy outpost location. The sensor is capable of intercepting signals on the battlefield, identifying the direction and location of their transmitting source and thus creating a frequency map. Its small size, low weight, and reduced power consumption make it a key prototype for strategic planning. Ukraine cooperated with Spain and the Republic of Korea on this project. Upon completion of the project, Professor Kostyantyn Lukin from the Usikov Institute, at the National Academy of Sciences in Ukraine, along with his Spanish and Korean colleagues, received the SPS Partnership Prize, which was presented by then NATO Deputy Secretary General, Rose Gottemoeller, at the occasion of the 60th Anniversary of the Science Programme (29 November 2018).



# Future Cooperation

## Key Priorities

Since 2012, SPS activities have been guided by a set of key priorities aligned with NATO's strategic objectives to: (1) address emerging security challenges, such as cyber defence, counter terrorism, energy security, or defence against CBRN agents; (2) support NATO-led missions and operations; (3) support the development of security-related advanced technology; (4) address human and social aspects of security; and (5) address any other security-related domain such as hybrid warfare, in line with NATO's strategic guidance from Heads of State and Government.

## Way Ahead

A Joint Working Group on Scientific and Environmental Cooperation (JWGSEC) oversees cooperation between NATO and Ukraine in the field of security-related civil science and technology. On 28 March 2019, the 16th meeting of the JWGSEC took place in Brussels, and highlighted both achievements in NATO-Ukraine SPS activities, as well as priority areas for future cooperation. The Joint Working Group identified Women Peace and Security (WPS), hybrid warfare, as well as maritime scientific research, as it relates to the Black Sea, notably environmental safety issues for future projects.

## Public Diplomacy Impact

SPS provides visibility for the research and achievements of NATO member and partner nations. The November 2019 Information Day in Kyiv is organized with the goal of further disseminating information about the SPS Programme within the Ukrainian scientific community.

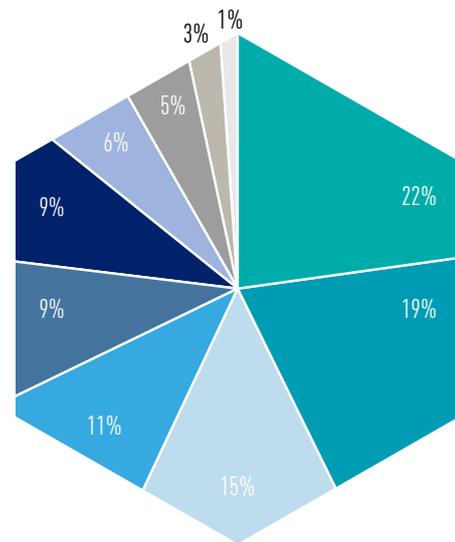
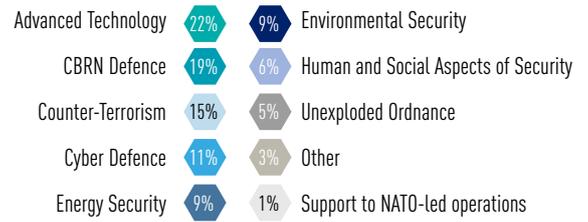
To inform SPS stakeholders and the wider public of the progress of its work, the Programme also manages its own website ([www.nato.int/science](http://www.nato.int/science)) and a Twitter account (@NATO\_SPS). News stories on SPS activities frequently appear on NATO's homepage ([www.nato.int](http://www.nato.int)), and have been covered by NATO TV.

The high public diplomacy value of SPS tailor-made and demand-driven activities is also demonstrated by the great interest of local and international media in providing visibility to their achievements. For instance, SPS activities have been featured in articles in the New York Times, Bloomberg Business, Politico, and the Washington Post, as well as countless local news outlets.

Moreover, the Programme provides a platform to enhance the visibility of the scientists engaged in its activities. Research conducted in the framework of SPS is frequently published in specialized scientific journals, and a number of outstanding scientists have received international awards for their research carried out through SPS. The Programme itself encourages the dissemination and visibility of project results by publishing in the NATO Science Series, and encourages the development of the next generation of scientists by promoting the engagement of young researchers.

SPS is grateful for the support of the NATO Representation to Ukraine, as well as the Ukrainian Mission to NATO, the Ministry of Science and Education of Ukraine, and the National Academy of Sciences, for their contribution to the activities and achievements of the SPS Programme in Ukraine.

SPS cooperation with Ukraine by Key Priority areas since 2012





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You can find further information and the latest news  
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([www.nato.int/science](http://www.nato.int/science))

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