

## Developing Practical Cooperation through Science

**Azerbaijan has been actively engaged within the framework of the NATO Science for Peace and Security (SPS) Programme since 1995.**

The NATO SPS Programme enables close collaboration on issues of common interest to enhance the security of NATO and partner nations by facilitating international efforts to meet emerging security challenges, supporting NATO-led operations and missions, and advancing early warning and forecasting for the prevention of disasters and crises.

The current SPS Key Priorities include:

- Counter-Terrorism;
- Energy Security;
- Cyber Defence;
- Defence against CBRN Agents;
- Environmental Security;
- Security-related Advanced Technology;
- Border and Port Security;
- Human and Social Aspects of Security.

Additionally, the SPS Programme helps to promote *regional security* through scientific cooperation among partners. The Programme also helps to *prepare* interested eligible nations for NATO membership. SPS activities often have a high *public diplomacy* value.

# AZERBAIJAN

Azerbaijan is currently involved one ongoing activity with the SPS Programme addressing the SPS Key Priority of Counter-terrorism. Recent leading areas for cooperation included **Cyber Defence**, **Counter-Terrorism**, and **Disaster Forecasting and Prevention**. Below are some examples of ongoing and completed projects under the framework of the NATO SPS Programme.

## Cooperative Activities

### ADVANCED CYBER DEFENCE TRAINING COURSE FOR SYSTEM ADMINISTRATORS OF AZERBAIJAN

Building upon a successful previous cyber defence course for system administrators [ref. 984905], conducted in 2014, this Advanced Training Course (ATC) was designed to deepen the cyber defence knowledge for civil servants in Azerbaijan.



This course focused on raising awareness of potential cyber threats to critical defence and security-relevant infrastructures. It helped to increase the levels of network and systems protection in Azerbaijan by equipping trainees with the required practical skills to protect their defence-related networks and systems from various cyber threats. It also aimed to provide means for the exchange of views on security theories, best practices and experiences at the international level. *This project, led by experts from Azerbaijan and Turkey, took place in Ankara, Turkey from 7 to 18 December 2015.* [ref. G5131].

## PORTABLE SENSORS FOR UNMANNED EXPLOSIVE DETECTION

This ongoing Multi-Year Project (MYP) was launched in February 2018 and aims to develop portable sensors for explosives detection based on semiconductor nanowires and carbon nanotubes. These materials allow the development of sensitive, very compact and lightweight chemical sensors that can be carried by unmanned vehicles, i.e. Unmanned Aerial Vehicles (UAVs), and used to explore dangerous sites without direct human intervention. This technology could, for example, be applied in the surveillance of public environments for the detection of IEDs (Improvised Explosive Devices) using a wireless sensor network. The ultimate purpose of this project, in line with the SPS Key Priority of Counter-Terrorism, is the development of a complete sensor weighing less than 500 grams, including the wireless communication system, suitable for transportation by a drone. *This project is led by experts from Azerbaijan and Italy.* [ref. G5423].

## HAZARD AND RISK ASSESSMENT FOR SOUTHERN CAUCASUS-EASTERN TURKEY ENERGY CORRIDORS

The Southern Caucasus-Eastern Turkey energy corridors are formed by several critical pipelines carrying crude oil and natural gas from Azerbaijan, via Georgia, to Turkey and world markets. The two most important pipelines are the Baku-Tbilisi-Ceyhan (BTC) Crude Oil Pipeline and the Baku-Tbilisi-Erzurum (BTE) Natural Gas Pipeline. Initiated in 2008, the objective of this MYP was to identify the segments of BTC Crude Oil Pipeline and the BTE Natural Gas Pipeline vulnerable to earthquakes, and to provide mitigation strategies by performing a comprehensive seismic hazard and risk study. Significant progress has already been made in compiling geological, geotechnical and seismic maps, together with structural characteristics of the pipelines. Probabilistic seismic hazard maps of each participating country were important deliverables of this project. *Completed in 2015, this MYP was led by scientists and experts from Azerbaijan, Georgia, and Turkey.* [ref. 983038].

## ATTACK THE NETWORK: COUNTER-TERRORISM FOR OPERATIONAL PRACTITIONERS

This ATC was designed to introduce operational-level staff officers to the NATO Counter-Terrorism framework. It aimed to impart the knowledge required to plan and conduct Counter-Terrorism operations in support of NATO missions. The course focused on three topics:

1. The concept and practical operation of Attack the Network (AtN) doctrine and techniques,
2. Human Network Analysis and support to Targeting (HNAT),
3. The application of AtN in NATO and national Counter-Terrorism operations.

*This SPS activity, led by experts from Turkey and Azerbaijan, took place in Baku, Azerbaijan from 14 to 18 March 2016* [ref. G5178].

## ADVANCED CYBER DEFENCE TRAINING – AZERBAIJAN

The SPS programme organised two ATCs on cyber defence for Azerbaijani civil servants holding key roles in cyber security. The ATCs provided advanced training on operational cyber security and cyber security technology contents to ensure cyber resilience in Azerbaijan. These tailor-made courses imparted information on advanced cyber security concepts, best practices and experiences at the international level. All lectures focused on Azerbaijan's cyber security and its defence needs, and were complemented by laboratory sessions. *These activities were led by experts from Azerbaijan and Turkey. The first ATC was held from 3 to 14 September 2018 and the second was held from 16 to 28 December 2019 in Baku, Azerbaijan.* [ref. G5531 and G5670].



The NATO Science for Peace  
and Security Programme