

### *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 forecast 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 has several ongoing activities with the SPS Programme. At present, the leading areas for cooperation include **Cyber Defence, Energy & Environmental Security** and **Disaster Forecast & Prevention**. Below are some examples activities developed in the framework of the NATO SPS Programme.

### *Cooperative Activities*

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

Building upon the previous successful cyber defence course for the Azeri system administrators [ref. 984905] that was conducted in 2014, this course was designed to further deepen the knowledge of civil servants in Azerbaijan, addressing expanded topics in the cyber defence area.



This course focused on raising awareness of potential cyber threats posed to defence and security relevant critical infrastructure. It directly contributed to increasing the level of networks and systems protection in the country by equipping the 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 exchanges of views on security theory, best practices and experiences at the international level [ref.G5131]. *The Azerbaijani trainees received the training by experts from Turkey & Georgia.*

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

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 of these 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 project 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. An important delivery is the probabilistic seismic hazard maps for each country [ref. 983038]. *This activity brought together scientists and experts from Azerbaijan, Georgia, and Turkey.*

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

In October 2016, an Advanced Training Course was held in Baku, Azerbaijan, to introduce operational-level staff officers to the NATO counter-terrorism framework. It aimed at promoting the understanding required to plan and conduct counter-terrorism operations in support of NATO missions [ref. G5178]. The course focussed 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 was led by experts from Turkey and Azerbaijan.*

## PORTABLE SENSORS FOR UNMANNED EXPLOSIVE DETECTION

This project was launched in February 2018 and aims at the development of 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), to be 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 potential IEDs (Improvised Explosive Devices) using a wireless sensor network. The ultimate purpose of the project, in line with the SPS Key Priority of Counter-terrorism, is the development of a complete sensor with a weight of less than 500 grams, including the wireless communication system, suitable to be carried by a drone [ref. G5423]. *This project is led by Project Directors from Azerbaijan and Italy.*

## ADVANCED CYBER DEFENCE TRAINING – AZERBAIJAN

In September 2018, an Advanced Training Course will provide Azerbaijani civil servants holding key roles in cyber security with an advanced training on operational cyber security and cyber security technology contents for ensuring cyber resilience in Azerbaijan. This tailor-made course will exchange information on advanced cyber security concepts, best practices and experiences at the international level. It will focus on the cyber security and the defence needs of Azerbaijan and all lectures will be complemented with laboratory sessions [ref. G5531]. *This activity will be led by experts from Turkey and Azerbaijan.*



The NATO Science for Peace  
and Security Programme