

Developing Practical Cooperation through Science

Morocco has been actively engaged within the framework of the NATO Science for Peace and Security (SPS) Programme since 1999.

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.

MOROCCO

Morocco is an active partner in the SPS Programme with three ongoing activities. At present, leading areas for cooperation with Morocco include **Cyber Defence, Defence against CBRN Agents, and Human and Social Aspects of Security**. Below are some examples of ongoing and completed activities led by scientists and experts from Morocco and NATO countries under the framework of the NATO SPS Programme.

Cooperative Activities

RESPONDING TO EMERGING SECURITY CHALLENGES IN NATO'S SOUTHERN NEIGHBOURHOOD

Given the characteristically complex and multifaceted nature of the security environment in NATO's southern neighbourhood, it is necessary for the success of the Alliance's "southern agenda" to better understand and conceptualise the various interconnected emerging risks and threats. Moreover, a better understanding of the southern neighbourhood may help NATO adapt institutionally—on a political and operational level—to meet diverse challenges in the South and the East. This MYP aims to analyse those dynamics in order to better comprehend their political and security implications, and to provide foresight, early warning mechanisms and scenarios to inform policy planning and policy making within NATO and its member states. *This project is led by Morocco and Belgium, in cooperation with experts from Spain, the United Kingdom and Jordan.* [ref. G5570].

DIMLAB – DEPLOYABLE CHEMICAL AND BIOLOGICAL ANALYTICAL LABORATORY

November marked the official launch of this Multi-Year Project (MYP). The project, will be run by an international consortium including Spanish non-profit association, Adelfas, as project coordinator; the 1st Regiment of NBC Defense “Valencia” of the Spanish Army; the Mohammed V University Science Faculty; the General Directorate of Civil Protection, Morocco; the Institute of Applied Sciences and Technology (INSAT); and both the Tunisian General Directorate of Environment and Quality of Life and National Office of Civil Protection. Two dual-use (civil and military) deployable laboratories, one chemical and one biological, will be built for Tunisia and Morocco respectively. NATO has been working with Morocco to strengthen Morocco’s capacity to defend against CBRN agents. Scientific research with direct applications in defence and security, such as the DIMLAB project, responds directly to the latest draft of the IPCP between NATO and Morocco, which highlighted the “exchange of information and expertise, and capacity building in defence against CBRN agents” as a main practical area of cooperation through the SPS Programme.

The DIMLAB project will build a laboratory for the detection, identification and monitoring of both chemical and biological threats. It will focus on the application of nanobiotechnology to develop a fully operational, chemical-biological analytical turnkey solution for the use of academia and national institutions. *This project is led by Morocco and Spain with support from Tunisia.* [ref. G5571].



CYBER THREAT FORECAST USING BIG DATA

Predicting cyber-attacks can help prevent and reduce their impacts. This SPS Multi-Year Project (MYP), launched in December 2017, aims to predict various types of cyber-attacks well in advance. The project research team will develop machine-learning algorithms that capture spatial-temporal dynamics of cyber-attacks and global social, geo-political and technical events. In addition to developing an early-warning capacity, the project aims to improve the research community’s understanding of cyber security as a socio-technical problem by analysing and describing large datasets from multiple sources. The project will result in a scientific report on prediction models and the implementation of a cyber threat forecasting tool. *This project is led by scientists and experts from Morocco, France and the United States.* [ref. G5319].

MODERN TECHNOLOGIES ENABLING SAFE AND SECURE UAV OPERATION IN URBAN AIRSPACE

Unmanned Aerial Vehicles (UAVs) and related technologies have seen rapid advancement in the last decade. The development of UAVs has opened new opportunities in the fields of emergency and medical response, situational awareness, and aerial photogrammetry for critical infrastructure assessment. However, increased availability and use of UAVs requires enhanced awareness among NATO and partner countries about safety and security challenges concerning their use, particularly in urban airspace. This ATC encouraged experts and specialists to share their knowledge on the security aspects of the use and deployment of UAV platforms in urban areas. Moreover, the course enhanced participants’ awareness of the threats and opportunities connected with the rapidly emerging market of UAVs. *This ATC was led by experts from Morocco and Poland. It took place in November 2019 in Agadir, Morocco.* [ref. G5613].



The NATO Science for Peace
and Security Programme

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