The NATO Science for Peace and Security Programme

CountryFlyer 2018

August

MALTA

Malta first joined the Partnership for Peace (PfP) in 1995 but suspended its participation in 1996, reactivating its PfP membership in April 2008. Malta recognizes that, through the PfP framework, it can help address new security threats and challenges, and contribute to international peace, security and stability. To date, Malta played a leading role in several SPS Programme activity. Below is a list of ongoing and completed activities with Malta under the framework of the NATO SPS Programme.

Developing Practical Cooperation through Science

Malta has been engaged in several activities within the framework of the NATO Science for Peace and Security (SPS) Programme.

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.

Cooperative Activities

BORDER SECURITY THREATS FROM THE MEDITERRANEAN REGION

From 2–4 June, 2014, an SPS sponsored advanced research workshop took place in San Giljan, Malta. This senior-level workshop focused on the issue of border security in the Mediterranean region. The event brought together leading policymakers and experts from NATO and partner countries in Europe, the MENA region and the United States, as well as a selection of institutions. The event provided a forum for experts and leaders who engaged in group debate and applied their collective knowledge to come up with joint solutions and policies regarding border security threats and challenges. Developing the best possible practices to meet these challenges will lead to a more secure environment. It will also strengthen local partnerships, which is crucial in terms of fighting border security threats. It brings people with different perspectives and backgrounds together in order to work jointly on solutions that can improve the situation of border security. The organizers would like to see this event as the starting point of a long-term project of convening professionals and experts [ref. 984863]. *The event was led by the Mediterranean Academy of Diplomatic Studies (MEDAC), from the University of Malta*.

MEDAC
Mediterranean Academy of Diplomatic Studies
University of Malta

QUANTUM-SAFE AUTHENTICATED GROUP KEY ESTABLISHMENT

The goal of this multi-year project is to provide quantum-safe solutions for fundamental cryptographic algorithms, which are currently the base for securing computerised communications. The research team intends to develop complete solutions for authenticated group key agreement, which will enable groups of users to exchange information and collaborate securely over open networks. The solutions to be developed in this project aim to offer strong security guarantees of the confidentiality of the classical network, taking into account the risks posed by the quantum technology's potential to break computer encryptions.

In order to achieve the above mentioned deliverable, the research team intends to develop an improvement of the long-term security of today's information technology infrastructure. Ongoing research and standardization efforts have shown that quantum computing poses a potential threat to several existing cryptographic schemes and that should be addressed sooner rather than later [ref. G5448]. *This project is led by scientists and expert from Malta and Slovakia.*

SECURE QUANTUM COMMUNICATIONS THROUGH SUBMARINE OPTICAL FIBRE LINK BETWEEN ITALY AND MALTA (SEQIM)

The goal of this multi-year project is to develop new ways of long-distance secure undersea secure communication, thus allowing defence and other civilian public institutions to connect and communicate safely in protected cyber space. Quantum key distribution (QKD) is a recent, cutting-edge technology that is still being developed into a user-friendly, commercially-viable solution. Existent implementations are limited in scale and in scope, and often make use of infrastructure adapted for the purpose of quantum technology communication.

This project aims to realise a quantum key distribution link between Italy and Malta using existing telecommunication infrastructure between the two countries. It will develop and test the emerging, safe quantum communications technologies in a real-world environment. If successful, the project will provide the first prototypical quantum key distribution link in Europe between two different countries through an undersea fibre link provided by a telecommunications company. *This project is led by scientists from Malta and Italy* [ref. G5485].