Developing Practical Cooperation through Science

Ireland has been actively engaged within the framework of the NATO Science for Peace and Security (SPS) Programme since 1991.

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.

IRELAND

Ireland is an active partner within the SPS Programme. Leading areas of cooperation with Ireland are **Human and Social Aspects of Security**, **Counter-Terrorism,** and **Support for NATO-led Operations.** Below are some examples of SPS projects led by Irish scientists and experts under the framework of the NATO SPS Programme.

Cooperative Activities

THE PROTECTION OF PERSONS WITH DISABILITIES IN ARMED CONFLICT: OPERATIONALIZING CIVILIAN PROTECTION IN THE NATO CONTEXT

The purpose of this Advanced Research Workshop (ARW), was to generate insights into the practical challenges of protecting civilians with disabilities in conflict situations (including children, women and older persons), and to contribute to an emerging dialogue on disability-inclusive civilian protection and its implications for NATO. The overall aim was to contribute to the knowledge base on conflict-related risk reduction for persons with disabilities and to improve responsive measures that take discrete protection needs into consideration. The workshop built on recent efforts within the international community to bring International Humanitarian Law and the United Nations Convention on the Rights of Persons with Disabilities into closer alignment. *This workshop, led by experts from Ireland and the United States, took place in Ireland from 20 to 21 September 2018.* [ref. G5466].

ARMED GROUPS, CIVILIAN PROTECTION AND UNITED NATIONS PEACEKEEPING

This ARW aimed first to trace the evolution of civilian protection in the mandates and practices of peace support operations. Second, this ARW isolated obstacles and barriers to effectively protect civilians from violent attacks by armed groups, including human trafficking, slavery, forced displacement, child recruitment and forced marriage. Third, it explored the network of relationships with other actors, which have significant

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bearing on how the mandate is operationalised. These actors include the state and its armed forces, local peacebuilding organisations, and early warning networks of civil society organisations. Finally, experts were able to draw conclusions from peacekeepers' experiences over the last five years of protecting civilians in difficult circumstances, and to determine how earlier analyses have to be reconsidered. *This workshop, led by experts from Ireland and the United Kingdom, took place from 8 to 10 November 2018.* [ref. G5412].

NATIONAL ACTION PLANS (NAPs) ON WOMEN, PEACE AND SECURITY

This ARW examined the role of National Action Plans (NAPs) of NATO Allies and partner nations in the implementation of the United Nations Security Council Resolution 1325 on Women, Peace and Security. It also explored contributions of NAPs to enhance cooperative security and increase local ownership in peace processes. It took into consideration international cooperation on action plans and explored the partnering model, cross-learning and twinning as strategies to develop National Action Plans. The workshop also included a discussion on the role played by civil society in the development of NAPs and in monitoring their implementation. *This workshop, led by experts from Ireland and the United Kingdom, took place in Dublin, Ireland on 2-3 October 2015.* [ref. G5036].

TERRORISTS' USE OF THE INTERNET: ASSESSMENT AND RESPONSE

This ARW examined current and future use of the internet by terrorist groups, focusing on propaganda and the recruiting of foreign terrorist fighters. Discussions examined the threats posed, as well as technology, policies, and actions designed to counter them, and provided recommendations in this regard. The event brought together practitioners with relevant expertise. It generated innovation, as well as interdisciplinary and robust methodologies and techniques for the study of terrorists' online activities. *This workshop, led by experts from Ireland and the United Kingdom, took place from 27 to 29 June 2016.* [ref. G5086].

MORUS - UNMANNED SYSTEM FOR MARITIME SECURITY AND ENVIRONMENTAL MONITORING

Mapping and monitoring of coastal, off-shore and underwater areas is an important task of civil and military authorities when securing borders, preventing illicit trafficking and illegal migration, and preparing naval trainings and operations. With maritime traffic on the rise, there is a need for better mapping and monitoring. This Multi-Year Project (MYP) aimed to design and produce 'MORUS' - a fully operational, robotic system comprised of an Unmanned Aerial Vehicle (UAV) and an Unmanned Underwater Vehicle (UUV). MORUS is the world's first robotic system of its kind, filling a gap in currently available tools, with its ability to use sensor equipment weighing up to 100 kilograms. Paired with cameras, the prototype was developed to act autonomously, collect images and relay data in currently unmapped or inaccessible environments. *This project, completed in September 2019, was led by scientists from Ireland, Croatia, and Bosnia and Herzegovina.* [ref. G4807].