The Emerging Security Challenges Division

The NATO Science for Peace and Security (SPS) Programme




Annual Report 2014

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List of Abbreviations

ARW	Advanced Research Workshop
ASI	Advanced Studies Institute
ATC	Advanced Training Course
CBRN	Chemical, Biological, Radiological, and Nuclear
DCBI	Defence Capacity Building Initiative
DI	Defence Investment
DPP	Defence Policy Planning
EAPC	Euro-Atlantic Partnership Council
EM	Executive Management
ENVSEC	Environment and Security Initiative
ESCD	Emerging Security Challenges Division
EU	European Union
EC	European Commission
IBAN	International Board of Auditors NATO
ICI	Istanbul Cooperation Initiative
IED	Improvised Explosive Device
IESMA	Innovative Energy Solutions for Military Applications
IMS	International Military Staff
IPAP	Individual Partnership Action Plan
IPCP	Individual Partnership Cooperation Programme
IS	International Staff
ISEG	Independent Scientific Evaluation Group
MAP	Membership Action Plan
MD	Mediterranean Dialogue
MYP	Multi-Year Project
NAC	North Atlantic Council
NATO	North Atlantic Treaty Organisation
NIG	Network Infrastructure Grant
NRC	NATO-Russia Council
NUC	NATO-Ukraine Commission

NSPA	NATO Support Agency
OPS/CEP	Operations Division/Civil Emergency Planning
OSCE	Organization for Security and Co-operation in Europe
PaG	Partners across the Globe
PASP	Political Affairs and Security Policy Division
PCSC	Partnerships and Cooperative Security Committee
PfP	Partnership for Peace
PDD	Public Diplomacy Division
SAM	Surface to Air Missile
SENT	Smart Energy Team
SPS	Science for Peace and Security Programme
STO	NATO Science and Technology Organisation
UXO	Unexploded Ordnance
UN	United Nations
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNMAS	United Nations Mine Action Service
UNSCR	United Nations Security Council Resolution

Foreword by Ambassador Sorin Ducaru

2014: A Year of Tests and Important Achievements

2014 was in many ways a year of tests and positive inflexion in the evolution of the Science for Peace and Security (SPS) Programme.

It was the year that tested the result of a multi-year reform of the SPS Programme and the implementation of the new SPS Overarching Guidelines agreed by Allies in 2013.

It was a year with important geo-political challenges which had an impact on the Alliance as a whole. The crisis in Ukraine led to the political decision by Allies to freeze practical cooperation with Russia and to step up activities with Ukraine. The SPS Programme proved to be a very useful and versatile tool to respond to this new security environment and generated many new projects in line with Allied priorities and fine-tuned to Ukraine's needs. Other Eastern Partners, such as the Republic of Moldova and Georgia also registered increased SPS cooperation. At the same time, the challenging situation in the MENA region created a need to develop activities with our partners in the region. SPS flagship projects achieved high impact and visibility in Jordan (support for the implementation of a national cyber defence strategy), Egypt (landmine detection) and Mauritania (crisis management centre). Furthermore, the outcomes and priorities of the Wales Summit, such as the launch of the Defence Capacity Building Initiative, have provided further scope for the continuous adaptation of the Programme.

The outcome of these main tests points to a positive evolution of the SPS Programme. While the last quarter of 2013 already reflected the alignment of the programme to new Allied guidance, 2014 has been the real test year, putting a stronger focus on strategic orientation, on high impact and visible multi-year projects linked to NATO's objectives and to partners' needs, and on more efficient, transparent and accountable management. Overall, these efforts translated into an increased performance of SPS.

None of these achievement would have been possible without the dedicated and professional work of all those involved in the promotion and support of the SPS Programme. I would like to emphasize foremost the hard and highly qualified work of the small but dedicated SPS team, which I am proud to be a part of; the constant support of all colleagues within ESCD; but also the invaluable contribution of colleagues from other NATO Divisions, commands and agencies, including the Office of the Chief Scientist. It is indeed all about smart and creative team work. Furthermore, the responsible, ambitious and pro-active manifestation of Allied ownership of the SPS Programme has been invaluable.

Challenges and tests of the international environment will continue to define our strategic landscape. Continuous adaptation and fine-tuned transformation is becoming a state of mind within the SPS team. We are looking forward to an even more productive, strategically focused and highly visible SPS activity in 2015.

Ambassador Sorin Ducaru

Assistant Secretary General

NATO Emerging Security Challenges Division

Introduction by Dr. Deniz Beten

Forging Strategic Partnerships, Delivering Practical Results

For over 50 years, science at NATO has worked to forge international partnerships and promote dialogue and practical cooperation. Today, the SPS Programme represents a fundamental part of NATO's practical and results-oriented cooperation with partner countries and international organisations.

This year, the SPS Programme was able to deliver civil science and security-related practical projects, while successfully implementing new strategic and political guidance from Allies. The previous year witnessed an in-depth strategic assessment of the SPS Programme and its reorientation in line with high-level political guidance. This year, the main focus was the implementation of the SPS Overarching Guidelines along with the 2014 Work Programme.

The SPS Programme's work this year has continued at a steady and efficient pace. In 2014, over 70 new activities were developed and implemented with partner countries and international organisations. This year, SPS activities reflected a good balance of the key priorities – allowing Allied and partner experts to address a range of mutual security challenges. Moreover, the year also witnessed a strong balance of partners involved in the development of new SPS activities, with increased cooperation from countries associated with the Euro-Atlantic Partnership Council, Mediterranean Dialogue, and partners across the globe.

A key focus of the SPS Programme this year has been on intensified cooperation with Ukraine. The flexible role for practical cooperation with the country has resulted in a significant increase in new activities, making Ukraine the highest beneficiary of SPS. The Programme has proved a useful vehicle for enhancing cooperation with Ukraine, especially because SPS activities have a substantial impact on security. The SPS Programme's flexibility and ability to adapt to a changing political landscape demonstrates its value as a model for practical cooperation with partners.

The top-down, flagship SPS activities with a special emphasis on regional cooperation have had a high public diplomacy value as can be seen by the interest shown on the SPS website and the SPS Information Days. Overall, in 2014 the SPS Programme was able to meet clear objectives in relation to enhancing cooperation with partners based on tangible activities. The SPS Programme met a range of important objectives – partnership, public diplomacy, political and budgetary – over the course of the year and is fully oriented to achieve and deliver concrete results in 2015, in coordination with other NATO Divisions and bodies.

Dr. Deniz Beten

Senior SPS & Partnership Cooperation Advisor

Emerging Security Challenges Division

Executive Summary

The NATO Science for Peace and Security (SPS) Programme is one of the most relevant, effective and impactful programmes of NATO reflecting the blending of the important dimensions SCIENCE, PARTNERSHIPS, SECURITY, and BEYOND. In the spirit of cooperative security, the SPS Programme provides concrete, practical opportunities for cooperation for NATO's wide network of partner countries based on security-related civil science, technology, innovation and beyond. Today, the SPS Programme is guided by a set of key priorities that have been aligned with NATO's strategic objectives. Accordingly, the Programme promotes cooperation, scientific research and innovation to address emerging security challenges, such as cyber defence, counter-terrorism, or defence against CBRN agents; to support NATO-led missions and operations; to support the development of security-related advanced technology; and to address human and social aspects of security.

In 2014, the SPS Programme received **220 applications and Allies approved a total of 74 new activities**, demonstrating the rigorous scrutiny and selection procedure applied to all SPS applications. More than half of newly approved activities were multi-year projects and 29 different partner countries took a leading role in these new activities, which showed a good balance of the SPS Key Priorities. This report provides important statistical information on these activities and their contribution to NATO's strategic objectives. A comprehensive list can be found at Annex 3.

Implementation of the five-year reform and transformation process: The work of the Programme was guided by the SPS Work Programme 2014 and aligned with the SPS Overarching Guidelines adopted by Allies in September 2013 and NATO's strategic objectives. In line with the political guidance provided by Allies, the SPS Programme turned increasingly to the development and implementation of major top-down flagship projects with significant political, strategic and public diplomacy impact.

Flexibility and adaptability to the changing political and strategic context: The Ukraine crisis had a considerable impact on the work of the SPS Programme in 2014, demonstrating the flexibility of the SPS Programme in adapting quickly to NATO's evolving strategic and political priorities. Following guidance from the April Ministerial, all SPS cooperation with Russia was suspended. Accordingly, ongoing SPS activities could be completed according to schedule but no new activities could be launched.

At the same time, civil security-related **scientific and technological cooperation with Ukraine and Eastern Partners was enhanced significantly** and a total of 16 new SPS activities with Ukraine were approved by Allies since April 2014. As a result, Ukraine became the largest beneficiary of the SPS Programme. New activities have been developed in close cooperation with other NATO Divisions and the Mission of Ukraine to NATO.

Contributing to the NATO Wales Summit Deliverables: At the Wales Summit, NATO leaders discussed the situation in Iraq, relations with Russia and Ukraine and pledged to support Ukraine to improve its own security. They also launched the Defence Capacity Building Initiative (DCBI). Through its emphasis on practical, scientific cooperation, the work of the SPS Programme is actively complementing this

initiative and implementing the guidance received at the Wales Summit. 2014 also saw the anniversary of several of NATO's partnership frameworks, a timely reminder of the importance of partnerships for the work of the Alliance.

Enhanced cooperation with International Organizations: In October, an SPS-supported workshop with UN officials took place to identify areas for cooperation on conflict resolution in the Western Balkans. Moreover, a number of SPS activities have been approved and launched that support the implementation of UNSCR 1325 and related resolutions on women, peace and security. As agreed by Allies, the SPS Programme continues to be an associated member of the Environment and Security Initiative (ENVSEC) until the end of 2015.

NATO-wide coordination: Coordination with other NATO bodies and divisions, without prejudice to the responsibilities and authority of the stakeholders, is of vital importance to avoid duplication while maintaining competition of ideas, and to further improve synergies and seek complementarities. The SPS Programme has a long history of fruitful cooperation with the NATO Science & Technology Organization (STO). This cooperation comprises programmatic coordination including the participation of one STO representative in the ISEG, as well as, on a case by case basis, practical collaboration in concrete SPS activities. The SPS Working Group has been revitalised based on new terms of reference and active coordination and met on 13 January. This is an advisory and coordinating body that brings together the relevant actors from ESCD, PASP, PDD, DI, DPP, OPS/CEP, IMS, the Office of the Chief Scientist, STO and other relevant bodies, as appropriate to inform and provide recommendations on potential SPS top-down and bottom-up activities.

Exploiting the public diplomacy value of the SPS Programme: The SPS website was re-structured and a total of 25 web stories were published throughout the year. The SPS website remains the most important gateway to stakeholders, providing up-to-date information about the SPS Programme, grant mechanisms, application guidelines and forms. A SPS Twitter account (@NATO_SPS) was also successfully launched in 2014. Additional public diplomacy activities included a book talk as well as an exhibition "Science and the Alliance – NATO's Third Dimension" in the civilian and military domain, organised in cooperation with the Archives Committee, the Executive Management (EM) Division and the Office of the Chief Scientist. ASG-EM, ASG-ESCD and the Chief Scientist addressed the participants in this event.

Five SPS Information Days took place throughout the year in Azerbaijan, Estonia, Georgia, Morocco and Portugal. These Information Days bring together government representatives, scientists and experts and have proved to be a useful tool to raise awareness about the SPS Programme, explain its key priorities, grant mechanisms, application and approval process and to develop new SPS activities by engaging relevant stakeholders.

The way ahead: Based on the decisions at the 2014 Wales Summit the SPS Programme will enhance cooperation with Ukraine and the Eastern Partners, as well as with all partners in coordination with other NATO partnership initiatives, especially with the Defence Capacity Building Initiative.

CHAPTER I - INTRODUCTION
The SPS programme

The NATO Science for Peace & Security (SPS) Programme promotes security-relevant practical cooperation to address emerging security challenges and their impact on international security. It connects scientists, experts, and officials from Alliance and partner countries, who work together to address these challenges. The SPS Programme provides funding and expert advice for security-relevant activities in the form of workshops, training courses, or multi-year research projects.

The SPS Programme also helps to promote the political dimension of NATO in terms of shared values and support to civil society. It provides the Alliance with separate, non-military communication channels and brings together experts from NATO countries with those from partner countries, often in situations where other forms of dialogue more directly focused on defence and security are difficult to establish. Accordingly, it enables NATO to become actively involved in such regions, often serving as the first concrete link between NATO and a new partner. Furthermore, the SPS Programme promotes dialogue and regional cooperation among partners, including those for whom direct engagement or dialogue is difficult.

All SPS Programme activities contribute toward the Alliance's strategic objectives as defined in the 2010 Strategic Concept and as set out in new NATO Partnership Policy adopted at Berlin in 2011. Today, the Programme promotes collaboration and cooperative security based on these core dimensions that define its identity:

Science

The first aspect is *Science*. The SPS Programme helps to foster research, innovation, and knowledge exchange in an effort to address mutual security challenges. As a brand, SPS has a vast network reaching out to hundreds of universities and institutions across the world.

Partnership

The second aspect is *Partnership*. The collaborative framework of the Programme brings together scientists, experts, and policy makers from Allied and Partner countries to address today's security challenges together. Moreover, SPS is well known as a partnership tool that is available to all partners – proving that practical cooperation is achievable across political barriers through scientific exchange. Over the past five years the Programme has initiated over 450 collaborative activities in over 40 Partner countries.

Security

The third aspect is the fundamental link to *Security*. According to the scope of the SPS Programme and guidance, all projects developed under SPS must have a relevant security dimension. This is also reflected in the SPS Key Priorities developed by Allies.

And beyond…

The SPS Programme's primary purpose is to strengthen NATO's partnership policy, and following a strategic assessment of the SPS Programme in 2013, it will also include projects beyond scientific cooperation, while preserving an important scientific dimension of the Programme.

Focus

The SPS Programme focuses on a growing range of non-traditional risks and challenges including terrorism, defence against chemical, biological, radiological, and nuclear (CBRN) agents, cyber security threats, energy security and environmental security concerns, as well as human and social aspects of security, in particular the implementation of UNSCR 1325 on women, peace and security.

An SPS mine-clearance initiative

The SPS Programme aims to link civil society to NATO through activities that address global security challenges. Civil actors – researchers, academics, government experts – have an important role to play in helping the Alliance identify, understand, and respond to contemporary vulnerabilities and threats. NATO aims to ensure that funding and support is available for collaborative activities that address NATO's security objectives while promoting cooperation and partnership. Civil society is integral to addressing these threats, and NATO aims to ensure that funding and support is available for collaborative activities that address NATO's security objectives while promoting cooperation and partnership. SPS activities also enjoy a high degree of publicity and SPS activities are publicized on the NATO and SPS website, through social media and through events such as book talks and Information Days.

Grant mechanisms

The SPS Programme supports collaboration through three established grant mechanisms: multi-year research projects, research workshops, and training courses. Interested applicants must develop a collaborative activity that fits within one of the following formats. Moreover, all activities funded within the framework of the SPS Programme must be in line with the SPS Programme Management Handbook.

Partnership frameworks

The SPS Programme supports collaboration between NATO and partner scientists and experts from countries that are associated with the Alliance through the Euro-Atlantic Partnership Council (EAPC), the Mediterranean Dialogue (MD), the NATO-Ukraine Commission (NUC), the Istanbul Cooperation Initiative (ICI) and Partners across the Globe (PaG). SPS activities take into account the priorities and preferences of partners, in particular those outlined in approved partnership documents – including, Individual Partnership Action Plans (IPAPs), Individual Partnership Cooperation Programmes (IPCPs) and Membership Action Plans (MAPs).

Participants in an SPS Advanced Training Course practice consequence management in case of a CBRN attack in the Czech Republic

Key priorities

All activities funded under the SPS Programme must address one or more of SPS Key Priorities, and have a clear link to security. The priority areas for the SPS Programme focus principally on contemporary security challenges such as counter-terrorism, energy security, defence against CBRN agents, cyber defence etc. The SPS Key Priorities are based on NATO's Strategic Concept agreed by Allies at the Lisbon Summit in November 2010, and the Strategic Objectives of NATO's Partner Relations agreed in Berlin in April, 2011. The current SPS Key Priorities are:

1. FACILITATE MUTUALLY BENEFICIAL COOPERATION ON ISSUES OF COMMON INTEREST, INCLUDING INTERNATIONAL EFFORTS TO MEET EMERGING SECURITY CHALLENGES

a. COUNTER-TERRORISM

- Methods for the protection of critical infrastructure, supplies and personnel;
- Human factors in the defence against terrorism;
- Detection technologies against the terrorist threat for explosive devices and other illicit activities;
- Risk management, best practices and technologies in response to terrorism.

b. ENERGY SECURITY

- Innovative energy solutions for the military; battlefield energy solutions; renewable energy solutions with military applications;
- Energy infrastructure security;
- Maritime aspects of energy security;
- Technological aspects of energy security

c. CYBER DEFENCE

- Critical infrastructure protection, including sharing of best practices, capacity building and policies;
- Support in developing cyber defence capabilities, including new technologies and support to the construction of information technology infrastructure;
- Cyber defence situation awareness.

d. DEFENCE AGAINST CBRN AGENTS

- Methods and technology regarding the protection against, diagnosing effects, detection, decontamination, destruction, disposal and containment of CBRN agents;
- Risk management and recovery strategies and technologies;
- Medical countermeasures against CBRN agents.

e. ENVIRONMENTAL SECURITY

- Security issues arising from key environmental and resource constraints, including health risks, climate change, water scarcity and increasing energy needs, which have the potential to significantly affect NATO's planning and operations;
- Disaster forecast and prevention of natural catastrophes; Defence-related environmental issues.

2. ENHANCE SUPPORT FOR NATO-LED OPERATIONS AND MISSIONS

- Provision of civilian support through SPS Key Priorities;
- Provision of access to information through internet connectivity as in the SILK-Afghanistan Programme;
- Cultural and social aspects in military operations and missions;
- Enhancing cooperation with other international actors.

3. ENHANCE AWARENESS ON SECURITY DEVELOPMENTS INCLUDING THROUGH EARLY WARNING, WITH A VIEW TO PREVENTING CRISES

a. Security-related Advanced Technology

- Emerging technologies including nanotechnology, optical technology, micro satellites, metallurgy and the development of UAV platforms.

b. Border and Port Security

- Border and port security technology;
- Cross border communication systems and data fusion;
- Expert advice and assessments of border security needs and best practice.

c. Mine and Unexploded Ordnance Detection and Clearance

- Development and provision of advanced technologies, methodologies and best practice;
- Solutions to counter improvised explosive devices (IED).

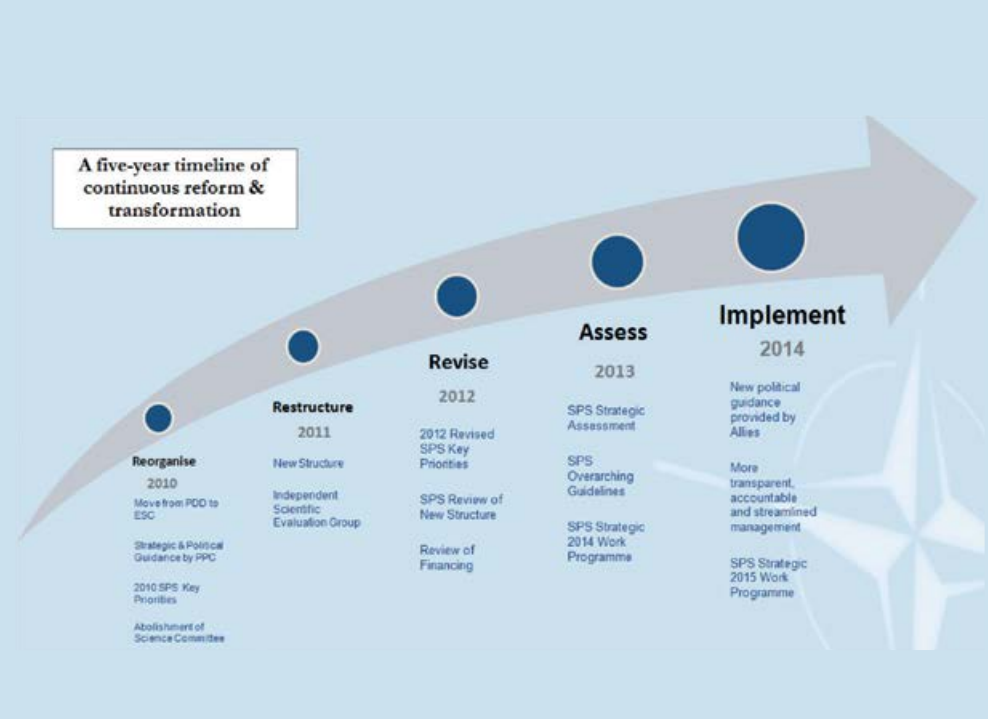
d. Human and Social Aspects of Security Related to NATO's Strategic Objectives

4. ANY PROJECT CLEARLY LINKED TO A THREAT TO SECURITY NOT OTHERWISE DEFINED IN THESE PRIORITIES MAY ALSO BE CONSIDERED FOR FUNDING UNDER THE SPS PROGRAMME. SUCH PROPOSALS WILL BE EXAMINED FOR LINKS TO NATO'S STRATEGIC OBJECTIVES.

CHAPTER II
Priorities and main achievements in 2014

In 2014, the SPS Programme was able to successfully meet its priorities and achievements in four main areas.

- First, it saw the successful completion and implementation of a five-year reform process, resulting in high approval rating and a large number of impactful multi-year projects.



- Second, 2014 demonstrated the flexibility and quick adaptability of the SPS Programme to the changing strategic and security environment of the Alliance. As a result of the political developments and guidance provided by Allies, the SPS Programme substantially increased its cooperation with Ukraine, its Eastern Partners and Mediterranean Dialogue countries.
- Third, the work of the SPS Programme has and continues to support the deliverables identified at the NATO Wales Summit in September 2014; notably in the field of DCB, cooperation with Eastern Partners and cyber defence.

Flexibility and Adaptability to the Strategic Context

Over its long history, the NATO SPS Programme has had to be adaptable and flexible in responding to the demands of the times. 2014 saw a number of political developments that greatly impacted the strategic context for the Alliance, most notably the Ukraine crisis and the growing instability in the Middle East and

Assistant Secretary General for Emerging Security Challenges, Ambassador Sorin Ducaru, and the Ambassador of Ukraine to NATO, Ihor Dolhov, discuss cooperation in the framework of the SPS Programme.

North Africa (MENA) region. This section will look at how the SPS Programme was affected by and adapted to these changes.

In 2014, the Ukraine crisis had considerably impacted the work of the SPS Programme and demonstrated the flexibility of the SPS Programme as a versatile partnership tool that can respond quickly to changing political and security environment. In line with Allied guidance from the April Ministerial, the SPS Programme suspended all its activities with Russia. While SPS projects currently underway with Russian participation could end according to schedule, no new SPS activities with Russian participation were to be launched.

The SPS Programme substantially stepped up its practical cooperation with Ukraine and NATO's Eastern Partners. As a result, 16 new SPS activities (of which 12 were multi-year projects) with Ukraine were approved by Allies in 2014, making Ukraine the largest beneficiary of the SPS Programme. Cooperation is focusing in particular on defence against chemical, biological, radiological, nuclear (CBRN) agents, security-related advanced technologies, energy security and cyber defence. Further ideas for potential cooperation with Ukraine are being explored in cooperation with the Mission of Ukraine to NATO. For example, a project is under development to provide equipment and training for humanitarian demining in Ukraine, where landmines are a major concern.

The second phase of the national crisis management centre in Mauritania, supported by the SPS Programme, was approved in 2014.

Likewise, cooperation with Eastern Partners (Armenia, Azerbaijan, Moldova, Georgia) was enhanced. As a consequence, in 2014, 13 SPS activities in areas such as security related advanced technology, energy security, defence against CBRN agents and cyber defence were approved by Allies with Armenia, Azerbaijan, Georgia and the Republic of Moldova (5 multi-year projects, 4 ARWs and 4 ATCs). As a result of its high level of flexibility and adaptability, the SPS Programme proved to be one of the most efficient, concrete and impactful partnership tools of the Alliance to respond to the changing security environment in 2014 by immediately intensifying its practical cooperation with strategic Partners.

The SPS Programme also proved to be a valuable partnership tool in responding to concerns in the southern neighbourhood of the Alliance. In 2014, a number of flagship projects were approved that involve partners from the Mediterranean Dialogue countries and Partners across the Globe from the Middle East. For example, the SPS-supported crisis management centre in Mauritania has been an important contribution to regional security and will enter a second phase to expand its reach to all regions in Mauritania. Moreover, a project to develop a new cyber defence strategy for Jordan was launched in 2014 and new activities with Iraq are being developed, including in the framework of the DCBI. In Libya, as a reaction to the changing security environment, cooperation with UNMAS on a possible demilitarization project has been put on hold and the initially forecasted funds have been redirected toward emerging strategic priority areas of cooperation. This demonstrates yet again the flexibility of the SPS Programme in responding to new security developments.

Link to Wales Summit Guidance

The 2014 NATO Wales Summit provided the Alliance high-level political guidance and saw the launch of several new initiatives to strengthen both the Alliance and its partnerships. As an established partnership tool, the SPS Programme has made important contributions to implement and complement the Wales Summit guidance, in particular along the partnership dimension.

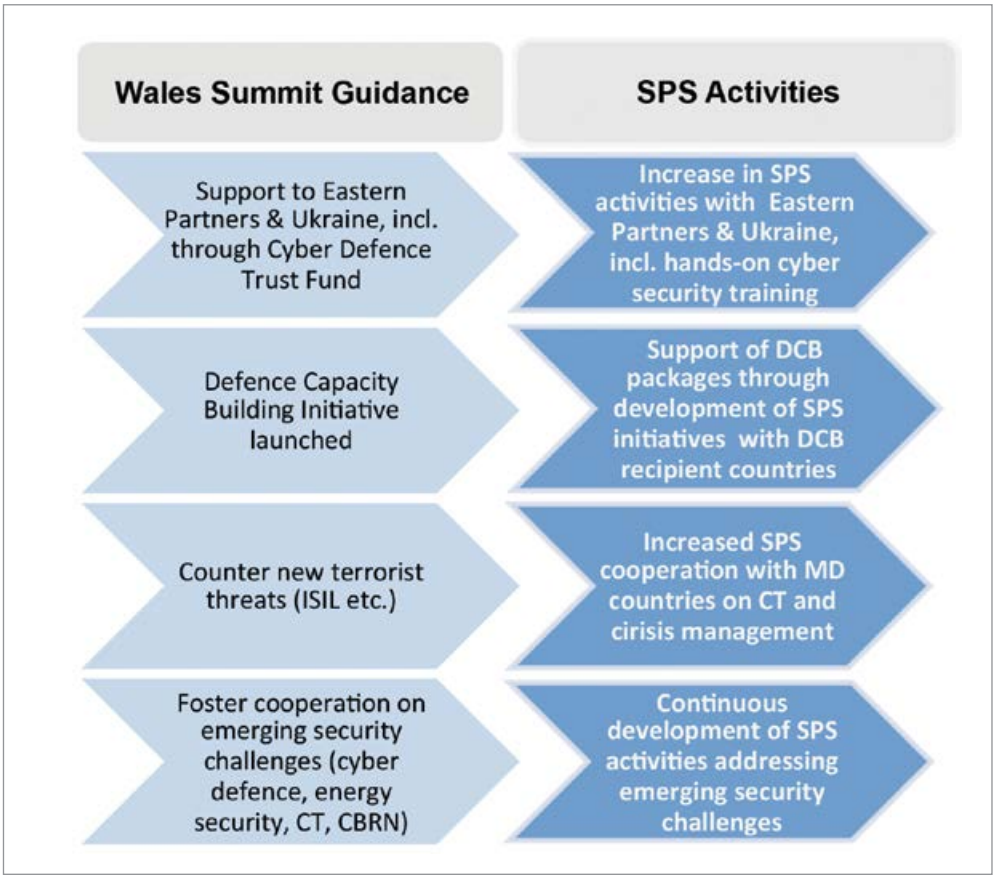
Family photo at the 2015 NATO Summit in Cardiff, Wales (UK).

First, the Wales Summit reaffirmed the policy of **enhanced cooperation with Eastern Partners and Ukraine**. Notably, five trust funds for Ukraine addressing – command, control, communications and computers; logistics and standardisation; cyber defence; military career transition; and, medical rehabilitation – were launched at the Summit. The SPS Programme maintained its increased level of cooperation with Eastern Partners and Ukraine in particular. For instance, following the Wales Summit, a major multi-year flagship project with the Republic of Moldova and NSPA was approved by Allies that will help Moldova to address the threats from biological agents, such as anthrax. Nations also approved a hands-on cyber security training course for Ukrainian system and network administrators that directly complements the work carried out under the cyber defence trust fund.

Second, the Wales Summit saw the launch of the **Defence and Related Security Capacity Building Initiative** (DCBI) with the aim of supporting the Alliance in its efforts to project stability without deploying large combat forces. Georgia, Jordan, and the Republic of Moldova were declared defence capacity building recipient countries. NATO stands also ready to provide advisory support to Libya when conditions permit. In direct support for the DCBI, the SPS Programme is supporting, advising, and training partner countries in the area of defence. Since the Wales Summit, discussions for an SPS counter-IED project with Jordan within its DCB package are ongoing. Steps were taken to develop SPS proposals in support of a DCB package with Iraq in cooperation with PASP. Moreover, a number of SPS training courses, workshops and multi-year projects contribute to strengthening the defence and security sectors in various partner countries.

Third, NATO leaders reaffirmed the Alliance's commitment to address the **evolving threat of terrorism**, including ISIL, and the **security challenges emanating from NATO's southern neighbourhood**. Reflecting these trends, the SPS Programme engaged and launched various important flagship projects with Mediterranean Dialogue countries throughout 2014. This includes a multi-year project to support the development of a cyber defence strategy in Jordan and the launch of the

second phase of the crisis management centre in Mauritania. In addition, an SPS Information Day was held in Morocco in the first half of 2014 and MD representatives participated in the SPS Information Day in Lisbon in October 2014.These outreach events led to new applications from MD partners for SPS activities in cooperation with NATO countries.



Finally, the Wales Summit Declaration underlined the continuous need to develop capabilities to **address emerging security challenges**, in particular in the fields of cyber defence, counter-terrorism, energy security and defence against CBRN agents. These threats are also identified as one area of cooperation with partners in the SPS Key Priorities. As in the previous year, a large majority of newly approved SPS activities in 2014 addressed these new security threats, with a particular focus on CBRN defence and counter-terrorism.

CHAPTER III
SPS Programme Implementation in 2014

In 2014, the SPS Programme implemented a total of 74 new activities. This chapter will provide a detailed overview of the SPS awards cycle process over the calendar year, which includes the number of new applications received by the SPS Programme, pre-screened by NATO experts, evaluated by scientists, and finally reviewed and approved by Allies. The chapter provides a detailed breakdown of the implementation of the Programme, including the distribution of new activities according to key priority and partnership framework. It will also measure other achievements, including the number of hosted events and completed multi-year research and development projects over the calendar year.

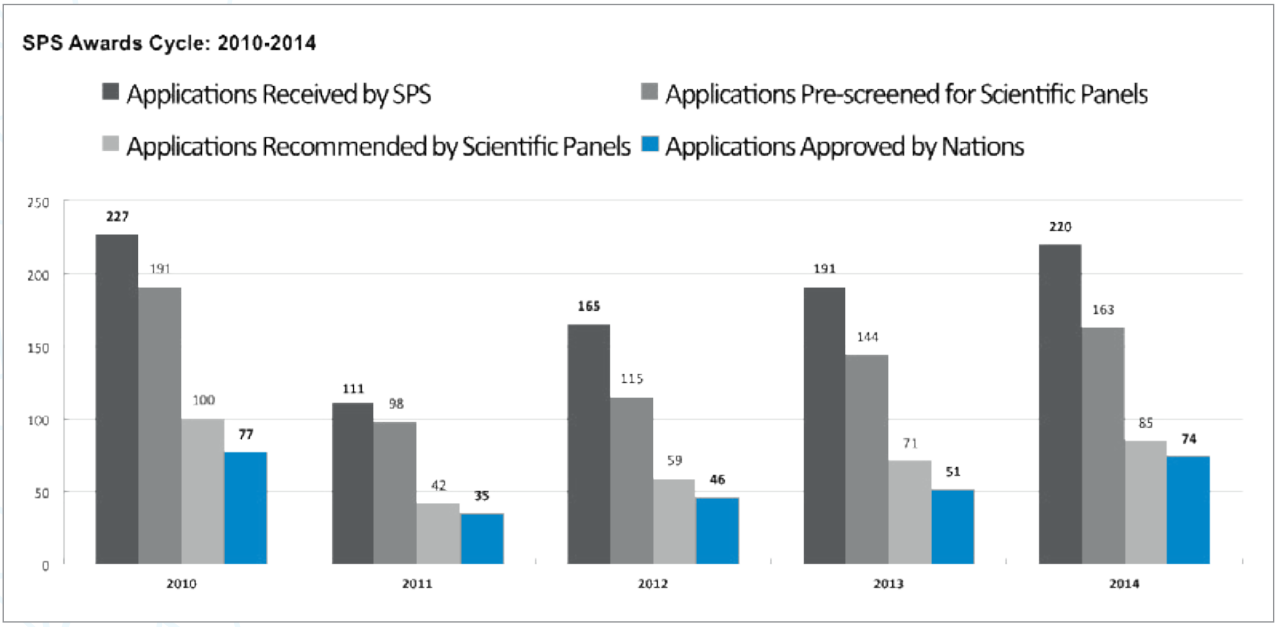
SPS Applications in 2014

The SPS Programme received a total of 220 new applications in 2014. This represents an increase of 15% from the previous year. All applications received by the SPS Programme will be pre-screened by NATO experts, reviewed by independent scientists, and then presented to Allies for approval in the Partnerships and Cooperative Security Committee (PCSC). The chart below provides the exact figures for each state of the award cycle in 2014.

SPS APPLICATIONS IN 2014			
	'Top-Down'	'Bottom-Up'	Total
Received by SPS for Pre-Screening	29	191	220
Not Recommended by SPS	0	57	57
Reviewed by ISEG*	29	134	163
Recommended by ISEG but not yet presented to PCSC	3	11	14
Rejected by ISEG	2	62	64
Reviewed by Allies	24	61	85
Under Review	1	2	3
Rejected by Allies	1	7	8
Approved by Allies	22	52	74

The chart below provides an overview of the SPS awards cycle of the last five years, covering the years 2010 until 2014. The chart shows that in 2014 the SPS Programme continued to maintain the positive trend since the strategic assessment and subsequent reorientation of the SPS Programme over 2013. In light of the new political guidance provided by Allies in 2013, the SPS Programme was rapidly aligned towards a fresh, streamlined and goal-oriented managerial approach, also based on effectiveness, accountability and transparency. The new SPS Overarching Guidelines and the new strategic 2014 SPS Work Programme have led to the reorientation and recalibration of the Programme.

The strategic assessment complemented reform efforts from previous years. Over the past five years the SPS Programme has been undergoing a transformation and reform process to better adapt it to the Alliance's aims and objectives today. This reorientation has had a positive effect on the entire award cycle process, as can be measured by the steady increase in applications received and activities approved by Allies in 2014.



Approved Activities in 2014

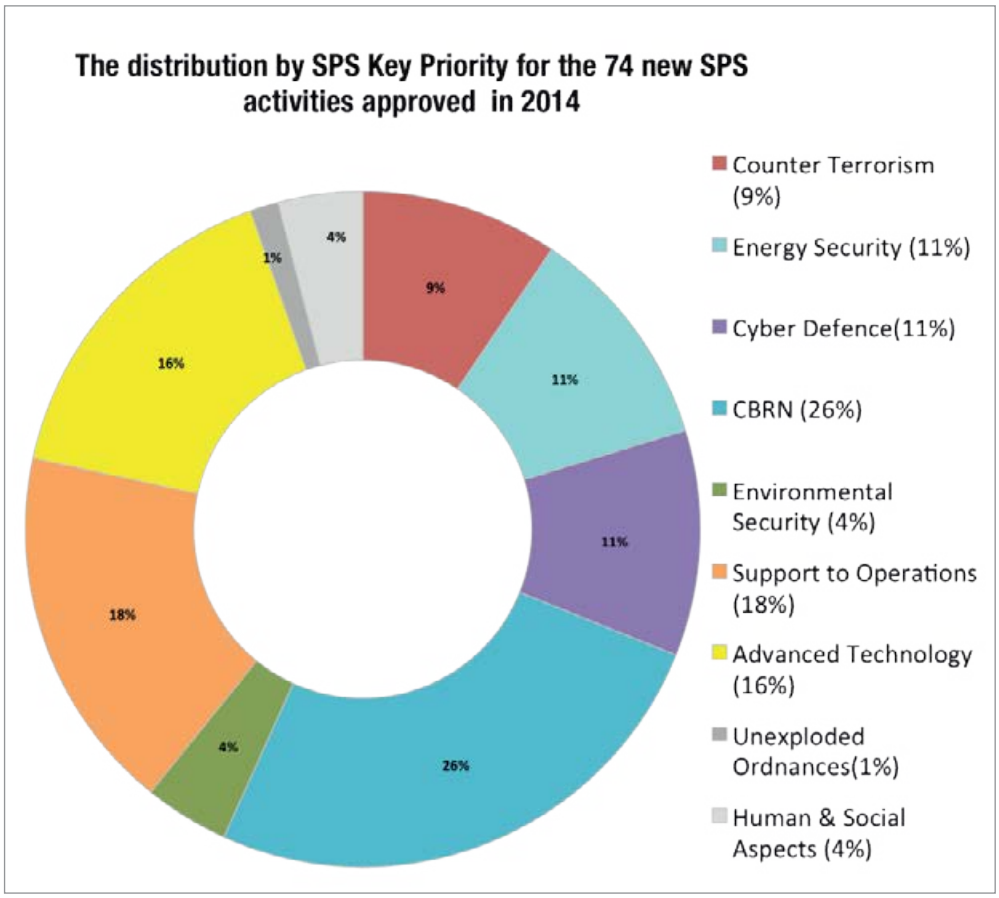
The following section provides a detailed breakdown of new SPS activities in 2014 according to grant mechanism, key priority and partnership objective. All activities approved for funding within the framework of the SPS Programme are closely reviewed by Allies for approval in the Partnerships and Cooperative Security Committee (PCSC). In 2014, Allies approved a total of 74 new activities. New activities addressed a broad range of security areas and engaged partners from 29 different countries.

New Activities according to SPS Key Priority

The SPS Programme is embedded in the Emerging Security Challenges Division (ESCD), established in 2010 to address a growing range of non-traditional risks and challenges facing NATO and partners alike. Today, energy security, terrorism, cyber attacks and the threat of CBRN agents are major challenges to peace and security. The current SPS Key Priorities are closely aligned with the work of the ESC Division, and in the 2014 new SPS activities addressed the following security challenges:

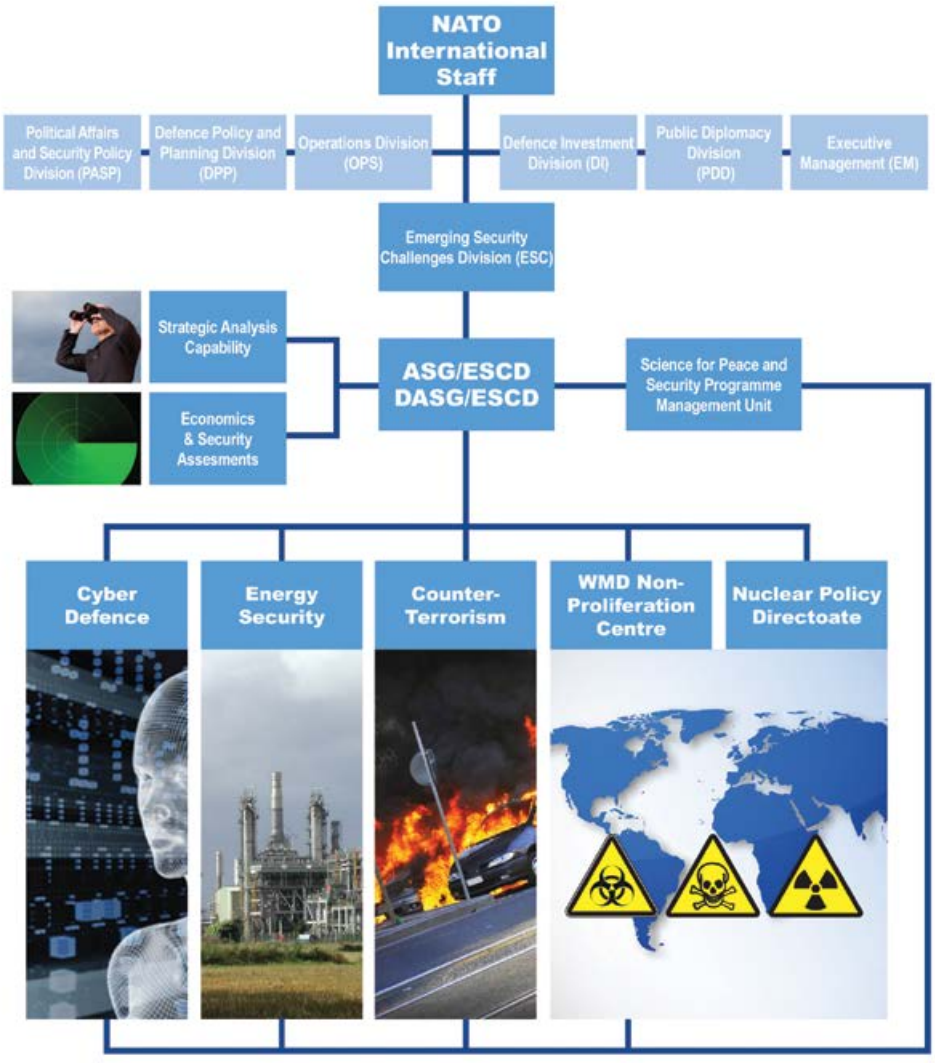
SPS KEY PRIORITY	Top-Down'	'Bottom-Up'	Total
1.a. Counter-Terrorism (CT)	1	7	8
1.b. Energy Security (ENERGY)	1	7	8
1.c. Cyber Defence (CYBER)	4	4	8
1.d. Defence Against CBRN Agents (CBRN)	6	13	19
1.e. Environmental Security (ENV)	0	3	3
2. Enhance Support for NATO-led Operations and Mission (OPS)	7	6	13
3.a. Security-Related Advanced Technology (AVD)	0	12	12
3.b. Border and Port Security (BPS)	0	0	0
33.c. Mine and Unexploded Ordnance Detection and Clearance (UXO)	1	0	1
3.d. Human and Social Aspects of Security Related to NATO's Strategic Objectives (HAS)	2	0	2
TOTAL	**22**	**52**	**74**

In 2014, the SPS Programme initiated 74 new activities that addressed a good balance of the SPS Key priorities. Approved activities this year highlighted the diversity of areas addressed jointly with partners within the framework of the SPS Programme. This year the most common area was defence against CBRN agents, representing 26% of new activities, followed by support for NATO-led operations and missions, at 18%, and security-related advanced technology at 16%.



SPS integration with the activity of the Emerging Security Challenges Division

The SPS Programme works in a streamlined and integrated manner with the sections of the Emerging Security Challenges Division (ESCD), especially on counter-terrorism, cyber defence, energy security and defence against CBRN. SPS Staff provide governance and management support for the SPS Programme and seek cross-cutting, interdivisional coordination where applicable from the other sections. Coordination and consultation is provided by the various ESCD sections on many of the SPS Programme's activities. The following section looks at how the work of the SPS Programme complements the efforts of the various ESCD sections.



Counter-Terrorism

In 2014, the SPS Programme supported a range of activities related to Counter-Terrorism. Several Advanced Research Workshops (ARWs) were hosted that covered regional security and counter-terrorism issues in Afghanistan (*984766 Building Regional Security in the Afghan Regional Context Post-2014*) and Central Asia (*984745 Central Asian Context Factors & the Comprehensive Approach to Regional Security*) with particular focus on the impact of the 2014 end of NATO's combat mission in Afghanistan. Another group of ARWs focused on societal aspects of counter-terrorism: prevention (*984712 Countering Violent Extremism among Youth to Prevent Terrorism and 984763 Lone Actors – An Emerging Security Threat*), and protection (984715 *Managing Terrorism Threats to Critical Infrastructure – Challenges for South East Europe)*, and recovery (*984573 Resiliency: Enhancing Coping with Crises and Terrorism and 984716 Engaging the Public to Fight the Consequences of Terrorism and Disasters*). Two Advanced Training Courses (ATCs) gave practical instruction to on the ground personnel about *Identification and Neutralization of Chemical Improvised Explosive Devices (984656)* and about *Terrorist Use of the Internet* (984885).

The SPS Programme engages partners in activities to fight the threat of terrorism.

The majority of the counter-terrorism related Multi-Year Projects focus on advanced technology, such as novel sensor technology for detecting explosives, radioactive materials, and other hazardous chemicals. This year, however, two newly launched projects pay more attention to the social-science aspects of counter-terrorism. The first, *Transitioning from Military Interventions to Long-Term Counter-Terrorism Policy* (984855) looks, through a series of workshops and research papers, at how military interventions can best prepare the ground for an effective long term counter-terrorism policy. Another new project, *Modelling and Mitigation of Public Response to Catastrophes and Terrorism* (984877), seeks to establish and test computer models for gathering and analyzing data on public reaction in the wake of a terrorist incident or other disaster. The goal of the project is to provide decision makers with tools to help manage public responses in real time, enabling them to harness the public as a constructive force in the immediate and mid-term aftermath of such an event.

Energy Security

Energy developments can have significant security implications for the Alliance. Some risks to critical energy infrastructure have the potential to become a political-security issue. In addition, the inefficient use of energy in the military can negatively affect the range, duration, cost and effectiveness of NATO missions and operations. Consequently, the NATO SPS Programme supports scientific solutions to energy security issues that affect the interests of the Alliance. Since energy vulnerabilities extend beyond the borders of NATO, the involvement of partner countries adds particular value to NATO's efforts.

To this end, the Atlantic Council of Georgia, together with the Atlantic Treaty Association (ATA), organised an Advanced Research Workshop on the "The Protection of Critical Energy Infrastructure Against Emerging Security Challenges" (ref. 984884). The event, which took place in Tbilisi, focused on the security risks to critical energy infrastructure, namely cyber and terrorist attacks, and identified opportunities for public-private partnerships to meet these risks. The workshop also provided a forum

Risks to critical energy infrastructure have the potential to become a political-security risk.

for experts and stakeholders from government, academia and the private sector for the exchange of information and best practices.

In 2014 NATO also approved the multi-year project on the “Risks to the Enguri energy infrastructure in Georgia and their security implications” (ref. 984934). The project seeks to provide training and equipment to local experts in Georgia in order to assess risks to a key infrastructure facility (the Enguri power plant, located between the Georgia-controlled territory and the region of Abkhazia) that could have multiple direct consequences for the security and stability in the region.

The NATO SPS Programme has also continued its effort to increase energy efficiency in the military through science cooperation. Smart energy solutions not only save money when less fuel is used, but can also save soldiers' lives and help improve the mobility as well as the endurance of military forces. To this end, NATO continued its multi-year project on the “Smart Energy Team” (SENT) - a group of experts from six Allied and two partner countries. SENT's main tasks are to identify the best existing 'smart energy' solutions, and to provide recommendations for improving NATO’s standards and best practices in the field of military energy efficiency.

Cyber Defence

Against the background of increasing dependence on technology and on the internet, the Alliance is advancing its efforts to confront the wide range of cyber threats facing NATO. Significantly, for the first time, these efforts also extended to Partner nations. 2014 marked a milestone of cooperation with Partner countries, with an increasing number of cyber defence initiatives, four of which were top-down.

Tools for engagement included training courses, capacity building projects and strategy development within the construct of ARWs (984886 A Framework for a Military Cyber Defence Strategy; 984789 Meeting Security Challenges through Data Analytics and Decision Support; 984799 Encouraging Cyber Defence Awareness in the Balkans), ATCs (984905 Hands-on Cyber Defence Training Course for System/Network Administrators of Azerbaijan; 984967 Hands-on Cyber Defence Training Course for System/ Network Administrators of Ukraine; 984966 Network Vulnerability Assessment & Risk Mitigation Course), ASIs (984909 Verification and Synthesis of Correct and Secure Systems), and an MYP (984895 Support for Implementing a Cyber Defence Strategy for Jordan).

2014 marked an increased interest in cyber defence activities from partners.

A significant activity was the launch of a cyber defence project with Jordan and Germany. The first of its kind, this flagship project aims to support Jordan in the implementation of a cyber defence strategy, and is expected to help enhance Jordan’s capacity to defend its infrastructure and mitigate the impact of cyber attacks.

Additionally, a series of Advanced Training Courses were provided to Azerbaijani and Ukrainian System/Network Administrators, which were conducted as part of a series of training courses that began in 2013. These courses are designed by the METU Informatics Institute of Ankara, Turkey and tailored for each participating country to address the needs of participants in a targeted and effective manner.

Defence against CBRN Agents

The central objective of SPS activities in defence against CBRN agents is to improve the ability of NATO and its partners to protect their populations and forces from CBRN threats. In 2014, the SPS Programme supported a total of 19 new activities towards the development of CBRN defence capabilities, making it the most common area of cooperation among the SPS Key Priorities. Of these new activities, 7 involved Ukraine and Eastern Partners in view of the intensified cooperation including an Advanced Training Course (*Consequence Management after CBRN Incidents, 984764*).

Activities aimed at delivering high-quality scientific research, capacity building and training of young researchers while fostering effective Allied-Partner collaboration. A significant number (9) of multi-year projects focused on the topic of defence against biological agents, for example: (*Hand-Held Pathogen Detection System, 984796), (Decontamination by UV & Cold Plasma, 984890*) and (*Optical Bio-Sensors for Detection of Bio-Toxins, 984637*).

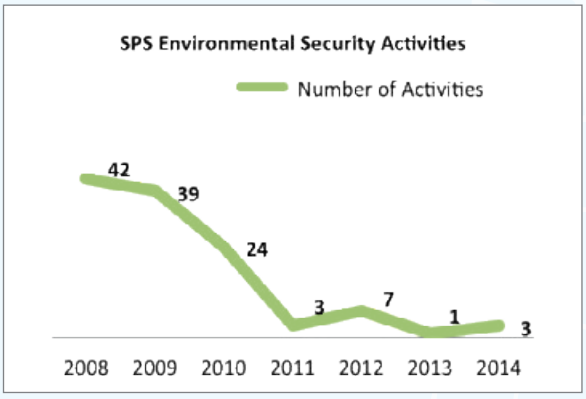
An airplane is decontaminated in a SPS CBRN training course.

There have been important efforts related to defence against anthrax as a biological agent with the launch of two projects: (*The Anthrax MNTABC Transporter, 984622*) and the top-down project (*Mitigating Risk of Biological Agents in Moldova, 984898*). Advances in technologies such as nanotechnology were also addressed in CBRN projects; (*Nanocomposites for Enhanced Decontamination, 984599*) and (*Metal Nanocrystals for Detection of Biochemical Agents, 984702*).

Threat and agent detection remain an important requirement, and this is especially important as technology changes rapidly. Latest detection technology trends will be developed in *Biomarkers for early Detection of Radiation Exposure, 984815 and Solid State Gas Sensors, 984597*. Medical counter-measures against biological threats were the focus of MIP as a *Therapeutic Target, 984835 and Dosimetry for the Triage of Radiation Exposure, 984649.*

Environmental Security

Over the past years, the number of activities developed and implemented by the SPS Programme in the area of environmental security has dramatically decreased. As a consequence, topics such as water management, desertification, and river pollution are no longer readily considered for SPS funding despite a large demand from partners, especially EAPC and MD partners. Historically, environmental security has been an important area for partners, especially those from the Balkans, Caucasus, Central Asia and the Mediterranean Dialogue.



Mongolia's mountainous terrain – Environmental security is a priority area for cooperation for partners from Central Asia and the Balkans in particular.

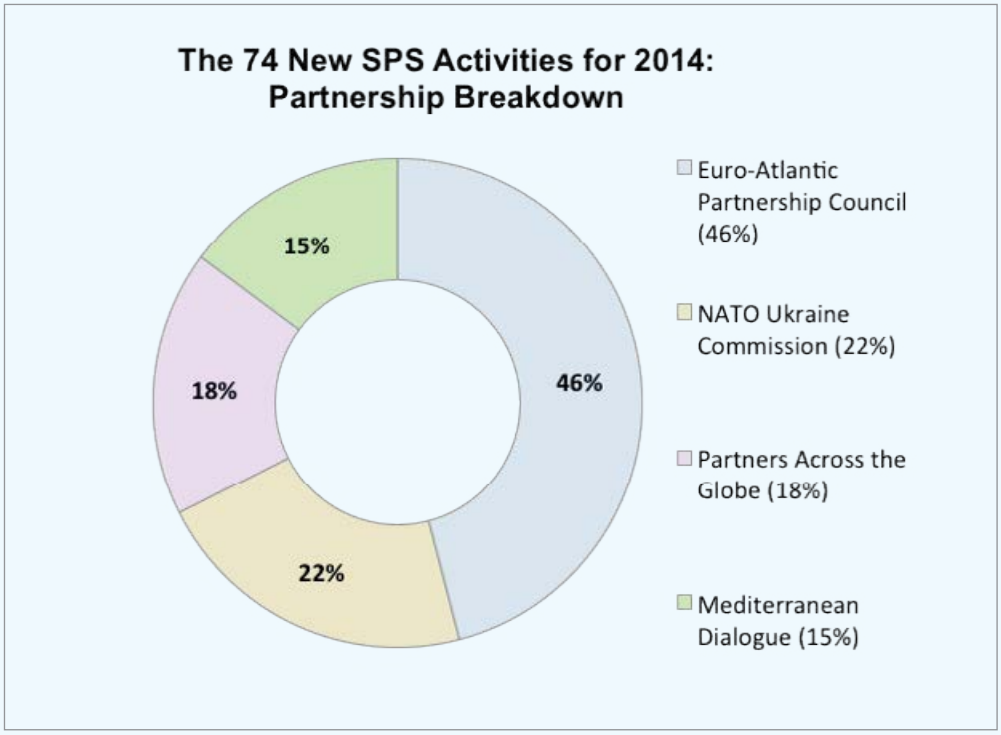
New Activities by Partnership Framework

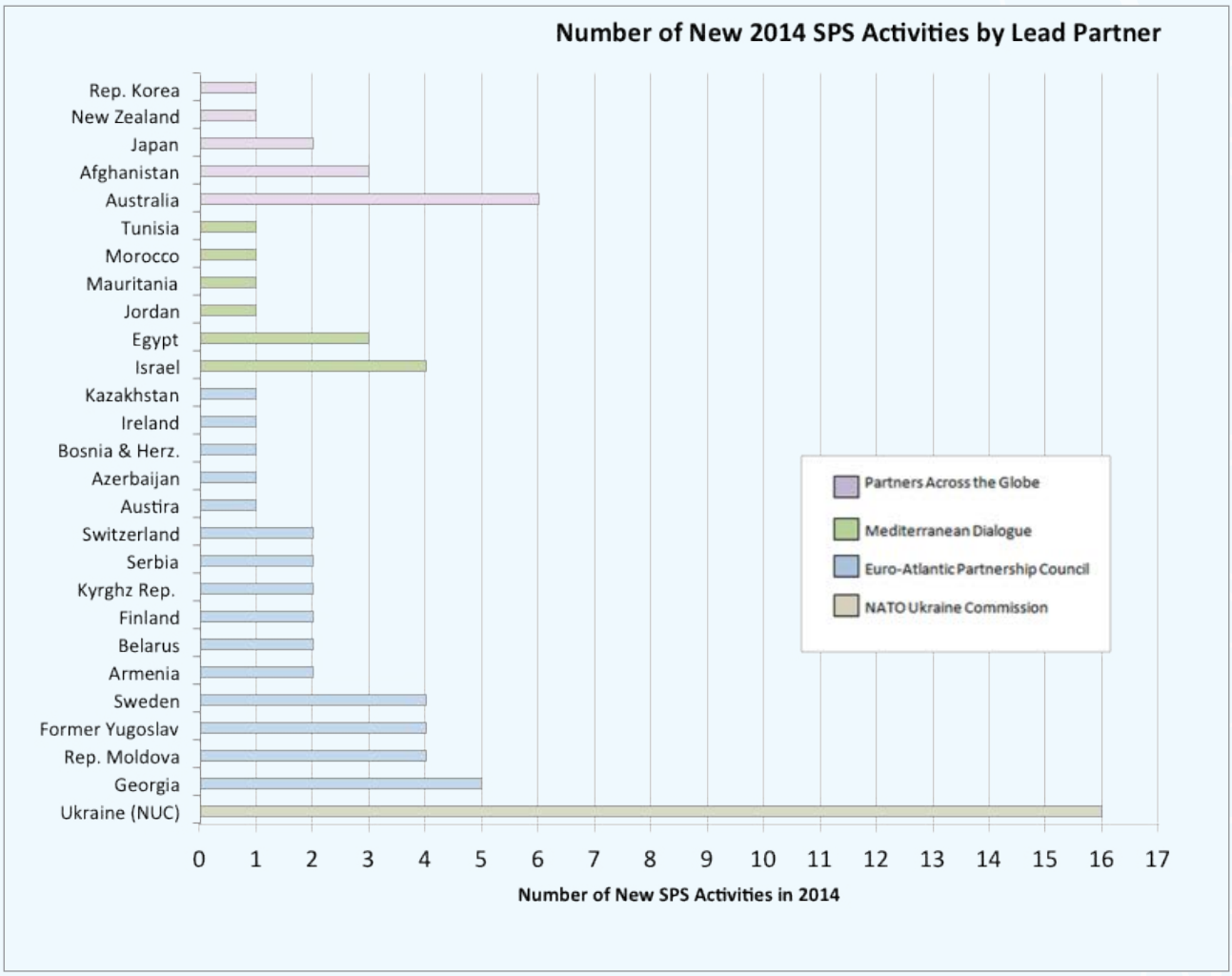
The SPS Programme supports practical cooperation with over 40 partner countries and international organisations. In 2014, the SPS Programme initiated 74 new activities, with 28 partner countries playing a leading role. The chart below provides figures on the breakdown of new activities over the course of 2014 according to partnership framework.

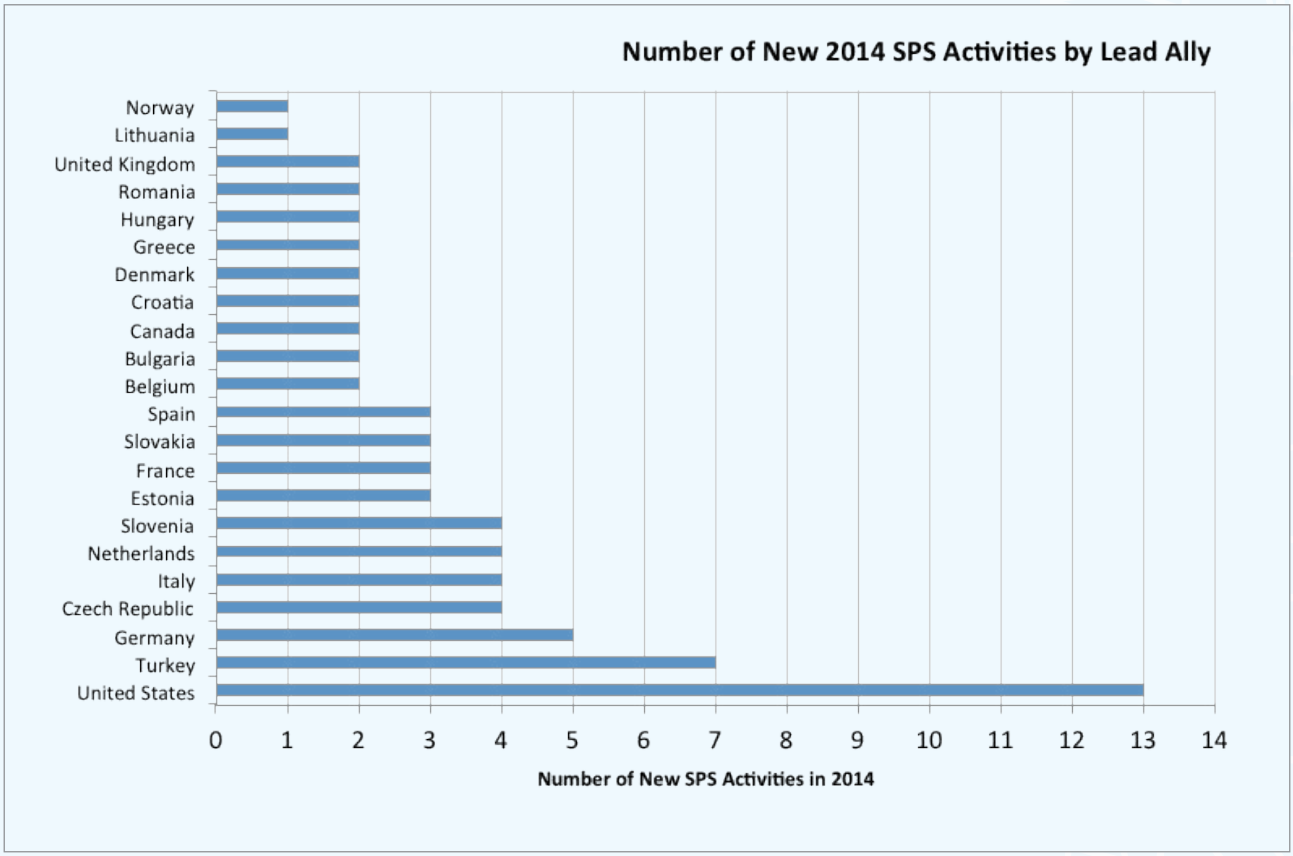
PARTNERSHIP FRAMEWORK	Top-Down'	'Bottom-Up'	Total
EAPC - Euro-Atlantic Partnership Council	10	24	34
NUC - NATO-Ukraine Commission	3	13	16
PaG - Partners across the Globe	5	8	13
MD - Mediterranean Dialogue	4	7	11
ICI - Istanbul Cooperation Initiative	0	0	0
TOTAL	**22**	**52**	**74**

In 2014, new SPS activities fostered partnership and cooperation within all partnership frameworks, except for the Istanbul Cooperation Initiative. A large number of new activities were developed within the framework of the countries of the Euro-Atlantic Partnership Council (EAPC). In line with political guidance, the SPS Programme also served as a valuable tool for enhanced practical cooperation with Ukraine in 2014. A total of 16 new activities were developed, the vast majority being large scale multi-year research and development projects.

In 2014, there was a sharp increase in the number of activities launched with partners across the globe – representing 18% of new activities. SPS launched activities led by Afghanistan, Australia, Japan, Republic of Korea, and New Zealand over the course of the year. While overall cooperation with Mediterranean Dialogue partners experienced a slight decline, the SPS Programme was able to initiate at least one project with Egypt, Israel, Jordan, Mauritania, Morocco, and Tunisia.




Number of New 2014 SPS Activities by Lead Partner
Rep. Korea
New Zealand
Japan
Afghanistan
Australia
Tunisia
Morocco
Mauritania
Jordan
Egypt
Israel
Kazakhstan
Ireland
Bosnia & Herz.
Azerbaijan
Austira
Switzerland
Serbia
Kyrghz Rep.
Finland
Belarus
Armenia
Sweden
Former Yugoslav
Rep. Moldova
Georgia
Ukraine (NUC)
Partners Across the Globe
Mediterranean Dialogue
Euro-Atlantic Partnership Council
NATO Ukraine Commission
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
Number of New SPS Activities in 2014


Number of New 2014 SPS Activities by Lead Ally
Norway
Lithuania
United Kingdom
Romania
Hungary
Greece
Denmark
Croatia
Canada
Bulgaria
Belgium
Spain
Slovakia
France
Estonia
Slovenia
Netherlands
Italy
Czech Republic
Germany
Turkey
United States
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
Number of New SPS Activities in 2014

New Activities by Grant Mechanism

The SPS Programme supports practical cooperation with partners through several established grant mechanisms. Activities can take the form of multiyear projects, workshops or training courses. This variety of funding schemes allows the SPS Programme to accommodate different needs and project outlooks. The chart below shows the breakdown of new activities according to SPS grant mechanism over the course of 2014.

MECHANISM	Top-Down'	'Bottom-Up'	Total
Multi-Year Projects (MYP)	9	30	39
Advanced Research Workshop (ARW)	6	14	20
Advanced Training Course (ATC)	6	3	9
Advanced Study Institute (ASI)	0	5	5
Network Infrastructure Grants (NIG)	1	0	1
TOTAL	**22**	**52**	**74**

Partnership Anniversaries in 2014

The SPS Programme supports collaboration between NATO and partner scientists and experts from countries that are associated with the Alliance through the Euro-Atlantic Partnership Council (EAPC), the Mediterranean Dialogue (MD), the NATO-Ukraine Commission (NUC), the Istanbul Cooperation Initiative (ICI) and Partners across the Globe (PaG). SPS activities take into account the priorities and preferences of partners, in particular those outlined in approved partnership documents – including, Individual Partnership Action Plans (IPAPs), Individual Partnership Cooperation Programmes (IPCPs) and Membership Action Plans (MAPs).

This year marked several important anniversaries for NATO's partnerships: the 20th anniversary of the Partnership for Peace (PfP) and the Mediterranean Dialogue (MD), and the 10th anniversary of the Istanbul Cooperation Initiative (ICI).

The countries of the Euro-Atlantic Partnership Council (EAPC) celebrated twenty years of collaboration between the 50 nations that make up the multilateral forum for dialogue and consultation on political and security-related issues. The EAPC provides an important political framework for NATO's cooperation with partner countries in the Euro-Atlantic area, and for the bilateral relationships developed between NATO and individual partner countries under the Partnership for Peace (PfP) programme. NATO celebrated this important anniversary through several events over the course of the year, emphasizing that 20 years of successful cooperation have been driven by common values and shared determination to address common challenges.

Over the years, the SPS Programme has initiated several flagship activities with the countries of the EAPC. Activities with these countries have focused on a range of areas, including internet connectivity, environmental security relating to the clean-up of former military sites, and regional cooperation.

This year also marked the 20th anniversary of the Mediterranean Dialogue (MD). The MD reflects the Alliance's view that security in Europe is closely linked to security and stability in the Mediterranean. It is an integral part of NATO's adaptation to the post-Cold War security environment, as well as an important component of the Alliance's policy of outreach and cooperation. The SPS Programme has addressed a range of issues with the countries of the MD, especially relating to environmental security, UXO-clearance, and regional security.

ISEG Screening Meetings

In 2014 three meetings of the Independent Scientific Evaluation Group (ISEG) took place: the first one between 24-25 February in Brussels, the second between 18-20 June also in Brussels, and the last one between 21-22 October in Lisbon. ISEG has been established in replacement of the former four Advisory Panels. Composed of around 30 experts and reputed scientists from NATO countries, the main role of the ISEG is to evaluate (peer-review) applications. This direct involvement of the scientific community is invaluable in maintaining the integrity and high scientific standard of the Programme.

In the meetings the Science Advisors of the SPS Programme made presentations for the top-down SPS new proposals, as well as on the progress realized on certain ongoing projects. During 2014 a total of 163 SPS applications were reviewed by ISEG members, of which 63 were rejected.

NATO Senior SPS, Partnership Cooperation Advisor, SPS staff, and ISEG members take part in the October 2014 ISEG in Lisbon, Portugal.

CHAPTER IV
Cooperation with International organizations

Within the framework of the SPS Programme, NATO has successfully engaged a variety of international organizations, such as the United Nations (UN) and the Organization for Security and Cooperation in Europe (OSCE). This dialogue and cooperation enhances synergies and avoids duplication of work between organizations on matters of mutual concern. Extended outreach through scientific cooperation contributes to enhancing security and complementarity of efforts.

United Nations (UN)

Cooperation in the Western Balkans

In October 2014, over 20 NATO and United Nations (UN) officials gathered at an SPS-supported workshop on enhanced cooperation in the Western Balkans. The main objective was to identify areas where both NATO and the UN can mutually work to effectively enhance conflict prevention through practical cooperation. Over the course of the workshop, experts looked at possible activities that could be developed with the countries of the Western Balkans region. They examined the current political situation and took stock of ongoing conflict-prevention activities. They also highlighted the importance of public outreach activities and their important role in confidence building. NATO Deputy Assistant Secretary General for Emerging Security Challenges Dr Jamie Shea opened the workshop

Mine and unexploded ordnance detection and clearance and counter-terrorism were identified as potential areas for joint, regional SPS activities with the Western Balkans and the UN. Delegates also discussed cyber defence, human and social aspects of security, energy security as well as defence against chemical, biological, radioactive and nuclear (CBRN) agents. This workshop is a direct deliverable that was foreseen in the SPS Work Programme 2014. NATO and the UN have been working closely together to maintain international peace and security since the early 1990s. This cooperation began in the Western Balkans and was reaffirmed at the Wales Summit in September 2014 when NATO leaders agreed to foster “the growing practical cooperation between the staffs of our organizations”.

Cooperation with the United Nations Mine Action Service in Support of Libya

Libya has one of the largest unsecured caches of arms and ammunition in the world. The destabilising effect on the region of unsecured weapons is an important consideration when it comes to ammunition management in Libya.

In November 2013, the SPS Programme received a proposal from the United Nations Mine Action Service (UNMAS) outlining a potential SPS multi-year project aimed at the destruction of ammunition in Libya. Subsequently, Allies approved the funding of a Feasibility Study, to be conducted by the NATO Support Agency (NSPA) in the first part of 2014 for the project titled “Collaboration with UNMAS on the Destruction of Missiles in Libya”.

The detailed results of this study were presented to Allies at a PCSC meeting on 8 July, concluding that the implementation of the project was indeed viable, and the destruction of the Surface to Air Missiles (SAMs) that have been earmarked by the Libyan authorities could be carried out by the NSPA. In July 2014, the UN withdrew its staff from Libya due to security concerns stemming from increased violence

in Tripoli. As a result of the deteriorated political and security situation in Libya, the demilitarization project is now on hold. However, all parties have indicated their continued commitment to move forward with the proposal as soon as the situation on the ground stabilizes, and UNMAS is once again engaged in Libya.

UNSCR 1325: Women, Peace & Security

The implementation of United Nations Security Council Resolution (UNSCR) 1325 and related Resolutions on women, peace and security represents an important policy priority for NATO and partner countries. To that end, the SPS Programme has sought to support the implementation of this agenda, especially as a gender perspective enhances support for NATO-led operations and missions. Support toward the implementation of this resolution also addresses the SPS Key Priority to assess human and social aspects of security related to NATO's strategic objectives, as well as human and social aspects of security.

UNSCR 1325 is a priority agenda for NATO and practical cooperation is supported through the SPS Programme. A Call for Proposals has been issued to diversify efforts and continue to develop meaningful projects.

Regarding the women, peace and security agenda, the SPS Programme has issued a call for proposals for activities to be organised by scientists, experts and policy-makers from NATO Allied and Partner countries to support the implementation of 1325 and related resolutions. To date, the SPS Programme has initiated three activities in this area. Several other potential areas for practical cooperation are also under development.

In 2013, SPS launched their first activity in this area: a series of workshops on 'Gender Mainstreaming: Indicators for the Implementation of UNSCR 1325' led by the United States and Serbia. In 2014, two additional activities were launched. A project titled 'Research Annual Gender National Reports: Policies, Recruitment, Retention & Operations – UNSCR1325 Reload' is led by Spain and Australia. The primary aim is to assess the impact of UNSCR 1325 and related resolutions on the armed forces of NATO member and partner states. Another workshop 'Sharing Good Practice on Handling of Gender-Related Complaints in Armed Forces' led by Switzerland (DCAF) and Norway was also recently approved at the close of the year.

Environment and Security Initiative (ENVSEC)

In 2012, Allies agreed that NATO, through the SPS Programme, would continue its associated membership in the Environment and Security Initiative (ENVSEC) until the end of 2015. Launched in 2003, ENVSEC is a partnership of six international organisations – the OSCE, the Regional Environment Centre for Central and Eastern Europe (REC), the United Nations Development Programme (UNDP), the United Nations Economic Commission for Europe (UNECE), the United Nations Environment Programme (UNEP), and NATO as an associated partner – with specialised but complementary mandates and expertise, seeking to provide an integrated response to environmental and security challenges.

ENVSEC
Environment & Security

SPS Cooperation with ENVSEC contributes to NATO's strategic objective "Cooperation with other International Organisations", with the aim to pool expertise, avoid duplication and share information. It also contributes to disaster preparedness and prevention and serves to reduce regional tensions over shared resources. NATO joined ENVSEC in 2004 and confirmed its continuous partnership through Memoranda of Understanding (MOU), signed by all six organizations, the latest covering 2013-2015.

During the 10 years until 2014, NATO completed 35 multi-year projects in cooperation with ENVSEC. One NATO project will be completed by autumn 2015. No new projects addressing ENVSEC priorities have been approved by Allied nations and NATO partnership with ENVSEC will come to an end in 2015.

Organization for Security and Co-operation in Europe (OSCE)

In December 2014, Allies approved an Advanced Research Workshop entitled, "Best Practices and Lessons Learned in Conflict Management: NATO, OSCE, EU and Civil Society". The aim of the workshop is to identify lessons learned and best practices of NATO and the OSCE in crisis management, and to better understand the impact and function of civil society. This workshop is due to take place in 2015, and will include experts from NATO, OSCE and EU who will also concentrate on Crisis Response Operations and Peace Support Operations.

Experts from the OSCE also attended a workshop on border security challenges in the Mediterranean region, hosted in June 2014 in Malta.

CHAPTER V
A Selection of SPS Activities

The following chapter provides a selection of SPS activities that were approved, ongoing or completed in 2014. The full list of new SPS activities approved by Allies in 2014 can be found at Annex 1. Additionally, information can be found on completed events hosted in 2014 in Annex 2.

NATO UKRAINE COMMISSION (NUC)

Identification and Neutralization of Chemical Improvised Explosive Devices (Advanced Training Course)

SPS Key Priorities	1.d. Defence Against CBRN Agents
Country Directors	Poland and Ukraine

From 26-30 May 2014, the SPS Programme supported an advanced training course to improve international awareness and preparedness for response to chemical improvised explosive devices (Ch-IED). Whereas procedures are well-developed for classical IEDs, this is not always the case for Ch-IEDs, which require a very specific approach. The training was intended to help decrease vulnerability and increase resilience in incidents involving Ch-IEDs and facilitate the development of specific procedures and specialised training on the recognition, handling and safe disposal of Ch-IEDs in NATO partner countries

The trainees – coming from 11 NATO and partner countries: Algeria, Azerbaijan, the Czech Republic, Egypt, Jordan, Kuwait, Mauritania, Poland, Turkey, Ukraine and the United Arab Emirates – participated in the training course.

Hosted in Wroclaw, Poland, the course brought together twenty-five commanders from military and civil emergency units, bomb squads and high-level officials responsible for the management of emergency situations. It consisted of a series of lectures by high-level experts in the field, laboratory demonstrations and field exercises. The course was co-organised by the Military University of Technology in Warsaw and the Institute of Bio-organic Chemistry and Petrochemistry, Ukraine [ref. 984656].

EURO-ATLANTIC PARTNERSHIP COUNCIL (EAPC) PARTNERS

Intensified Cooperation with Eastern Partners

Innovative Energy Solutions for Military Application (Advanced Research Workshop)

SPS Key Priorities	1.b. Energy Security
Country Directors	Lithuania and Georgia

On 12 and 13 November 2014, the SPS Programme supported an event for high-level officials from NATO and partner countries at the Lithuanian Exhibition and Congress Centre (LITEXPO) in Vilnius. The main aim of the event was to provide a platform for information exchange on best practices and technologies for advancing energy efficiency in the military. The international conference and exhibition was organized

Ambassador Ducaru attends the industrial exhibition, which gave an opportunity for innovative energy technology and solution providers to display and explain their products to participants.

by the NATO Energy Security Centre of Excellence in cooperation with the State Military Scientific Technical Centre of the Georgian Ministry of Economy and Sustainable Development. It brought together experts from academia, industry and the military to exchange knowledge and discuss lessons learned, with a focus on standard, advanced and cutting-edge energy saving technologies [ref. 984864]. Hands-on Cyber Defence Training for System/Network

Administrators in Azerbaijan (Advanced Training Course)

SPS Key Priorities	1.c. Cyber Defence
Country Directors	Turkey, Canada & Azerbaijan

The training was led by the Middle East Technical University (METU) Informatics Institute in Ankara.

To address the increasing threat of cyber attacks, the SPS Programme is sponsoring a series of cyber defence courses that aim to raise awareness and provide participants with the expertise and technical knowledge to help increase the resilience of their national networks. During the first two weeks of September 2014, network and system administrators from Azerbaijani Ministries and the national Computer Emergency Response Team (CERT) participated in one such course. In collaboration with instructors from Turkey, experts from Georgia also led a session of the series.

The hands-on training programme included both a theoretical session and practical laboratory exercises of core aspects of cyber security, such as cryptography, cyber security monitoring, defending web applications, and conducting vulnerability assessments. Trainees also learned how to defend operating systems, user accounts and infrastructure. A penetration testing session and an exam allowed participants to apply and test their newly acquired expertise at the end of the course. Azerbaijani administrators were the fifth round of participants to undergo this training [ref. 984744].

Developing Capabilities to Mitigate the Risks of Biological Agents in Moldova (Multi-Year Project)

SPS Key Priorities	1.d. Defence against CBRN Agents
Led By	NSPA as the executing agency, in partnership with the Republic of Moldova

Bioagents can cause infectious diseases with a major impact on public health and can lead to economic and social damage such as in the case of the anthrax agent, bacillus anthracis, which may persist for long periods in the environment. Moreover, their potential use by terrorists poses a significant security risk to local populations. In the Republic of Moldova, between the 1950s and 1970s, there have been more than 2500 cases due to anthrax. Since destruction and burial were not done under the

minimal biosafety requirements there is a risk that spores are spread into new territories.

NATO strengthens Moldova's defence capabilities against chemical, biological, radiological, and nuclear agents through the SPS Programme.

The top-down project primarily aims to build a capability in the Republic of Moldova regarding biological agents in particular B. anthracis by training Moldovan experts, setting up a mobile biological laboratory, conducting statistical sampling and mapping, and remediation of the selected pilot area. A possible second phase of the project will resume the activities in the country and a nation-wide public awareness campaign will be also conducted. Provision of the developed capability in Moldova will mitigate the current risks of spreading and further contamination of B. anthracis and other biological agents. The project will thus contribute to the country's safety, security and consequently to economic and sustainable development [ref. 984898].

Cooperation with other EAPC Partners

Smart Energy Team (SENT) (Advanced Research Workshop)

SPS Key Priorities	1.b. Energy Security
Country Directors	Lithuania and Sweden

In 2012, the SPS Programme launched the Smart Energy Team (SENT), an inter-disciplinary group of experts in the field of energy efficiency in the military ('smart energy'). SENT's goals include information sharing and consultation, as well as identifying opportunities for multinational smart energy projects and activities within the Smart Defence framework. Particular attention is paid to facilitating the development of effective and interoperable capabilities that better enable Allied forces to reduce the logistical footprint in the military, thus improving operational capabilities, reducing force protection obligations and saving costs. SENT's focus is on land forces, in particular deployable camps.

Depicted above, is a succession of Smart Energy Team (SENT) Convoys. SENT's focus is on land forces, in particular deployable camps.

In 2014, SENT members visited army facilities in Ottawa, Paris, Madrid, Stockholm, Vught and Caerwent. The aim of all SENT visits was to observe and analyse activities by the public and private sector related to energy efficiency and to exchange lessons learned and best practices for land operations. Within the framework of SENT, NATO stakeholders briefed NATO Committees, Working Groups and Teams of Experts about SENT activities and conclusions. SENT members also used some of their meetings for drafting the comprehensive report that will be delivered in May 2015 as a final SENT product. It will contain an analysis of the SENT questionnaire that was returned by 12 nations. Within the framework of SENT, ESCD maintains an Internet information sharing platform hosted by the NATO Multimedia Library and targeted on experts working on 'smart energy': http://natolibguides.info/smartenergy [ref: 984653].

Consequence Management after CBRN Incident (Advanced Training Course)

SPS Key Priorities	1.b. Energy Security
Country Directors	Czech Republic, Azerbaijan, Moldova, Ukraine

On 12 November 2014, a training course took place at the Joint CBRN Defence Centre of Excellence in Vyškov, Czech Republic. The course was aimed at first responders and sought to teach the participants how to effectively manage the consequences of CBRN incidents. Thirty military and civilian participants from consequence-management structures in Azerbaijan, Moldova, Ukraine and NATO countries participated.

First responders engage in practical training at the Joint CBRN Defence Centre of Excellence in the Czech Republic.

The main aim of the course was to ensure that first responders such as police officers, fire fighters, and paramedics had a common knowledge base of preparedness when responding to CBRN incidents. Blending theory with practice, the course focused on helping countries improve their civil emergency plans. The course also looked at how NATO, the European Union and other international organisations organise their consequence-management systems. The 2011 Fukushima nuclear power plant incident, for instance, was closely examined, and experts who helped deal with the incident also participated in the course [ref. 984764].

Central Asian Context Factors & the Comprehensive Approach to Regional Security (Advanced Research Workshop)

SPS Key Priorities	2.d. Enhance Support for NATO-led Operations and Missions
Country Directors	Turkey, Canada & Azerbaijan

From 19-21 November 2014, the SPS Programme supported this workshop held in Almaty, Kazakhstan. The goal of the workshop was to bring together specialists from military institutions, research institutions, higher education, non-governmental organizations, and other sectors of civil society to address the research and development requirements necessary to forge a comprehensive approach to crisis management and conflict resolution, with a focus on the region.

The main aim was to identify practices and policies that can be adapted to the specific contextual features of Central Asian social and political realities. The workshop looked at the issue of Central Asia & Afghanistan cultural awareness, with a view to providing recommendations on broadening interethnic, interreligious, and intercultural relationships as a foundation to lasting peace and security. It also helped familiarized thinkers and practitioners with Central Asian and Afghan political, economic, social, military, and other context factors in order to identify the implications for a comprehensive approach to international crisis management and conflict resolution.

The workshop was organized by KAZCENT (Partnership for Peace Training Centre, Army Academy) in cooperation with the George C. Marshall European Centre for Security Studies [ref. 984745].

Border Security Threats in the Mediterranean Region (Advanced Research Workshop)

SPS Key Priorities	3.b. Border and Port Security
Country Directors	Poland and Malta

From 2-4 June 2014, the SPS Programme supported a workshop looking at border security challenges in the Mediterranean Sea basin. The workshop addressed a range of issues relating to border security, including international cooperation within the border security community, cross-border terrorism and its implications for the Mediterranean region, maritime challenges and priorities for regional security, and how natural resources shape border security. The event, attended by over 50 experts, was organized as part of the 2014 edition of the International Border Security Forum and was led by the German Marshall Fund of the United States (GMF), in cooperation with the Mediterranean Academy of Diplomatic Studies (MEDAC) in Malta [ref. 984863].

Senior Advisor from NATO's Emerging Security Challenges Division participates in integral discussion at the Border Security Workshop in Malta in June 2014.

Increasing the Clearance Capacity for Unexploded Ordnance (UXO) in Montenegro (Multi-Year Project)

SPS Key Priorities	3.c. Mine and UXO Detection & Clearance
Country Directors	Netherlands and Montenegro

Due to past wars in Montenegro and the region, large quantities of unexploded ordnance (UXO) are present in the country, often in unsecured areas and posing a considerable risk to the local population. As a result, the SPS Programme has been working with Montenegro to enhance national detection and clearance procedures. In particular, clearance experts in Montenegro will receive training and equipment so that the clearance of UXO in the country will be enhanced and improved.

Through this SPS activity, the Netherlands is assisting Montenegro in acquiring and developing state-of-the-art technologies and methods of UXO clearance. The main goals of this project are to provide the UXO clearance team under the Ministry of Interior of Montenegro with advanced means for detecting UXO, protective equipment, means for safe transport and destruction of UXO, and, provide the team with technical and management training. Initiated in 2013, the project aims to provide several deliverables to enhance and speed-up the clearance of UXO in Montenegro. One outcome will be new means for detecting UXO in the ground, such as metal detectors, magnetometers, data loggers, evaluation software and dedicated computers (including the introduction of new detection technologies) [ref. 984754].

In the past, the UXO clearance team from the Ministry of Interior lacked suitable equipment for detection, transport and destruction of UXO, as well as standardized reporting procedures.

MEDITERRANIAN DIALOGUE (MD) PARTNERS

National System of Crisis Management Coordination - Extension (Phase II) (Multi-Year Project)

SPS Key Priority	2.d. Enhance Support for NATO-led Operations and Missions; 1.a. Counter Terrorism;
Country Directors	France and Mauritania

In 2014, Allies approved the second phase of the National System of Crisis Management Coordination - Extension SPS project in Mauritania. One of the major threats for this partner country and for the entire region is terrorism. The current SPS multi-year project aims at complementing the Mauritanian Crisis Management System for a more effective response to the various risks and threats faced by Mauritania. It also aims to support the Mauritanian Government`s overall efforts to give civil protection services a major role in crisis management.

The Mauritanian Crisis Management Centre inaugurates the opening of its doors in 2014.

The first phase of the project, funded on an equal-share basis by Canada and NATO SPS, allowed implementing the national crisis management centre and the connection with four regions within the country. The second phase of the project will allow finalizing the territorial coverage by implementing the remaining six regions, reaching out to partially isolated areas liable to fall under the influence of terrorist or extremist organizations.

The main deliverables expected from this project during the next three years include: implementation of another six operational coordination centres; operational and technical training; validation of the tools put in place by a series of exercises and concrete case-work; a national exercise that will involve the whole chain of command from Minister of Internal Affairs, to Ministry of Health and Ministry of Defence. [ref. 984451]

Enhanced Explosive Remnants of War (ERW) detection and access capability in Egypt (Multi-Year Project)

SPS Key Priorities	3.c Mine and Unexploded Ordnance Detection and Clearance
Country Directors	Netherlands and Egypt

Building on the successful implementation of the top-down flagship SPS project “Advanced Detection Equipment for Demining and UXO Clearance in Egypt”, the new top-down was started in 2014 with the aim to provide Egypt with an enhanced operational detection and clearance capability.

Egyptian military personnel receive mine detection training using state of the art equipment.

The project is composed of two phases – detection and access. The first phase includes the use of enhanced Ground Penetrating Radar (GPR) detection systems capable of identifying and discriminating anomalies (plastic/metal) buried at greater depths in order to accelerate clearance in those areas

affected by the presence of sand build-up over ERW. In the second phase, the use of suitable excavation and associated equipment to physically support the area and enable safe access to the exposed anomalies identified by the detection system(s) in soft sand will considerably improve safety among clearance teams.

Provision of this enhanced capability will greatly improve the safety of Egyptian de-miners, thereby reducing the number of casualties from ERW clearance, and improving individual confidence and the credibility of the Egyptian de-miners to address the problem. This will have an immediate effect on the safety and security of the local population, reducing the threat from ERW and releasing land for economic development [ref. 984899].

Support for Implementing a Cyber Defence Strategy for Jordan (Multi-Year Project)

SPS Key Priorities	1.c. Cyber Defence
Country Directors	Germany & Jordan

This multi-year project will assist Jordan to develop a national cyber defence strategy and address the protection of key infrastructure such as electricity grids, dams, energy networks and more. The top-down initiative signifies a milestone for cooperation in the area of cyber defence with a Partner nation, and is the first of its kind to have been approved by Allies.

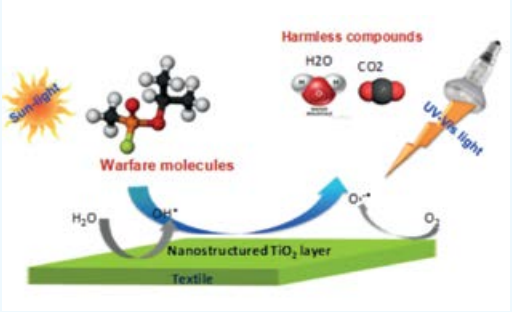
Ambassador Ducaru participates in the Cyber Defence Conference held at the Dead Sea in Jordan on February 2015, accompanied by Jordanian Armed Forces and subject-matter experts. The Conference marked the first concrete step in the implementation of the SPS project in support of assisting Jordan to take forward its national cyber defence strategy.

The project will support Jordan in developing capabilities to defend its infrastructure, mitigate the impact of cyber attacks, and enhance the overall security situation in the county. This is particularly relevant as Jordan is an active operational Partner to NATO. The project will enable the Alliance to enhance cooperation with other Partner nations in the Middle East by developing widely usable cyber defence solutions, and creating regional networks for knowledge transfer within cyber defence communities.

To implement the project, a team of cyber defence experts from Allied countries and Jordan has been composed. The project enjoys high-level support from the Jordanian Armed Forces (JAF), the Cyber Security Senior Committee at the National Policy Council, and the Ministry of Foreign Affairs. A Launch Event was held in Amman, Jordan on 2 October, 2014 to kick-off the implementation of the project. The event was organised in collaboration with the Jordanian Armed Forces (JAF) and was attended by more than 65 participants, including 12 NATO Embassies, the Chief of Intelligence of JAF, and the Head of the European Department from the Ministry of Foreign Affairs. [ref. 984895]

Self-Decontaminating Smart Textiles for Chemical Warfare Agents Degradation (CATALEX) (Multi-Year Project)

SPS Key Priorities	1.d. Defence against CBRN Agents
Country Directors	France & Portugal and Tunisia & Egypt



The diagram depicts the conception of Smart Textiles endowed with self-decontaminating properties. The hybrid textiles can be used by military as well as civilian persons as a means of protection.

Chemical warfare agents (CWA) continue to constitute a considerable threat and the decontamination and the protection of the civilian population from exposure to hazardous chemicals, such as CWAs, is an important challenge. This project aims to create easy-to-use, self-decontaminating textiles, constituting an efficient protection, and able to decompose harmful chemicals namely those used as warfare agents. The innovative hybrid textiles are also expected to be more efficient, lighter, more durable and more cost-effective than current protective systems.

With this project, the group of scientists will make a contribution to the protection, decontamination and destruction of CWAs, through the design and elaboration of smart textiles endowed with self-decontaminating properties based on a photocatalytic nanotechnology. From a scientific point of view, the research on cost-effective materials and/or technologies to protect against chemical weapons is foreseen to have a high impact [ref. 984842].

PARTNERS ACROSS THE GLOBE

NATO Global Perceptions - Views from the Asia-Pacific Region (Multi-Year Project)

SPS Key Priority	Human and Social Aspects of Security Related to NATO's Strategic Objectives
Country Directors	Estonia and New Zealand

The multi-year project aims to develop an understanding of the perception of NATO in the Asia-Pacific Region. (*Image depicts the logo of the 2014 Launch Event that took place in Tokyo, Japan*)

Developed in close cooperation with the Public Diplomacy Division (PDD), this multi-year project aims to systematically trace images and perceptions of NATO among the five Global Partners in the Asia-Pacific region: Australia, Japan, Mongolia, New Zealand, and the Republic of Korea. The project will conduct comprehensive comparative research of elite perceptions and media images of NATO as a global security actor to identify, measure, and raise global awareness, as well as extend knowledge of NATO in the region.

Launched in 2014, the project will in particular, assess how strong NATO's current security priorities resonate with the Asia-Pacific partners. In December 2014, the first in a series of workshops took place at Waseda University in Tokyo, Japan. Over the duration of the project, the team will conduct a 12-month daily content analysis, monitoring five prestigious high-circulation, national-outreach daily newspapers in each partner country representing a continuum of political attitudes. The study will also include, for its elite stage, interviews with around 60 national elites per location – those related to foreign and security policy-making and execution, think-tanks, the

military, as well as the media and politicians via face-to-face interviews. The project will conclude with a comparative analysis of all data collected [ref. 984902].

UNSCR 1325 Reload: Reviewing Allied Policies and Implementation (Multi-Year Project)

SPS Key Priorities	2.d. Enhance Support for NATO-led Operations and Missions
Country Directors	Spain and Australia

Launched in 2014, the primary aim of this multi-year project is to assess the impact of United Nations Security Council Resolution (UNSCR) 1325 on the armed forces of NATO member and partner states. The project is led by Rey Juan Carlos University, in Madrid, in cooperation with the Australian Human Rights Commission. Together, researchers will pursue a thorough analysis of the National Reports owned by the NATO International Military Staff (IMS) Office of the Gender Advisor that contain unclassified data related to the position of women in the armed forces of NATO and its partners. The project aims to develop the adequate methodology to analyse data from 2000-2013, identifying NATO shortfalls in pursuing the goals of UNSCR 1325.

SPS Project on UNSCR 1325 seeks to develop a method for identifying shortfalls in pursuing the goals of the Resolution.

In November 2014, the project was formally launched at a workshop in Madrid. The final results will be published by NATO and delivered to the UN on the occasion of the 15th Anniversary of the resolution UNSCR 1325, including best practices and recommendations [ref. 984942].

Enduring Partnership with Afghanistan

SILK-Afghanistan Programme)

SPS Key Priorities	2.d. Enhance Support for NATO-led Operations and Missions

The SILK-Afghanistan Programme provides high-speed internet access to Afghan universities as well as a few other academic and governmental institutions in Kabul. In 2006, the network became operational at Kabul University and has since been expanded to other provinces.

A Network Infrastructure Grant provided in 2014 allowed for the expansion of the network to include all 34 public universities under the Afghan Ministry of Higher Education. Throughout 2014, NATO's support of the SILK-Afghanistan Programme continued to cover about 90% of the bandwidth costs for Afghan universities and other academic and governmental institutions.

The SILK Afghanistan Programme has been providing connectivity to Afghan Universities since 2006.

SILK-Afghanistan is jointly funded by the NATO SPS Programme (~85%) and the US-DoS (~15%), with an in-kind contribution by the European Commission (EC) for international connectivity. During 2014, the

EC launched the integration of the Afghan academic network ("AfgREN") into the EC-supported neighbouring regional academic network, TEIN-4, in South East Asia with the goal to support AfgREN with an own co-funded fibre link (155 Mbps) to Singapore as a full TEIN-4 member from July 2015 onwards. The SILK-Afghanistan Programme is included within the framework of the Enduring Partnership with Afghanistan and is operated in close cooperation with the Public Diplomacy Division (PDD) [ref. 984880].

Cross Cultural Training for Military Cadets (Multi-Year Project)

SPS Key Priorities	2.d. Enhance Support for NATO-led Operations and Missions
Country Directors	United States and Afghanistan

Military Cadets engage with students from Afghan Universities through VTC sessions to broaden cultural awareness and mutual understanding.

The project will put NATO-country military cadets directly in contact with Afghan university students via facilitated VTC sessions. These sessions will help to create mutual cultural awareness both among the officers to be deployed and among the Afghan civilians. NATO's Allied Command Transformation (ACT), as a prime future user, is working closely with the project team to ensure that results will be relevant and useful for NATO, Allies, and partners in their future training needs. The eventual goal of this project is to create a tool which can be used beyond Afghanistan in future conflict zones to increase the cultural sensitivity of deployed troops. At the 2010 Summit, NATO and Afghanistan reaffirmed their long-term ties with the signing of a Declaration on Enduring Partnership. The document provides a framework for long-term political consultations and practical cooperation between NATO and Afghanistan after 2014. Cooperation within the framework of the Enduring Partnership comprises a variety of areas, including this project which was included in the current matrix for cooperation with Afghanistan [ref. 984746].

CHAPTER VI
Public Diplomacy

The SPS Programme helps to raise the visibility of the Alliance's commitment to cooperative security through the development of concrete activities with all partners. It is also a key instrument in informing the public of the benefits of partnership with NATO, especially in partner countries. Public awareness of SPS as a concrete civil cooperation programme also helps to highlight the non-military components of NATO's activities. As a result, SPS activities provide stakeholders with the opportunity to promote a positive image of the Alliance and support further cooperation.

The SPS Programme is taking advantage of all communication tools at its disposal. The SPS website remains a central tool in providing stakeholders and the wider public with important information about the SPS Programme, its structure, grant mechanisms, and avenues for collaboration. It is the main point of contact for those who wish to benefit from the SPS as it offers information about the application and selection procedure for SPS activities, including guidelines and application forms. The SPS website is updated regularly to publicise current and ongoing SPS activities and to introduce administrative changes in the Programme.

The SPS Programme has collaborated closely with NATO Channel in 2014 and several activities were filmed for the website. The SPS Programme also maintained its engagement to partners through the organisation of several Information Days. Other tools, such as the SPS Country Flyers, were also updated and used over the year. Moreover, a SPS Twitter account (@NATO_SPS) was set up in 2014 that proved to be a successful tool for reaching out to the public and other stakeholders. In addition, a new SPS brochure was designed which provides interested parties with comprehensive information about the structure, aims and possibilities of the SPS Programme.

ASG ESCD, ASG EM, NATO Chief Scientist, NATO Senior SPS and Partnership Cooperation Advisor and the Head of NATO Archives Committee at the seminar and exhibition "Science and the Alliance – NATO's Third Dimension" on 10 December 2014.

An excellent example of cooperation with the Archives Committee, the Executive Management (EM) Division and the Office of the Chief Scientist to raise the visibility of the SPS Programme was the seminar and exhibition "Science and the Alliance – NATO's Third Dimension" in the civilian and military domain that took place in NATO HQ in December. The event was opened by ASG ESCD and ASG EM and included an exhibition about the history and evolution of the SPS Programme. The Chief Scientist also addressed the participants. The exhibition was followed by a seminar of historians that created the opportunity for participants to discuss about scientific cooperation within the Alliance. Senior Science for Peace and Security Advisor, Dr. Deniz Yuksel-Beten was among the invited speakers.

NATO SPS Website

The SPS website remains a central tool for providing stakeholders and the wider public with important information about the SPS Programme, its structure, grant mechanisms, and avenues for collaboration. The website keeps viewers up to date on the work

of the Programme and publishes relevant news stories on major SPS projects and recent developments. In 2014, the SPS homepage (**www.nato.int/science**) received an average of 3,170 views per month.

In terms of statistics, Ukraine became the “first viewer” of the SPS Programme home page with a 11.8% percentage, followed closely by United States with 11.5% and United Kingdom with 5.3%. The “others” category with a percentage of 43.7% consists in ‘views’ coming from another 71 countries among which the most frequent are those from Romania, Canada, Bulgaria, France, Greece, Netherlands, Serbia, Georgia, Israel, Sweden and Republic of Moldova. Russia is situated among the first 20 countries from a total of 81 countries following the SPS Programme home page. Among the 81 countries, the SPS Programme home page was also consulted by persons from NATO non-partner countries such as Singapore, Brazil, Colombia, Iran, Saudi Arabia and South Africa.

More importantly, the website acts as the first point of contact for individual scientists and experts looking to apply to the SPS Programme through a ‘bottom-up’ application. In 2014, **25 SPS news stories were published**, providing visibility for selected SPS activities and events. In 2014, the home page of the SPS website was viewed a total of 61,512 times. A full list of SPS media visibility can be found at Annex 3.

The SPS Programme website remains the main point of contact for those who wish to benefit from the SPS as it offers information about the application and selection procedure for SPS activities, including guidelines and application forms. The SPS website is updated regularly to publicise current and ongoing SPS activities and to introduce administrative changes in the Programme. It is also maintained constantly to ensure that all applicants are provided with up-to-date guidelines on the application process, the SPS Key Priorities, and important dates.

NATO Channel

In 2014, a series of videos were produced in cooperation with the NATO Channel, including video coverage of the GEPSUS project, the crisis management centre in Mauritania, and CBRN training in Poland. Support to Ukraine remained a priority of the SPS Programme in 2014 and an interview between Assistant Secretary General of the Emerging Security Challenges, Ambassador Sorin Ducaru, and the Ambassador of Ukrainian Mission to NATO was also filmed. See Annex 6 for a full list of videos and media visibility in 2014.

In cooperation with NATO’s Public Diplomacy Division, a video on the crisis management centre in Mauritania was produced.

Overview of SPS Web Stories in 2014

Title	Page Views	Unique Page Views	Avg. Time on Page
SPS Website Home	61,045	38,031	01:16
Making the Tisza River basin a safer place	4,847	4,197	02:14
Egyptian desert: new technologies for landmine detection	3,475	3,179	01:50
NATO and Russia to develop a remote medical services system	1,619	1,460	01:44
Preparing first responders for CBRN incidents	1,463	1,294	02:07
Boosting scientific cooperation with Ukraine	1,302	1,183	02:57
Computer network defence	1,158	757	03:33
Reinforcing the Women, Peace and Security agenda	1,106	1,021	03:08
Chemical improvised explosive devices: responding to the threat	1,028	933	02:14
Responding to security challenges in Morocco	810	717	02:13
NATO helps Jordan enhance its cyber defence capabilities	761	636	02:50
Azerbaijanis train in cyber defence	589	516	02:17
Strengthening cyber defence in Estonia	564	494	02:01
Active cooperation with Azerbaijan	534	452	02:10
Emerging security challenges debated at Global Media Forum	476	432	02:23
Experts discuss “Innovative Energy Solutions for Military Applications” in Vilnius	437	385	02:45
NATO fosters practical cooperation with Georgia through science	434	403	02:09
Ionospheric situational awareness for critical infrastructures	423	374	02:11
Addressing pollution-related security in Montenegro	400	351	02:23
Stepping up scientific cooperation in Portugal	326	288	04:45
NATO and Mongolia review cooperation through science	314	291	03:03
Enhancing border security in the Mediterranean region	268	232	01:53
Stepping up scientific cooperation with Montenegro	260	229	02:05
2013: NATO`s Science programme focuses on emerging security challenges	246	183	01:45
NATO and UN enhance conflict prevention in the Western Balkans	219	202	01:49
Strengthening maritime security through cooperation	142	123	04:29

Source: NATO Public Diplomacy Division.

Media Coverage in Partner countries

SPS activities have significant public diplomacy value and receive international media coverage.

NATO's GEPSUS project, which is intended for simulation of incidents caused by uncontrolled emission of air polluters, launched at the military airport in Golubovci outside Podgorica. Six young researchers produced Master's theses through this project and 25 professionals from across institutions in Montenegro received GEPSUS training certificates. It was covered in national media, on Government web pages, as well as in academia.

Another important top-down project - "A Model to Predict and Prevent Possible Disastrous Effects of Toxic Pollution in the Tisza River Watershed" (ref.984440) was promoted through a web-story on the SPS Programme website. Within the project experts from the region are working together to develop a joint monitoring and forecasting system for improved detection and management of toxic pollution in the upper Tisza River basin. The project kicked-off in February 2014 and is expected to be completed in spring 2017. In May 2014, experts in the field met for the second international conference on "Chemical and Radiological Safety: Challenges and Solution". The conference attracted Romanian, Slovak and Ukrainian scientists. With the NIDC's assistance, the news was reported in the Day Newspaper, Ukrinform News Agency and 5 TV Channel.

SPS Programme Social Media

In 2014, a SPS Twitter account was set up (@NATO_SPS) which provides the SPS Programme with a modern, cost-efficient tool to maintain a network of key stakeholders and to inform them about the latest developments within the SPS Programme. In 2014, 98 tweets were disseminated, containing mainly links to SPS web stories, videos and photos. The account has also been used to report live events, e.g. from the SPS Information Day in Lisbon. At the end of the year, the SPS Twitter account counted approximately 300 followers, including scientists, subject matter experts, interested individuals and Delegations of Allied and Partner countries at NATO. Through cooperation with the NATO Public Diplomacy Division, stories on SPS Programme activities have also been shared on the official NATO Twitter and NATO Facebook accounts. These include news about NATO's enhanced cooperation with Ukraine and SPS activities relating to the implementation of UNSCR1325.

The most successful tweet of 2014 was disseminated in the first week of December and addressed enhanced SPS cooperation with Ukraine. With 13 re-tweets it had the potential of reaching an audience of up 37.6 K. Other successful tweets related to the SPS flagship project to set up a Crisis Management Centre in Mauritania, as well as the cooperation with partner countries on the implementation of UNSCR 1325 on Women, Peace and Security. Noteworthy is also a tweet on the SPS web story about the Information Day in Morocco which was re-tweeted ten times, potentially reaching up to 27.4 K followers. This is particularly remarkable as this was only shortly after the Twitter account had been launched.

Science Publications, Country Flyers & new SPS Brochure

The SPS Programme publishes findings in the NATO Science Series, in collaboration with prestigious publication houses such as Springer Science, Business Media and IOS Press Amsterdam. These publications present the results of SPS activities and disseminate information on cutting-edge advanced scientific and technological

knowledge, with a view to building and strengthening links between scientific communities. In 2014, the NATO Science Series published 14 new books and a full list can be found at Annex 4.

SPS information material.

The SPS Programme creates and maintains SPS country flyers for each NATO and partner country involved with the Programme. These flyers provide a brief, country-specific overview of all activities and are frequently handed out to visitors to NATO, representatives from NATO and Partner countries as well as to participants in SPS Information Days. The flyers are also distributed at NATO Contact Point Embassies, local information centres, and during the SPS training course and workshops.

Throughout 2014, a new SPS Information Brochure was designed providing comprehensive information about the structure, aims and possibilities of the SPS Programme. It also contains in-depth information about the SPS Programme funding mechanisms, as well as examples of activities. At its launch at the SPS Information Day in Lisbon, the brochure has proved to be a very useful and popular public diplomacy tool.

SPS Information Days

SPS Information Days create opportunities to take stock of ongoing cooperation with partners and explore new joint projects by bringing together a large variety of stakeholders such as national authorities, scientists and experts in different areas of science and technology, as well as representatives from industry. According to the SPS 2014 Annual Work Programme, five Information Days were organized in Allied (Estonia and Portugal) and partner countries (Azerbaijan, Georgia and Morocco) with great results.

The Minister of Defence of Montenegro, Prof. Sanja Vlahović, speaks at the roundtable discussion on NATO & Science in Podgorica in June 2014.

Baku, Azerbaijan – 10 April 2014

On 10 April, scientists, researchers and experts from various countries gathered in Baku to exchange views on current SPS projects and to identify and develop initiatives. Proposals touched on activities in fields ranging from energy security and cyber defence through to the promotion of the role of women in matters related to peace and security. As a result of this Information Day, an SPS hands-on cyber defence training course for Azerbaijani system and network administrators (ref. 984905) was developed and approved by Allies in August 2014.

Azerbaijani scientists have received more than 80 SPS awards over the last two decades. One major SPS flagship initiative has been the Mélange Project, which successfully converted more than one thousand tons of the highly toxic rocket fuel mélange into non-hazardous fertilizer between 2006 and 2008. The rocket fuel converter plant was later sent to Uzbekistan to do the same there. Azerbaijan also participated in the NATO Virtual SILK Highway Project, which provided high-speed internet access to research institutes and helped to connect scientists in the South Caucasus and Central Asia.

Meeting of the NATO Assistant Secretary General for Emerging Security Challenges, Ambassador Sorin Ducaru, with the President of Azerbaijan, H.E. Ilham Aliyev.

In the margins of the SPS Information Day, the NATO Assistant Secretary General for Emerging Security Challenges, Ambassador Ducaru, discussed NATO-Azerbaijan cooperation with the President of Azerbaijan, Ilham Aliyev, the Foreign Minister, Mr. Elmar Mammadyarov, his Deputy, Mr. Araz Azimov, the Deputy Minister of National Security, Mr. Ali Shafiyev and other

high-level government officials. SPS members of staff also used the opportunity to conduct a site visit to the ongoing SPS Project 'Caucasus Seismic Emergency Response' and engaged in a bilateral meeting with the President of the National Academy of Science, Mr. Akif Alizadeh.

Rabat, Morocco – 19 May 2014

Cyber defence and other global security issues such as chemical, biological, radio logical and nuclear (CBRN) resilience and civil emergency planning were the focus of a NATO Science for Peace and Security Information Day held in Rabat, Morocco on 19 May.

Around 35 experts, scientists and Moroccan government officials gathered to review existing projects and explore opportunities for further cooperation. Following the Information Day, Moroccan representatives participated in an experts' meeting at NATO headquarter. Based on these discussions, a network Vulnerability Assessment and Risk Mitigation Course (ref. 984966) was approved by Allies in December 2014.

In the last years, Morocco and Canada held a training workshop to inform participants from NATO and partner countries about new technologies for the detection of CBRN agents in the prevention of terrorism. Morocco has also worked with scientists from France, Germany, Mauritania and Turkey on an SPS co-funded project, 'Sahara Trade Winds to Hydrogen'. Participants explored ways to make use of the trade winds over the Sahara Desert to generate hydrogen for sustainable energy systems and integrate renewable energy into the grid infrastructure of the Sahara/Sahel region.

In the margins of the Information Day, representatives of NATO's Emerging Security Challenges Division visited an ongoing cyber defence project in which Morocco is playing a leading role. Experts and scientists from the United States are working with Morocco to develop a new tool to enhance cloud-computing security, providing young Moroccan IT experts with a better understanding of today's cyber threats.

Tallinn, Estonia – 3 June 2014

The event provided an opportunity for more than 50 scientists and experts from the region to explore new ways to address emerging security challenges with an emphasis on cyber defence. The Information Day also provided an opportunity to identify future SPS activities with Estonia and regional partners. Scientists discussed a number of ideas in the fields of cyber defence, NATO partnerships and supporting security and defence reform in Ukraine. In the months after the SPS Information Day, a number of activities with Estonia were approved by Allies, including a top-down workshop to provide experts' advice to the Ukrainian security and defence review (ref. 984903) and a top-down project on NATO Perceptions in the Asia-Pacific Region (ref. 984902).

In the margins of the information day, SPS staff also visited the innovation and business centre "Modern Estonian Knowledge Transfer Organization for You" (MEKTORY) at the Tallinn University of Technology. One particularly promising field for future scientific collaboration proved to be the 3D printing. These printers are evolving towards cloud systems that are potential targets for cyber attacks. In the framework of the SPS Programme, Estonia is now exploring possibilities for 3D printing in a secure environment.

Tbilisi, Georgia – 2 July 2014

The NATO SPS Information Day was organized in cooperation with the Ministry of Foreign Affairs of Georgia and the Office of the State Minister of Georgia on

European and Euro-Atlantic Integration in Tbilisi. Over 140 experts, scientists, and government representatives from Georgia and Allied countries attended the Information Day. Participants examined key priority such as chemical, biological, radiological and nuclear (CBRN) resilience, cyber defence, energy security and counter terrorism. Other leading areas of SPS cooperation with Georgia include cutting-edge nanotechnologies for security applications, and disaster forecast and prevention activities.

In the margins of the Information Day NATO Assistant Secretary General for Emerging Security Challenges, Ambassador Sorin Ducaru met with Alexi Petriashvili, Georgian State Minister for European and Euro-Atlantic Integration.

NATO Assistant Secretary General for Emerging Security Challenges, Ambassador Sorin Ducaru, met with President Giorgi Margvelashvili, Mr Alexi Petriashvili, Georgian State Minister for European and Euro-Atlantic Integration, Georgian First Deputy Minister of Foreign Affairs, Mr Davit Zalkaliani and high-level government officials to discuss NATO-Georgian cooperation, specifically in the field of emerging security challenges. In the margins of the event, NATO officials also conducted site visits to current projects. These included the Richard G. Lugar Centre for Public Health Research, where efforts are ongoing to develop more effective Anthrax vaccines.

Lisbon, Portugal – 19 October 2014

Bringing together over 200 experts, the SPS Information Day was organised in close cooperation with the Delegation of Portugal to NATO, the Ministry of Foreign Affairs of Portugal, and the FCT, and with the support of the *Instituto Superior Técnico* at the University of Lisbon.

Delegates included high-level officials from Portuguese ministries and the scientific community, as well as representatives from partner countries and research and post-doctorate students from Portuguese universities. It was the first time that countries participating in NATO's Mediterranean Dialogue attended such an event in a NATO country. Participants discussed ideas for potential new SPS activities in the fields of chemical, biological, radiological and nuclear (CBRN) resilience, cyber defence and advanced technologies with Algeria, Morocco and Tunisia. As a result of this Information Day, scientists from Portugal and Morocco have begun to work on a joint SPS application.

High-level official from Portuguese Ministry of Foreign Affairs, the Portuguese Ambassador to NATO, H.E. João Mira Gomes and NATO Assistant Secretary General for Emerging Security Challenges, Ambassador Sorin Ducaru participating in the SPS Information Day .

In the margins of the SPS Information Day, Ambassador Ducaru discussed opportunities for further scientific cooperation with Dr Pedro Cabrita Carneiro, Vice-President of the Portuguese Science and Technology Foundation (*Fundação para a Ciência e a Tecnologia* (FCT)). He also met with the Chief of the Naval Staff and National Maritime Authority, Admiral Luis Fragoso.

Special SPS Public Diplomacy Events

Book Talk: NATO HQ, Brussels, 10 February 2014

In February 2014, the SPS Programme organized a public book talk at NATO HQ which brought together leading experts from industry and academia as well as NATO

Melissa Hathaway, Council of Experts, Global Cyber Security Centre (GCSEC), Rome, Italy and NATO Deputy Assistant Secretary General for Emerging Security Challenges, Dr. Jamie Shea during public book talk at NATO HQ.

and Partner country representatives. Melissa Hathaway, Council of Experts, Global Cyber Security Centre (GCSEC) presented the conclusions drawn from a workshop that focused on exploring common interest issues for improving Allied and partner cyber defence practices. The workshop was supported by the SPS Programme and brought together a multi-disciplinary team of experts to share experience, knowledge and opinions. Together they generated 21 specific findings and 12 papers to help improve the cyber defence posture of NATO member countries and their partners.

Roundtable Discussion: "NATO & Science": Podgorica, Montenegro – 16 June 2014

On 16 June 2014, over 60 government officials, experts and scientists gathered at a round table discussion held at the University of Montenegro in Podgorica. Participants exchanged views on the role of science in NATO and discussed opportunities in the framework of the NATO SPS Programme. Part of the panel discussion was dedicated to cyber security, a key priority for Montenegro. The Minister of Science of Montenegro, Professor Sanja Vlahović, spoke at the event and underlined the added value of the SPS Programme for Montenegro. She pointed to the opportunities it provides for scientists to acquire new knowledge and cutting-edge technologies. In a special session with Montenegrin Ministers, SPS Senior Advisor Dr. Deniz Beten had the opportunity to discuss priority areas of cooperation with government stakeholders. The round table discussion was organized by the government of Montenegro through the Ministry of Science and Council for Science and Research Activity in cooperation with the think-tank project "Montenegro Future Forum".

The GEPSUS project addressed the risk of uncontrolled emission of air pollutants and poisonous gasses. At the closing ceremony of the project in September 2014, the new GEPSUS education and simulation centre in Podgorica was inaugurated and Defence Minister Milica Pejanović-Đurišić (second right) met with the Directors of the GEPSUS project and SPS staff.

CHAPTER VII
The SPS Programme in 2015 – The Way Ahead

In 2015, the SPS Programme will continue to respond to the security environment in line with Allied political guidance. In accordance with the Overarching Guidelines and the strategic outcomes of the 2014 Wales Summit, the SPS Programme will aim to enhance its political impact on NATO's partnerships in terms of shared values and high visibility SPS activities.

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After five years of reforms, the future focus of the SPS Programme will include:

- Offering support and intensified cooperation to partner countries in the Eastern neighbourhood of the Alliance (in particular Ukraine, Republic of Moldova, Georgia) and in the MENA region (including Jordan and Iraq);
- Sustained efforts to complement new NATO partnership initiatives, such as the Defence Capacity Building Initiative;
- Encouraging cooperation among a range of partners;
- Enhancing cooperation with International Organizations;
- Further improving the SPS Programme project management.

Annex 1: New SPS Activities Approved by the PCSC in 2014

Security Area	Key Priority	Ref. Number	Top-Down	Grant Mechanism	Title	NATO Country	Partner Country	Partnership Framework
CT	1.a.	984951	X	ARW	Violent Extremism in Central Asia: Trends, Responses and Post-2014 Scenarios	Netherlands	Kazakhstan	EAPC
CT	1.a.	984858		ARW	Countering Terrorist Recruitment in the Context of Armed Counter-Terrorism Operations	Turkey	Kyrgyz Republic	EAPC
CT	1.a.	984885		ATC	Terrorist Use of the Internet	Turkey	the former Yugoslav Republic of Macedonia*	EAPC
CT	1.a.	984790		ARW	Countering Terrorism in the Middle East and North Africa	Netherlands	Egypt	MD
CT	1.a.	984763		ARW	Lone Actors - An Emerging Security Threat	United States	Israel	MD
CT	1.a.	984877		SFPP	Modelling and mitigation of Public Response to Catastrophes and Terrorism	Romania	Ukraine	NUC
CT	1.a.	984855		SFPP	Transitioning from Military Interventions to long-Term Counter-Terrorism Policy	Netherlands	Australia	PaG
ENERGY	1.b.	984884		ARW	Protection of Critical Energy Infrastructure against Emerging Security Challenges	Belgium	Georgia	EAPC
ENERGY	1.b.	984778		ARW	Triple Zero Net Energy Water and Waste Models Applications	Denmark	Finland	EAPC
ENERGY	1.b.	984864	**X**	ARW	Innovative Energy Solutions for Military Application	Lithuania	Georgia	EAPC
ENERGY	1.b.	984934		SFPP	Risks to the Enguri Energy Infrastructure in Georgia and their Security Implications	Italy, United States, United Kingdom	Georgia,	EAPC
ENERGY	1.b.	984738		SFPP	Enhanced Portable Energetically Self-Sustained Devices for Military Purposes	Slovenia	Serbia	EAPC
ENERGY	1.b.	984925		SFPP	Novel-Fuel-Cell Materials for Durable Portable Power	Slovenia	Serbia	EAPC

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ENERGY	1.b.	984813		ASI	Challenges and Emerging Techniques in Energy Infrastructure Security	United States	Australia	PaG
ENERGY	1.b.	984894		SFPP	Pilot Network for Identification of Travelling Ionospheric Disturbance	Greece	Australia	PaG
CYB	1.c.	984886		ARW	A Framework for a Military Cyber Defence Strategy	Turkey	Sweden	EAPC
CYB	1.c.	984789		ARW	Meeting Security Challenges through Data Analytics and Decision Support	Canada	Armenia	EAPC
CYB	1.c.	984799		ARW	Encouraging Cyber Defence Awareness in Balkans	Bulgaria	the former Yugoslav Republic of Macedonia *	EAPC
CYB	1.c.	984905	**X**	ATC	Hands-on Cyber Defence Training Course for System/ Network Administrators of Azerbaijan	Turkey	Azerbaijan	EAPC
CYB	1.c.	984909		ASI	Verification and Synthesis of Correct and Secure Systems	Germany	Israel	MD
CYB	1.c.	984966	X	ATC	Network Vulnerability Assessment & Risk Mitigation Course	Germany, United States	Israel	MD
CYB	1.c.	984895	**X**	SFPP	Support for Implementing a Cyber Defence Strategy for Jordan	Germany	Jordan	MD
CYB	1.c.	984967	**X**	ATC	Hands-on Cyber Defence Training Course for System/ Network Administrators of Ukraine	Turkey	Ukraine	NUC
CBRN	1.d.	984956	X	ARW	Supporting the Response of NATO and its Partners to the Proliferation of Weapons of Mass Destruction (WMD) Threat	Czech Republic	Finland	EAPC
CBRN	1.d.	984764	**X**	ATC	Consequence Management after Chemical Biological and Nuclear (CBRN) Incident Course	Czech Republic	Rep. Moldova	EAPC
CBRN	1.d.	984896	X	ATC	Regional Cooperation in CBRN Response and Preparedness	Bulgaria	Rep. Moldova	EAPC
CBRN	1.d.	984796		SFPP	A Highly Sensitive Hand-Held Pathogen Detection System	Spain	Switzerland	EAPC
CBRN	1.d.	984599		SFPP	Nanocomposites for Enhanced Decontamination of Toxic Chemicals	Czech Republic	Sweden	EAPC
CBRN	1.d.	984898	X	SFPP	Developing Capabilities to Mitigate the Risk of Biological Agents in Moldova	NSPA	Rep. Moldova	EAPC

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CBRN	1.d.	984890		SFPP	Energy-Efficient Decontamination by UV & Cold Plasma using Metamaterials	Romania	Rep. Moldova	EAPC
CBRN	1.d.	984597		SFPP	Solid State Gas Sensors Against Security and Military Threats	Czech Republic	Armenia	EAPC
CBRN	1.d.	984815		SFPP	A Panel of Biomarkers as Novel Tool for early Detection of Radiation Exposure	Italy	Egypt	MD
CBRN	1.d.	984842		SFPP	CATALTEX - Self-Decontaminating Smart Textiles for Chemical Warfare Agents Degradation	France	Tunisia	MD
CBRN	1.d.	984622		SFPP	The Anthrax MNTABC Transporter: Structure and Functional Dynamics for Effective Inhibitors	Turkey	Israel	MD
CBRN	1.d.	984705		SFPP	A Sensor Network for the Localization and Identification of Radiation Sources (SENERA)	Greece	Ukraine	NUC
CBRN	1.d.	984637		SFPP	Development of Optical Bio-Sensors for Detection of Bio-Toxins	Hungary	Ukraine	NUC
CBRN	1.d.	984639		SFPP	Development of a Superselective Absorbent Against CBRN Agents	United States	Ukraine	NUC
CBRN	1.d.	984639		SFPP	Development of a Superselective Absorbent Against CBRN Agents	United States	Ukraine	NUC
CBRN	1.d.	984649		SFPP	New Dosimetry for the Triage of Radiation Exposure	Turkey	Ukraine Israel	NUC
CBRN	1.d.	984702		SFPP	Metal Nanocrystals for Highly Sensitive Detection of Biochemical Agents	Estonia	Ukraine	NUC
CBRN	1.d.	984906	**X**	SFPP	Redefined Chernobyl Confinement Model	Germany	Ukraine	NUC
CBRN	1.d.	984888	X	SFPP	CBRN Resilience in the International Context	United States	Japan	PaG
CBRN	1.d.	984835		SFPP	MIP as a Therapeutic Target to Treat Bio-Warfare Threat Agents	Germany United States	Australia	PaG
ENV	1.e.	984897		ATC	Environmental Protection and Environmental Management in the Military Sector	Canada	the former Yugoslav Republic of Macedonia*	EAPC
ENV.	1.e.	984807		SFPP	MORUS - Unmanned System for Maritime Security and Environmental Monitoring	Croatia	the former Yugoslav	EAPC
ENV	1.e.	984834		SFPP	Fighting Maritime Corrosion and Biofouling with Task-Specific Ionic Compounds	Belgium	Ukraine	NUC

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OPS	2.	984871		ARW	Building Trust to Enhance Maritime Security	United Kingdom	Sweden	EAPC
OPS	2.	984866		ARW	Best Practices for Cultural Property Protection in NATO-led Military Operations	Denmark	Bosnia & Herzegovina	EAPC
OPS	2.	984893		ARW	Lessons Learned from Small Countries Committing Troops to Operations Abroad	Slovakia	Georgia	EAPC
OPS	2.	984959	X	ARW	Sharing Good Practice on the Handling of Gender-Related Complaints in Armed Forces	Norway	Switzerland	EAPC
OPS	2.	984887	**X**	ATC	Network and Internet Security Assurance for Nation-wide Community Connectivity	Hungary	Kyrgyz Republic	EAPC
OPS	2.	984753		SFPP	SIARS - Smart I (eye) Advisory Rescue System	Slovenia	the former Yugoslav Republic of Macedonia*	EAPC
OPS	2.	984451	**X**	SFPP	National System of Crisis Management Coordination-Extension (Phase II)	France	Mauritania	MD
OPS	2.	984829		SFPP	Multidisciplinary Metrics for Soldier Resilience Prediction and Training	Croatia, United States	Israel	MD
OPS	2.	984918		ARW	Best Practices and Lessons Learned in Conflict Management: NATO, OSCE, EU and Civil Society	Slovakia	Ukraine	NUC
OPS	2.	984868		ARW	Afghanistan National Research and Education Network (AfgREN)	United States	Afghanistan	PaG
OPS	2.	984880	**X**	NIG	Network Infrastructure and IT Centers for New Higher Education Institutions	United States	Afghanistan	PaG
OPS	2.	984746	**X**	SFPP	Cross Cultural Training for Military Cadets	United States	Afghanistan	PaG
OPS	2.	984942	**X**	SFPP	UNSCR 1325 Reload: Reviewing Allied Policies and Implementation	Spain Belgium	Australia	PaG
ADV	3.a.	984776		ARW	Fundamental and Applied NanoElectro-Magnetics	Italy	Belarus	EAPC
ADV	3.a.	984883		ASI	Nano-Optics: Principles Enabling Basic Research and Applications	United States	Belarus	EAPC
ADV	3.a.	984698		SFPP	Novel Terahertz Sources (NOTES)	Slovakia	Austria	EAPC

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ADV	3.a.	984772		ASI	Advanced Autonomous Vehicle Design for Severe Environments	United States	Sweden	EAPC
ADV	3.a.	984910		ARW	Nanomaterials for Security	Slovenia	Ukraine	NUC
ADV	3.a.	984617		SFPP	Nanostructured Metal-Semiconductor Thin Films for Efficient Solar Harvesting	United States	Ukraine	NUC
ADV	3.a.	984735		SFPP	Novel Nanostructures for Security Applications	France	Ukraine	NUC
ADV	3.a.	984684		SFPP	Remote Sensing in the Near-Shore Zone for Improved Security	United States	Ukraine	NUC
ADV	3.a.	984856		SFPP	Ultra-fast Adaptive Optical Elements	United States	Ukraine Israel	NUC
ADV	3.a.	984872		ASI	Molecules to Crystals to Powder: Understanding Structure versus Function	United Kingdom	Japan	PaG
ADV	3.a.	984840		SFPP	3D Imaging and Image Recognition for Autonomous UAVs	Italy	Australia	PaG
ADV	3.a.	984809		SFPP	Compact Sensor System for Unmanned Aerial Vehicles	Spain	Korea Ukraine	PaG
UXO	3.c.	984899	**X**	SFPP	Enhanced Explosive Remnants of War (ERW) Detection and Access Capability in Egypt	Netherlands	Egypt	MD
Other	3.d	984882		ATC	Cooperative Solutions to Critical Security Issues in the Black Sea Region	United States	Georgia	EAPC
Other	4.	984903	**X**	ARW	International Expert Support for Ukraine's Security & Defence Review	Estonia	Ukraine	NUC
Other	4.	984902	**X**	SFPP	NATO Global Perceptions - Views from the Asia-Pacific Region	Estonia	New Zealand	PaG
TOTAL		74						

Annex 2: SPS Events – ARW, ASI, ATC – Hosted in 2014

	Ref.	Mech.	Top-Down	Title	NATO Project Director	Partner Project Director	Date
1	984573	ARW		Resiliency: Enhancing Coping with Crisis and Terrorism	Croatia	Israel	04-Jan-2014
2	984751	ATC	X	Hands-on Cyber Defence Training Course for System/Network Administrators of Moldova	Turkey	Moldova	13-Jan-2014
3	984766	ARW	X	Building Regional Security in the Afghan Regional Context, Post-2014	Belgium	Sweden	20-Feb-2014
4	984596	ARW		Nuclear Radiation Nanosensors and Nanosensory Systems	Greece	Georgia	06-Mar-2014
5	984450	ARW	X	Confidence-Building in Cyberspace (COBIC)	United States	Sweden	25-Mar-2014
6	984715	ARW		Managing Terrorism Threats to Critical Infrastructure - Challenges for SE Europe	Slovenia	Serbia	12-May-2014
7	984711	ASI		Enhancing Strategic Analytical Capabilities in NATO Partner Countries	United Kingdom	Ukraine	15-May-2014
8	984656	ATC		Identification and Neutralization of Chemical Improvised Explosive Devices	Poland	Ukraine	26-May-2014
9	984723	ASI		Nanoscience Advances in CBRN Agents Detection, Information and Energy Security	Bulgaria	Moldova	29-May-2014
10	984747	ASI		Crystallography in Drug Discovery: a Tool against CBRN Agents	United States	Sweden	30-May-2014
11	984464	ARW	X	Sustainable Military Compounds (Towards a Zero Footprint Compound)	Canada	Sweden	18-Mar-2014 02-Jun-2014
12	984716	ARW		Engaging the Public to Fight the Consequences of Terrorism and Disasters	Germany	Georgia	02-Jun-2014
13	984863	ARW	X	Border Security Threats from the Mediterranean Region	Poland	Malta	02-Jun-2014
14	984733	ASI		CBRN Security Culture: Concept, Assessment, and Enhancement	United States	Armenia	09-Jun-2014
15	984712	ARW		Countering Violent Extremism among Youth to Prevent Terrorism	Italy	Egypt	10-Jun-2014
16	984653	ARW	X	Improving Energy Efficiency for Military Forces (and their Support). Proposal for the Establishment of a Smart Energy Team (SENT)	Lithuania	Sweden	11-Feb-2014
17	984772	ASI		Advanced Autonomous Vehicle Design for Severe Environments	United States	Sweden	13-Jul-2014

18	984714	ASI		Dependable Software Systems Engineering (Summer School Marktoberdorf 2014)	Germany	Israel	29-Jul-2014
19	984724	ASI		Hyperelliptic Curve Cryptography	United States	the former Yugoslav Republic of Macedonia *	25-Aug-2014
21	984905	ATC	X	Hands-on Cyber Defense Training Course for System/Network Administrators of Azerbaijan	Turkey	Azerbaijan	01-Sep-2014
22	984627	ARW		Nanotechnology to Aid Chemical and Biological Defence	United States	Georgia	23-Sep-2014
23	984868	ARW	X	Afghanistan National Research and Education Network (AfgREN)	United States	Afghanistan	09-May-2014 11-Oct-2014
24	984893	ARW		Lessons Learned from Small Countries Committing Troops to Operations Abroad	Slovak Republic	Georgia	14-Oct-2014
25	984708	ARW		Strengthening Cyber Defence for Critical Infrastructure	Poland	Ukraine	30-Oct-2014
26	984763	ARW		Lone Actors - An Emerging Security Threat	United States	Israel	04-Nov-2014
27	984756	ARW	X	Gender Mainstreaming: Indicators for the Implementation of UNSCR 1325	United States	Serbia	26-May-2014 06-Nov-2014
28	984764	ATC	X	Consequence Management after a Chemical, Biological, Radiological and Nuclear (CBRN) Incident	Czech Republic	Moldova	10-Nov-2014
29	984871	ARW	X	Building Trust to Enhance Maritime Security	United Kingdom	Switzerland	10-Nov-2014
30	984864	ARW	X	Innovative Energy Solutions for Military Application (IESMA 2014)	Lithuania	Georgia	12-Nov-2014
31	984678	ARW		Hospitals under Fire - Planning and Operating a Tertiary Hospital under Fire and Extreme Circumstances	Czech Republic	Israel	17-Nov-2014
32	984621	ARW		Preparedness for Nuclear and Radiological Threats	United States	Israel	18-Nov-2014
33	984745	ARW		Central Asian Context Factors & the Comprehensive Approach to Regional Security	Germany	Kazakhstan	19-Nov-2014
34	984884	ARW		The Protection of Critical Energy Infrastructure Against Emerging Security Challenges	Belgium	Georgia	25-Nov-2014
35	984885	ATC		Terrorist Use of the Internet	Turkey	the former Yugoslav Republic of Macedonia *	08-Dec-2014
36	984713	ATC		Non-Proliferation from an International Perspective	Italy	Morocco	15-Dec-2014

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Annex 3: SPS Media Visibility in 2014

NATO Channel - SPS Videos

8 Dec. 2014 - Responding to toxic incidents

Toxic incidents or attacks are a very real threat to the international community. NATO is providing training to partner countries, including Ukraine, to help them manage such an eventuality.

1 Dec 2014 - NATO Science for Peace and Security Programme - Ukraine Projects

Ukraine now receives double the amount of funds from NATO's Science for Peace and Security Programme.

30 Oct 2014 - NATO helps Jordan fend off ISIL cyber threat

For the first time, NATO and Jordan have launched a cyber defence project in Jordan to help defend Jordanian critical infrastructure, such as energy plants and telecommunications equipment. This is designed to protect key parts of the country from attacks by criminal or terrorist organisations

15 Jul 2014 - Mauritania strengthens crisis response

Mauritania is leading the way in crisis management in the region. NATO is co-funding a project to develop civil protection structures which could serve as a pilot for other G5 countries in Africa.

4 Jul 2014 - NATO GEPSUS Center

Promotion video of NATO GEPSUS Center at University of Montenegro, Faculty of Electrical Engineering, NATO GEPSUS Science for Peace Program, SfP 983510

NATO SPS Website Stories

19 Dec. 2014 - NATO and Mongolia review cooperation through science

Since Mongolia became a global partner of NATO less than two years ago, the NATO Science for Peace and Security (SPS) Programme has supported a number of projects in the field of science and innovation. An event to review these efforts and identify ways to further enhance collaboration took place in Ulaanbaatar, Mongolia on 27 November.

9 Dec. 2014 - Reinforcing the Women, Peace and Security agenda

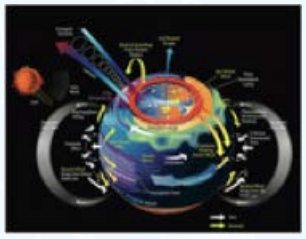
In November, the NATO Science for Peace and Security (SPS) Programme supported two events designed to enhance the implementation of United Nations Security Council Resolution (UNSCR) 1325 and related resolutions. More than 120 military and civilian experts from Allied and partner countries examined ways to move forward with the Women, Peace and Security agenda.

5 Dec. 2014 - Preparing first responders for CBRN incidents

Chemical, biological, radiological and nuclear (CBRN) weapons are among the most dangerous weapons in the world. Several terrorist groups have actively sought weapons of mass destruction as they can cause a higher mortality than conventional weapons. It is important to ensure that first responders are prepared for such eventualities and that decision makers get timely scientific and operational CBRN information to protect populations.

2 Dec. 2014 - Boosting scientific cooperation with Ukraine

Ukraine is now the top beneficiary of the NATO Science for Peace and Security (SPS) Programme. Practical, scientific cooperation with the country is being increased substantially in response to the crisis in Ukraine. Previously, Russia received the most SPS funds but cooperation has been suspended until further notice.

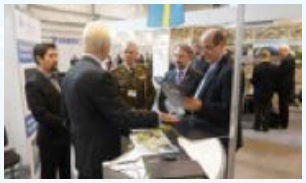


14 Nov. 2014 - Ionospheric situational awareness for critical infrastructures

As part of its efforts to support space situational awareness, NATO's Science for Peace and Security (SPS) Programme is co-funding a project to establish a unique network of existing high-precision ground-based ionospheric sounders in Europe which allows coordinated monitoring of the ionosphere to predict the propagation of waves and warn users of any irregularities. The project will be launched at the 11th European Space Weather Week taking place in Liège, Belgium, from 17 to 21 November 2014.

14 Nov. 2014 - NATO helps Jordan enhance its cyber defence capabilities

Over recent years, cyber attacks have targeted key national security installations in countries around the world, from Estonia's banking system to South Korea's media network. To help counter this growing threat, NATO has been strengthening the cyber defence capabilities of both its member countries and its partners.



13 Nov. 2014 - Experts discuss "Innovative Energy Solutions for Military Application" in Vilnius

High-level officials from NATO and partner countries attended an event on "Innovative Energy Solutions for Military Application" (IESMA) at the Lithuanian Exhibition and Congress Centre (LITEXPO) in Vilnius, Lithuania on 12 and 13 November.

11 Nov. 2014 - Strengthening maritime security through cooperation

Threats to maritime security are complex and diverse, including piracy, the trafficking of humans, weapons and narcotics, dumping of toxic waste and illegal fishing. It is a global concern that is of increasing strategic importance for the international community.

11 Nov. 2014 - Stepping up scientific cooperation in Portugal

More than 200 experts gathered at a NATO Science for Peace and Security (SPS) Information Day on 20 October in Lisbon, Portugal. The event aimed to raise awareness of the SPS Programme and provided a platform to examine opportunities for collaborative security projects in NATO and partner countries.

2 Oct. 2014 - NATO and UN enhance conflict prevention in the Western Balkans

More than 20 NATO and United Nations (UN) officials gathered at a workshop in Brussels, Belgium on 1 and 2 October to identify ways to effectively enhance conflict prevention in the Western Balkans through practical cooperation.

25 Sep. 2014 - Azerbaijanis train in cyber defence

Hundreds of thousands of cyber attacks are registered each day, posing a real threat to critical infrastructure and having a disruptive effect on the world economy. Estimates suggest that cyber attacks cost the global economy hundreds of billions of dollars each year.

24 Sep. 2014 - Addressing pollution-related security in Montenegro

Uncontrolled emission of air polluters and the release of poisonous gasses, especially in the context of a terror attack, pose a significant threat to urban populations. To address this risk, the NATO Science for Peace and Security (SPS) Programme sponsored a project entitled 'Geographical Information Processing for Environmental Pollution-Related Security within Urban Scale Environments' (GEPSUS).

1 Aug. 2014 - 2013: NATO's Science programme focuses on emerging security challenges

A total of 51 new Science for Peace and Security (SPS) activities were initiated in 2013, focusing on emerging security challenges such as counter-terrorism, cyber defence and resilience against chemical, biological, radioactive and nuclear (CBRN) weapons.

29 Jul. 2014 - Making the Tisza River basin a safer place

Local communities in the Tisza River basin have recently been confronted with several serious toxic spills and ecological disasters along the river. Regional scientists, within a NATO Science for Peace and Security (SPS) project, have therefore started to develop a monitoring system to increase the chances of predicting environmental crises and improving disaster response.

11 Jul. 2014 - Emerging security challenges debated at Global Media Forum

Cyber defence, energy security and scientific cooperation were among the topics discussed at this year's Deutsche Welle Global Media Forum agenda in Bonn. Alliance officials engaged with an international audience to examine current security threats and NATO's response to them. The theme of the forum was "From Information to Participation – Challenges for the Media".

2 Jul. 2014 - NATO fosters practical cooperation with Georgia through science

More than 140 experts, scientists, and government representatives from Georgia and Allied countries attended a NATO Science for Peace and Security (SPS) Information Day in Tbilisi on 2 July.

16 Jun. 2014 - Stepping up scientific cooperation with Montenegro

Montenegro is actively involved in the NATO Science for Peace and Security (SPS) Programme. In the past year, three new SPS activities have been launched in leading areas of cooperation including unexploded ordnance (UXO) detection, cyber defence and chemical, biological, radiological and nuclear (CBRN) resilience.

3 Jun. 2014 - Strengthening cyber defence in Estonia

Cyber defence topped the agenda at a NATO Science for Peace and Security (SPS) information day held in Tallinn, Estonia on 3 June. The event provided an opportunity for more than 50 scientists and experts from the region to explore new ways to address emerging security challenges with emphasis on cyber defence.

2 Jun. 2014 - Enhancing border security in the Mediterranean region

The Mediterranean basin is a crossroads for people, goods and ideas from the Middle East, North Africa and Europe. But it is also an area that has witnessed marked social and political change in recent years.

26 May. 2014 - Chemical improvised explosive devices: responding to the threat

According to the United Nations Assistance Mission in Afghanistan (UNAMA), improvised explosive devices (IEDs) were the leading cause of civilian deaths and injuries in 2013. They accounted for 34 percent of all civilian casualties and are the biggest killer of women and children in Afghanistan.

22 May. 2014 - Responding to security challenges in Morocco

Cyber defence and other global security issues such as chemical, biological, radiological and nuclear (CBRN) resilience and civil emergency were the focus of a NATO Science for Peace and Security information day held in Rabat, Morocco on 19 May.

10 Apr. 2014 - Active cooperation with Azerbaijan

Scientists, researchers and experts from various countries gathered in Baku on 10 April to exchange views on new initiatives and proposals to engage with NATO through science programmes and activities. Proposals touched on activities in fields ranging from energy security and cyber defence through to the promotion of the role of women in matters related to peace and security.

3 Apr. 2014 - Egyptian desert: new technologies for landmine detection

Egypt is regarded as one of the most contaminated countries in the world in terms of the number of mines and explosive remnants of war scattered across its territory. The issue poses a serious security challenge for local populations and hinders economic development and investment. As a result, large swathes of land are rendered unsafe and unusable.

20 Feb. 2014 - NATO and Russia to develop a remote medical services system

Telemedicine is the use of modern communication technologies to exchange real-time medical information from a patient to a doctor separated by distance. Through a telemedicine system a remote medical specialist is able to assess a patient, determine a diagnosis, and provide timely recommendations to an on-site caregiver or first responder in an emergency situation.

10 Feb. 2014 - Computer network defence

NATO is advancing its efforts to both confront and address the wide range of cyber threats faced by Allies each day and this includes engaging industry, academia and public institutions in these efforts.

Annex 4: NATO Science Series Publications in 2014

	Ref.	Mech.	Title	Project Director	Series	Date	Publisher
1	984441	ARW	Critical Infrastructure Protection	Edwards Matthew	NATO Human and Societal Dynamics Publication	3/1/2014	IOS PRESS, Amsterdam
2	984615	ARW	Best Practices in Computer Network Defense: Incident Detection and Response	Melissa E. Hathaway	NATO Information and Communications Security Publication	21/1/2014	IOS PRESS, Amsterdam
7	984542	ASI	The Future of Dynamic Structural Science	Judith A K Howard; Hazel A. Sparkes; Paul R. Raithby; Andrei V. Churakov	NATO Science for Peace and Security Series A: Chemistry and Biology	7/3/2014	Springer Science and Business Media
8	984431	ARW	Terahertz and Mid Infrared Radiation: Detection of Explosives and CBRN (Using Terahertz)	Mauro Pereira; Oleksiy Shulika	NATO Science for Peace and Security Series B: Physics and Biophysics	31/3/2014	Springer Science and Business Media
3	984495	ARW	Perseverance of Terrorism: Focus on Leaders	Marko Milosevic; Kacper Rekawek	NATO Human and Societal Dynamics Publication	3/4/2014	IOS PRESS, Amsterdam
9	984491	ARW	Nonlinear Phenomena in Complex Systems: From Nano to Macro Scale	Davron Matrasulov; H. Eugene Stanley	NATO Science for Peace and Security Series C: Environmental Security	25/4/2014	Springer Science and Business Media
10	984467	ARW	THz and Security Applications	Carlo Corsi; Fedir Sizov	NATO Science for Peace and Security Series B: Physics and Biophysics	19/5/2014	Springer Science and Business Media
4	984546	ASI	Software Systems Safety	Orna Grumberg; Helmut Seidl; Maximilian Irlbeck	NATO Information and Communications Security Publication	30/5/2014	IOS PRESS, Amsterdam
5	984503	ARW	Examining Robustness and Vulnerability of Networked Systems	Sergiy Butenko; Eduardo L. Pasiliano; Volodymyr Shylo	NATO Information and Communications Security Publication	19/6/2014	IOS PRESS, Amsterdam
11	984575	ARW	Nanotechnology in the Security Systems	Janez Bonca; Sergei Kruchinin	NATO Science for Peace and Security Series C: Environmental Security	11/8/2014	Springer Science and Business Media
6	984377	ARW	Cyber Security and Resiliency Policy Framework	Susmann Philip; Risteski Aleksandar	NATO Information and Communications Security Publication	19/9/2014	IOS PRESS, Amsterdam
12	984631	ARW	Improving Disaster Resilience and Mitigation - IT Means and Tools	Horia-Nicolai Teodorescu; Alan Kirschenbaum; Svetlana Cojocaru; Claude Bruderlein	NATO Science for Peace and Security Series C: Environmental Security	22/9/2014	Springer Science and Business Media

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