

NATO's Weapons of Mass Destruction Forensics Conference

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Executive Summary

NATO's Comprehensive Strategic Level Policy for Preventing the Proliferation of Weapons of Mass Destruction (WMD), endorsed by Heads of State and Government, provides the mandate for building, among other activities, forensic and attribution capabilities and developing cooperative programs with other international organizations¹. That is why the Czech Ministry of Defense, together with the "Joint Chemical, Biological, Radiological and Nuclear (CBRN) Defense Centre of Excellence" and the North Atlantic Treaty Organization (NATO) invited over hundred experts from the scientific and policy realm of the 28 NATO Member States and International Organizations to a three-day conference, held from 2 to 4 February in Prague. Being the first of its kind, this conference's primary objective was to gain knowledge about the current state of technology, and to understand national capabilities of NATO Members, NATO partners and international organizations. It also discussed how NATO could contribute to the field of WMD Forensics and how future cooperation on the international level could be coordinated and strengthened. In the course of the event, expert panels addressed:

1. how to best and commonly define the threat of CBRN terrorism and proliferation;
2. what WMD Forensics is and what its relevance can be to stopping WMD proliferation;

¹ Paragraph 12 and 29

3. domestic efforts to create national forensics capabilities;
4. international and non-governmental organizations initiatives in developing WMD forensics capabilities;
5. alliance capabilities in detecting and responding to WMD threats/incidents;
6. domestic responses to bio/chemical threats;
7. International Governmental Organizations (IGOs) responses to bio/chemical threats.

A more detailed description of these issues follows this executive summary.

In a final session, all experts present agreed that this was the right event with the right experts at the right time. A list of recommendations for near-, mid- and long-term deliverables to successfully shape international progress and cooperation in the field of WMD Forensics was carried together through a lively discussion. Key points were that in the near future:

- ✓ a “lexicon” on commonly agreed on terminology needs to be developed as well as legal mechanisms for information sharing, international planning mechanisms and standards for equipment, training (best practices) and safety;
- ✓ a roster of existing experts and capabilities needs to be created and the training of next generation forensic experts needs to be institutionalized, harmonized and prioritized;
- ✓ science and knowledge gaps as well as shortcomings need to be identified and closed;
- ✓ protocols for interoperable equipment need to be worked out as well as procedures for lab certification and mechanisms for engagement with IGO’s and NGO’s.
- ✓ There was a general agreement that in order to maintain momentum this event should be followed up with regular events and concrete actions. Milestones and concrete projects need to be formulated and pursued in order to effectively realize the full potential of WMD Forensics science to contribute to preventing, deterring and responding to WMD proliferation and terrorism threats.



Mr. Guy Roberts opens the second day of the conference by introducing the first panel of the day.

- ✓ a common ground needs to be prepared to overcome constitutional constraints that will inevitably occur in the course of international efforts countering a global threat;

1. Defining the Threat

During this first part of the conference, two expert panels addressed the issue of the potential and manifest threat posed by CBRN Terrorism and Proliferation. In addition, an introduction to CBRN Forensics and Technologies was given to prepare the stage for the following, more detailed, contributions. Key insights from the first part were:

- On the national level policies as well as capacities and procedures have to meet the threat, which is not objective and thus shared internationally, but varies

from country to country, depending on numerous factors such as geography or assessment techniques;

- On the international level partnership initiatives, networks, information sharing, databases and a common understanding of the threat are crucial for successful prevention and responses;
- International standards for capabilities, equipment and procedures for collecting, handling and processing material and evidence is a high priority;
- Interdisciplinary as well as interagency approaches to forensics and attribution have proven to be the most successful, on the national as well as on the international level; pooling and channeling already existing capacities is the step to be taken before developing new ones;
- Awareness has to be raised with respect to less obvious and therefore more vulnerable sectors that could be targeted.

2. Forensics – What it is and its relevance to stopping WMD Proliferation

Two speakers elaborated on Nuclear Forensics “state of the art” and combining traditional and WMD forensics. Their contributions can be summed up as follows:

- National WMD Forensics programmes should build on already existing programmes and international cooperation should use already existing intentional resources, there is no need to start from scratch;
- National nuclear forensics libraries, sharing of best practices as well as investing into sustainable forensics expertise are promising next steps of action, nationally as well as internationally;



Colonel Zdenek Cizek, Director of the JCBRN Defence CoE and Mr. Guy Roberts, Director Nuclear Policy.

- Reporting as well as screening mechanisms are a good tool to involve relevant actors, especially from the private and cooperate realm;
- Past practice has shown that interagency approaches are more challenging that thought and prone to misunderstanding or miscommunication between the involved agencies.

3. Domestic Efforts to create National Forensics Capabilities

NATO highly appreciated, that speakers from the United States, the United Kingdom, Hungary, the Czech Republic, the Netherlands and Canada followed its call to present on this very important topic. The essence of their contribution was:

- A national policy as well as expectations and understandings shared throughout all national stakeholders in WMD Forensics are key elements in every national capability; the political purpose defines the needed capabilities and the solutions it can provide; roles and responsibilities of all stakeholders need to be set out and not in conflict;
- Routines and instruments need constant testing, revision and improvement in order to enhance the accuracy and reliability of the results;
- Mobile labs, trained specialists equipped with technology to work on site under CBRN conditions and good reachback mechanisms are the backbone of many national WMD forensics capacities;
- Involving the private sector and civilian capacities is not only cost effective but also crucial to pool and preserve fragmented expertise;
- Often WMD Forensics has a supporting role in the already existing law enforcement, science and education system, it is not separate but integrated or on top of already existing capacities;
- The discipline is still emerging and the environment changing, a right balance between the technical dimension, law enforcement and intelligence will always be a key factor.

4. International and Non-Governmental Organizations Initiatives in Developing WMD Forensics Capabilities

Eight experts gave insightful information on their organizations' initiatives, activities and follow up procedures. Since every organization is different in its mandate, nature and budget the bullet points below reflect the key insights from the briefings in sum:



The audience made extensive use of the opportunity to discuss with every expert panel subject-related issues and possible ways ahead.

- International and Non-Governmental Organizations often have a vast amount of international expertise at their disposal through experts working for them or because of their official and informal networks; this makes them excellent hubs for knowledge and experience that organizations use for trainings, workshops, projects, (web)seminars and exercises but also for publications, databases, rosters of experts, dictionaries and libraries;
- Through their outreach activities and networks, International and Non-governmental Organizations also have key insights and experiences regarding the technical and procedural part of international and interagency cooperation and coordination; through their different mandates and sometimes multinational nature they often also bridge different sectors and fields of work bringing together experts from every step in the process of WMD Forensics;
- Their working techniques and approaches differ not from national approaches: the aforementioned organizations do usually always combine insights, information and procedures from the intelligence, policy and technical realm to fulfill their mandate.

In sum, these characteristics make them key players in the field of WMD Forensics. Their potential to contribute to developing national and international agendas in this field is therefore especially strong when it comes to

1. Developing Programmes of Work, tools, standards, principles, policies, Memoranda of Understanding, response plans;
2. Outreach and (governmental) awareness raising;
3. Establishing WMD Forensics, which still is an emerging discipline, in national and international frameworks.

5. Alliance Capabilities in detecting and responding to WMD Threats/Incidents

In this session, NATO or experts representing its Member States presented to the auditorium an oversight of the alliance's capabilities in detecting and responding to WMD Threats/Incidents. The panel also included a walk-through of a concrete real – life case where WMD Forensics was applied. Key points were:

- NATO's unique infrastructure of schools and Centers of Excellences is a great tool to gather, distribute and pool expert knowledge in the field of CBRN threats and potentially WMD Forensics in the future;
- Through its networks and partners, NATO is able to reach out to and coordinate action in the military, civilian and policy sector not only in Europe, but also in multiple countries around the globe;
- Through the commitment of its Member States, NATO has highly trained and experienced capacities at its disposal in order to conduct operations in an CBRN environment, which is relevant for future WMD Forensics related work;

- NATO has already policies, surveillance systems and response mechanisms in place and is willing to share its experience and expertise with members and partners;
- Finally, NATO has the capacity to coordinate and execute political and military responses to a CBRN Event simultaneously.

6. Domestic Responses to Bio/Chemical Threats

The first two panels of the final day of the conference focused on the field of biological and chemical forensics. In the domestic field, six experts gave briefings which can be summed up as follows:

- Constant investment in the capabilities, training and readiness of first responders is a key aspect of every domestic response system; first responders are often teams with diverse tasks;
- National Response system are interdisciplinary networks: laboratories and other capacities relevant for Bio/Chem Forensics and attribution need to be integrated in the judicial and law enforcement system to most efficiently provide them with credible and reliable information needed for solving cases and convicting suspects; science works as a tool to provide answers of other stakeholders like law enforcement authorities (i.e. is the source of an incident natural or an act of terror?);
- Partnerships on the national and international level pool needed capacities and common standards, joint exercises decrease the reaction time to the minimum which is acceptable;
- Crisis response, consequence management and the capacity to dispose hazardous material are cru-

cial national capacities in the fight against Bio/Chem Threats;

- Especially in the chemical and biological field threats are often difficult to calculate and subject to change, a constant improvement and revision of the existing mechanism is therefore vital.

7. IGO Responses to Bio/Chemical Threats

To present on IGO responses to biological and chemical threats, speakers from the OPCW, the UN and the WHO traveled to Prague. Key points were:

- Depending on the mandate of the organization, they either give expert assistance to other actors through training, workshops and programmes or do valuable field work through outreach and country offices;
- Many IGOs have valuable experience in fact finding and dissemination, mobilization, awareness raising and fund raising;
- No Organization has the full set of capacities needed to respond to Bio/Chem threats, as a consequence they have often vast networks and did bridge difficulties posed by international and interagency cooperation;
- They are further a great source for best practices and lessons learned.

8. Conclusion and way ahead:

The conference closed with a final session during which the all present experts engaged in a lively and fruitful exchange of ideas on how to move forward an international or inter-institutional cooperation on WMD foren-

sics. There was agreement that, among other ideas, the next key steps and milestones should be

- ✓ to prepare a common ground to overcome constitutional constraints that will inevitably occur in the course of international efforts countering a global threat;
- ✓ to create legal mechanisms for information sharing;
- ✓ to establish a “lexicon” on commonly agreed on terminology;
- ✓ to outline international planning mechanisms for operations, logistics and exercises;
- ✓ to lay out standards for equipment, training (best practices) and safety;
- ✓ to include protocols for interoperable equipment in future planning;
- ✓ to identify procedures for lab certification;
- ✓ to create a roster of experts and capabilities;
- ✓ to institutionalize, harmonize and prioritize the training of next generation forensic experts;
- ✓ to set up mechanisms for engagement with IGO’s and NGO’s;
- ✓ to enhance transparency regarding national capabilities;
- ✓ to create rapidly deployable forensics capabilities for better and more effective international cooperation in the field;
- ✓ to identify and close science and knowledge gaps near future as well as shortcomings.



Over one hundred experts from the scientific and policy realm of the 28 NATO Member States and International Organizations attended the conference in Prague

For the sake of cost effectiveness and efficiency, it was recommended multiple times that the international community should predominantly use already existing tools and mechanisms to tackle the issues above, rather than inventing new ones. Most of the knowledge and capacities needed are already there, but fragmented. Pooling and coordinating them is the key to a timely success. Further, the efforts should address all relevant steps of the WMD Forensics process: gathering, analysing, attributing and following up. Finally, policy and decision bodies need to understand that forensics is a sustained long term investment. The main obstacles along this proposed way ahead will presumably be, but not limited to, the following:

- insufficient funding or resources to fully exploit the future potential as WMD Forensics, not only in the field of attribution or deterrence;
- identifying possible trainers and best practices to be taught;
- underestimating the costs and the workload to setup and update international databases and rosters;
- insufficient awareness in public and policy making bodies in the field of CBRN threats. The scientific community should communicate the roles and responsibilities of states and make them aware of what forensics can bring to their national response plans;
- difficulties to be overcome when setting up an international framework that involves legal questions. Past experience has shown that this particularly difficult task needs thorough planning and attention. One expert present had the opinion that it would not be feasible

to focus on technical cooperation, when cross border legal implementation was not guaranteed.

NATO contributions with respect to the points above could be to

- ✓ facilitate the training of experts through its expertise gathered in the “training the trainers” initiatives;
- ✓ host workshops, conferences and trainings in its infrastructure like the various Centre of Excellence or the Maritime Interdiction Training Centre. One very concrete proposal was to host a (annual?) challenge event with multinational participation. That way best practices and minimum standards for equipment could be identified. It would also build transparency with regards to team capabilities and foster interconnectivity;
- ✓ use its direct access to Allies to advertise an agenda in the field of WMD Forensics;

- ✓ contribute to the process through its PSP and SPS programmes.

It is of crucial importance to keep up the momentum produced by this conference. Regular meetings, institutionalized cooperation as well as defining a programme of work and milestones are a promising way forward. The conference has proven that the expertise and the capacities are available or soon will be. The will and necessity to cooperate are self-evident. The first and foremost task is now to transform will into action. It was generally agreed that nations and IGOs need to work together in order to avoid duplication and build synergies of cooperation and. The true success of this conference will be measured by our ability to carry forward the ideas and recommendations in the report to build this important capability and contributions to deterring and stopping the proliferation or use of weapons of mass destruction. ■