Technical Activity Proposal (TAP)

Activity reference number	HFM-ET-123	**Activity Title** Information Technology and Models for Crisis Detection, Monitoring and Response	**Approval** 2012
Type and serial number	ET		**Start** September 2012
Location(s) and Dates		TBD	**End** September 2013
Coordination with other bodies		MSG, ACT	
NATO Classification of activity		UU	**Non NATO Invited** No
Publication Data		MISC	UU
Keywords		Crisis management, Crisis modeling	

I. Background and Justification (Relevance to NATO):

Modern crises from the Haitian earthquake to the Arab Spring have been dramatically changed by information technology: smart phones, social media, mashups, even blogs and chatrooms have played important roles in this transformation. Information from the ground has ballooned everywhere with innovations such as the Ushahidi crisis map, sms bridging and web portals delivering new capabilities to visualize and analyze these information feeds. The problems and opportunities these innovations portend for crisis detection, monitoring and collaborative response are only now becoming evident. Modern crises develop much more rapidly than ever before. The rapid and heavy flow of information leads to the spread of grievance issues and shared concerns, which can lead to mass migrations and refugeeism, dramatic mass reactions ranging from protest to riot and to civil strife. NATO has critical roles to play in regional disasters and crisis as is seen in its role in Libya's current civil unrest, its concern with the Somali drought, desertification and food security, and other topics related to crisis and upheaval in the world. Medical assistance in these situations is of utmost priority and new technologies provide the capability to improve the speed of response in the critical "golden hours"following a high impact disaster –saving countless lives, especially when national governments and non-government organizations can coordinate seamlessly.

At present, many of these technologies provide limited technical abilities that constitute piecemeal capabilities to meet the challenge of detecting, monitoring and responding to a regional crisis. The Ushahidi map, for example, provides a partial picture of need during the Haitian earthquake; its crowdsourced solution to language translation yielded a slowly derived, incomplete set of translated text messages, but even with its inadequacies, the situation awareness it achieved was far in advance of what was possible even three years prior. New concepts of operation, bridging technologies and information exchange capabilities will extend the current baseline of capability, speed information flow, and enable the development of models and tools to detect and monitor developing crises and establish information sharing capabilities to flow information among partner nations and enable a more coordinated and focused response to rapidly changing conditions on the ground. It is expected that this activity will leverage the HFM topic Building effective collaboration in a Comprehensive Approach.

Proposed: A workshop on Information Technology and Crisis Detection, Monitoring and Response to examine new and developing information technologies together with models and new concepts of operation utilizing these technologies. This workshop will develop a scenario and follow-on exercise to demonstrate new capabilities created by intelligent, ethically sound information sharing practices, coupled with new information technologies being developing both in member nations and further abroad. Medical assistance and cooperative medical response will be a central aspect of this exercise.

II. Objective(s):

• To develop methods and workflows to exploit and utilize new information technologies to detect and monitor regional crises, especially humanitarian assistance crises requiring rapid medical response, food security crises, and disaster relief.
• To examine and test new information technologies for their capability to effectively and ethically share information across a range of players, with suitable levels of selective transparency and security.
• To examine and develop a set of best practices for international humanitarian assistance information sharing and virtual community development and sustainment to foster international cooperation and coordinated response across the range of actors.
• To disseminate technical advances and scientific understanding of information sharing, virtual community engagement and crisis monitoring, detection and response.

III. Topic To Be Covered:

1. Theories related to forming, developing and sustaining partnerships in virtual communities
2. Trust development in ad hoc collectives in cyberspace
3. Data collection in the field, coordination and collaboration using mobile phones
4. Data collection and analysis of social media related to crisis
5. Sentiment analysis in social media and text
6. Central needs and requirements for joint international medical response
6. Crisis mapping as a means to share a common situation awareness
7. Theories of crowd behavior and the impact of information technology

IV. Deliverable (e.g. S/W Engage Model, Database,...) and/or end product (e.g. Final Report):

Miscellaneous, other deliverable(s) : TAP and toR for a follow-on activity

V. Technical Team Leader And Lead Nation:

Chair : Dr Oliver LANNING United Kingdom

Lead Nation: United Kingdom

VI. Nations Willing/Invited to Participate:

NATO Nations and Bodies : Canada, Czech Republic, Denmark, Netherlands, United Kingdom, United States

PfP Nations : none

MD Nations : none

ICI Nations : none

Global Partners : none

Contact / Other Nations : none

VII. National And/Or NATO Resources Needed (Physical and non-physical Assets):

Funding for members to participate

VIII. STO/CSO Resources Needed:

Guidance for drafting a TAP and ToR

Additional Information

Panel Mentor:
Prof Dr Frank FLEMISCH, Germany
Limited Participation Techical Team:
Yes

Comments:
Approved at the 29 HFM-PBM Spring 2012

Chair: Dr Oliver lanning (GBR), nominated.

Terms Of Reference (TOR)

HFM-ET-123, ET
on
Information Technology and Models for Crisis Detection, Monitoring and Response

I. Origin

A. Background

B. Justification (Relevance for NATO)

II. Objectives

III. Resources

A. Membership

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Lead Nation: United Kingdom
Nations Willing/Invited to Participate: Canada, Czech Republic, Denmark, Netherlands, United Kingdom, United States

B. National And/Or NATO Resources Needed :

Funding for members to participate

C. STO/CSO resources needed

Guidance for drafting a TAP and ToR

IV. Security Classification Level

The security level will be Unclassified/Unlimited

V. Participation By Partner Nations

PfP Nations : none

MD Nations : none

ICI Nations : none

Global Partners : none

Contact / Other Nations : none

VI. Liaison