Technical Activity Proposal (TAP)

Activity reference number	HFM-241	**Activity Title** Social Media and Information Technology for Disaster and Crisis Response.	**Approval** 2012
Type and serial number	RWS		**Start** May 2013 IS
Location(s) and Dates		TBD	**End** May 2014
Coordination with other bodies		IST, SAS, MSG, COMEDS	
NATO Classification of activity		UU	**Non NATO Invited** Yes
Publication Data		MP	UU
Keywords		Information sharing, social media, disaster management, crisis response	

I. Background and Justification (Relevance to NATO):

Social media has become an international asset to understanding a variety of crises on the ground. It has also radically changed the old ways of simply monitoring radio, television, and newspapers to understand "what the crowd knows" and to promulgate important information, especially in a significant disaster. However, monitoring the information flows of virtual communities and their overlapping, multi-modal networks has become a daunting task. Information flows from Twitter alone reach as high as 5000 messages per second in the "Twitter firehose"—the full catalog of messages mediated by Twitter during high-tempo emergencies such as earthquake, hurricane, tsunami and other crisis events. Further, the range of new tools and technologies available has facilitated possibilities for deriving a complex, nuanced, and insight-filled set of new shared, role-relevant, user-definable operational pictures. These include crisis maps, mobile traffic "apps" , Twitter tools and visualization systems, models, and social media analysis tools capable of making these large flows of information usable and useful to disaster and crisis response. Chatrooms, mashups, video, novel technologies like sms bridges and web portals (such as Pacific DisasterAware) and developing systems such as the United Nations "Global Pulse" program provide new channels of information, but also threaten to provide a cacophony of noise without (1) good pre-disaster planning and preparation; (2) addressing of operational problems of issues such as span of control, flexibility, outreach and information management practices, and how social media can impact these issues; (3) training to provide the necessary insights and experience to handle public information effectively (Crowe 2012, p. 6) and to prepare for crisis monitoring prior to crisis events.

II. Objective(s):

1. To provide an overview of the new information environment for disaster management and its implications for NATO disaster coordination. This environment includes the technological (mobile phones, social media, etc.) and the social innovations implicit in technological change. Special consideration for issues related to health and human welfare in a disaster will be a key focus.
2. To assist NATO to adapt to the new information environment through a better understanding of the technologies, communities, and resources now available to them or likely to become available in the near term.
3. To disseminate technical advances and scientific understanding of information sharing and virtual community engagement to foster international cooperation, early detection, alerts and warnings in social media regarding emerging threats and crises.
4. To provide the foundations for training approaches that would meet the needs of NATO operators in social media tools, analysis and visualization technologies, and portals available in crisis response.
5. To develop a NATO field training experiment from these discussions to provide hands-on experience with new technologies, practice information sharing and coordination strategies, and monitor health and human well-being collaboratively in a simulated disaster situation, focusing on a high-tempo, natural disaster situations (such as a major earthquake on an international border, with subsequent health implications, such as a cholera epidemic).

III. Topic To Be Covered:

(1) Current practices in international cooperation and information sharing during disaster situations, such as the role of the Euro-Atlantic Disaster Response Coordination Centre (EADRCC) and other operation centers, portals and organizations involved in information sharing for disaster management (such as Pacific Disaster Center, Center for Disaster Management and Humanitarian Assistance, OpenStreetMap, Humanity Road, Harvard Humanitarian Initiative, etc.)
(2) Novel technologies for information sharing and disaster information coordination (EUCOM's Social Media Dashboard, ASU's TweetTracker, Ushahidi Crisis Maps, Quicknets, Pacific DisasterAware, Sahana, new systems in process such as Global Pulse from the United Nations, and mobile phone apps). Articulating and meeting training needs for social media in these technologies will be addressed.
(3) Social trust, social cyber-threats, and related socio-culture aspects of virtual crowd management. How to improve social trust through transparency, managing reputation, detection of emerging information-sharing problems (such as rumors and false content).
(4) Development of an exercise in information sharing in a disaster scenario. The developed scenario will include training and hands-on use of these new technologies with multi-national coordination, participation with non-government organizations and a virtual component designed to maximize the ability of NATO nations to participate. The focus of the exercise would be a major natural disaster with consequent health and human welfare issues.

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

Meeting Proceedings, other deliverable(s) : none

V. Technical Team Leader And Lead Nation:

Chair : Dr Rebecca GOOLSBY United States

Lead Nation: United States

VI. Nations Willing/Invited to Participate:

NATO Nations and Bodies : Bulgaria, Italy, Netherlands, United States

PfP Nations : all PfP invited

MD Nations : all MD invited

ICI Nations : none

Global Partners : Australia, Japan, New Zealand, Republic of Korea

Contact / Other Nations : Singapore

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

Funding for travel and per diem to the participants

VIII. STO/CSO Resources Needed:

Funding for TER and 2 Keynote Speakers

Additional Information

Panel Mentor:
Dr John TANGNEY, United States
Limited Participation Techical Team:
No

Comments:
Deliverable: A report on the follow-on exercise and on the lessons learned in the exercise together with a final Report including a Social Media Handbook for Crisis Management.

GBR, DEU, EST, NOR and SWE are considering participation.

Consider connect to HFM-ET 123 on "Information Technology and Models for Crisis Detection, Monitoring and Response".

Approved at the 30 HFM-PBM Fall 2012.
Approved by the STB in FT/SP December 2012.

Terms Of Reference (TOR)

HFM-241, RWS
on
Social Media and Information Technology for Disaster and Crisis Response.

I. Origin

A. Background

Social media has become an international asset to understanding a variety of crises on the ground. It has also radically changed the old ways of simply monitoring radio, television, and newspapers to understand what the crowd knows and to promulgate important information, especially in a significant disaster. However, monitoring the information flows of virtual communities and their overlapping, multi-modal networks has become a daunting task. Information flows from Twitter alone reach as high as 5000 messages per second in the Twitter firehosethe full catalog of messages mediated by Twitter during high -tempo emergencies such as earthquake, hurricane, tsunami and other crisis events. Further, the range of new tools and technologies available has facilitated possibilities for deriving a complex, nuanced, and insight-filled set of new shared, role-relevant, user-definable operational pictures. These include crisis maps, mobile traffic apps , Twitter tools and visualization systems, models, and social media analysis tools capable of making these large flows of information usable and useful to disaster and crisis response. Chatrooms, mashups, video, novel technologies like sms bridges and web portals (such as Pacific DisasterAware) and developing systems such as the United Nations Global Pulse program provide new channels of information, but also threaten to provide a cacophony of noise without (1) good pre-disaster planning and preparation; (2) addressing of operational problems of issues such as span of control, flexibility, outreach and information management practices, and how social media can impact these issues; (3) training to provide the necessary insights and experience to handle public information effectively (Crowe 2012, p. 6) and to prepare for crisis monitoring prior to crisis events.

B. Justification (Relevance for NATO)

Critical new social innovations also have significant implications for international crisis response. The most obvious social innovation is the wealth of volunteered data and information provided from Ground Zero of crisis events. These tiny snapshots from the ground, whether a tweet, video, photograph, or message attached to a crisis map point, have been shown to provide crucial data necessary to implementing, directing, and managing crisis responses. A second innovation is the rise of leaderless, but nevertheless organized activities, developed through the processes of consensus building, risk sharing, and cooperative activities. In disaster, this has been manifested in things such as group mapping of power outages, road damage, and traffic flows, ride-shares, and the trading of advice, information, and assistance--such as in searching for people separated from their families in the aftermath of a disaster (Google People Search). Leaderless organizations (Brofman and Beckstrom 2006) and increasingly decentralized organizations are structured around models of mutual independence but shared vision of desired outcomes. Thus, in Japan, we see universities, citizens clubs, both domestic and foreign, working to explore, address, map, provide data and analyze data on the impact and enduring issues from the Fukishima radiological disaster; even NOAA has produced a map visualization and contributed it to the public information about this event. A survey of the available technologies, strategies of leaderless and decentralized organizations and activities, together with discussions with experts and practicioners using social media for disaster response will assist in finding gaps and disconnects in current, old-media based approaches. A third, but increasingly worrisome social innovation is the problem of social cyber-attack: the use of social media to degrade information streams, promote hoaxes and scams, and spread panic and disorder. Understanding social information flow is therefore a necessity for ensuring human security in crisis situations. Finally, the special problems of health and human welfare need to be considered as a potential starting point for NATO collaborations on developing a coordination framework for sharing information.

II. Objectives

1. To provide an overview of the new information environment for disaster management and its implications for NATO disaster coordination. This environment includes the technological (mobile phones, social media, etc.) and the social innovations implicit in technological change. Special consideration for issues related to health and human welfare in a disaster will be a key focus.
2. To assist NATO to adapt to the new information environment through a better understanding of the technologies, communities, and resources now available to them or likely to become available in the near term.
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5. To develop a NATO field training experiment from these discussions to provide hands-on experience with new technologies, practice information sharing and coordination strategies, and monitor health and human well-being collaboratively in a simulated disaster situation, focusing on a high-tempo, natural disaster situations (such as a major earthquake on an international border, with subsequent health implications, such as a cholera epidemic).

III. Resources

A. Membership

This RWS is open to all PfP, MD, Global Partners (Australia, Japan, New-Zealand and Republic of Korea) and Singapore (Contact Country)

GBR, DEU, EST, NOR and SWE are considering participation.

Chair : Dr Rebecca GOOLSBY United States

Lead Nation: United States

Nations Willing/Invited to Participate: Bulgaria, Italy, Netherlands, United States

B. National And/Or NATO Resources Needed :

Funding for travel and per diem to the participants

C. STO/CSO resources needed

Funding for TER and 2 Keynote Speakers

IV. Security Classification Level

The security level will be Unclassified/Unlimited

V. Participation By Partner Nations

PfP Nations : all PfP invited

MD Nations : all MD invited

ICI Nations : none

Global Partners : Australia, Japan, New Zealand, Republic of Korea

Contact / Other Nations : Singapore

VI. Liaison