

**TIEMS**

The International Emergency Management Society



THE INTERNATIONAL EMERGENCY MANAGEMENT SOCIETY

Newsletter - ISSUE 26 - March 2016

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**In Honour and Memory of the Victims
of the recent Terrorist Attacks in
Belgium, Iraq and Pakistan**



The International Emergency Management Society

TIEMS continues its international development, and is spreading out its activity more and more worldwide with members and chapters. New members and chapters add valuable expertise and cultural diversity to the TIEMS international network, which comprises of users, planners, researchers, industry, managers, response personnel, practitioners, social scientists, and other interested parties within emergency and disaster management. This network constitutes a large international multidisciplinary group of experts, with different educational backgrounds and various experiences. Read more about this network and its activities in this newsletter.

Joseph Pollack
TIEMS Newsletter Editor

DISCLAIMER: The opinions expressed herein are solely those of TIEMS and those responsible for the different articles and do not necessarily reflect the views of the Law and Justice. It remains for the National Courts and ultimately the European Court of Justice to interpret the Law. Under no circumstances will TIEMS be liable for any direct or indirect damages arising in connection with the use of this newsletter.

In this issue

- ✓ News from TIEMS worldwide activities
- ✓ European CBRNe Risk Analysis
- ✓ ASSET Project
- ✓ H2020 Project TARGET
- ✓ Integrating satellite and terrestrial tools for advanced forest fire management
- ✓ Zika and Emergency Management
- ✓ The DRIVER Community Platform
- ✓ 14th PSCE Biannual Conference in Brussels
- ✓ GMV Contributions to Requirements for Copernicus Satellites
- ✓ Reduction of Human Damage by Early Earthquake Warning
- ✓ And more.....

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Message from TIEMS President

Recent Terrorist attacks in Brussels, Iraq and Pakistan

I was in Brussels the week before the terrorist attacks on the airport and the subway, and at that time attending a conference on the two EU projects, POP-ALERT and TACTICS. One of the presentations was by Benoit Ramacker from the Belgian Crisis Center with the title: « *Communicating on terrorism during November 2015* ». During his presentation, we were informed through the media that the Belgium Police was hunting the terrorist, Salah Abdeslam, in the Brussels neighbourhood of the conference venue.

When I was walking back to my hotel in the evening, a 30 minutes walk through the streets of Brussels, I was reflecting on what makes a terrorist and/or a suicide bomber, who do not seem to care about their own lives or hurting and killing innocent bystanders when they decide to do their cruel and evil actions.



I do not have an answer to this important question, but I do believe someone is systematically brainwashing these young people, while staying far away themselves from the cruel scenarios they are creating with their influence and evil teaching. I think it is important to focus on how to track down these evil teaching sources and bring them to justice!

I got home safely myself, but I feel sad and angry when I got the devastating news about the terrorist attacks that took place just a week after I got home from Brussels.

Before I was able to finish this editorial, I got the news about the suicide bombers in the football arena in Iraq and in the family park in Pakistan, where more than hundred persons were killed and among them many children and women.



Oslo 31st March 2016
K. Harald Drager
TIEMS President

I would like to express my sincere sympathy with the Brussels victims and their families, coming from more than 40 countries and with the victims and families in Iraq and Pakistan being hurt by the terrorist attacks, and at the same time condemn those who are behind these cruel events

In Honour and Memory of the Victims, let the picture to the left with flowers and an optimistic blue butterfly, symbol that we will never stop believing that the future is bright and that terrorists are not able to make us permanently afraid and disturb our daily lives. We will with a fresh mind and new ideas fight the evil activity of the terrorists and their evil teachers.

This Newsletter

This newsletter is structured into the following sections:

- News from TIEMS Worldwide
- Disasters, Threats and Early Warning
- Reports from EU R&D Projects
- International Conferences

In addition, we have a separate special TIEMS Scientific Articles Newsletter, which is dedicated fully to the EU Project DRIVER.

News from TIEMS Worldwide

The main focus is the announcement and call for TIEMS 2016 Annual Conference in San Diego in September this year. The conference focus on how to make the worldwide big cities resilient, and we do hope that city governments of many worldwide big cities will join us in San Diego and present their ideas and solutions, and add value to the discussions and conclusions on this very important topic.

Update from TIEMS India Chapter covers their activities and an announcement of their first workshop in Jaipur in India 9th September 2016.

The final report from TIEMS 2015 annual conference in Rome sums up focus, presentations and conclusions from TIEMS 2015 annual conference in Rome.

TIEMS involvement in R&D activities are covered by presenting the summary of the new EU project HERACLES, where TIEMS is a partner, followed by two articles of the TIEMS running EU project ASSET.

A presentation of TIEMS education initiative GENERATE is followed by a progress update of this project. TIEMS is inviting partners and supporters to join this very important global education initiative.

TIEMS is a voluntary organization and the TIGE list (TIEMS International Group of Experts) shows the names, nationalities, affiliations and expertise of TIEMS worldwide volunteer chapter network.

We are recruiting experts to join TIEMS International Program Committee, and please, do not hesitate to contact us for becoming a TIEMS member and join us in developing TIEMS worldwide activity.

Disasters, Threats and Early Warning

TIEMS contact in Tainan in Taiwan, Wen - Chi Lai, gives an overview of the damage after the Tainan earthquake in February this year.

The Zika virus spreading and potential threat is covered in an overview article by Carl Taylor. A summary report about the Nepal earthquake is given by Meen Chhetri.

How to reduce human damage by earthquake early warning is presented by Yukio Fujinawa, and CBRNe events and risks are presented, as well as protection equipment towards radiation.

Report from EU R&D Projects

The two EU projects PHAROS and TARGET are introduced and briefly described with objectives and preliminary results. A summary and conclusions report of the POP-ALERT and TACTIC conference are presented, and new COPERNICUS satellite definitions and requirements are introduced.

International Conferences

Finally, there are announcements for three important international conferences:

1. Asia Emergency Management and Expo in Macao
2. 14th PSCE Bi-annual Conference in Brussels
3. Nice Global Forum for Homeland Security and Crisis Management

Editor's Message



Joseph Pollack

This year's first newsletter coincides with the aftermath of Belgium's worst terrorism incident in recent memory. The twin **suicide attacks** at the Brussels airport and the bombing of the metro serve as an urgent reminder that when an attacker intends suicide, there are too few operational concepts at our disposal to prevent and respond to these. The Daesch-inspired death-cults that pray on the destitute, the weak of mind, and the alienated wreak havoc when collaboration fails. The TIEMS community extends its thanks and admiration to our colleagues in Belgium for a very **successful response** that has saved most of the injured. As arrests continue and charges dealt, we stand by the police services' brave and efficient work to bring these malevolent people to justice.

What's more the world is facing a pandemic risk with the **Zika virus**. Perhaps, due to the absence of spectacular symptoms or the risk of death, it seems that the public may be underestimating the severity of the potential consequences. As with Ebola, this virus can be transmitted human to human also through sperm up to six months after contraction making its resilience to public health efforts very high indeed. Dr. Carl Taylor invites all those considering travel to countries affected by a high incidence of Zika to seriously consider the long-lasting consequences of contracting this virus.

Our partnership with OSDIFE, a European **CBRNE** observatory means we can bring you a summary of the latest CBRNE related events. In complement with this issue's bulletin OSDIFE offers us a granular exploration of CBRNE incidents over the last 18 months. This reminds us that although we rarely talk about this,

tropical mosquito borne viruses are being transmitted at an alarming rate; chemical incidents are a monthly reality, and our society remains vulnerable to intentional harm as never before. I invite the readers to consider OSDIFE's work within the context of our nations' preparedness to such disasters. Are we training and specialising at the rate that the frequency of these incidents warrant? In fact, the Target Consortium is developing sophisticated 3D environments and simulations that may permit reducing the cost of repeated delivery of **specialised training**. For biological threats, the Asset consortium is delving into what we can do to democratise vaccinations by leveraging **specialised communication** with women and the public in general.

Our colleagues on the sub-continent are collaborating to propose a **national disaster recovery framework**. This new law project is close to being ratified and may instrument India's stakeholders during response and recovery for maximum effectiveness. If you would like to learn more about the challenges of this region Dr. Kailash Gupta provides various insights into some activities notably in terms of surveying in remote areas, traffic analysis in urban areas, and high-level stakeholder engagement. Speaking of which, our esteemed colleague, Dr. Meen Chhetri provides a review of his seminal report of the Nepal earthquake and the government response. I invite all our readers to take note of his exclusive summary report. Across the South China Sea Dr. Wen-Chi Lai explains why the Tainan **earthquake** wreaked more damage to areas surrounding the epicentre. Our out-going Japan Chapter leader Dr. Yukio Fujigawa presents his nation's **early warning system** notably for earthquake response.

But that's not all! I invite you to read our newsletter and discover all sorts of **special deals** and **collaboration opportunities** for our members from around the world!



The International Emergency Management Society

TIEMS - www.tiems.org

MISSION



TIEMS is a Global Forum for Education, Training, Certification and Policy in Emergency and Disaster Management. TIEMS is dedicated to developing and bringing the benefits of modern emergency management tools, techniques and good industry practices to society for a safer world. This is accomplished through the exchange of information, methodology innovations and new technologies, to improve society's ability to avoid, mitigate, respond to, and recover from natural and manmade disasters.

TIEMS provides a platform for all stakeholders within the global emergency and disaster management community to meet, network and learn about new technical and operational methodologies. It also aims to exchange experience on good industry practises. The goal is to influence policy makers worldwide to improve global cooperation and to establish global standards within emergency and disaster management.

ACTIVITIES - [HTTP://BIT.LY/1WCRYZJ](http://bit.ly/1WCRYZJ)

- International Conferences, Workshops and Exhibitions, focusing on different Emergency Management and Disaster Response Topics
- Research & Technology Development (RTD) Project Initiatives and Coordination or Participation in RTD Projects
- Task Force Groups
- International Education, Training and Certification Program - GENERATE



<http://bit.ly/1pA3zy2>

MEMBERSHIP - <http://bit.ly/1LUXICI>



As a member of the TIEMS, you are part of an international community of leaders and practitioners in emergency management, with diverse backgrounds in engineering, science, government, academics, military, and industry - working together to make the world a safer place. Membership affords unique opportunities to **Learn**, **Serve**, and **Network**.

Learn: From the multi-disciplinary, multi-national TIEMS community and through special TIEMS programs.

Serve: By helping TIEMS in its mission to reduce the impacts of disasters and emergencies worldwide.

Network: With local and international colleagues to develop valued personal and professional relationships, and enhanced opportunities.

You are welcome to join us as a TIEMS Member

K. Harald Drager
TIEMS President

TIEMS 2016 ANNUAL CONFERENCE IN SAN DIEGO, USA - <http://bit.ly/1pbmsXr>



On behalf of the citizens of San Diego, I would like to welcome you to The International Emergency Management Society 2016 Annual Conference. San Diego has worked diligently at fostering communication, collaboration and sharing best practices among our countless professionals in the fields of healthcare, public health, emergency medical services and emergency management. As we are often reminded, ensuring disaster readiness and building healthier, safer and more resilient communities must be a top national priority. San Diego is a shining example to the nation in the field of emergency preparedness, drawing on our

thriving defence industry, expertise in innovation, and cross-border collaboration. San Diego is known for its world-class restaurants, beautiful beaches and thriving neighbourhoods. While visiting, I hope that you have the opportunity to experience some of the attractions that America's Finest City has to offer. Please accept my warmest wishes for an enjoyable event in San Diego.

Best personal regards,

Kevin L. Faulconer
San Diego City Mayor

TIEMS 2016 Annual Conference in San Diego

September 13 - 15, 2016
San Diego, California, USA



Innovation and Urban Planning for Emergency Resilience in Large Cities

In an increasingly interdependent world, coordination between local, state, national, and international agencies and the ability to leverage innovative technology have become critical to the success of today's emergency management strategies. This conference will explore best practices and emerging technologies to facilitate coordination of resources, as well as urban planning strategies to build resilient communities.

Conference Topics to include:

- Cross-Border and Inter-Agency Coordination
- Cyber Security
- Coastal Risk Management
- Urban Planning and Crime Prevention Through Environmental Design
- New and Applied Technologies
- Other related topics

Keynote presentations from US and international leaders will provide unique insights on these important topics, and panel sessions will create an exceptional opportunity to discuss local and international perspectives. See our Call for Papers section below to add your ideas to the discussion. Take advantage of Early Bird Registration pricing and join us to learn, network, and enjoy beautiful San Diego!

[The full Conference Announcement and Call for papers](#)

Come and join us in San Diego in September, and let us together focus on how to make our cities more resilient!

K. Harald Drager
TIEMS President

More details below!

Welcome to San Diego by the City Mayor



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Best personal regards,

Kevin L. Faulconer
San Diego City Mayor

Keynote Speakers



Kevin L. Faulconer (USA), Mayor of San Diego
(Invited)

Kevin L. Faulconer is the 36th Mayor of San Diego. Shortly after taking office, Mayor Faulconer began implementing his vision for "One San Diego," a unified city with an inclusive city government that creates opportunities for San Diegans and delivers results for every neighborhood. The Mayor will welcome us and provide his vision and the initiatives that have made San Diego a leader in innovation and urban planning for large coastal cities.



Jorge Astiazarán Orcí (Mexico), Mayor of Tijuana (Invited)

Dr. Jorge Astiazarán Orcí was elected Mayor of Tijuana in 2013. He is a physician and has been a Red Cross volunteer since he was 11 years old. Jorge Astiazarán Orcí has been instrumental in achieving cross-border collaboration for emergency resilience. He will speak to us on his experiences and insights working with San Diego to improve emergency resilience in the region.



Kay Goss (USA), Founding president and CEO of World Disaster Management

Ms. Goss is the Former Associate FEMA Director in charge of national preparedness, training, and exercises for President Bill Clinton. Fellow, National Academy of Public Administration. President, TIEMS USA Board of Directors.



K. Harald Drager (Norway), Founding Member and TIEMS President

Mr. Drager has expanded TIEMS to become a worldwide organization with activities in Asia, Europe, the Americas, Africa, and Oceania; Mr. Drager will provide us a global perspective on emergencies, the role played by TIEMS and set the context for this conference.



Murray Turoff (USA), Distinguished Professor Emeritus, New Jersey Institute of Technology

Dr. Turoff is the designer of the Emergency Management Information System and Reference Index (EMISARI), co-founder Information Systems for Crisis Response and Management (ISCRAM).

More Keynote Speakers will be added!

Call for Papers

Papers are sought on the following topics, for presentation during themed paper sessions:

- Cross-Border and Inter-Agency Coordination
- Cyber Security
- Coastal Risk Management
- Urban Planning and Crime Prevention Through Environmental Design
- New and Applied Technologies
- Other related topics

Presenters will be allocated 20 minutes for each presentation, plus 10 minutes for discussion. Presenters will be asked to submit presentation materials (PowerPoint or equivalent) for use at the conference and for publication in the conference proceedings.

Presenters may also submit full papers for inclusion in the conference proceedings.

Please submit 300-word abstracts for proposed papers by June 1, 2016 according to

TIEMS 2016 Authors Instructions

at:

Abstract Submission

Abstracts will be approved by July 1. Authors will be asked to submit PowerPoint presentations by September 1, and they may also elect to submit full papers by August 15 for inclusion in the conference proceedings. Full papers will be reviewed, with final revisions due September 10.

Proposals for 60 minute panels are also sought. Please indicate if this is your proposal, when you submit your abstract.

ABSTRACT SUBMISSION

TIEMS Rohrmann Student Scholarship Fund

TIEMS Rohrmann Student Scholarship Fund was initiated by **Bernd Rohrmann** who donated the basic funds for TIEMS, to be able to support graduate students to participate in TIEMS annual conferences.

This Fund will financially support two students each year, and students are encouraged to submit their paper proposals and applications for financial support by filling in the application form according to the **Rules and Procedures** for the Fund. Students need to fill out the **Application Form** and send as instructed at the end of the form.

.SUBMIT YOUR APPLICATION FOR STUDENT SUPPORT

TIEMS 2016 Conference Registration and Payment

Conference registration includes:

- One-year TIEMS membership (not included in single day passes)
- Conference program and online access to abstracts, presentation materials, and full papers
- Attendance at all plenary and subject sessions
- First Night Reception (\$25 charge for single day pass holders and non-registered guests)
- Coffee breaks and lunch

Time of Payment	Conference fee Regular		Conference fee Student	
	Non TIEMS Members	TIEMS Members	Non TIEMS Members	TIEMS Members
Early Bird Registration Before 3/12/2016	400US\$	300US\$	200US\$	170US\$
Advanced Registration 3/13/2016—7/12/2016	4500US\$	350US\$	250US\$	220US\$
Pre-Event Registration 7/13/2016—9/12/2016	500US\$	400US\$	250US\$	220US\$
At Event After 9/13/2016	550US\$	450US\$	350US\$	330US\$
Single Day	220US\$	180US\$	140US\$	120US\$

NB! Gala Dinner tickets on second day of the conference is \$50.00 per person.

Early Bird Registration & Payment extended until 12.05.2016!

REGISTRATION & PAYMENT

Special Tour to San Diego State Visualization Center



The Viz Center is a physical space but one that largely represents relationships between people and organizations collectively attempting to positively impact the worlds of Humanitarian Assistance Disaster Relief, Community Resilience, Search and Rescue, and aid to operational Emergency Responders and Homeland Security.

The Viz Center specializes in organizing and delivering geospatial data (dots on maps) over small networks (terabytes to the handheld) for emergency response and disasters. By linking emerging technologies, innovative back-end processing, and operational needs especially for disaster, the Viz Center community is attempting to assist our community, region, nation, and world in responding to difficult situations with critical information, knowledge, and decision-support tools.

San Diego State Visualization Center

TIEMS 2016 Conference Venue



Join us in America's Finest City - San Diego, California at the city's new Central Library @ Joan A Irwin Jacobs Common. At nearly 500,000 square feet and standing nine-stories high, the San Diego Central Library boasts the latest technology, an outdoor garden and courtyard café, an art gallery, and views of the San Diego Bay, Petco Park, and the San Ysidro Border Crossing—the busiest land-border crossing in the world.

San Diego is also home to Balboa Park, SeaWorld® San Diego, Legoland® California, historic Old Town San Diego, the Gaslamp District, and beautiful beaches.

Travel Lindbergh Field at the San Diego International Airport (SAN) is 5.3 miles from the conference facility. Transportation from the airport to the conference can be obtained the public transportation, taxi, or Uber.

Non-US persons may need to apply for a visa to attend the conference. If you need a visa, you will need to obtain one from the US Embassy Consular Section in your country. How to obtain a visa is described at:

[Obtaining a Visa.](#)

If you need a visa, we recommend you start the process right away, as it can take several months.

If your country is listed as part of the Visa Waiver Program (VWP), you may not need a visa. (You will, however, require a machine-readable passport.) A list of countries participating in the VWP can be found here:

[Visa Waiver Program](#)

[San Diego Library](#)

TIEMS 2016 Sponsorship Opportunities



TIEMS 2016 Annual Conference Sponsorship Packages

SPONSOR LEVEL BENEFITS	Bronze	Silver	Gold
	\$1,500	\$3,000	\$6,000
Recognition on Conference Program and Pre-conference Announcements	X	X	X
Recognition in TIEMS Newsletter (4 issues per year)	X	X	X
Recognition on TIEMS web site (for 12 months)		X	X
Recognition on TIEMS Conference web- site for 6 months (Preceding the Conference)		X	X
One quarter page Advertisement Space in TIEMS Newsletter (4 issues per year)	X		
One half page Advertisement Space in TIEMS Newsletter (4 issues per year)		X	
One page Advertisement Space in TIEMS Newsletter (4 issues per year)			X
Sponsor insert in Participant Handout/Bag at Conference		X	X
One 2x3 meter Exhibition Space for Presentations at Conferences	X	X	X
One Sponsor-provided Banner at Conference Site up to 1.5 x 4 meters, or 1 x 1.5 meter poster printed by TIEMS			X
One Complementary Registration*) at TIEMS Annual Conference	X		
Two Complementary Registrations*) at TIEMS Annual Conference		X	
Three Complementary Registrations*) at TIEMS Annual Conference			X

For more information contact Tom Robertson at thinkingteams@gmail.com

Conference Hotels

Ramada Gaslamp/Convention Center



This historic establishment, built in 1913, combines an ambiance of yesteryear with the convenience of 21st century amenities and services. Located in San Diego's entertainment district, the Gaslamp Quarter, the hotel is a 15 minutes walk from our meeting location. Our special conference room rate is \$82,20*) plus tax.

[Ramada Gaslamp](#)

Marriott San Diego Gaslamp Quarter



This hotel offers guests the intimate, quaint, unique experience of a boutique hotel, supported by the well-known personalized service provided by the Marriott brand, which means to you that you will have peace of mind knowing you have selected a property that will take care of your meeting needs in a positive, professional manner. A 7-minute walk from our meeting location, rooms are \$209*) plus tax.

[Marriott San Diego Gaslamp](#)

**) Prices subject to change*

For further details, please, contact **Thomas Robertson**

TIEMS - India Chapter Update

by Kailash Gupta, kailashgupta@my.unt.edu



TIEMS - India Chapter Progress

TIEMS Newsletter, Issue 24, July 2015 informed about the establishment of TIEMS - India Chapter with registration number: 30 Jaipur 2015 on April 9, 2015, under the Rajasthan Public Trust Act, 1959. The activities of the TIEMS - India Chapter till July were covered in that Newsletter.

TIEMS – India Chapter in less than a year has made tremendous progress. **The largest visibility of TIEMS – India Chapter occurred as a Disaster Management Partner of the World’s Largest Free 9th Jaipur Literature Festival, January 21-25, 2016** (see photographs and coverage in Update 4 below). **TIEMS – India Chapter’s disaster management partnership and logo at the Jaipur Literature Festival were displayed on big screens on all the six parallel venues having 175 sessions, with about 275,000 footprints over a five day period. The sessions were also live broadcast on the Internet.**

The date of TIEMS – India Chapter **Workshop on Education in Disaster Management: Opportunities & Challenges** to be co-hosted with the National Center for Disaster Mitigation & Management of the Malaviya National Institute of Technology, Jaipur have been finalized and the workshop will be held on **Friday September 9, 2016, at Jaipur. Mr. Kiren Rijiju, Minister of State for Home Affairs (Disaster Management), Ministry of Home Affairs, Government of India** has been invited to inaugurate the Workshop.

TIEMS – India Chapter is Knowledge Partner of the International Conference on Disaster Risk Reduction, March 26-27, 2017, Kolkata (<http://www.icdrr2016.in/>). TIEMS – India Chapter’s logo has been displayed on the ICDRR website. Drs. Kailash Gupta and Meen Poudyal Chhetri of TIEMS are invited speakers and TIEMS – India Chapter General Secretary Neelay Srivastava is also one of the speakers at ICDRR.

TIEMS - India Chapter researched, prepared, and submitted pro bono for the third year **application of Jaipur City for the 100 Resilient Cities Challenge of the Rockefeller Foundation**. India Chapter presented papers at the three conferences, including the TIEMS Annual Conference, Sept. 30 – Oct. 2, 2015. The progress of TIEMS – India Chapter is presented below in continuation of the report in TIEMS Newsletter, Issue 24, July 2015.

=====

Update 1

Mr. Kiren Rijiju, Minister of State for Home Affairs (Disaster Management), Ministry of Home Affairs, Government of India, came to Jaipur, capital of Rajasthan state on February 2, 2016. Dr. Kailash Gupta, Honorary Founder Trustee of TIEMS – India Chapter met Mr. Rijiju and invited him to inaugurate the Workshop on Education in Disaster Management: Opportunities & Challenges, September 9, 2016, Jaipur with a formal letter from TIEMS – India Chapter. Dr. Kailash Gupta met **Mr. Kamal Kishore, Dr. D N Sharma, Lt. Gen. N C Marwah, and R K Jain, Members of the National Disaster Management Authority; Prof. Santosh Kumar, Executive Director, National Institute of Disaster Management; Mr. O P Singh, Director General, National Disaster Response Force;** and other experts during the National Workshop on Response Capability, March 7, 2016, New Delhi. Dr. Kailash Gupta invited them for the Workshop on Education in Disaster Management handing over the below mentioned announcement. Readers are requested to block their calendar and invited to participate in the Workshop.

Workshop on Education in Disaster Management: Opportunities & Challenges Friday September 9, 2016, Jaipur, India

Announcement and Call for Papers

Co-organized by



The International Emergency Management Society – India Chapter

www.tiems-india.org.in

&

National Center for Disaster Mitigation & Management



Malaviya National Institute of Technology Jaipur

मालवीय राष्ट्रीय प्रौद्योगिकी संस्थान जयपुर

<http://www.mnit.ac.in/>

Disasters are increasing in intensity and number and may even become worse due to climate change, living in the coastal (sea and river) areas, and haphazard urbanization. Disasters inflict deaths and disabilities, affect people, disrupt businesses and gains of long-term development in a short time. World Bank has estimated that on average direct losses from disasters go up to two percent of Indian GDP and 12% of government revenue per year. OCHA asserts that seven dollars in disaster response are saved by investing each dollar in disaster preparedness.

We need professionals educated in disaster management for preparedness, mitigation, response, and recovery. Education in this context means long-term education programs. In future, more disaster managers in government, business and industry, and non-profit will come to the job with education in disaster management. The Workshop will explore the opportunities and challenges involved in

education in disaster management globally in general and particularly in India. The focus of the Workshop is on:

- Education opportunities in disaster management at certificate, bachelors, masters, and doctoral level
- History and growth of disaster management education
- Face-to-face, distance, online, and blended courses
- Quality considerations and accreditation
- Research in disaster management
- Opportunities in disaster management as a career
- Challenges of employment

Call for Papers

The International Emergency Management Society - India Chapter (TIEMS – India Chapter) along with National Center for Disaster Mitigation & Management (NCDMM) of the Malaviya National Institute of Technology (MNIT), a deemed university, Jaipur will co-organize a one day Workshop on Friday September 9, 2016. This is the call of papers to block your calendar. The details of the Workshop and paper submission will be available on the TIEMS – India Chapter website www.tiems-india.org.in as well as on MNIT website <http://www.mnit.ac.in/> or a dedicated Workshop website linked to them.

Who Should Attend?

The Workshop will provide an opportunity to bring together policy makers, disaster management administrators, education administrators, researchers, academicians, corporate social responsibility executives, business continuity professionals, non-profit representatives, students, parents, and others who are interested in disaster management to learn about the opportunities and challenges of education in disaster management, peer-learning, and networking to make India and the world disaster resilient.

The International Emergency Management Society – India Chapter

TIEMS started in 1993 is registered in Brussels, Belgium as an international, independent, and non-profit voluntary organization. TIEMS is an organization of disaster and emergency management professionals (www.tiems.info). TIEMS has international network of experts that is valuable for exchanging expertise and experience, and can ensure that culturally appropriate best solutions for disaster management would be used. TIEMS organizes conferences, including an Annual Conference in a different country, and conducts research. TIEMS has 12 chapters in different countries and regions worldwide. TIEMS – India Chapter was registered under the Rajasthan Public Trust Act, 1959 (www.tiems-india.org.in).

National Center for Disaster Mitigation & Management Malaviya National Institute of Technology, Jaipur

NCDMM is establishing an earthquake research laboratory. It conducts workshops, conferences, seminars on disaster management. MNIT has a Masters in Technology program in Disaster Assessment & Mitigation. Two students of this program were trained in field research by the TIEMS – India Chapter in 2014, following Rana Plaza collapse in Saver, Bangladesh, which was the second worst building collapse in the world (after 9/11) killing about 1,134 people.

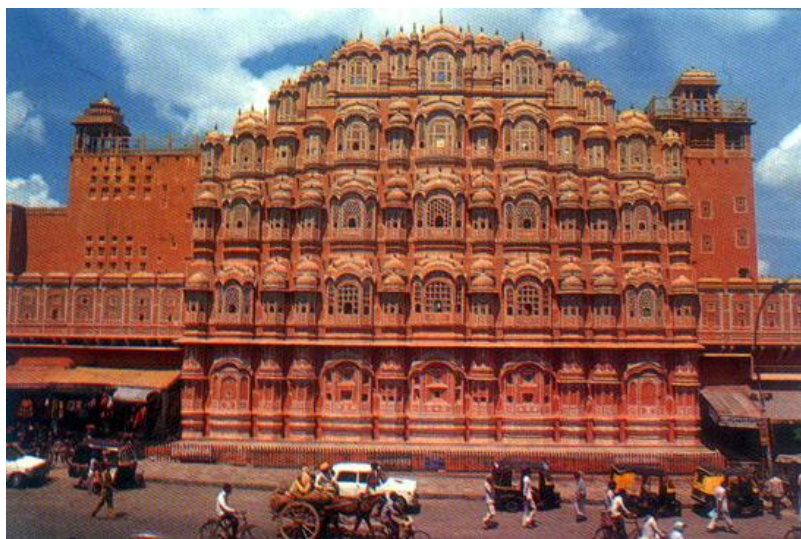
Malaviya Regional Engineering College, Jaipur was established in 1963 as a joint venture of the Government of India and Government of Rajasthan. In 2002 it was given the status of National Institutes of Technology and renamed MNIT. Later in 2007 it was proclaimed institute of national importance through an Act of Parliament and became a deemed university. MNIT celebrated 50 years of teaching and excellence by organising nearly 800 events in its Golden Jubilee year. At present, in addition to the research, consultancy and developmental activities, the Institute offers undergraduate (B. Tech.) and post-graduate level courses (M. Tech. / M.Sc. / MBA & Ph.D.) to about 4,500 students in almost all leading fields of engineering, technology, management and sciences.

Workshop Venue

The Workshop will be held in the MNIT campus spreads over 325 acres of lush green area in the prime location of Jaipur city.

Jaipur

Jaipur is the first planned city of India established in 1727, with roads and streets cutting at right angles. It is the capital of Rajasthan, largest state in India. According to 2011, census Jaipur had 3 million population. Jaipur with Delhi and Agra (famous for Taj Mahal - 240 km) forms the golden tourist triangle. Jaipur is rich in culture, architecture, and two UNESCO designated heritage sites. Jaipur is known as Pink City, because the old downtown painted pink can grip any visitor with admiration. With splendid fortresses, majestic palaces, tranquil temples and beautiful *havelis* (houses); Jaipur turns out to be an ideal tourist destination. Jaipur is also city of crafts and folk art recognized as part of UNESCO Creative Cities Network. Thirty-six crafts and folk art, including the ones related to sculpture, pottery, textiles, and jewellery making by micro, small scale, and cottage industries contribute about 30 percent of Jaipur's economy. These intricate works of crafts and folk art add life and colour to this Pink City's uniqueness. It a bustling city and a business centre with all the trappings of a modern metropolis, including a metro, but yet flavoured strongly



Hawa Mahal (Palace of Winds), Jaipur

with an age-old charm that never fails to surprise a traveller. Jaipur is the apt blend of heritage, palaces, culture and art and the flamboyance of this place can be experienced only by visiting it.

How to Reach Jaipur

Jaipur is well connected by air, rail and road, with some international flights directly to and from Jaipur. Jaipur is 260 km from Delhi. There are number of daily flights, trains, and buses between Delhi and Jaipur, apart from availability of taxi services. It is well connected with other cities of India.

How to Reach the Venue

MNIT Jaipur is situated on Jawaharlal Lal Nehru Marg about 5 km from Jaipur International Airport and is about 9 km from Jaipur Railway Junction, and 10 km from Central Bus Stand (Sindhi Camp).

Climate

In September the weather is expected to be pleasant that allows one to explore more of this place without getting scorched in the seething heat or frozen in cold. The average maximum temperature during the Workshop time is expected to be 32 C (90 F) and minimum 24 C (76 F) based on historical records.

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Update 2



**TIEMS – India Chapter is Knowledge Partner of
International Conference on Disaster Risk Reduction
March 26-27, 2017, Kolkata
<http://www.icdrr2016.in/>**



TIEMS – India Chapter is Knowledge Partner of the International Conference on Disaster Risk Reduction, March 26-27, 2017, Kolkata (<http://www.icdrr2016.in/>). TIEMS – India Chapter's logo has been displayed on the ICDRR website. If a viewer clicks on the TIEMS logo on the ICDRR website, he is taken to the TIEMS web site. **Dr. Kailash Gupta, Honorary Managing Trustee, TIEMS – India Chapter and Dr. Meen Poudyal Chhetri, Chair of TIEMS Paper Review Committee and TIEMS Proceedings Co-Editor from the neighbouring Nepal are invited speakers at ICDRR. Mr. Neelay Srivastava, Secretary, and Dr. Saurabh Dalal, Medical Advisor of TIEMS – India Chapter are also speakers.**

According to ICDRR, the Asia Pacific region faces over 60% of the world's natural disasters. Global Assessment Report on Disaster Risk Reduction 2015 states India's average annual economic loss due to disasters is estimated to be \$9.8 billion. This includes more than \$7 billion loss on account of floods, landslides which includes West Bengal & north east region of India.

The objective of the ICDRR is not only to raise the voice and to educate how to reduce disaster risk, but also that responsibility should be shared with stakeholders including local government, the private sector, and other stakeholder in every possible way.

ICDRR is the flagship event of the Excellous Society (ES). ES is a non-profit organisation working towards making the country's most vulnerable communities safer from natural and other hazards, through preparedness and mitigation. Central to ES's successful contribution to the field of DRR is the strong partnership with various national and international bodies working with same vision and the group of core members who are specialists in the field with strong linkages to Government organizations and civil society. ES strives to encourage preparedness and mitigation at all levels of society including schools, hospitals, corporate sector and communities at large.

TIEMS – India Chapter workshop announcement will be distributed with the ICDRRR kit. It is expected that 100 people including both international and domestic delegates, will attend the ICDRR.

Update 3

National Disaster Response Force invites TIEMS – India Chapter for National Workshop on Response Capability, March 7, 2016, Vigyan Bhawan, New Delhi

National Disaster Response Force (NDRF) (<http://ndrfandcd.gov.in/cms/Ndrf.aspx>), set up by the Government of India under the Disaster Management Act, 2005, invited Dr. Kailash Gupta, Honorary Managing Trustee, TIEMS – India Chapter, to contribute in the National Workshop on Response Capability, March 7, 2016, Vigyan Bhawan, New Delhi. On completion of 10 year of service to the nation NDRF organized the Workshop in order to prepare a roadmap to strengthen national response capabilities involving all stakeholders. In addition to its mandate, NDRF is playing a pivotal role in community awareness, community capacity building and imparts disaster management training to other stakeholders and masses to make a disaster resilient nation.

The workshop was inaugurated by Dr. P K Mishra, Additional Principal Secretary, Prime Minister's Office. Shri O P Singh, Director General, NDRF, said NDRF has carried out numbers of rescue & relief operations in different parts of country as well as abroad and saved more than four lacs precious lives. NDRF teams reached Nepal in five hours of April 25, 2015, earthquake.

During this National Workshop following topics of were discussed: “Preparedness of NDRF: Critical Gap Areas,” “Effective Disaster Response in India: Strength & Weakness,” “Community Level Preparedness,” “Community Strengthening: Challenge for NGOs,” “National Preparedness towards Trauma Care Response,” and “National Preparedness towards CBRN Emergencies.” Mr. Arjun Katoch,



DG NDRF, Shri O.P. Singh presenting a memento to Hon'ble MoS Shri Kiren Rijiju during the National workshop on “Strengthening National response capabilities”.

Former Chief of FCSS, UNOCHA; Mr. A K Sinha, Vice-Chairman, Bihar State Disaster Management Authority; Prof C V R Murty, Director, Indian Institute of Technology Jodhpur; Dr. M C Mishra, Director, All India Institute of Medical Sciences, New Delhi; Prof. Santosh Kumar, Executive Director, National Institute of Disaster Management; Mr. Kamal Kishor, Dr. D N Sharma, Mr. R K Jain, and Lt. Gen. N C Marwah, Members of National Disaster Management Authority (NDMA) and some former members of NDMA expressed their views on different topics.

Shri Kiren Rijiju, Minister of State for Home Affairs (Disaster Management), Ministry of Home Affairs, Government of India adorned the occasion as Chief Guest in closing ceremony. As already stated, Dr. Kailash Gupta took this opportunity to invite members of NDMA, Executive Director of National Institute of Disaster Management, and other experts for the Workshop being organized by the India Chapter in September. The Announcement of the Workshop (see Update 1 above) was distributed to the Workshop participants.

Update 4

TIEMS – India Chapter acted as Disaster Management Partner of the World’s Largest Free 9th Jaipur Literature Festival, January 21-25, 2016

TIEMS – India Chapter acted as Disaster Management Partner of the world’s largest free literature festival, the 9th Jaipur Literature Festival, January 21-25, 2016 (<https://jaipurliteraturefestival.org/>). TIEMS – IC worked with local police, private security agency, and the organizer - Teamwork Arts - in disaster management and evacuation planning, concurrent monitoring the event, preparedness, and response in case of an incident.

The Jaipur Literature Festival is the world's largest free literary festival. From Nobel laureates to local language writers, Man Booker winners to debut novelists, every January the most remarkable, witty, sensitive and brilliant collection of authors from South Asia and across the world come together for five days of readings, debates and discussions at the beautiful Diggi Palace Hotel in Jaipur. Equity and democracy run through the Festival's veins, providing access for all to some of our greatest writers and thinkers along with a space to dare, dream and imagine; a powerful statement in a country where such opportunities remain the privilege of a few.

There were 175 sessions going in parallel in six venues, morning and evening music events, book launches, and lots more. TIEMS – India Chapter's disaster management partnership with the TIEMS logo were displayed on big screens on all the six venues.



Char Bagh venue of Jaipur Literature Festival displaying TIEMS – India Chapter Disaster Management Partnership on January 23, 2016



Mugal Tent venue of Jaipur Literature Festival displaying TIEMS – India Chapter Disaster Management Partnership on January 22, 2016



Front Lawn venue of Jaipur Literature Festival displaying TIEMS – India Chapter Disaster Management Partnership on January 22, 2016



Visual Display of Disaster Management Partnership of TIEMS – India Chapter at the Jaipur Literature Festival, January 21-25, 2016

With about 275,000 footprints over a five day period TIEMS – IC got its largest visibility. A formal disaster partnership agreement is being worked out between Teamwork Arts and TIEMS – IC. The 10th Jaipur Literature Festival will be held from January 19 to 23, 2017. You may consider blocking your calendar for these dates. You will be able to register freely online at <https://jaipurliteraturefestival.org/>.

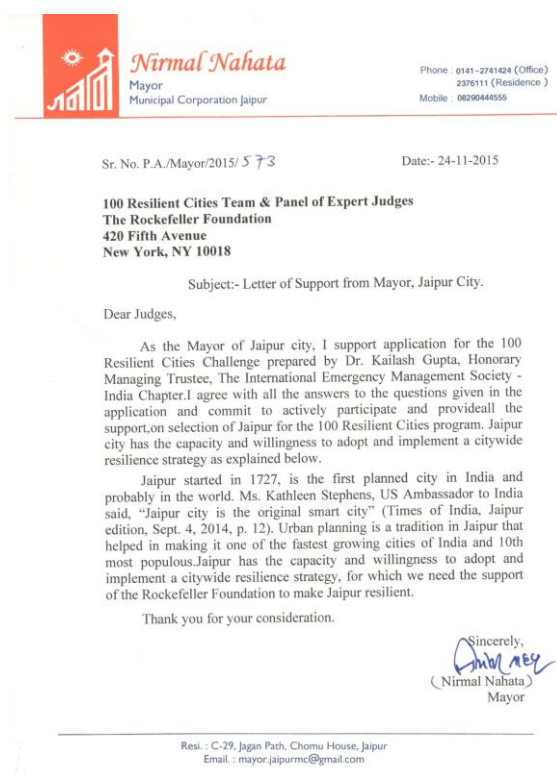
Update 5

TIEMS – IC along with Mayor Jaipur will converse with a senior leader of 100 Resilient Cities Challenge of Rockefeller Foundation for selection of Jaipur

The Rockefeller Foundation, New York (<https://www.rockefellerfoundation.org/>) on its centenarian year 2013 launched a program of 100 Resilient Cities Challenge (<http://www.100resilientcities.org/#/-/>) to select 100 cities around the world with more than 50,000

inhabitants to make them resilient. The Rockefeller Foundation allocated \$160 million for this project of their own and will leverage technical and financial support from other sources to the selected 100 cities. The 100 Resilient Cities Challenge will pay for two to three years' salary of a Chief Resilient Officer to be appointed by the selected cities to prepare a resilient strategy with different stakeholders including local citizens and its implementation. (The Chief Resilient Officer of Rome made a presentation at the TIEMS Annual Conference, Rome, 2015). The Chief Resilient Officers Network will help in sharing knowledge and experiences.

Letter of Support of the Mayor of Jaipur City for the 100 Resilient Cities Challenge application prepared by the TIEMS – India Chapter



TIEMS - India Chapter Dr. Kailash Gupta proactively contacted the Mayor of Jaipur city in 2013 and offered to research, prepare, and submit the application of Jaipur city pro bono. His offer was accepted and he submitted the application. In the second phase he again submitted the application in 2014. For the third and last phase of the 100 Resilient Cities Challenge of the Rockefeller Foundation to select 33 cities, he researched and prepared a strong application of Jaipur city with the new Mayor, officials of the Jaipur Municipal Corporation and other stakeholders and online submitted the application on November 24, 2015. This work, like the previous two years was also done pro bono.

This year Jaipur city has been selected as one of the top city candidates. A senior leader, of the senior leadership team of the 100 Resilient Cities Challenge team will meet the Jaipur Mayor and Dr. Kailash Gupta on April 11 to ensure a mutual understanding of the 100RC process, views of resilience, and the partnership they work to forge with their network members.

Update 6

TIEMS - India Chapter presented a paper at the 2nd World Congress on Disaster Management, November 19-22, 2015,



Mr. Neelay Srivastava (third from left), Honorary Secretary, TIEMS - India Chapter at the 2nd World Congress on Disaster Management Visakhapatnam

TIEMS - India Chapter Honorary Secretary Neelay Srivastava presented a paper at the 2nd World Congress on Disaster Management, November 19-22, 2015, Visakhapatnam (<http://www.wcdm.info/index>) organized by Disaster Management Infrastructure and Control Society (DMICS) in collaboration with the Government of Andhra Pradesh state and supported by various local, national, regional, and international organizations. TIEMS was one of the knowledge partners and collaborating organization of the Congress and TIEMS logo was also on the Congress website at http://www.wcdm.info/cohosting_collabrating_institutes. Announcement of the TIEMS - India Chapter Workshop on Education in Disaster Management: Opportunities & Challenges, Friday September 9, 2016, Jaipur, India given above was distributed with the Conference kit. DMICS was established in 2005 to enhance understanding and awareness among the people about the risk of various types and dimensions of disasters, and about the measures to be taken for reducing the risks for better preparedness, response and recovery, through multi-disciplinary research and publications, and multi-stakeholder consultations.

The Conference was inaugurated by Mr. N Chandrababu Naidu, Chief Minister, Government of Andhra Pradesh state. The Congress discussed the means of implementation of Sendai Framework on Disaster Risk Reduction in South Asia and suggests a road map for achieving the global targets in the specific contexts of the region.

Neelay presented a paper on "Indication of Climate Change in Triggering Hazards: Analysing it in particular Glacial Lake Outburst Floods (GLOFS) in the Himachal Himalayas." in the session on "Geoinformatics for Effective Management of Disaster."

At the Conference Neelay also did networking by establishing new contacts and renewing old contacts to promote TIEMS - India Chapter and its forthcoming Workshop.

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Update 7

TIEMS – India Chapter participated in the Resurgent Rajasthan Partnership Summit, November 18-20, 2015, Jaipur

In order to attract investment from private sectors and to sensitise them for investment in the state, Government of Rajasthan embarked on a sustained investment promotion campaign over a period of time which included investor meets, events, conferences, culminating into Resurgent Rajasthan Partnership Summit 2015 (<http://resurgent.rajabsthan.gov.in/>). The summit was held from 18th to 20th November, 2015 at the new Jaipur Exhibition & Convention Center, Sitapura, Jaipur. The global investment meet organised in association with the Confederation of Indian Industry, partner countries, knowledge partner, media partner, and sponsors.

The Summit attracted top industrialists of the country and abroad. A local newspaper estimated the total assets of the companies of the industrialists seating on the dais during the inaugural function (see photograph) equivalent to about 10% of the Indian GDP. There were nearly 4,000 participants, of which many came from abroad. The Summit attracted commitments of investments from 295 memoranda of understanding (MoUs) amounting to Rs. 3,211 billion, equivalent to about US\$ 50 billion, with proposed employment for 239,694 people. The MOUs were in agriculture, education, energy, infrastructure, roads & highways, manufacturing, medical & health, petroleum & mines, and tourism.



Mrs. Vasundhararaje Sindia, Chief Minister of Rajasthan addressing the Resurgent Rajasthan Partnership Summit at the Inaugural Session. Sitting on the dais include Finance Minister of India, Ministers of Rajasthan, and industrialists.



A view of the Resurgent Rajasthan Cultural Show

Dr. Kailash Gupta was invited to provide guidance in business continuity strategic planning and implementation. At the Summit, Dr. Gupta did networking by established new contacts and renewing old contacts to promote TIEMS - India Chapter and its forthcoming Workshop. The Summit included a mesmerizing Resurgent Rajasthan Cultural Show with laser lights, folk dancers, and audio-visual effects.

Update 8

**TIEMS - India Chapter presented a paper at the 6th Annual Conference of the International Society for Integrated Disaster Risk Management
TIFAC-IDRiM 2015, October 28-30, 2015, New Delhi**



Dr. Kailash Gupta presenting a paper on ASSET project at the 6th Annual Conference of the International Society for Integrated Disaster Risk Management, TIFAC-IDRiM 2015, October 28-30, 2015, New Delhi

TIEMS - India Chapter Honorary Managing Trustee Dr. Kailash Gupta, presented a paper at the 6th Annual Conference of the International Society for Integrated Disaster Risk Management on “Disaster Risk Reduction: Challenges and Opportunities for Sustainable Growth” (<http://www.idrim2015.org/>) organized by Technology Information, Forecasting and Assessment Council, Department of Science and Technology, Government of India, October 28-30, 2015, New Delhi. The conference was supported by several national and international organizations including, the Disaster Prevention Research Institute (DPRI) of Kyoto University (Japan), the International Institute for Applied Systems Analysis (IIASA) (Austria), Northumbria University (UK), Indian National Disaster Management Authority and many other Government of India organizations, and Indian universities.

The IDRiM Society (<http://idrim.org/>) and its Journal (IDRiM Journal) were officially launched in 2009 in Kyoto, Japan, at the 9th IIASA-DPRI Forum on Integrated Disaster Risk Management (IDRiM Forum). The launching of the IDRiM Society was promoted also by many national and international organizations including Beijing Normal University, International Institute of

Earthquake Engineering and Seismology (IIEES), National Research Institute for Earth Science and Disaster Prevention (NIED), the United Nations International Strategy for Disaster Reduction (UN/ISDR), and the Joint Research Centre of the European Commission (JRC/EC). The IDRim Society Charter was approved by more than 100 international experts, practitioners, and individuals from more than 20 different countries working in the disaster risk management field.

Technology Information, Forecasting and Assessment Council (TIFAC) (<http://www.tifac.org.in/>) is an autonomous organization set up in 1988 under the Department of Science & Technology, Government of India to look ahead in technologies, assess the technology trajectories, and support technology innovation by network actions in select technology areas of national importance. In 1993, TIFAC has worked on *Technology Vision 2035*, a nationwide exercise that identifies a range of technologies to address the prerogatives that an Indian must enjoy as citizen of a developed economy by 2035. It also identifies 10 grand challenges the country must confront to develop technological muscles and move up in all socio-economical indices. The vision would be presented as a document backed-up by 12 technological roadmaps.

The Conference was inaugurated by **Mr. Kiren Rijiju, Minister of State for Home Affairs (Disaster Management), Government of India**, who is in-charge of disaster management. There were 350 participants, of which 125 came from abroad. The Conference received 450 abstracts and 300 full papers. More than 100 scientific papers and 35 papers by young scientists and 27 posters by them were presented at the three-day Conference. Announcement of the TIEMS - India Chapter Workshop on Education in Disaster Management: Opportunities & Challenges, Friday September 9, 2016, Jaipur, India was distributed with the Conference kit.

Dr. Kailash Gupta presented a paper on “Action Plan on Science in Society Related Issues in Epidemics and Total Pandemics (ASSET).” He talked about the European Commission funded 48-month (ending in December 2017) ASSET project, its genesis, objectives, partners, deliverables, progress, and complexity of the project.

At the Conference Dr. Gupta also did networking by established new contacts and renewing old contacts to promote TIEMS - India Chapter and its forthcoming Workshop. The announcement leaflet of the TIEMS – IC Workshop was also distributed to the delegates.

Update 9

TIEMS – India Chapter Presented a Paper, Panellist on Nepal Earthquake in Plenary Sessions on 1st Day, and Chaired Morning Parallel Session on 2nd Day at TIEMS Annual Conference, Sept. 30 - Oct. 2, 2015, Rome

Dr. Kailash Gupta, Honorary Managing Trustee of TIEMS – India Chapter presented a paper on “*Lessons Learned from Mass-fatalities Management Research*” in the morning plenary session on 1st day at the TIEMS Annual Conference, September 30 – October 2, 2015, Rome. On the same day in the afternoon plenary session on “Round Table: Lesson Learnt from the Nepal Earthquake Incident” he was one of the six panellist. It may be recalled that after two days of the Nepal April 25, 2015, earthquake he went for response to Nepal and was there during the second big earthquake of May 12, 2015, and continued the good work for 19 days in Nepal.

Kailash also chaired one of the two morning parallel sessions on 2nd day of the Annual Conference.

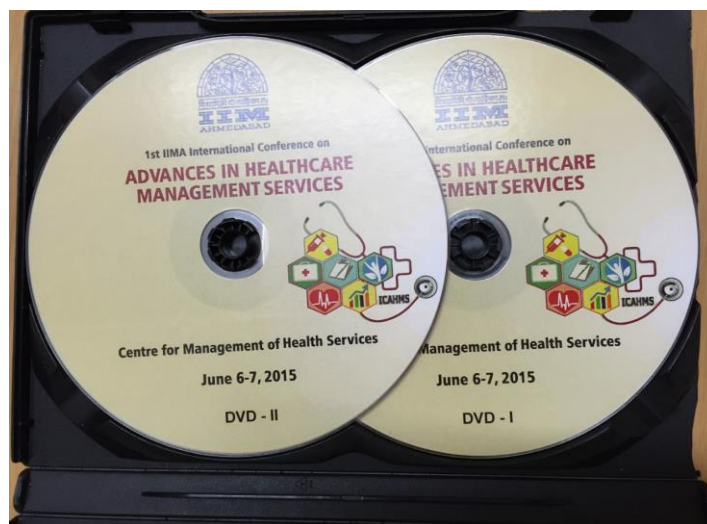
Update 10

TIEMS – IC presentation on *Seeking Information after the 2010 Haiti Earthquake: A Case Study in Mass-fatalities Management* at the 1st Indian Institute of Management Ahmedabad International Conference on Advances in Healthcare Management Services, June 6-7, 2015, Ahmedabad published in an Interactive DVD

In the TIEMS Newsletter July 2015, Issue 24 on page 78 we reported about the presentation of a paper by Dr. Kailash Gupta on Seeking Information after the 2010 Haiti Earthquake: A Case Study in Mass-fatalities Management at the 1st Indian Institute of Management Ahmedabad International Conference on Advances in Healthcare Management Services, June 6-7, 2015 (<http://www.iimahd.ernet.in/cmhsconf2015/img/ConferenceBrochureofCMHS.pdf>).

We had also reported about the availability of the paper in the Abstract Booklet on pages 61 to 64 freely downloadable form http://www.iimahd.ernet.in/ICAHMS/ICAHMS_ABSTRACT_BOOKLET.pdf

The Indian Institute of Management, Ahmedabad produced two interactive DVDs of the Conference documentation of all the presentations in October 2015. The Volume II of the DVD that contains second day's presentations, includes recording of Dr. Gupta's oral presentation along with PowerPointPresentation. The interactive DVDs were sent to all the participants.



Update 11

TIEMS – India Chapter paper on Humanitarian Logistics of Human Remains of Disasters presented at the 1st International Conference on Humanitarian Logistics, December 2-3, 2013, Raipur published as a book chapter in *Managing Humanitarian Logistics*

To achieve the success of a relief effort in the face of global emergencies humanitarian logistics and supply chain play a key role focusing on rapidly delivering the correct amount of goods, people and monetary resources to the needed locations. Therefore, it has become extremely important that the logistics systems and supply chains responsible for delivering this aid from origin to recipients become both effective and efficient. With the above objective the Indian Institute of Management,

Raipur in Chhattisgarh state had organized 1st International Conference on Humanitarian Logistics, December 2-3, 2013, Raipur (<http://www.iimraipur.ac.in/ichl2013/>).

Dr. Kailash Gupta of TIEMS – India was one of the invited speakers. Dr. Gupta presented his research based paper on Humanitarian Logistics of Human Remains of Disasters. Out of the hundreds of papers presented at the Conference, a



compendium of selected 21 best papers is now published by Springer as an edited book, *Managing Humanitarian Logistics*.

The editors in the preface had written that, “A relief supply chain requires trained manpower, understanding of peculiarities of disasters in different terrains, logistics for relief operations, and reverse logistics of disposing human remains in a disaster.”

At the beginning to the last Part IV of the book on Relief Supply Chain for Disaster Management, the editors have stated about Dr. Gupta’s paper, “. . . paper presents the least researched issue of dealing with human remains after disasters. Vulnerable people affected by disaster include family members and community of the deceased in the aftermath of a disaster. After a mass-fatality disaster if the human remains are not recovered, not preserved, not communicated to the community, not identified, and / or not dispositioned according to the tradition, culture, and religious practices, it leaves a Zeigarnik effect on the community and the surviving family members. The paper discusses humanitarian logistics from the perspective of humanitarian remains defines it as recovery of human remains, preservation of human remains, communication about human remains, identification of human remains, and disposition of human remains after a disaster involving mass-fatalities.”

Update 12

TIEMS – India Chapter Proposal to Regional Science Center & Science Park, Jaipur for Disaster Management, including Traffic Awareness Program

According to the National Crime Records Bureau, Ministry of Home Affairs, Government of India (<http://ncrb.nic.in/>), **during 2014, a total of 450,898 cases of road accidents were reported which rendered 477,731 persons injured and 141,526 deaths.** This is the highest number of road accident deaths in a country in the world and probably highest number of deaths by vehicle-kilometres travelled compared to any other country. Road accidents are the biggest on-going disaster (if road accident is considered a disaster and not an accident or an emergency) compared to any other disasters that get widespread 24X7 live electronic media coverage. **In Jaipur city alone there were 3,085 road accidents in 2014, an increase of 6.1% compared to 2013, resulting in 844 fatalities and 2,801 injuries of people** (<http://ncrb.gov.in/ADSI2014/adsi-2014%20full%20report.pdf>. p130 & 132).

The Regional Science Center & Science Park (RSC&SP), Department of Science & Technology (DST), Government of Rajasthan, Jaipur invited Expression of Interest in September 2015 working in the field of communication & popularization of science & technology / traffic awareness for empanelment with DST as collaborator / implementing agency for planning, development & organizing scientific activities encompassing exhibitions, workshops, seminars, trainings, awareness camps etc. in RSC&SP, Jaipur (<http://dst.rajasthan.gov.in>). RSC&SP is a science park encompassing an area of 3.14 acres within the city. This park aims at imparting scientific temper amongst masses in general and students in particular by providing a practical approach and direct involvement in the learning process. The park propagates scientific and technical awareness in society to learn while playing. It includes a traffic park.

TIEMS – India Chapter grabbed the opportunity and submitted its Expression of Interest for disaster management, including traffic awareness activities to the RSC&SP. The Expression of Interest was approved by the RSC&SP. TIEMS – India Chapter has been requested to submit detailed proposal, on which India Chapter will be working.

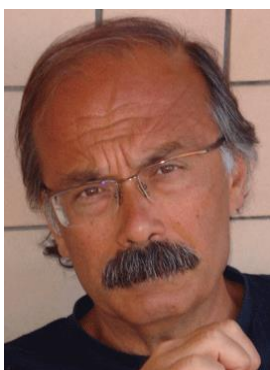
Report from TIEMS 2015 Annual Conference in Rome

Evolving threats and vulnerability landscape: new challenges for the emergency management

The International Emergency Management Society Conference, Roma
September 30- October 2, 2015



Carmelo Di Mauro
Carmelo is an environmental Engineer with more than twenty years experience in the applied science, in particular in the field of risk-based decision-making processes.



Vittorio Rosato
Head of the Laboratory for the Analysis and Protection of Critical Infrastructures at ENEA Casaccia Research Centre in Roma.

Nowadays, communities rely on services provided by technological infrastructures. These are modern “lifeline systems” physically tying together urban areas, communities, and neighborhoods, and facilitating the growth of local, regional, and national economies. These (inter)dependent systems work together to provide essential services to modern societies which are thus strictly dependent on the capability of exploiting the capacities provided by such technological resources and assets. The use of infrastructures contributes furthermore to reshape and improve relationships between communities, government, private sectors, non-profit communities and citizens. For that reason, citizens are more and more directly involved in supporting public services and infrastructure systems (e.g. transportation, energy, education, health and care, etc.) for example through so-called open data, living labs and tech hubs. These future developments will further improve the sustainability of our societies.

On the other side, crises due to natural (or

anthropic) related events might seriously endanger these infrastructures and weaken the fruitful feedbacks they supply. Disaster are thus dramatic events which, other than producing casualties, break the connections between citizens and between citizen and the community, thus producing relevant social damages.

The TIEMS Conference, organized by the TIEMS Chapter Italy and hosted by the Istituto Superiore Antincendio (i.e. Italian Firefight Academia) has been aimed at investigating what are the new challenges in the field of risk and disaster management (also in relation to infrastructure integrity and service continuity) to face old and new type of threats by bring together leading researchers, practitioners and industries from all areas of emergency management to take advantage of the presented methodologies and practical applications. In particular the Conference aimed at evaluating gaps and the constraints that need to be overcome to improve the response capacities of first responders and the

resilience of communities exposed to several type of hazards and threats.

The Conference covered all aspects related to Emergency Management, Risk Analysis and Preparedness activities, either for predicting Critical Scenario or for managing hot phases. Presentation included aspects like:

- risk reduction and mitigation techniques,
- cyber-physical threats and vulnerability analysis,
- model-based and experimental assessment of safety, reliability and security;
- human and social aspects in emergency managements,
- management of complex emergency scenarios and epidemic spreading.

With more than 250 registered participants and 67 oral presentations, the organizer's expectations were overcome. The broad variety of topics is also reflected in the topics covered by keynote speeches and the related thematic sessions:

- Dr. Meen P. Chhetri (NCDM, Nepal) - "Nepal earthquake aftermaths";
- Ing. M Dolce (General Director of Italian Department of Civil Protection, Italy), "The Italian Dept. of Civil Protection (DPC) and its role in the Emergency Management";

- Dr. Kim, Jae-Kwon (Korean Society of Disaster & Security), "Sewol Ferry Disaster and Emergency Response Management in Korea";
- prof. John Hamilton (Kestrel Group, New Zealand), "Emergency Management after the Christchurch earthquake" (video interview by dr. Sonia Giovinazzi, University of Canterbury in Christchurch, NZ);
- Prof. Dirk Helbing (ETH Zurich, Switzerland), "How to Increase Systemic Resilience in an Information Rich World";
- Dr. Nicola Perra (University of London-Greenwich Business School), "Modelling and Forecast of epidemic events"
- Dr. Daniel Stevens, (Director of Emergency Management at City of Vancouver - Canada) "Emergency Management and Resilience in the metropolitan area of Vancouver";
- Dr. David Bamaung, (Scottish Government, Scotland, UK), "Critical Infrastructure Resilience and Public Private Collaboration";
- Ji Zhang, (Harmony Technologies Ltd, CHINA), "Ten years development in China Emergency Management 2006-2015".

Besides many invited and contributed talks, the conference participants especially enjoyed a vivid

roundtable discussion titled "Lesson Learnt from the Nepal Earthquake event: what still are the main challenges to improve the disaster management and the role of emerging technologies" with the main contribution of

- Prof. Dr. Meen B. Poudyal Chhetri - President, Nepal Centre for Disaster Management
- Dr. Guosheng Qu, Dep. General Team Leader of CISAR, China
- Dr. Kailash Gupta - Honorary Managing Trustee, TIEMS India Chapter
- Jaroslav Pejcoch, T-SOFT (Crisis management, Interoperability, Security), Czech Republic
- Prof. Carl W. Taylor, Fraser Institute for Health and Risks Analytics, Princeton
- Ing. Mauro Dolce, Italian Civil Protection, Italy

Due to the proximity of the Conference to the tremendous disaster hitting Nepal on April 25, 2015, the Conference has focused the first day around that event, by hosting a number of relations documenting the event (which produced over 8.000 casualties and more than 21.000 injured) and its aftermaths. An extensive report has been provided by prof. Meen Chhetri, President of the Nepal Center for Disaster Management through a clear exposition of the facts and the management

actions of several international groups called to collaborate. A similar focus has been also provided on another recent disaster occurred in New Zealand in 2009 (Christchurch earthquake) provided by the keynote of prof. John Hamilton, former Director of New Zealand Civil Protection that, through a video interview recorded by dr. Sonia Giovinazzi of the University of Canterbury (NZ) has recalled the major problems arising in the Christchurch earthquake and the following lesson learnt incorporated into the NZ Disaster Management protocols.

The Conference also hosted a special workshop co-organized by Dennis Andersson (FOI), Josine van de Ven (TNO), Maciej Szulejewski (ITTI) on “Pan EU lesson sharing crisis management: DRIVER Project” which aimed to identify what types of methods and tools can support the lesson sharing process European Member states and how such lessons can be transferred to other organisations.

Large emphasis and interest has been triggered by prof. Helbing’s keynote

on the revolutionary project of providing the planet of a “nervous system” made by open and shared data collected by mobile devices which could contribute to build a digital democracy, also providing invaluable support to Emergency Management.

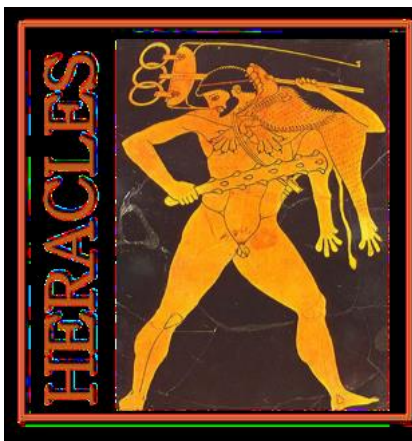
The main outcome of the Conference was that many approaches in the disaster risk management area are still mainly sector-specific. The concept of resilience is becoming a key reference in disaster risk management, acknowledging that arising awareness of experts and as well as laypeople that all social assets can be protected. The conference discussions also identified the strengthening of infrastructures as an important field for disaster risk reduction. Although the respective research is valuable in order to learn more about the system characteristics and potential disaster risk reduction measures, it remains often vague how society is or could be affected by their failure. In order to reduce societal effects, a broader perspective needs to be carefully evaluated since the CIs impact on the

functioning of many societies are not yet fully understood. This aspect will increase its importance in the future when communities will become more “Smart” i.e. they will heavily rely on ICT technologies and other advance infrastructure services. If from one side the future development will link networks supporting and positively feeding off each other, from the other one such inter-dependency may be prone to failures that can be propagate through a number of systems and that may results in a more severe impact for the communities. In other terms, future communities will count on more efficient services but at the same time may become more vulnerable due to complexity of interconnection of sophisticated infrastructure and services. This implies the need to develop new approaches and strategies to cope with hazards and disasters.

The all TIEMS Chapter Italy would like to thank again all participants and speakers that contributed to make this event a success.

The EU Project HERACLES

The project proposal HERACLES submitted for the 2015 EU Security Call with TIEMS as a partner, was successful, and it plans to start up during 2016. Below is found a brief introduction to the project, and a list of the partners in the consortium. TIEMS will come back with more details of the project to TIEMS members when the project formalities are done, and the project is ready to start up.



HERACLES main objective is to design, validate and promote responsive systems/solutions for effective resilience of Cultural Heritage (CH) against climate change effects, considering as a mandatory premise an holistic, multidisciplinary approach through the involvement of different expertise (end-users, industry/SMEs, scientists, conservators/restorators and social experts, decision, and policy makers).

This will be operationally pursued with the development of a system exploiting an ICT platform able to collect and integrate multisource information in order to effectively provide complete and updated situational awareness and support decision for innovative measurements improving CH resilience, including new solutions for maintenance and conservation.

The HERACLES effectiveness will be ensured by the design and validation of manageable methodologies also for the definition of operational procedures and guidelines for risk mitigation and management. It will be validated in two challenging test beds, key study cases for the climate change impact on European CH assets.

The strength of HERACLES solutions is their flexibility in evaluating a big quantity of different information that can be changed and tailored to the specific CH assets needs, guaranteeing in that way a general applicability. In this context, a fundamental role will be played by end-users, which will be active part in the project activities.

HERACLES system will be designed and developed by accounting for the economic sustainability and future acceptance by the market and for the social and economic impact for public and local communities while respecting the integrity of CH and the value it hold for communities.

Effective technological transfer of HERACLES outcomes to large companies, SMEs and end users, suitable dissemination, communication, education and training activities are also organized to disseminate vision and progresses obtained to different communities, in a vision of wide audiences awareness.

PARTNERS

1	CONSIGLIO NAZIONALE DELLE RICERCHE	Italy
2	E-GEOS SPA	Italy
3	SELEX ES SPA	Italy
4	THALES SA	France
5	FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV	Germany
6	ARIA TECHNOLOGIES SA	France
7	SISTEMA GMBH	Austria
8	CVR S.R.L.	Italy
9	UNINOVA-INSTITUTO DE DESENVOLVIMENTO DE NOVAS TECNOLOGIAS-ASSOCIACAO	Portugal
10	THE INTERNATIONAL EMERGENCY MANAGEMENT SOCIETY AISBL	Belgium
11	EUROPEAN MATERIALS RESEARCH SOCIETY	France
12	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	Greece
13	PANEPISTIMIO KRITIS (UNIVERSITY OF CRETE)	Greece
14	EPHORATE OF ANTIQUITIES OF HERAKLION	Greece
15	COMUNE DI GUBBIO	Italy
16	UNIVERSITA DEGLI STUDI DI PERUGIA	Italy

ASSET Project – Update and Progress



By Valentina Possenti, ISS, Italy

News and Results from the EU project ASSET: the Pandemic Preparedness and Response Bulletin, *Share and move*

Background: which framework

Contemporary societies are constantly facing new challenges like achieving effective, equitable, sustainable and accessible health and social systems. In the field of communicable diseases, emerging virus indicates a newly discovered virus, one that is increasing in incidence or with the potential to increase in incidence. Thus, newly emerging infections address several crisis-related health issues ranging from effective preparedness and responses strategies to vaccine development, and are recognized to be a threat not only to human health but also to the wild life and other species. Further, communicable diseases impact on people's health conditions as well as on several socio-economic aspects.

Beside game changing innovations in pharmaceuticals, vaccines and medical devices, key areas to be considered for action and research concern deterioration of public trust both in science and in public health authorities and interventions (e.g. inadequate levels of vaccination coverage leading to epidemics), and patient engagement in health governance (an essential component of a health and wellbeing agenda). Ad-hoc approaches are usually adopted dealing with single issues, but failing to reckon with the bigger pictures and thus interdependency of variables (lack of holistic strategies). Facing epidemics and pandemics poses a major challenge for both science and society, a challenge that necessarily requires a multidisciplinary approach.

The ASSET (Action plan on Science in Society related issues in Epidemics and Total pandemics) project

In such this framework [ASSET](#) is placed: a four-year Mobilization and Mutual Learning Action Plan (MMLAP), started in January 2014 aimed to forge a partnership with complementary perspectives, knowledge and experiences to address effectively scientific and societal challenges raised by pandemics and associated crisis management, to explore and map Science in Society (SiS) related issues in global pandemics, to define and test a participatory and inclusive strategies, to identify necessary resources to make sustainable the action after the project completion.

This European-funded cooperative program combines a multidisciplinary set of expertise in order to address effectively scientific and societal challenges raised by pandemics and what the World Health Organization (WHO) defines public health emergencies of international concern (PHEIC).

The ASSET approach has its roots since 2001 when the European Commission launched the «Science and Society» Action Plan with the main objective to foster public engagement and a

sustained two-way dialogue between science and civil society and to build a framework for Responsible Research and Innovation (RRI). That means the setup of a policy driven by the needs of society and engaging all societal players via inclusive participatory approaches. The RRI framework is made of six key elements: governance, open access, engagement, gender equity, ethics, and science education.

A tool for policy watch: the ASSET Bulletin

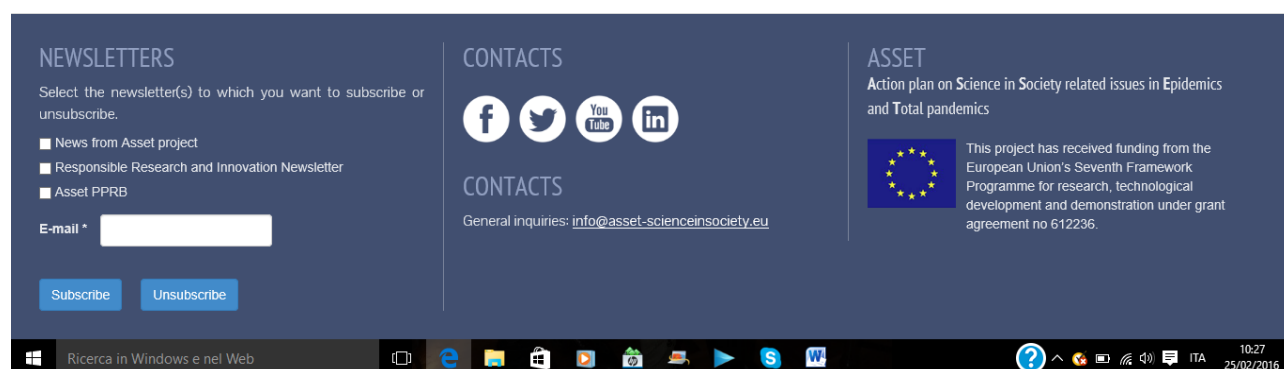
Share and move (the ASSET Pandemic Preparedness and Response [Bulletin](#)) is an updating tool on policy initiatives concerning pandemics and international public health crisis management, developed at local, national and international levels.

This Bulletin – seven editions to be issued by December 2017 – deals with the latest key health data, information and indicators in matter of Public Health Emergency Preparedness (PHEP), Emergent Communicable Diseases, revisions of national pandemic plans and/or strategies, as well as of relevant statements and recommendations in the field.

A matter of editorial choices

First, an Editorial Committee was established and is formed by 14 Consortium Partners: Valentina Possenti, Barbara De Mei, Alberto Perra, Paola Scardetta, Eva C. Appelgren (Board Coordination - Istituto Superiore di Sanità, Italy); Manfred Green, Anat Gesser-Edelsburg (University of Haifa, Israel); Mircea Ioan Popa, Adriana Pistol (Universitatea De Medicina Si Farmacie' carol Davila' Din Bucuresti, Romania); Mira Kojouharova (National Centre of Infectious and Parasitic Diseases, Bulgaria); Thomas Robertson (The International Emergency Management Society Aisbl/US); Agoritsa Baka (Institute of Preventive Medicine Environmental and Occupational Health - PROLEPSIS, Greece); Eva Benelli, Donato Greco (Zadig Srl, Italy). The Bulletin's Editorial Committee members are the main responsible for what is published in each issue, but also other ASSET Partners and external experts in the field contribute actively.

Once the Bulletin is edited, it is spread out to a mailing list of stakeholders relevant at national and international levels, but also website users can subscribe and receive it by email. The bottom banner available on the ASSET homepage is reported at the figure below.



To better understand which columns are run and the sort of contents that is selected, the “*What’s new*” perspective has been adopted and implemented. It means news from the world of pandemic and more in general emergency, such as an epidemic, preparedness and response are firstly reported. This main section can be seen as a folder “case” including core issues such as PHEP, risk communication, laws. Major achievements by the most important international public health institutions are described as well as highlights and insights circulated by the most used social media.

The Bulletin includes also a relevant website in the field, recent update from the ASSET project and a “snapshot”, standing for an innovative concept represented by a graphic item.

After the [first](#) issue, that is quite generic, the Bulletin has been shaped as a tool that is more specifically tailored according to the peculiarities of this challenging MMLAP project. As it has been explained above, ASSET is in fact aimed to bridge the gap between the scientific community and society in the field of epidemics and pandemics management. And the European Commission recalled the aim to foster public engagement and a sustained two-way dialogue between science and civil society by encompassing key strategic areas (engagement, gender equity, science education, open access, ethics and governance) within the main action plan launched in 2001.

Since its second issue, then each ASSET Pandemic Preparedness and Response Bulletin, *Share and move*, is mainly focused on one of the six SiS topics that were highlighted within the project “*Study and Analysis*” phase: governance of pandemics and epidemics; unsolved scientific questions; crisis participatory governance; ethical, legal and societal implications; gender pattern – vulnerability; intentionally caused outbreaks.

The [second](#) Bulletin focused on governance of pandemics and epidemics, the [third](#) issue concentrated on unsolved scientific questions. Proposing the same structure than in the others, the fourth number (to be published next June) will deal with intentionally caused outbreaks, even with regard to the steps of preparedness and response, and to relevant information shared on the web and by the most used social networks.

The cover pages of the first to third ASSET Pandemic Preparedness and Response Bulletins are reported in the figure that follows.



ASSET Project - Vaccination and Gender Issues



By Vanessa Maria Moore, EIWH, Ireland

The ASSET project (Action Plan on Science in Society in Epidemics and Total Pandemics) is a 48-month long project with the aim to address scientific and societal challenges raised by the occurrence of pandemics and epidemics.

The main objectives of ASSET are to (i) establish baseline knowledge about influenza epidemics and pandemics and their wider societal implications (ii) the extent of research and innovation into epidemics and pandemics (iii) the existing operational and regulatory environments across Europe.

A literature review took place within the ASSET objectives to look at gender differences that effect exposures to infectious diseases as well as access to, information on, and use of, vaccinations in pandemics and epidemics. By using a targeted gender approach, as well as including different population groups for example by age, socioeconomic status, minority status, and gender, a societal perspective is presented that connects with a scientific approach.

90% of all deaths from influenza occur in adults aged over 65 years, or among well-defined risk groups such as children under the age of 5, or those with underlying medical conditions (Nagata et al 2011). The WHO estimates that annual influenza epidemics result in between three and five million cases of severe illness and between 250,000 and 500,000 deaths worldwide (Ryan et al 2006).

Vaccination is widely recognised as the most effective way to prevent influenza infection by creating a protective immune response to influenza (Zhang et al 2011). Immediate access to an influenza vaccine is regarded as a major component of pandemic preparedness planning – studies show that timely provision of pandemic influenza vaccine is a possible and cost-effective strategy to protect against a pandemic influenza strain (Asgary 2012).

Differences based on sex and gender are important for understanding and improving outcomes and uptake rates for vaccination. A gender-specific focus can be described as “research [that] comes from an approach that is considerate of the multifaceted nature of gender” (Beetham and Demetriades 2007, p. 199). Gender in health care research is, while almost always present as a variable, not necessarily clearly recognised or accurately analysed.

Gavi, the international vaccine alliance, funded the comprehensive 2010 WHO report Gender and Immunisation. This report found that across the globe, sex discrepancies do not seem to be a widespread problem related to vaccination. Nevertheless, a woman’s choice of health systems and health seeking behaviour is shaped by her experiences with the health system; consequently, improving the status of women in the family is critical to improving child vaccination status. Information and communication messages must be adapted to acknowledge local health beliefs and views to ensure the message is both understandable and acceptable. Programmes should target

fathers and families and not only mothers, to avoid reinforcing gender biases in vaccination and childcare (WHO et al 2010). This study was focused on worldwide vaccinations, however the core message of its recommendations also rings true for developed countries.

Gender refers to socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women. Sex refers to the biological and physiological characteristics that define men and women, boys and girls. The role of gender and sex disparities in immunization coverage has been subject to much debate in recent years with terminology often used interchangeably (WHO 2010b).

In their systematic review of influenza vaccination Nagata et al (2011) showed that some studies have found that men are more likely to be vaccinated in comparison with women; other studies found that differences between genders became smaller with age and statistically insignificant; while others again found no difference by gender. Seale et al found no association between gender or level of education and intention to receive the H1N1 vaccine (2010), while Bish et al found that amongst both the general population and health professionals, men were more likely to intend to be vaccinated and to be vaccinated than women (2011).

These examples of research with very varied results are generally down to differences in data collection, methods of analysis or depth of information present in the data. They clearly show gender is not sufficiently or correctly analysed as a variable.

In line with the aims of the ASSET project, a literature review focusing on the gender issues present in pandemics/epidemic, vaccinations and influenza was conducted. The key questions asked were:

- (i) What communication strategies and information policies exist for epidemics/pandemics and vaccination take-up from a gender perspective?
- (ii) What awareness exists of gender differences in vaccination?
- (iii) What interactions are there with groups with particular needs in terms of gender, for example pregnant women, older women, health care workers, caregivers?
- (iv) What emphasis is put on hard to reach groups, and to what extent is a gender perspective present?
- (v) To what extent is a life-course strategy adopted?
- (vi) What information and research gaps exist from a gender perspective?

Searches were conducted to identify papers in peer-reviewed journals on the topic of gender, epidemics and pandemics. Searches of databases included PubMed, Web of Science, Embase and CINHALL using search terms *gender*, *pandemic*, *influenza*, *vaccine*, and *epidemic* between Aug 5 and 10, 2014. No date restrictions were applied to the searches. In addition, the databases of Eurostat, Centre for Disease Control (CDC), European Centre for Disease Prevention (ECDC), World Health Organisation (WHO), International Longevity Centre (ILC), and the European Medicines Agency (EMA) were searched as well as Google to find any additional grey literature.

The following topics are short summaries of the main issues of the literature review.

Sex differences in influenza and vaccination - Biologically, females and males differ in their immunological responses to seasonal influenza virus vaccines. Women have higher antibody responses to influenza vaccinations – the antibody response of a woman to half a dose of influenza vaccine is equivalent to the antibody response of a man to the full dose (Klein et al 2010). More

research is needed into this area; female reactions to vaccinations should be incorporated into clinical trials and sex and gender should be considered when evaluating the efficacy of antiviral treatments (WHO 2010a).

Pregnancy – The WHO recommends all pregnant women to receive vaccinations during the influenza season, and that they should be given highest priority among all the risk groups (WHO 2012). Yet, despite this vaccine covers of pregnant women tend to lag behind those seen in the general population (Klein and Pekosz 2014). There are a number of reasons behind this low figure. Evidence points to pregnant women not knowing of the increased risks associated with pregnancy and influenza; also, many health care providers do not recommend pregnant women to take a pandemic or seasonal influenza vaccine due to concerns over giving a vaccine to a pregnant woman (WHO 2010a). Such inconsistent advice from relevant health care providers is an obvious obstacle to uptake of vaccination for pregnant women (ECDC 2013), and a very worrying issue.

Health care workers and Carers - Care giving has traditionally been a female area, both domestically and in the workplace. Due to the nature of influenza, healthcare workers and those in close contact with young children are at a greater risk of exposure to influenza viruses, both seasonal outbreaks and pandemic strains (Zhang et al 2011). Caregivers may not be able to seek adequate treatment because of their caring responsibilities, thereby leading to delayed treatment (WHO 2010a). Studies have generally shown compliance rates from as low as 10% to 40-50% among health care workers, with no clear pattern to ascertain why this is (Tell Me 2012b). There exists little consensus on how to target the low vaccination rates of health care workers, and more research is urgently needed.

Underlying medical conditions – One prominent example is that of women with diabetes. Women are more likely to have diabetes in their lifetime than men; women, particularly those in lower socioeconomic groups, receive less adequate diabetes care than men from the same socioeconomic group (WHO 2010a). While influenza is most virulent among the very young and among older persons, biological and hormonal changes across the life span can affect the exposure to influenza and the severity of the infection. For example, women experience a five to 10 year period of changes in hormone patterns caused by menopause (WHO 2010a), which may make them more vulnerable to influenza infection, an especially important issue for women with underlying medical conditions.

Hard to reach groups -- hard to reach groups may have adverse health outcomes, and the complex interplay of gender and social and economic marginalisation makes this a particular issue for women (Davidson et al 2011). Coordinated efforts from local to EU level are necessary to create an environment where efforts from both health and social areas facilitate access to health, improve health literacy, and health-seeking behaviour.

Older women – Vaccination of older persons have traditionally been the main focus of influenza vaccine policy, and while vaccines are not as efficient in this population as in younger adults, it still remains the most effective public health tool to protect against influenza (WHO 2012). Older women's vaccination behaviour is not fully understood – issues such as increased frailty, longevity, ill health, widowhood, and social isolation all play a part. Also, women in general, and older women in particular, are underrepresented in clinical trials and research, thereby hindering any development of sex-specific treatments or policy guidelines.

Distrust of vaccinations – Messages that consider demographic, ethnic and social differences allow for a more effective and targeted communications. Based on this, vaccination coverage and protective behaviours may both increase if such improved communication strategies were to be employed while dealing with various specific groups, such as gender (Tell Me 2012a).

Conclusions and Recommendations

Evidence compiled in this literature review clearly shows that there exists a lack of awareness of sex and gender issues, and there is a need for a more gendered approach to influenza pandemics/epidemics and vaccination. Based on this, we wish to suggest the following recommendations:

- Health literacy should be considered in the development of all vaccination promotion initiatives at all levels and settings.
- Provide clear communication strategies at the EU, national and regional level on influenza pandemics/epidemics and vaccination. Clear, consistent communication is essential to successfully provide information. Special attention should be given to vulnerable and marginalised groups
- Promote increased awareness among health professionals of specific problems faced by women of all ages in relation to vaccination and the importance of consideration of a life course approach.
- Update, clarify and standardise influenza vaccination advice materials for pregnant women.
- More emphasis on the needs of older women and men should be included in national vaccination strategies.
- More research is needed into the gendered effect of influenza and vaccination on healthcare workers and carers, which both tend to be predominantly female.
- Further research is needed into barriers to accessing information on vaccination from a gender perspective. Promote more gendered research into influenza pandemics/epidemics and vaccination to ensure that policy makers are better informed
- Research that targets women's attitudes to influenza and vaccinations by adopting a variety of research methods, such as psychosocial, ethnographic and phenomenological, to complement biomedical and public health research
- Make the inclusion of women in clinical trials explicit and the numbers included statistically relevant to allow for systematic analysis of sex difference. Stratified analyses should be carried out separately for men and women to take into account the fact that a treatment may not only have a different effect in men and women, but that secondary factors may influence efficacy, and side effects may also be different.
- Prioritise the standardisation of data collection methods in a sex/gender-disaggregated that can easily be processed and interchanged between local, national and EU levels.

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GENERATE - A TIEMS Research & Development Project Proposal

Global Educational Network for Emergency Resilience and Training Excellence (GENERATE)

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 North America*

K. Harald Drager
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EXECUTIVE SUMMARY

The world is increasingly vulnerable to emergencies, because of climate change, population growth and aging, urbanization, and other factors. Although the immediate effects of disasters and emergencies are often local, this is an international problem. The global economy and our transportation, energy, and information infrastructures connect us and make us interdependent, so the impacts of local disasters ripple far and wide. Disasters and emergencies also become international because the global community recognizes a responsibility to bring its resources to the aid of stricken localities.

The foundation of emergency resilience is knowledge, education, and training, which is available throughout the world at colleges, universities, online resources, international educational initiatives, training facilities and others. In spite of the abundance of these educational and training resources, they are not available to enough individuals who could benefit from them, especially in developing nations. And even the developed world would benefit from better access to the knowledge and experience of the global community.

The Global Educational Network for Emergency Resilience And Training Excellence (GENERATE) program is an initiative by The International Emergency Management Society (TIEMS), to create a network of participating organizations and an online resource to improve access to the world's collective knowledge and experience in emergency management. To meet this goal, GENERATE will

- Develop an internationally shared understanding of emergency management elements, qualifications, and terminology
- Help students find and connect with useful live and online educational resources
- Make increasing amounts of emergency management knowledge available online, especially to vulnerable societies
- Provide a platform to share critical lessons learned from disasters and emergencies

GENERATE will create a community of emergency management educators, practitioners, and students, who will share knowledge and work together to improve capabilities worldwide. To support this community, GENERATE will develop a software platform which will include:

- An eLearning and Certification platform that will foster, across the international community, a shared, common understanding of emergency management elements, standards, and terminology
- A directory of educational resources, described within a common framework, including live and online degree programs, courses, workshops, and knowledge bases
- An online portal that will make emergency management educational resources, from established educational institutions and initiatives, broadly available to students worldwide. The core of these educational resources will be developed and provided by a network of GENERATE Centres of Excellence
- An online Communities of Practice network to allow sharing of lessons learned, experiences, and specialized knowledge throughout the global community
- TIEMS Mobile Application Module – this is a mobile application module reachable over a smart phone

The GENERATE concept is summarized in FIG 1 below:

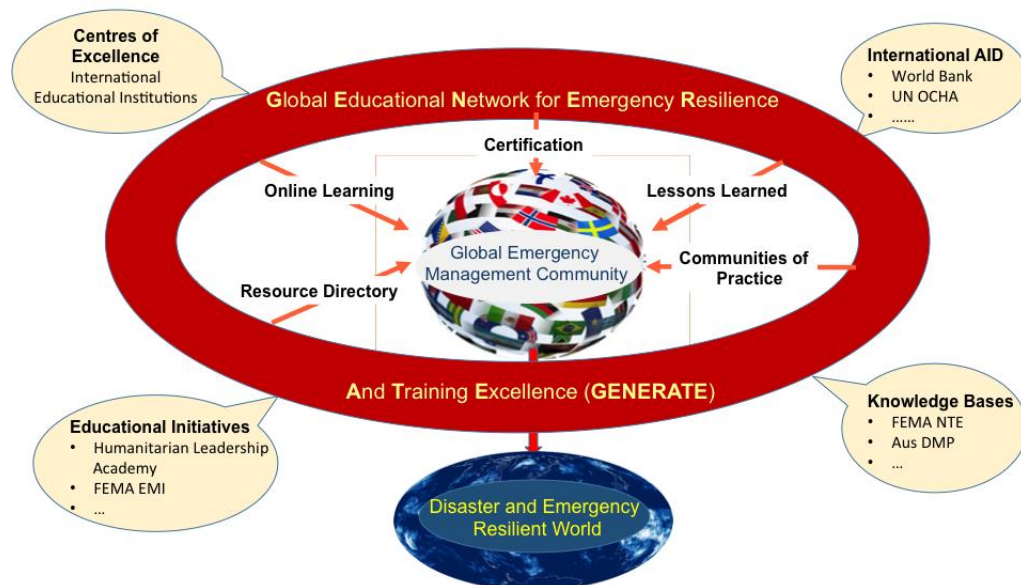


FIG. 1: Global Educational Network for Emergency Resilience and Training Excellence

GENERATE will be developed through the cooperation of multiple partners, and invitations to participate will be sent to leading universities and educational institutions around the world including global institutions such as:

- World Bank
- US Federal Emergency Management Institute
- Humanitarian Leadership Academy
- UN OCHA
- EU Civil Protection Unit
- International Civil Defence Organization

The International Emergency Management Society (TIEMS) will lead the project, drawing on 23 years' experience developing excellence in emergency management and disaster response, through worldwide

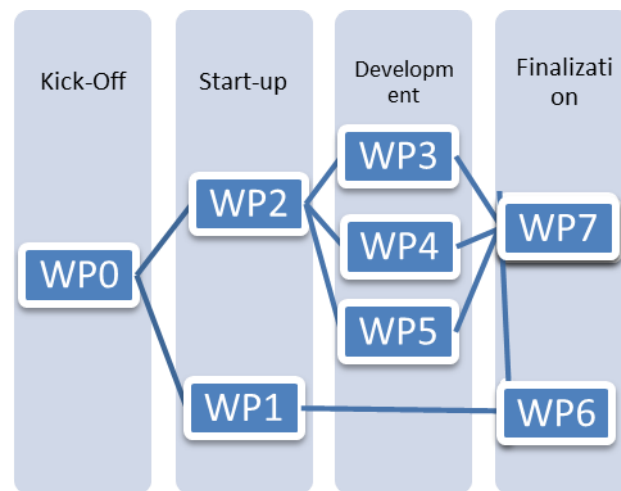
conferences and workshops, education curricula, training workshops, and establishing a network of experts in international emergency management education. TIEMS will lead the identification of emergency and disaster management educational resources throughout the world, and work with the other partners to establish an international framework for emergency and disaster management elements, standards, and terminology.

We are seeking a few main university partners whom are asked to develop the first GENERATE Centres of Excellence, contributing content and prototyping and testing online infrastructure. We are also seeking partners from regions such as the Middle East, North Africa, Asia and others to insure that we develop GENERATE capabilities that are particularly useful to vulnerable regions.

The initial year-long phase of the GENERATE initiative is expected to begin in late 2015/early 2016 with a workshop involving key participants. During the first year, an initial prototype will be developed and tested. A concluding workshop will be used to present results, lessons learned, and plans for scaling up GENERATE in subsequent phases.

The proposed GENERATE project would promote resilience to emergencies and disasters, by making the world's collective emergency management knowledge and experience widely available. This improved access will particularly benefit vulnerable nations with limited access to educational institutions, and it will improve communication and collaboration across all nations. By supporting real-time updates to the global emergency management knowledge base and standardizing qualifications throughout the world, GENERATE will lay the groundwork for the kind of international collaboration demanded by our increasingly interconnected world.

The work of the proposed project will be organized into 7 work packages, as summarized below:



WP0 = Contract signing, preparatory work and workshop = PREPARATIONS & WORKSHOP

WP1 = Project Management = MANAGEMENT & CONTROL

WP2 = Final system structure and detailed design = STRUCTURE & DESIGN

WP3 = Survey universities and establish GENERATE network = UNIVERSITY NETWORK

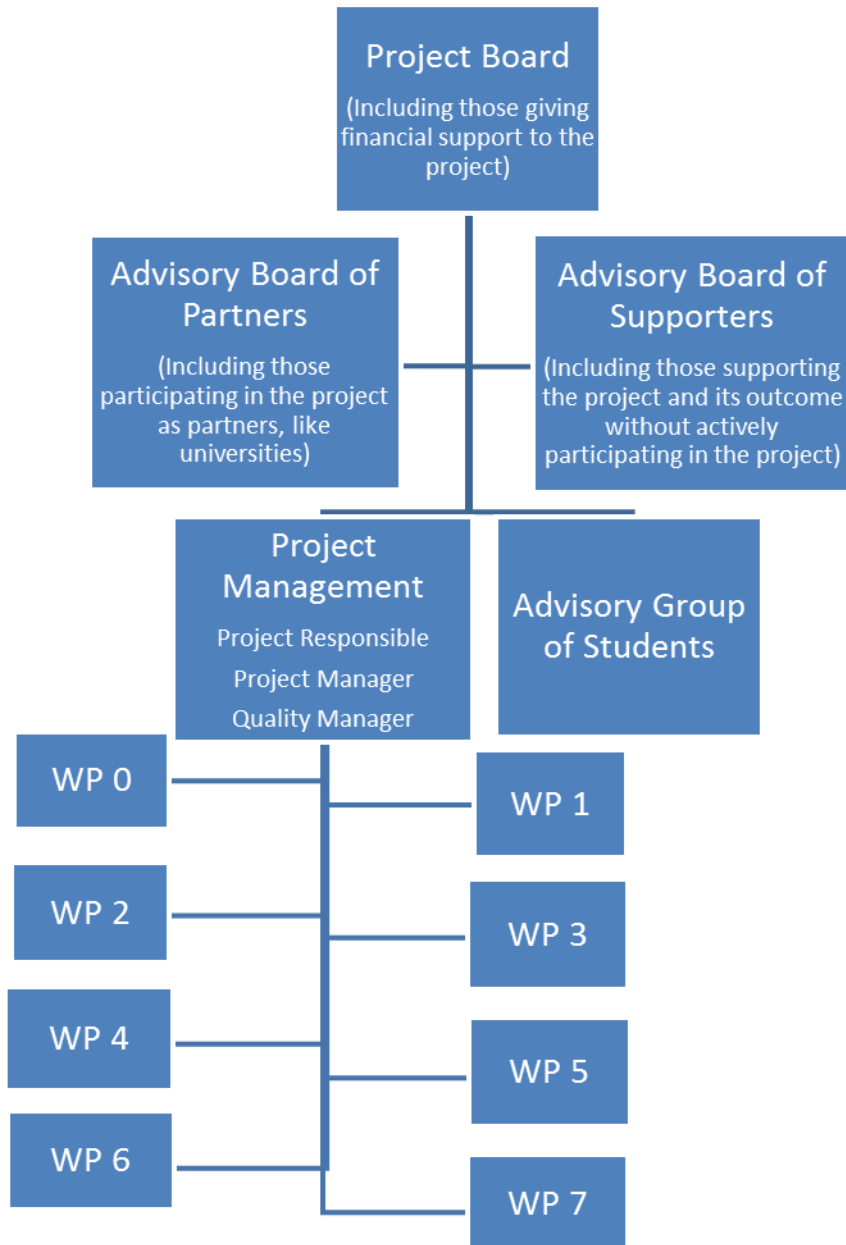
WP4 = Develop GENERATE Software Module = GENERATE SYSTEM

WP5 = Establish Student group for QIEDM certification testing = STUDENT TESTS

WP6 = Establish GENERATE Administrative System = GENERATE ADMINISTRATION

WP7 = Project documentation and final workshop = DOCUMENTATION & WORKSHOP

The GENERATE project will be organized as shown in the diagram below. The project management team, led by TIEMS, will work under the guidance of the Project Board and different Advisory Boards, which will assure alignment with sponsor and partner priorities.



Support Letter for TIEMS GENERATE R&D Project Proposal

<Institutional or Personal Logo>

To: The International Emergency Management Society - TIEMS

Attn: TIEMS President, K. Harald Drager

E-mail: khdrager@online.no

The GENERATE R&D project is a global education network initiative, which **<institution or person>** would like to support, as indicated below:

- **< >** intends to ***Give Financial Support*** and actively participate in the project, accordingly becoming a member of the Project Board
- **< >** intends to ***Become a Project Partner***, working to become a TIEMS International Education Center of Excellence and contribute courses to the e-learning platform, accordingly becoming a member of the Advisory Board of Partners
- **< >** intends to ***Be a Project Observer*** and support the project by actively evaluating project results and giving feed-back to project management, accordingly becoming a member of the Advisory Board of Supporters
- **< >** intends to ***Become a Student Evaluator*** of the system by actively evaluating the certification system and giving feed-back to project management, and working to become certified according to the TIEMS QIEM Certification, accordingly becoming a member of the Advisory Board of Students.

<Institution or person> has read the GENERATE R&D project proposal, and is ready to sign an agreement with TIEMS specifying obligations and benefits associated with participation in the GENERATE R&D project, as soon as the project is ready to start its activity.

<Institution or person> accepts that their name will be mentioned as a supporter of the project in GENERATE project description material.

Yours Sincerely

<Responsible Signature>

<Institution or person>



GENERATE Project Update

Developing a Prototype Educational Component

By Connie White and Thomas Robertson, TIEMS, USA

The Global Educational Network for Emergency Resilience And Training Excellence (GENERATE) program is an initiative by The International Emergency Management Society (TIEMS), to create a network of participating organizations and an online resource to improve access to the world's collective knowledge and experience in emergency management (<http://tiems.info/>). The key outputs of the GENERATE program include

- An **eLearning and Certification platform** that will foster, across the international community, a shared, common understanding of emergency management elements, standards, and terminology.
- A **directory of educational resources**, described within a common framework, including live and online degree programs, courses, workshops, and knowledge bases
- An **online portal** that will make emergency management educational resources, from established educational institutions and initiatives, broadly available to students worldwide. The core of these educational resources will be developed and provided by a network of GENERATE Centres of Excellence
- An online **Communities of Practice network** to allow sharing of lessons learned, experiences, and specialized knowledge throughout the global community.

GENERATE is being developed according to a project plan with eight Work Packages leading to the development of an initial operating capability incorporating educational institutions, courseware, students, and emergency management practitioners from around the world. Although TIEMS educational programs and experts are a starting point for this program, it is our vision that GENERATE will provide worldwide access to educational resources available across the globe. We invite and welcome the participation of emergency management institutions throughout our international community!

A key element of GENERATE is its Educational Component, which consists of an eLearning and Certification platform, together with face-to-face (F2F) educational opportunities, to promote a shared, common understanding of emergency management elements, standards, and terminology across the international community. As part of Work Package 2 (Structure and Design) of the GENERATE project plan, we are developing a prototype of the Educational Component, building initially on TIEMS resources, and adding resources from other organizations as they are available. This prototype will allow us to refine our design, and it will also provide a demonstration of GENERATE that will be useful in explaining the program to potential participants.

This report provides an update on the definition and design of this prototype. We address three considerations:

- ***TIEMS Membership as a Resource and Beneficiary of the GENERATE Educational Component***
Who we are as a group and how can we contribute to and benefit from an educational system leveraging members' collective intelligence?
- ***System Requirements***
What do we need to support the online educational and face-to-face delivery methods of courses provided by TIEMS experts?
- ***Teaching Methodology***

What strategies will best serve the needs of TIEMS members?

1. TIEMS Members as GENERATE Users

TIEMS is comprised of practitioners, educators, scientist, and students from all over the world. This community represents both a rich source of knowledge to put into GENERATE, and a group that can benefit from the learning provided by the platform.

TIEMS experts who provide the initial basis for GENERATE courses benefit from this contribution several

ways. First, they are able to share their knowledge and experience to improve global emergency resilience, a strong professional value.

However, in addition, the videos and and other materials they contribute give the experts exposure on an international level, now and for years to come. Through GENERATE these experts can now be identified by other organizations and at other geographic locations where their expertise may be desirable on various levels. Also, participation in GENERATE will allow TIEMS members to network more closely together and with each and with other new potential students/members. The videos provide a face to identify with a name. Members will be more familiar with other members due to the interactions and roles played while building GENERATE.

In addition to providing initial courses for GENERATE, TIEMS members will also use GENERATE as students. To meet the needs of such a diverse group of professionals, the following characteristics need to be taken into account to ensure successful use of GENERATE as a learning platform:

- Implement teaching strategies that complement user schedules to ensure the success of the student in any such class
- Break courses up into modules – where each module can be completed within some small time frame
- Allow flexibility in submissions and formalities. One does not have to accomplish assignments in order to take class. Assignments can be completed but are primarily for certification
- Make the classes reflect the practitioner world – energetic, informative, dynamic, inclusive, multicultural in perspectives, very case driven.

2. System Requirements

System Requirements for the GENERATE Online Learning System:

- **Longevity** - TIEMS expects this to be only the beginning of this endeavor, as more courses are developed, membership and the student base grows and expands, more chapters are created, we need a system that will last
- **Robustness** - we need to trust that the system will be up and running when we need it, anytime, any day, anywhere
- **Support** - given the plan to have GENERATE operational for decades to come, it is desirable to have a system that is supported by many people and from many places, and is not vulnerable to variability in available resources at any particular location

- **Scalable** – GENERATE will need to handle both small and large courses. We should be able to handle success leading to mass online enrollment
- **Costs** - we need to keep no to low costs options available due to economic instability now and in the future
- **Flexible** - the system needs to support different types of classes that will be taught both synchronously and asynchronously, single student or mass online enrollment, time restrained or open ended
- **State-of-the-Art** - the system needs to be continuously updated with R&D results, new technology, and innovative operational methods to ensure education that is fully abreast with the state-of-the-art.

GENERATE modes of delivery requirements:

- Text – many formats (not just Microsoft)
- Video – different formats and resolutions
- Automated grading
- Profile of users
- Collaboration
- Audio
- Presentations
- Discussion Forums.

We are currently planning to develop the initial GENERATE prototype Educational Component using Coursera (<https://www.coursera.org/>), a free online course management system. Coursera is being used by many institutes, universities and organizations; 138 partners from 28 countries are offering 1,802 courses on Coursera.

Some courses currently offered through Coursera are good candidates for inclusion in GENERATE. For example, The World Bank offers the following:

- Risk Management and Opportunity
- Economics of Climate-Resilient Development
- Safe and Resilient Cities
- Introduction to Innovation Policy for Developing Countries
- GeoCoding Data for Spatial Management, Standardization, and Visualization.

A list of Coursera partners, countries and courses can be seen here: <https://www.coursera.org/about/partners>.

3. Teaching Methodology

Given the daily life and schedule of a TIEMS member, non-traditional teaching methods should be implemented. The World Bank offers courses that align with GENERATE in many ways; their methodology includes some ideas that we should consider:

- Delegate an instructional component when the opportunity arises: when an expert within the

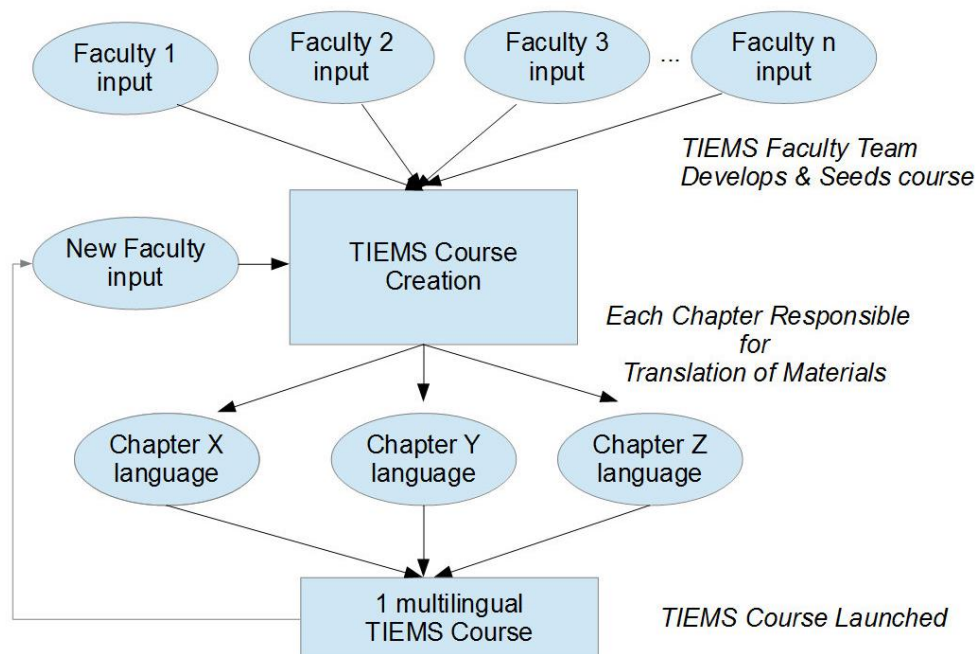
class is identified and there is a need for a role to be filled in that capacity – delegate the work to the student/professional

- Team teach. Individuals create 5 – 10 minute videos. This lessens the work load on 'an' instructor, increases the diversity of information taught by professionals, introduces members to expert members...
- Individuals can take the course for credit or not. Those obtaining credit will have tasks that are to be completed by due dates, that will be graded by computer (multiple choice, T/F), by peers or by instructors.

However, TIEMS members are different from the World Bank audience, so more analysis is required before adopting these or other methods.

Because we are a volunteer organization, we must realize that all are professionals and have only a small amount of time to dedicate to this effort. Given this, we seek to spread the effort of developing and teaching courses across many contributors using a multicultural, multilingual approach. We will teach in teams. This will keep us better connected and lighten the load on individuals. Select new graduates will be recycled into the teaching pool if at all possible. We would like all courses to be available in a variety of languages. The diagram below shows how TIEMS would create basic courses that would then be made available in multiple languages.

TIEMS Collaborative Course Creation Strategy



TIEMS is developing a database of expertise categories reported by the TIEMS International Group of Experts (TIGE). We will use this database to prioritize the development of courses for the GENERATE prototype. Although the database is not yet complete, the following expertise areas are reported by 5 to 15 experts, and so are candidates for initial course development:

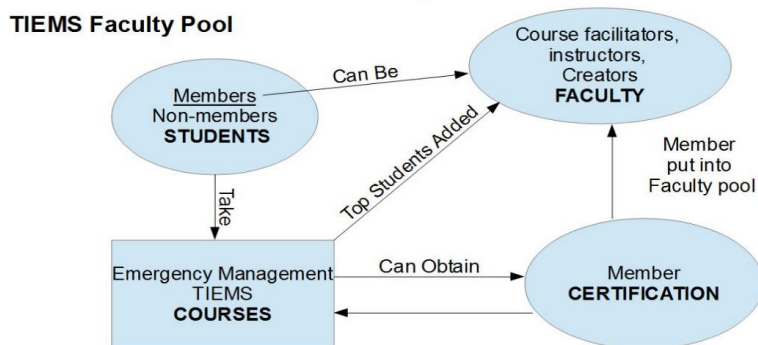
- Risk Assessment
- Disaster Management

- Earthquake Management
- Exercise, Planning, Training and Assessment
- Information Systems for Disaster Management
- Critical Infrastructure
- Crisis Communications
- Community Resilience
- Incident Command
- Emergency Management Education.

Each TIEMS chapter will be responsible for translating course materials into their first language or whatever they chose. For video lectures, text over voice can be placed at the bottom area of the video. TIEMS international membership spans a range of languages, including:

- Mandarin
- Arabic
- Japanese
- Farsi
- English
- Korean
- Nigerian
- ...add others.

TIEMS members participate as both students and teachers. Students don't graduate, but are retained and added to the faculty pool. Upon completion of a course or certification, a student may now be eligible to facilitate and teach courses. These newer staff can either be primary facilitators, if they have enough experience, or they could collaborate with a primary facilitator. Also, given the broad range of expertise represented by the TIEMS International Group of Experts (TIGE), we expect that many TIEMS members will be able to add value to a particular course. Therefore, we hope that members will be forward in offering tidbits of expertise where they are qualified. The next diagram illustrates this.



- *TIEMS Members create Faculty Pool
- *Members can create course content
- *Select members are added to Faculty pool
- *Top Students are added to Faculty pool
- *Courses are created by teams of members

Course Length

- Classes can be offered on a schedule

- These classes can have many students interact together, and incorporate team-driven assignments, etc.
- These classes can be self-driven where the student can take the course anytime, but must finish it within the allotted time frame.
- Classes can be offered where the student sets their own pace – within limits, though. The schedule can be very lenient as practitioners are often called into crisis that can require that the student pause, then continue later at a more convenient time.

Courses should offer media richness, for example through virtual classroom components.

Course Materials

As mentioned, the courses are created by experts within our own community. It is very important that experts identify their available contributions and that these contributions come from all levels of our members: International, National, State, Local and Tribal.

TIEMS International Group of Experts (TIGE)

TIEMS international network of members and chapters is managed by an international group of volunteers, whom are TIEMS Directors in TIEMS International Board, Officers in TIEMS Advisory Board and members of TIEMS Chapter Boards in 12 countries. They all do an excellent job for TIEMS in maintaining and developing TIEMS worldwide with international and local TIEMS activities.

This group also constitutes a large international multidisciplinary group of experts, with different educational background and various experience in the field of emergency management and disaster response. They represent a unique source of expertise and ideas, which are important assets for research and technology development activities. Below is found the complete list of TIEMS International Group of Experts, with names, nationalities (20 countries), affiliations and fields of expertise.

TIEMS UNIT	NAME	COUNTRY	POSITION	TIEMS UNIT	FIELDS OF EXPERTISE
TIEMS Board of Directors	K. Harald Drager	Norway	President	Board of Directors	International organizational development, emergency, disaster and risk management and project management
	Guosheng Qu	China	Vice President Vice President	Board of Directors China Chapter Board	Seismic risk and earthquake disaster assessment and management. Disaster preparedness and capacity buildings for USARs. Earthquake disaster information quick collection, real-time estimation and emergency response. Earthquake disaster on-site coordination and operation, Search and rescue. Multi-hazards risk assessment and management. Project management and research as well as international task force group developments.
	Jaroslav Pejcoch	Czech Republic	Secretary and Chair of TIEMS Advisory Board	Board of Directors	Information systems for disaster management, Training and simulation. Risk Analysis, Information sharing and distribution. Critical Infrastructure Protection. Exercising Methods and Tools. Information @ Communications in Disasters. Information Security in Disasters.

	Ji (Jack) Zhang	China	Treasurer Vice President	Board of Directors China Chapter Board	IOT and Big-data applications in risk management and infrastructure protection; 3D simulation online emergency training sys; Risk management and early warning IT solution provider.
	Ranko Britvic	Croatia	Director International Relations	Board of Directors	Disaster Law, EU projects, Civil Protection Education and Training activities.
	Snjezana Knezic	Croatia	Director Chapters & Membership TIEMS Proceedings Editor in Chief	Board of Directors	Disaster management (theory and implementation); Consequences of climate change processes; Flood management; Forest fires; Risk assessment; Critical infrastructure (NOT ICT, but transportation, water supply and similar systems); Decision support systems and Information systems design for disaster and emergency management; Some aspects of business continuity related to decision making processes
	Nina Frolova	Russia	Regional Director Europe	Board of Directors	Earthquake loss assessment in emergency mode; seismic risk assessment taking into account technological accidents; multi-hazards risk assessment and management
	Jae-Kwon Kim	Korea	Regional Director Asia President	Board of Directors Korea Chapter Board	Disaster analysis & assessment (geotechnical landslide & tunnel, subway, railway), Civil engineering, construction project management and railroad safety, emergency, disaster, hazard and risk management
	Thomas V. Robertson	USA	Regional Director North America Treasurer	Board of Directors USA Chapter Board	Organization Development Virtual Simulation Risk Communication Governance and Resilience International Education

	Mohammed Shuaib	Iraq	Regional Director Middle East & Africa Board Member	Board of Directors Iraq Chapter Board	Epidemiological analysis in disasters and catastrophes. Crisis management. Disability management. Preventive measures before emergency. Administration of medical services in emergencies
	Neil Dufty	Australia	Regional Director Australia, New Zealand & Oceania	Board of Directors	Early Warning System Design, Disaster Education and Engagement, Emergency Communications including Social Media, Evaluation of Disaster Management Performance, Social Resilience-building
TIEMS Advisory Board	Meen Poudyal Chhetri	Nepal	Chair of TIEMS Paper Review Committee TIEMS Proceedings Co-Editor	Advisory Board	Effective Disaster Management Theory and Policy, Climate Change, Earthquake Disaster Prevention Technologies, and Mitigation and Management of Floods and other Disasters
	Sandro Bologna	Italy	Chair of TIEMS International Program Committee Board Member	Advisory Board Italy Chapter Board	Critical Infrastructures and Communities Resilience Evaluation and Planning
	Joseph Pollack	USA	TIEMS Newsletter Editor Board Member	Advisory Board USA Chapter Board	Statistics (GIS, Demographics, surveying), Training Systems, Law and Policy for Technology and Emergency Management, Disaster Management
	Samantha Ueno	UK	TIEMS Social Media Editor	Advisory Board	
	Shakir Katea	Iraq	TIEMS Task Force Activity Officer Board Member	Advisory Board Iraq Chapter Board	Risk assessment, Incident command, Emergency response
	Jean-Paul Monet	France	TIEMS Sponsorship Officer	Advisory Board	Incident command CBRNe Robotics Industrial risks Forest and Bushfires Disaster aerial support

	Wenlong Yang	China	TIEMS Asia Secretariat Officer	Advisory Board	
TIEMS USA Chapter Board	Kay Goss	USA	President	USA Chapter Board	Emergency management planning, training, higher education, standards, accreditations, certifications, and technologies
	Brent Woodworth	USA	Vice President	USA Chapter Board	
	Connie White	USA	Secretary	USA Chapter Board	Crisis communications, social media, decision support and education
	James Hagen	USA	Board Member	USA Chapter Board	
	Tom Stahr	USA	Board Member	USA Chapter Board	Incident Command, Emergency Response Demolition, Demolition for Forensic Investigations, Risk Management
	Alyssa Carrier	USA	Board Member	USA Chapter Board	Hazard Mitigation, Disaster Recovery, FEMA Programs
TIEMS Middle East & North Africa Chapter Board	Ayman Fadil	Saudi Arabia	President	Middle East & North Africa Chapter Board Chapter Board	Disasters Risk Management, Economics of Disasters
	Naill Momani	Jordan	Board Member	Middle East & North Africa Chapter Board	Disasters Risk Management, Earthquakes Consequences Management
	Mohamad Zhagal	Jordan	Board Member	Middle East & North Africa Chapter Board	Information, Communication and Technology of Disasters Management
	Hassan Taibah	Saudi Arabia	Board Member	Middle East & North Africa Chapter Board	Crowd management, risk communication, social vulnerability
TIEMS Iraq Chapter Board	Ayad Jasim Matar	Iraq	Board Member	Iraq Chapter Board	Risk assessment, Incident command, Emergency response training

TIEMS Nigeria & West Africa Chapter Board	Ismail Sani	Nigeria	Board Member	Nigeria & West Africa Chapter Board	
TIEMS Italy Chapter Board	Carmelo Di Mauro	Luxembourg	President	Italy Chapter Board	Risk Management Strategies, Resilience and Communication
	Alessandro Lazari	Italy	Secretary	Italy Chapter Board	Policy and strategy on Critical Infrastructure Protection and Resilience
	Vittorio Rosato	Italy	Board Member	Italy Chapter Board	Risk Analysis of Critical Infrastructures Simulation models of Critical Infrastructures
	Paolo Trucco	Italy	Board Member	Italy Chapter Board	Industrial Risk Analysis and Management, Network Enabled Operations, Resilience engineering
TIEMS Romania Chapter Board	Stela Petrescu	Romania	Board Member	Romania Chapter	
TIEMS Finland Chapter Board	Adrian Boukalov	Finland	Board Member	Finland Chapter Board	ICT
	Lauri Halme	Finland	President	Finland Chapter Board	Specialist Lecturer: Transmission Lines and Electromagnetic Screening. International Standardization
TIEMS BeNeLux Chapter Board	Carmelo Di Mauro	Luxembourg	Board Member	BeNeLux Chapter Board	Risk Management Strategies, Resilience and Communication
TIEMS India Chapter Board	Kailash Gupta	India	Managing Trustee	India Chapter	Disaster research, including quick response research; mass- fatalities management; strategic management and institutional building; response and preparedness; crisis participatory governance; amateur radio communications
	Gaurav Natani	India	Trustee	India Chapter	Insurance planning for disaster risk reduction and management; Risk communication via social media
	Neelay Srivastava	India	Secretary	India Chapter	Geoinformatics Applications, ICT, DM Planning, Hazards Mapping-(Flood, landslide, chemical disaster), Risk and damage/loss assessment, Earthquake Risk Reduction

TIEMS Korea Chapter Board	Young Jai Lee	Korea	Board Member	Korea Chapter Board	Disaster management, Business Continuity Risk-Based Decision making
	Jihyeob Ryu	Korea	Board Member	Korea Chapter Board	Early warning system design in landslide and debris flow. Disaster management. Risk assessment and management. Emergency management planning, training, education
	Changsam Jeong	Korea	Board Member	Korea Chapter Board	Hydrology, Meteorology Hazards Mapping-(Flood), Frequency analysis, Optimization
	Dongkeun Yoon	Korea	Board Member	Korea Chapter Board	Disaster management, Disaster planning and policy, Risk assessment, Vulnerability assessment, Flood mitigation measures, Big-data application in hazard and risk analysis, Hazard mapping
	Heekyung Park	Korea	Board Member	Korea Chapter Board	Urban infrastructure & Disaster management, Community Resilience, Policy & Strategy decision support modelling, Integrated Disaster Management
	Namyong Park	Korea	Secretary	Korea Chapter Board	Emergency, disaster, risk management, crisis communication and decision support
TIEMS China Chapter Board	Shan Chunchang	China	President	China Chapter Board	National policy making in emergency management; emergency system and response plan making and fulfilment.
	Ning Chunlin	China	Secretary	China Chapter Board	
	Xiang Yao	China	Deputy Secretary	China Chapter Board	
	Hui Ding	China	Board Member	China Chapter Board	
	Tiemin Liu	China	Board Member	China Chapter Board	
	Jiaqi Ji	China	Board Member	China Chapter Board	
	Jing Li	China	Board Member	China Chapter Board	Remote Sensing, GIS, and their applications in Emergency Management

	Bin Yang	China	Board Member	China Chapter Board	Emergency Industry
	Weimin Gui	China	Board Member	China Chapter Board	
	Huadong Guo	China	Board Member	China Chapter Board	
	Lan Xue	China	Board Member	China Chapter Board	
	Qiang Zhang	China	Board Member	China Chapter Board	
	Chunlin Liu	China	Board Member	China Chapter Board	
	Xiaoning Zhang	China	Board Member	China Chapter Board	
	Guanghui Yin	China	Board Member	China Chapter Board	
TIEMS Japan Chapter Board	Haruo Hayashi	Japan	President	Japan Chapter Board	
	Norio Maki	Japan	Secretary	Japan Chapter Board	
	Yukio Fujinawa	Japan	Board Member	Japan Chapter Board	Earthquake disaster information: earthquake early warning and earthquake prediction
	Keiko Tamura	Japan	Board Member	Japan Chapter Board	
	Kosuke Nakazawa	Japan	Board Member	Japan Chapter Board	
	Tanaka Mikuniya	Japan	Board Member	Japan Chapter Board	
	Robert Miskuf Zane Mezdreija Marie-Christine Bonnamour		Main Contacts for TIEMS International Group of Experts	TIEMS Secretariat	

Join TIEMS International Program Committee

-INVITATION-

Working on Emergency Management requires to have a clear picture of the evolving risks landscape. For that purpose a good source to start with is the annual World Economic Forum (WEF) Report on Global Risks. It is also clear from the recent dramatic events in Paris that global risks are changing through the years, as new issues emerge each year. TIEMS should demonstrate ability to follow these evolving risk landscapes and promote emergency management activities.

WEF Report on Global Risks 2015, classify risks into five categories: economic, environmental, geopolitical, societal, and technological in nature. All are, unfortunately, are linked interdependently. The world seems insufficiently prepared for an increasingly complex risk environment at all levels; local, regional, national and international. Risks transcend borders and sectors.

The Terms of Reference for the Chair and Members of the TIEMS International Program Committee asks potential members to *“Contribute to maintain and further improve the quality of TIEMS worldwide events with proposed topics to be covered in the events and propose keynote speakers and experts to be contacted for participation in the events”*. That requirement, combined with the aforementioned evolving risk landscape makes the duty of the TIEMS International Program Committee (IPC) particularly challenging.

Any TIEMS Member that may contribute to, and address these challenges, are warmly invited to become a Member of the TIEMS International Program Committee by sending an email to either the TIEMS President or to the TIEMS IPC Chair (or both).

Warm Regards,

Sandro Bologna

Chair of the TIEMS IPC

s.bologna@infrastrutturecritiche.it

Quick Report of the Damage for ML 6.4 Tainan earthquake, Feb. 6th 2016

Tainan, Taiwan

Wen-Chi Lai, Taiwan Disaster Prevention Society

I. Earthquake

On February 6, 2016 at 3:57 am local time, a local magnitude 6.4 in-land and shallow earthquake hit southern part Taiwan and caused casualties (116 death and 550 wounded) and losses (over a dozens of buildings totally or partially collapsed). The epicenter is located at Meinong town, Kaohsiung City and with a focal depth of 16.6 kilometers. According to the shake records, the strongest intensity reached scale 7 (401.2 gal). The strong tremors, which had an intensity of 5-6, were felt in Tainan City. Kaohsiung, Pingtung and Chiayi reported intensity 5, while Taitung, Penghu, Changhua, Nantou and Taichung felt level 4. The destruction in Tainan following a strong earthquake was largely due to “site effect,” which was why the city sustained more serious damage than the area of the quake’s epicenter.

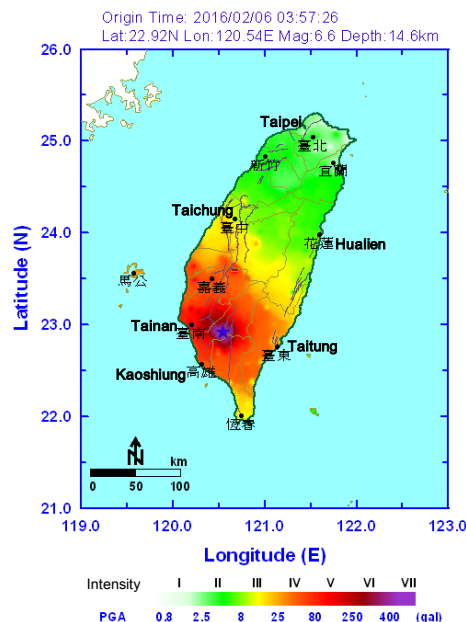


Figure 1 Earthquake report and shakemap of Tainan earthquake
(Central Weather Bureau, Taiwan)

II. Damage

In Tainan city, nine buildings collapsed (Photo 1) or were semi-collapsed, several of which were left leaning at alarming angles. For the infrastructure 3 interruptions to major highways or freeways, 1 is still under repairing till one months later. The Railway transportation restored operation after check on Feb 6 morning. High-speed rail system suspended south-bound service from Taichung due to pulled-down power lines and resumed operation by section on Feb 6. On Feb 8, full line resumes normal operation. For the evacuation and sheltering, totally evacuated 438 persons, and 232 persons ever stayed in shelters. More than 400 people were injured, with over 60 hospitalized, across the city.

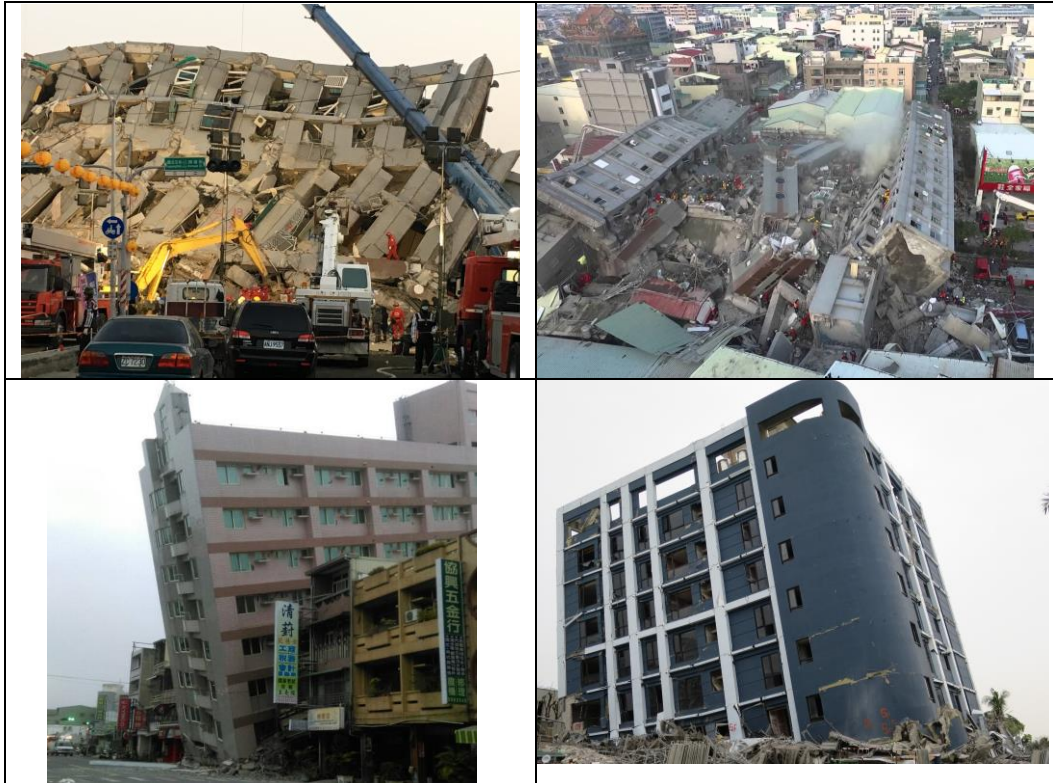


Photo 1 Damage building around Tainan City area

The municipality has mobilized a team of engineers and architects to survey the city and tag potentially dangerous buildings, marking at least 340 buildings at risk in the event of another earthquake. Of these 340, with 48 found to be highly threatened buildings (red labeled) and 45 threatened buildings (yellow labeled). The technician inspectors suspect soil liquefaction occurred in 1,004 locations in clusters throughout the city and causing extensive damage. The Tainan City Government began referencing existing work by National Cheng Kung University experts to aid its project to categorize soil liquefaction levels throughout the city in a publicly available information database.





Photo 2 Damage building and infrastructures induced by liquefaction around Tainan City area
(Photo: Tainan City Government)

III. Emergency Action

Right after the strong quake, the Ministry of the Interior activated quick damage survey at and elevated level of emergency operation to level 1 at 4:15 am to collect situations, and coordinate search and rescue efforts. The emergency rescue teams rushed to Tainan, which had the highest number of casualties after several buildings collapsed. Most of emergency teams began search for people who might be trapped inside the 17-story Weiguan Jinlong complex building in the Yongkang District, with twisted metal girders exposed and clouds of dust rising from the concrete debris. The complex building was completed in 1994 and it is a mixed-use reinforced-concrete complex for residential apartments and commercial units. The building collapsed and buried hundreds of residents.

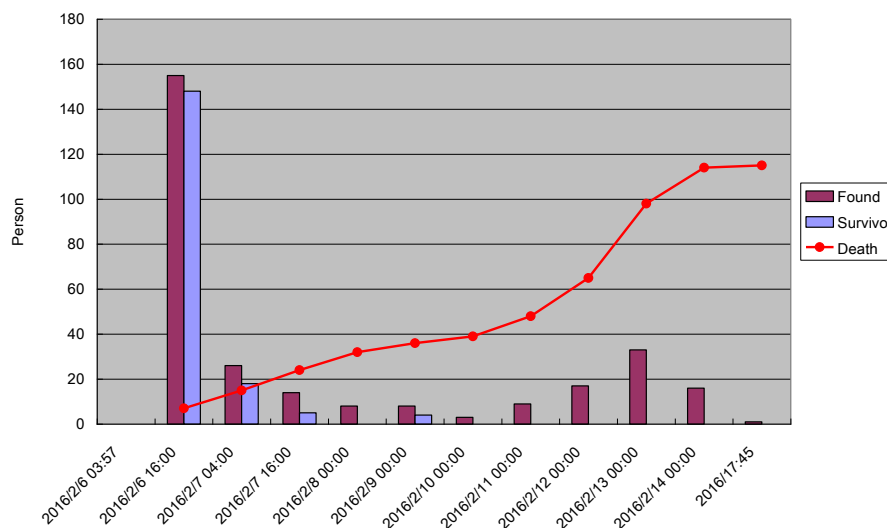


Figure 2 The rescue operation in Weiguan Jinlong apartment building
(Data: Tainan City Government)

In the official record there were 256 people registered as living in the complex comprising 96 apartments. As efforts continue to search the rubble of the collapsed building, As anxiety grew at the disaster site as rescue operations in several days, disputes broke out during a period briefing presided over by Tainan Mayor between people whose relatives were still buried under the rubble. The Tainan City Government holds two public briefings each day - at 10am and 4pm - in an effort to update concerned people on the latest rescue developments. In 2/12 4:20pm Tainan Mayor announced that the search-and-rescue operation at the Weiguan Jinlong complex in Tainan, which collapsed in an earthquake on Feb. 6, has come to an end, after the body of the last missing resident was found.

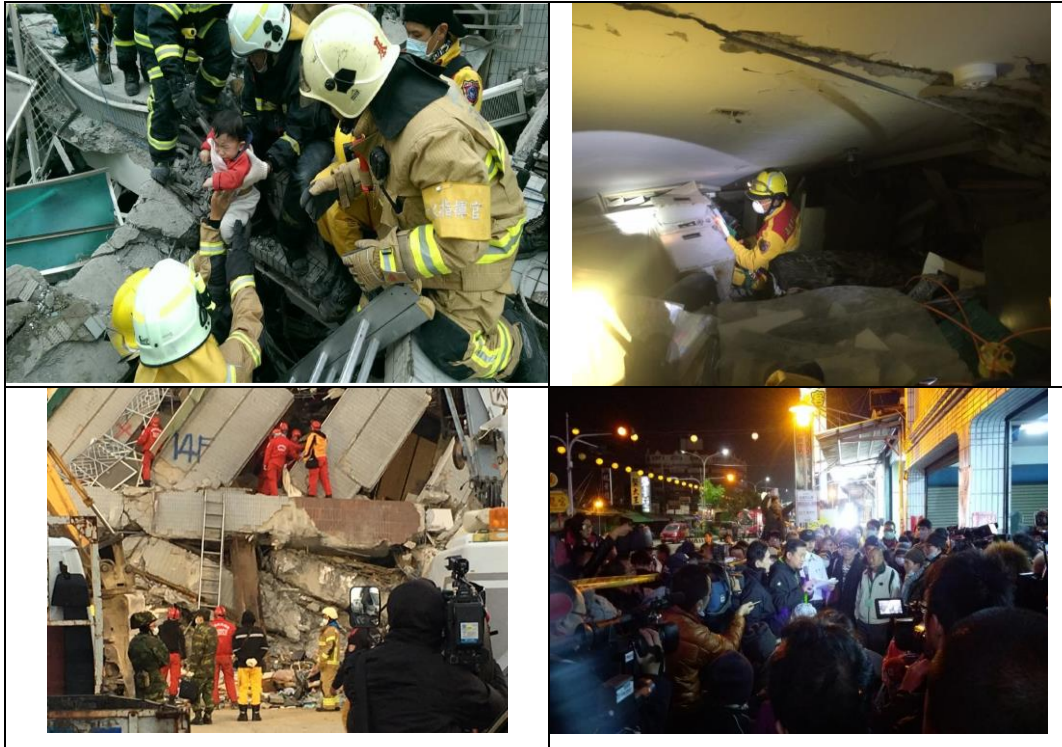


Photo 3 Rescue operation of collapsed Weiguan Jinlong complex
(Photo: Tainan City Government)

IV. Earthquake Aftermath

One month later, the Central Geological Survey launched an online database showing hazard map of soil liquefaction and likely to sustain serious damage during future major earthquake. A checklist was provided for users to assess the risks that their building might be damaged by soil liquefaction. There are about 770,000 nationwide that were constructed before 1999 and need to be inspected. The Taiwan government plans to allocate NT\$24 billion (US\$730.15 million) over the next six years to conduct a “health inspection” program for old buildings and mitigate soil liquefaction hazards.



Photo 4, map showing areas prone to soil liquefaction is displayed on a monitor at a press conference at the Executive Yuan in Taipei (Photo: Taipei Time)

The collapsed complex was built by the now-defunct Weiguan Construction Company, government records show that a construction license was issued 1992 and building was completed in 1994. The full legal investigation launched after the conclusion of rescue operations to find if anyone was to blame for the disaster. The owner of Weiguang Construction was reportedly has a reputation in the construction industry for being able to obtain contracts, but also for his controversial managerial style. The survivors said during the quake, the building rocked “up and down” and then began to sway “left and right” before the collapse, raising suspicion that the building’s short sides and height meant it lacked the necessary depth to provide adequate support for its weight in a quake. The collapse appears to have begun at the building’s arcade, which contained a smaller number of pillars and struts than the rest of the building. Tainan Civil Engineers’ Association report the 21-year-old building’s arcade on the east side appeared to have contained fewer struts, pillars and walls than needed for structural support during a quake. For the clear evidence of possible construction defects, including a lack of circular reinforcements for major pillars are less than half those listed in structural calculations, creating strong reason to believe the firm cut corners on materials. The Tainan District Court ordered the detention of property developer and two associates as they face charges relating to the collapse of the Weiguan Jinlong complex in earthquake.

Zika and Emergency Management- An Opportunity

Carl W. Taylor JD

XCH, LLC Response-Ability, USA



At this writing the Zika virus is now found in at least 34 countries. It shares a number of common traits with other viruses now circulating the planet. First it has a known vector-in this case a particular type of mosquito found mostly in warm climates including South America, Latin America, the Caribbean and the Southeastern US. Second, it is capable of being transported to regions outside its natural habitat by infected humans returning from countries where the disease is endemic. Third, there is neither a known cure nor an existing vaccine. Fourth, like many known viruses the disease burden on many humans is relatively minor. It is suggested that many persons infected by Zika may either not know they have it or suffer only modest symptoms. Yet for those pregnant women whose fetus develops a disease the consequences for the infant can be profound.

Affected countries



The International Emergency Management Society (www.tiems.org)

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E-mail: r.miskuf@squaris.com,

Other countries in Africa, the Pacific and now the United States have experienced cases of Zika, but South America, Central America and parts of the Caribbean remain the epicenter of the outbreak.

Standing on its own in many respects Zika does not present the health threat of a dengue fever or malaria. Yet it is now the source of a formal public health emergency in a number of the states of the United States including my own in Florida. It is also the focus of urgent inquiry by both the CDC and WHO. Insurers are issuing travel warnings (disclaimer I have authored one of these for a large international insuring group). Concerns are being raised about whether or not Olympic athletes should attend the 2016 Olympics in Brazil (currently a Zika hotspot) or if they do, whether they should refrain from sexual activity during their visit and for some period of time after their return (times for this refrain differ). The reason for this concern is the belief that Zika may cause microcephaly (a birth defect) in newborn babies and/or with less certainty may be associated with Guillain-Barre Syndrome (a musculoskeletal disease). Babies borne with microcephaly may face a lifetime of physical and mental challenges.

I would suggest that Zika presents an interesting conundrum for emergency management professionals. That conundrum lies in how to manage the message and response to a virus in which the governmental and press interests may be at odds with the concerns of your citizens. As the CDC, WHO and global press was focused on Zika a few days ago- Carnival in Brazil, which to my untrained eye must be a very pro mosquito event, went on unchanged. Last week as I boarded a flight to Paris, the gate next to mine was also boarding a TAM flight to Rio. Their flight was full of happy returning vacationers who seemed to not care that they were heading into harms way. Of course we in Florida had our own Zika public health emergency so perhaps they felt they were escaping the outbreak.



Carnival 2016 Went On
Undeterred by Zika in Brazil

As far as messaging- Ebola was in some respects an easier disease to gain public consensus. High mortality and high infectivity will allow for a very focused and mostly followed message of guidance and warnings. But Zika challenges us to match the message with the threat. Consider for the moment:

- a. The link between Zika and microcephaly though strong is still subject to further research. Microcephaly exists and no doubt existed in Brazil and elsewhere before the Zika virus. Microcephaly cases are not reported at present in all countries with the Zika virus. This, of course, may be due to poor reporting or surveillance or other factors. Conversely microcephaly is reported in non Zika countries with other viruses suspected as the cause.

- b. Public health emergencies may raise awareness but they will also raise costs (in testing mothers to be who are returning from impacted areas) or in discouraging tourists from visiting areas of outbreak. Diseases are economic events, though this concept is often overlooked. I have no doubt at least some pregnant tourists have cancelled their visits to Florida as a result of our public health declaration for select counties even though the likelihood of contracting the Zika virus stands at almost nil.
- c. The current body of recommendations is actually a bit conflicting. On the one hand are the take all measures to not get bitten advocates whilst on the other are the proponents that the more members of a population infected with Zika the better the herd immunity. To DEET or Not To DEET that is the question.

Against all this stands the public, which I suspect is ignoring Zika for the most part. Once again as the facts and the science are uncertain we risk being deprived as public health and emergency management professionals of an opportunity to be seen as offering sound, measured advice and recommendations to our citizens. If we are too alarmist or conversely too passive we risk losing opportunities to earn the trust of our communities.

Bright lines: The Zika Opportunities

First, is the ability to test and hone your bio-surveillance skills. If you live in a country with an airport you are at risk of an arriving Zika patient. This is the time of year that thousands of people from the US and Europe travel to the Caribbean and South America for holidays. This summer hundreds of thousands of persons will travel to Brazil for the Olympics and some will return home having come in contact with mosquitoes carrying Zika, Dengue or Chikungunya. My recommendation is to use this virus as a way to build relationships with the healthcare providers and public health communities in your countries. Too often there is a separation between emergency management and public health. The domains seem different, the training and discipline different, the reporting and even control through various governmental ministries are different. Yet at the end of the day in a disaster -medical and non-medical response depend on each other. Zika should afford a basis for dialog between professional disciplines. Reporting, mapping, understanding vector borne diseases and communicating across response disciplines should all be undertaken. The goal in developing effective bio-surveillance is to become aware of infected individuals at the earliest possible moment.

Next, Zika offers a good chance to develop trusted messages. Information and science will emerge over the next few weeks. The travel or do not travel decisions to be made by your citizens should be guided by evidenced based recommendations coming from emergency management and/or health authorities. In the absence of good advice your citizens will turn to web based or other resources and form their own opinions. Zika is good practice at getting the message right and balanced against the threat. Crisis communications, particularly in today's always on social media world needs reasons for testing. Zika is that reason. What we are seeing now is the growing power of social media to frame or challenge the messages of public health and emergency management. Reports out of Argentina that chemicals used to control mosquitoes are in fact the cause of microcephaly have gained a wide following- despite the lack of any scientific support. No doubt genetically modified mosquitoes now in wide- spread use will come under scrutiny, as will those who believe Zika is yet another plot by big pharmaceutical companies to test vaccines or sell drugs. We have to realize that the days when command and control messaging was accepted by the public are at an end. The democratization of data and message distribution is forcing public health and emergency managers to open a new front in the battle to protect your citizens from harm. That front is in the emerging world of social media.

Finally, Zika offers a planning opportunity. We witnessed an often clumsy response to returning medical professionals from Ebola stricken countries. Your enhanced bio-surveillance capability may lead to the identification of Zika stricken persons within your borders. Now is probably a good time to develop a list of planning questions for consideration. Does your country host a mosquito population capable of supporting the Zika virus? If the infected citizens returning are female, are there social, cultural or legal barriers to messaging foregoing pregnancy for a defined period of time? If the returning infected citizens are female and pregnant, is there an ability to provide evidenced based care to the mother? If the infected citizen is male, are there social, cultural or legal barriers to messaging foregoing unprotected sexual contact for a defined period of time? Are there trends in data and case reporting, which may lead you to imposing travel bans to certain areas in order to mitigate or reduce the threat? What advice will you give your Olympic athletes and coaches?

Conclusion

Zika offers us an opportunity to work on surveillance, mapping, planning, messaging, and response to vector borne diseases. While this virus may seem less important in the scale of other high mortality viruses, it is nonetheless a chance to become more skilled at the core disciplines of response. Moreover, as events such as the Olympics approach, tourists and athletes may drive the need for guidance. We are in the early stages of understanding the Zika virus. Zika itself is a relatively new virus. I have a very healthy respect for bad bugs and never presume to know the end point of any outbreak. Those countries and states including my own of Florida, which are using Zika to build a more proactive disaster management system will be well served by their decisions. For if it is not Zika, it will be another virus with a higher reproductive and mortality rate springing upon us and testing our “lessons learned”.

Executive Summary of Nepal Disaster Report 2015

Meen B. Poudyal Chhetri, Ph.D.; Post. Doc.



1. Nepal a Himalayan country, lies in between 80°4' to 88°12' East longitude and 26°22' to 30°27' North latitude. It has an area of 147,181 sq. km. extending roughly to 885 km. from East to West and varies from 145-241 km. North-South. The country is land locked bordering with India on the East, West and South, and China on the North. Nepal is situated in the middle portion of the Hindu Kush Himalayan (HKH) Region. The altitude ranges from a minimum of 70 meters to a maximum of 8,848 meters whereas the climate varies with its topography and altitude. A combination of rugged topography, high reef, active tectonic process and intense monsoon rain has made this fragile environment vulnerable to varieties of hazards and disasters. "The country stands at the top 20th list of the most multi-hazard prone countries in the world. The country is ranked 4th, 11th and 30th in term of climate change, earthquake and flood risk respectively."(UNDP/BCPR, 2004).
2. With a predominantly agrarian economy where about 83 per cent of the over 26 million people of Nepal reside in rural areas, traditional, self-sustaining hills and mountain farming systems have been disrupted by increased population and fertile top soil erosion. In addition - deforestation, migration from the hills and mountains to the fertile Tarai¹ region and haphazardly developed urban and sub-urban centres are increasing at an unprecedented scale. Consequently, the poor, uneducated and unemployed people are compelled to make a living by settling in flood and land slide prone areas in the hills, Chure,²Tarai plains and the urban areas. Lack of effective land use and settlement regulations has contributed to increased vulnerability to floods and other hazards caused by both natural and anthropogenic factors (Chhetri 2011).
3. Nepal is exposed to multiple hazards such as earthquakes, floods, landslides, fires, heat waves, cold waves, lightning, windstorm, hailstorm, droughts, epidemic etc. due to its variable geo-climatic conditions, young geology, unplanned settlements, deforestation, environmental degradation and increasing population. Disasters triggered by natural hazards are causing heavy loss of lives and properties. Disasters are also the unparalleled threat to sustainable development. The effects of climate change and extremes have further aggravated the disaster vulnerability in Nepal. In this way, Nepal is one of the most disaster-prone countries in the world. As the country lies in the high seismic prone zone, large-scale earthquakes were frequent in the country in the past including the recent earthquake of 25 April 2015.

¹Tarai is a flat and fertile land mass of Southern part of Nepal that extends from East to West. It covers 23 percent of the total land of Nepal.

²The Churia hill range is highly fragile land mass which is made up of sediments, sandstone, limestone and phyllites. Thus, in the event of continuous and intense rainfall, the sediment becomes destabilized and results into floods, landslides, gully erosion, debris flow, flash floods and so on.

4. People in Nepal live with hazards, accepting them as the way of life. Despite of some good practices and Disaster Risk Reduction (DRR) initiatives, the frequency and intensity of disasters are in increasing trend. Also, because of the fatalistic nature of some people and the inadequate preparedness on part of the government and other stakeholders, vulnerability to disasters is on the rise. Likewise, absence of proactive legislations and reactive approach are other contributing factors of disaster vulnerability in Nepal.
5. Mainstreaming DRR into development planning has been initiated recently. However, it has yet to be adequately incorporated into development plans and programs. Linkages between DRR, poverty, migration, livelihood and internal displacement has not been established which have negatively affected to achieve the goals of Millennium Development Goal (MDG), Poverty Reduction Strategy Papers (PRSP) and Hyogo Framework for Action (HFA).
6. Various studies and reports over the last 33 years have shown that each year, floods, landslides, fires, avalanches and epidemics kill hundreds of people and destroy property worth billions of Rupees. They also have a negative impact on the nation's development activities. In addition, due to the geo-physical situation of the country and response centric approach of the government and other disaster management stakeholders, the losses and damages from disasters are increasing. So far, more emphasis has been given towards the disaster response and relief rather than complete approaches including planning, preparedness and recovery. There is the need of proactive disaster management policies, laws and programs.
7. Nepal is facing the wrath of natural and human induced disasters with greater frequency and intensity. Disasters are so penetrative in every Nepalese geographic and societal framework that the people are constantly under threat of a multitude of natural disasters. The earthquake of 1934 A.D., 1980 A.D. 1988 A.D., 2015 A.D. and the flood of July, 1993 A.D., 2008 A.D. and 2014 A.D. are the most devastating disasters which not only caused heavy losses of human lives and physical properties but also adversely affected the development process of the country as a whole. The lessons of the 1988 earthquake and the very recent 2015 Gorkha Earthquake, 1993 flood and landslide, 2008 Koshi flood and 2014 flood and landslide disasters in Mid and Far Western Region of Nepal has brought about a shift of attitude on the part of planners, government officials, donor agencies, NGOs and INGOs towards the need for a coordinated disaster preparedness and response mechanism. Recent time climate change due to global warming has become 'extreme' and in the climate change vulnerability index Nepal is ranked as the 4th most climate vulnerable country in the world (World Bank 2011). Fire is another disaster which occurs on a regular basis and wild fires are damaging to already severely depleted forests and biodiversity of Nepal which results on economic loss, land degradation and environmental pollution.
8. In the year 2013 and 2014 Nepal saw an overall increase of the disasters – particularly floods and landslides in various parts of the country. The floods and landslides that occurred in 2013 in Far Western Region particularly in Darchula district and the floods and landslides in 2014 in Mid-Western Region particularly in Banke, Bardia, Dang and Surkhet were the most frightening and devastating that caused enormous losses to human lives and physical properties. In the year 2013 a total number of 460 people were killed by various disasters and in the year 2014 a total number of 494 people were killed by different disasters in the whole country. The number of casualty is more in 2014 (494 persons) than in 2013 (460 persons). The number of missing people is far more in 2014 (291 persons) than in 2013 (165 persons). On the contrary, the number of injured persons is more in 2013 (517 persons) than in 2014 (473 persons). The number of affected families in the year 2014 is 39,812 while in 2013 only 2,697 families were affected. Likewise, large number of animals were killed in the year 2014 (5,282 animals) than in 2013 (1,535

animals). In the same way, the economic loss also was more in the year 2014 (16,753.7 million rupees) than in the year 2013 (2,057 million rupees). It is mainly due to the massive impact of floods and landslides in large area of Mid-Western Region of Nepal by floods and landslides. However, the total number of disaster events were more in the year 2013 (58 disasters) than in the year 2014 (42 disasters).

9. On 25 April 2015 a massive 7.6 ml earthquake struck Nepal, having the epicentre near Barpak village of Gorkha district which is northwest of Kathmandu. It was the worst quake to strike the country in more than 80 years. After 17 days on May 12, another 6.8 ml strong aftershock caused further damage and sufferings. These earthquakes took the lives of 8,896 and injured seriously 22,303 people. The earthquakes destroyed 6,02,567 houses completely and 2,88,856 houses partially. It is estimated that the total value of disaster effects (damages and losses) caused by the earthquakes is NPR 706 billion or its equivalent of US\$ 7 billion. (PDNA, NPC 2015). In this way, this devastating earthquake has affected vast parts of Nepal and left deep scars in the economy and infrastructure of the country.
10. The disaster data analysis of the disaster events of the years 2013, 2014 and 2015 Gorkha Earthquake clearly show the need of huge efforts and investments in preparedness. It is extremely necessary to realize the need of preparedness plan, program and projects to reduce the loss to lives and properties in the days to come.
11. In view of the current disaster trends in Nepal, the incorporation of disaster risk reduction and resilience strategy into public and private sector development works is highly desirable. Furthermore, reducing disaster risk with preparedness plan, program and projects and building resilience with the goal of sustainable development must be the major thrust to face the challenges of hazards.
12. This report also provides insight into policy and institutional responses. The need and importance of community resilience is also briefly discussed. This report also encompasses articles from the leading DRR professionals. Information available from other reliable government, inter-government and non-government sources has also been incorporated to make it more informative. In some cases data and information were limited. The scope of the report is focused to the works led or carried out directly by the Government entities. So we realize that there are still avenues for improvement in data presentation and interpretation.
13. Finally, it is expected that this report may serve as a guide and reference material for the government and non-government sectors, students, researchers, practitioners and anyone interested in disaster management.

Some Pictures Related to Disasters in Nepal Follow on Next Pages



Confluence of Two Rivers



Jure Landslide 2014



Avalanche in Gangapurna Himal in
Manang district of Nepal



Kathmandu Durbar Square damaged
by Gorkha Earthquake 2015



Panicked People Gathered at New Road,
Kathmandu After Gorkha Earthquake



Sorrows & Owe
After Gorkha



Walking Through the
Rubbles

Reduction of Human Damage by the Earthquake Early Warning

Yukio Fujinawa



1. Nepal experienced a powerful earthquake (M 7.8, depth 15km) on April, 25, 2015. The earthquake was one of the most dangerous ones to occur just underneath a large urban area with shallow depth. The disaster induced 8,460 loss of lives and 14,398 injured in Nepal. I have been trying to spread the EEW technique to decrease disaster impacts through an earthquake early warning (EEW) since 2001. It is with great regret that I heard the number of victims whom had no chance to access an EEW. A week after the Wenchuan Earthquake (M7.9, depth 19km), I contacted the embassy of China to recommend the installation of an EEW system, which was already in use in Japan. Last year I was made aware that China started the installation of an extensive EEW system covering almost all districts prone to earthquakes. It's with great pride that chapter members of TIEMS are going to support the spread of EEW in earthquake prone countries (lead by the Task Force in charge). After several trials, this spread has started in China initiated by a recommendation for EEW at a TIEMS workshop meeting.
2. We should not neglect the possibility hazards occurring with greater strength and extent than we currently assume. We may overcome limited resources by taking a synthetic approach through software countermeasures. Consider the following dangerous earthquake scenarios: the shallow earthquake just under the metropolitan Tokyo (M7.3) and the great Nankai earthquake (M9.0) similar to the Tohoku Earthquake (M9.0). Japan's Cabinet Office determined the national plan against those earthquakes, and the prefectural governments are implementing mandated countermeasures. The most essential of these countermeasures is to strengthen houses and buildings. The progress is already commendable at present: more than 80% of public sector buildings pertinent to disaster prevention have undergone the modifications.

However, there is no clear progress for use the so called EEW for high level user. The high accuracy EEW combined with an on-site seismometer has been demonstrated useful to maintain the activity of a semiconductor factory. This information is also used to decrease the occurrence of fire which typically accounts for more than 30% of earthquake damage. The two main reasons of insufficient spread of the EEW for advanced users are: the inadequate accuracy and short of lead time before arrival of the S-wave.

Nonetheless, if we have enough seismometers in a given area, then the whole area could utilize an EEW of high accuracy with a larger lead time. Users could it not only save lives, but also safeguard personal property and commercial facilities in the area.

3. Our worst earthquake disaster scenario is the Tokyo-style event. Total economic loss may

amount to 110 billion US\$, with 9,700 loss of lives. This estimate depends on the estimated number of totally collapsed houses, which are calculated by using the distribution of seismic strength and vulnerability of houses.

The lead times at the local governmental office of Tokyo are calculated based on the known parameters of the earthquake scenario, a rupture model and the location of the asperity. The lead times at each of the local centers of each municipality for the three kinds of distribution systems are the following:

(1) Isolated systems: mean 7.5s, maximum 11.6s, minimum 5.1s,

(2) Regional networks including neighboring Chiba prefecture where the rupture is assumed to start: mean 14.1s, maximum 24.2s, minimum 5.1s,

The central government office published a possible disaster scenario induced by the great earthquake just under the Tokyo metropolitan city. The estimated risk is really huge in the case of the worst scenario of occurrence, during the evening hours in winter with a strong northern wind: deaths at 9,641 & injured: 147,611. The effect of EEW is calculated using the efficiency table (Meguro et al., 2005): 80% of people will save their lives if they have more than 10second, 20% of them can preserve if they have 2 seconds, so on. The result of our evaluation is :

(1) Isolated system

- ① death : decrease by 50% (9,641 \Rightarrow 4,820)
- ② serious injury : decrease by 59% (21,891 \Rightarrow 8,979)
- ③ light injury : decrease by 70% (125,720 \Rightarrow 37,537)

(2) Regional system:

- ① death: decrease by 67% (9,641 \Rightarrow 3,203)
- ② serious injury : decrease by 68% (21,891 \Rightarrow 6,903)
- ③ light injury : decrease by 77% (125,720 \Rightarrow 28,713)

The estimation is really promising. Thus, we are now trying to spread the system to private companies for strengthening their BCP (BCM), and to local government to save own people and make their communities more resilient. We are now collaborating with and pertinent organizations, such as network infrastructure, maintenance, and insurance companies to make the total cost of implementation feasible.

Report on CBRNe Events in the World – January 2016

The **Observatory on Security and CBRN Defense**, in collaboration with the **Center for Security Training and Education of the University of the Republic of San Marino - CUFS** and, the **Department of Electronic Engineering of The University of Rome “Tor Vergata”**, with the aim at supporting an effective information and knowledge sharing related to global politics on security and defense, provides the last **Report on CBRNe Events in the World, January 2016**.

The current edition provides several news able to offer a global view of the most relevant security trends related to the unconventional threat. Between all of those, we highlight:

Risk CBRNe

- Some activities at a U.S. research facility would made nearby inhabitants at risk due to chemical and radiological contaminants.

Risk C

- According to the Russian Ministry of Foreign Affairs, ISIS militants would have used chemical weapons
- Dangerous chemical agent found into a Canadian water treatment facility
- The OPCW has declared the Syrian chemical weapons dismantling as completed
- Laboratory evidence confirm the chemical weapons exploitation in Syria

Risk B

- Following 4000 children born with microcephaly in Brazil and four cases of infection in Europe, WHO warns on the rapid spread of the Zika virus.
- Genetic engineering could become the new frontier in fighting the spread of epidemics
- New cases of Meningitis notified in Bologna, Empoli, Prato, Lucca and Arezzo.
- 500 cases of Dengue Fever reported daily in Malaysia
- Rising concerns on possible exploitation of Turkish water system as a vector for spreading contagious diseases by terrorists

Risk R/N

- Worldwide risk maps on theft and sabotage at nuclear facilities available on the web
- The Aviano and Ghedi military bases will host the hydrogen bomb "B61-12".
- Investigations on Litvinenko case could exacerbate relations between UK and Russia.
- Following the North Korea announcement on its H-bomb experiment, China, Japan and the United States have carried out tests to verify eventual radiological contamination

Risk e

- ISIS militants would be able to develop unmanned car bombs
- Teenager, converted to Islam, has been arrested in Denmark for illegal explosives possession
- Mass gatherings, holy sites and security forces have been the major targets of bomb attacks
- Across Asia, bomb attacks have respectively caused 25 dead and 36 injured in Afghanistan, 39 dead and 100 wounded in Iraq, 75 dead and 210 wounded in Syria

The OSDIFE CBRNe Report aims to disseminate news and information, as well as to observe and monitor a wide range of unconventional events. It is a unique tool at national level, which allow not only to identify the effective type and occurrence of each event, but also to highlight trends as a valuable result of a detailed analysis. The main purpose is to improve further strategies and consequent mitigation actions and to properly face global emerging threats.

Furthermore, this report allows to synthetically evaluating each event, also providing a related hyperlink for further in-depth analysis.

The OSDIFE Staff is thankful for your interest and wish you a pleasant reading.

For more information about CBRNe Report, please contact OSDIFE Secretariat at info@osdife.org

European CBRNe Risk Analysis

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Introduction

In the light of new global risk scenarios, the unconventional threat is becoming extremely relevant. In this regard, major terrorist groups appear more and more interested on perpetrating CBRNe and WMD attacks, with the aim at indiscriminately hitting populations, infrastructure, governments and cultures.

Even though particular attention has to be paid to specific areas of the world where permanent crisis involve territorial and cultural conflicts, Europe should no longer be limited to superficial surveillance activities, especially considering the growing transnational migration. On this purpose, the Old Continent is called for improving citizens' protection through precise Security policies based on stable information collections, beside to valuable risk analysis, as the result of specific operational strategies dictated by international requirements of common security.

The present document aims at providing an assessment of the current CBRNe framework, highlighting main data related to criminal and accidental events occurred in Europe from July 2014 and December 2015.³

Chemical Risk

The exploitation for illicit purpose of chemical agents and their precursors as well as of chemical weapons is a growing threat worldwide.

In this regard, the ease in finding hazardous substances or so-called "dual use" materials at low cost of acquisition are increasing the chance of achieving eventual terror attacks involving chemical agents.

Concerning the results obtained in this analysis, it is possible to underline that Europe has been hit by several unconventional events in accordance with a growing need of ensuring the implementation of precise mitigation activities related to the chemical risk.

More in details, as shown in Figure 1, different kinds of threat can be distinguished depending on the type of involved agent and on the accidental or intentional origins of each specific event.

³The present study takes under consideration a wide range of information solely collected through open sources, as the result of a constant monitoring effort of global events as well as a precise and careful verification and validation of sources.



Figure 1

In this regard, it has been highlighted that intentional events occurred more frequently than those caused by negligence, as well as by those that would be under investigation or not related to human activities as well.

Nevertheless, accidental event have been occurred almost with the same frequency of criminal ones. Despite of a lower level of concerns on the general public, accidental events assume particular relevance in regard to National economic impacts.

Consequently, it would assume particular importance to consider also the number of involved subjects, with regard to the specific chemical agent employed to achieve the related hazardous event (Figure 22).

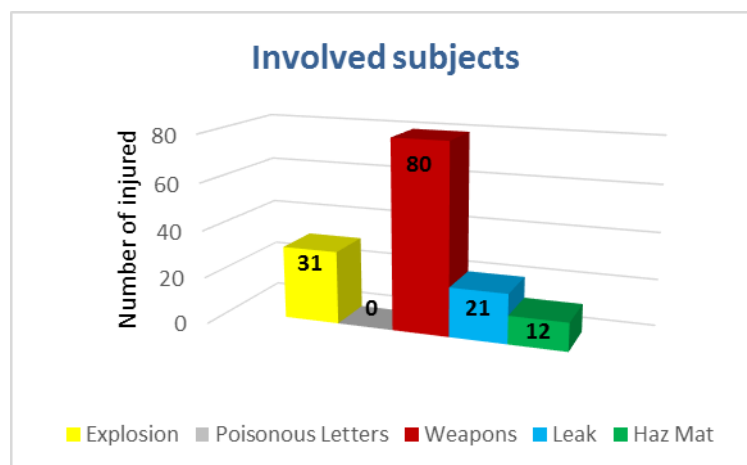


Figure 2

In addition, further information related to main targets of occurred events, which have involved some chemicals, have to be considered in order to better understand the current European scenario. As described in figure below, such incidents would be able to cause serious consequences on different type of structures and consequently, kind of subjects.

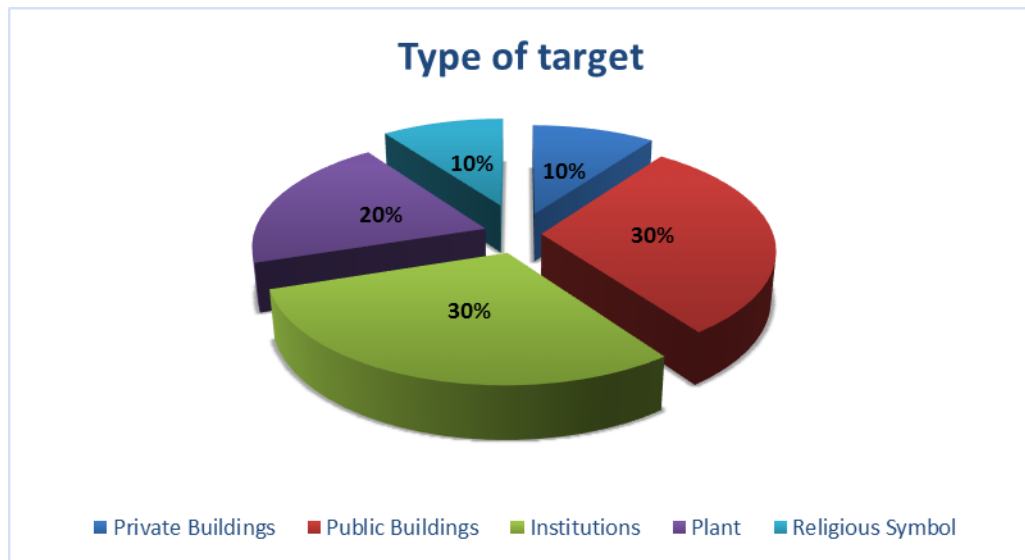


Figure 3

More in details, Figure 4 allows to visualize with further accuracy main targets affected during the 18 months considered in the present analysis.

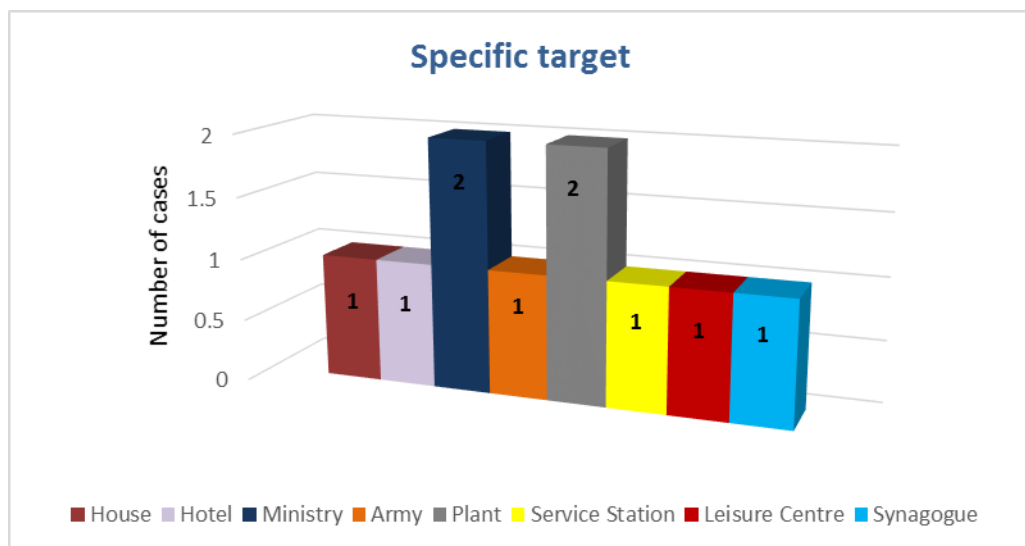


Figure 4

In addition, further relevant information can be highlighted also looking at which and how many subjects have suffered repercussions depending on the type of incident occurred.

(Figure 5 e

Figure 6).

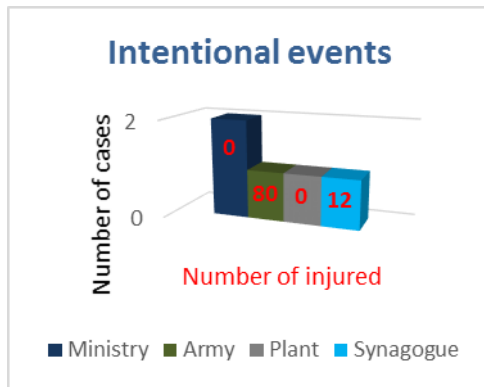


Figure 5

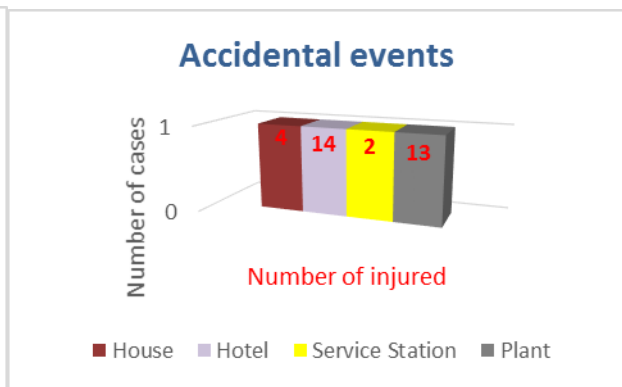


Figure 6

Biological Risk

The present Chapter is based on data collected through a constant monitoring of main epidemics, which have caused repercussions on European citizens between July 2014 and December 2015.

During the 18 months considered in this study, four epidemics (Ebola, Mers-CoV, H5N8 Virus, Salmonella), between all the European outbreaks, have caused some people died. Specifically, analyzing the number of victims, the H5N8 Virus has been the reason of the 50% of confirmed cases.

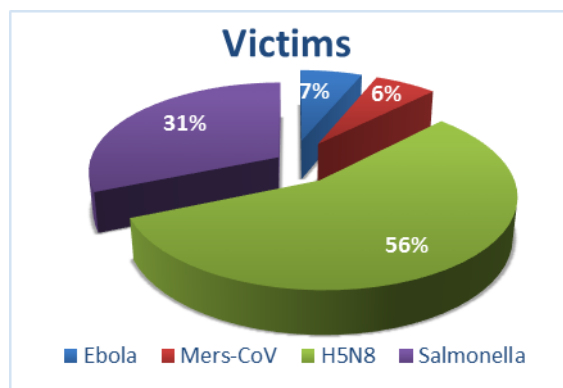


Figure 7

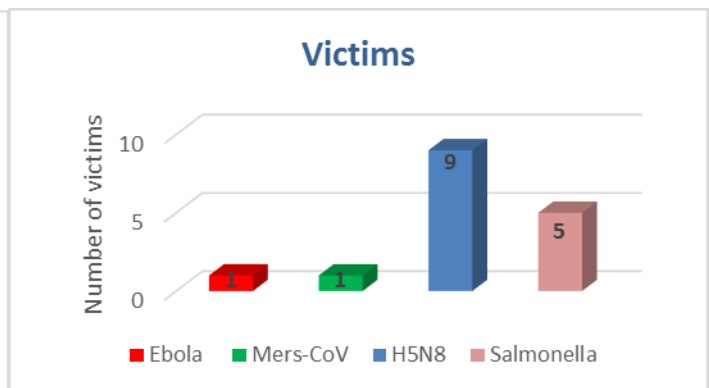


Figure 8

On the other hand, if we consider the total number of reported infections, no longer related just to victims, it appears more evident that, also considering the current wave of migrations from countries at risk, Europe cannot be considered extraneous to the increasing epidemics dissemination.

In this regard, it follows a list of the main outbreaks notified in Europe during the analyzed 18 months:

Table 1: General framework

Disease	Victims	Injuries
Ebola	1	37
Anthrax		9
Chikungunya		152
Leprosy		1
Malaria		2
Tuberculosis		2
Legionella		21
Ricin Toxin		1
Dengue		1
Mers-CoV	1	2
EV-D68		1
H5N8	9	
Tularemia		206
GBS		6
Hepatitis A		69
Botulism		23
Scarlet Fever		2
Salmonella	5	219
Novorius		14
Brucellosis		11
Meningitis		4
CVDPV1		2
KPC		44
Shigellosis		80
Polio		2

Considering the previous

Table 1, it assumes particular relevance that just Salmonella, Chikungunya and Tularemia represent the 63% of all the reported cases related to a Biological risk. More in details, notification rates vary from less than 1% in case of Dengue Fever, EV-D68 Virus, Leprosy and Ricin to reach almost 24% in case of Salmonella and 23% for Tularemia, which have reported the highest outbreaks rate.

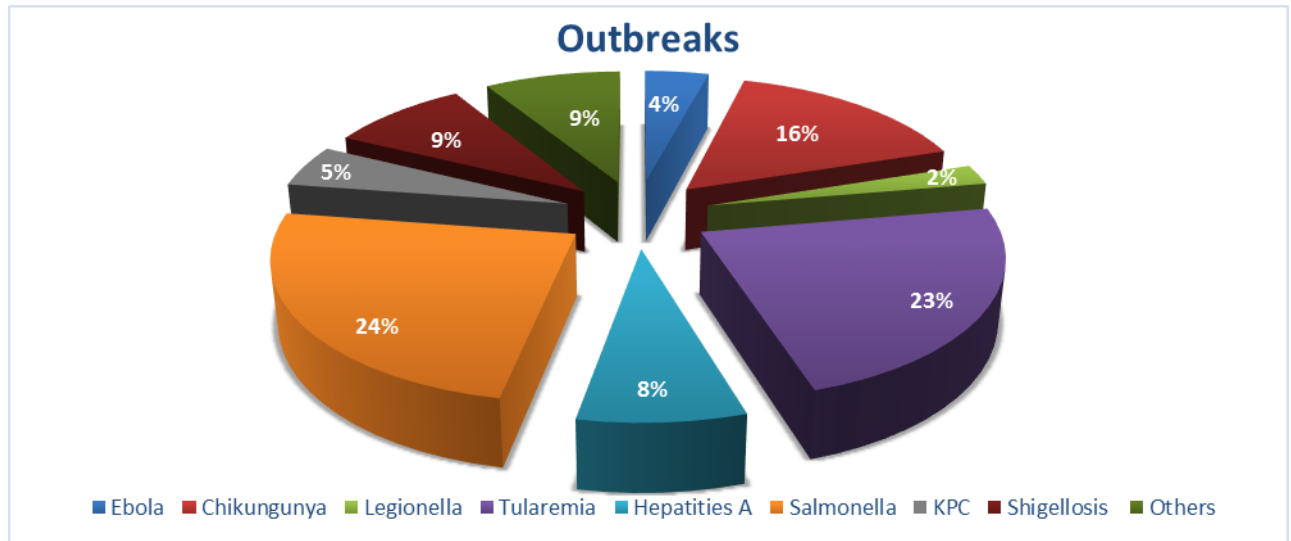
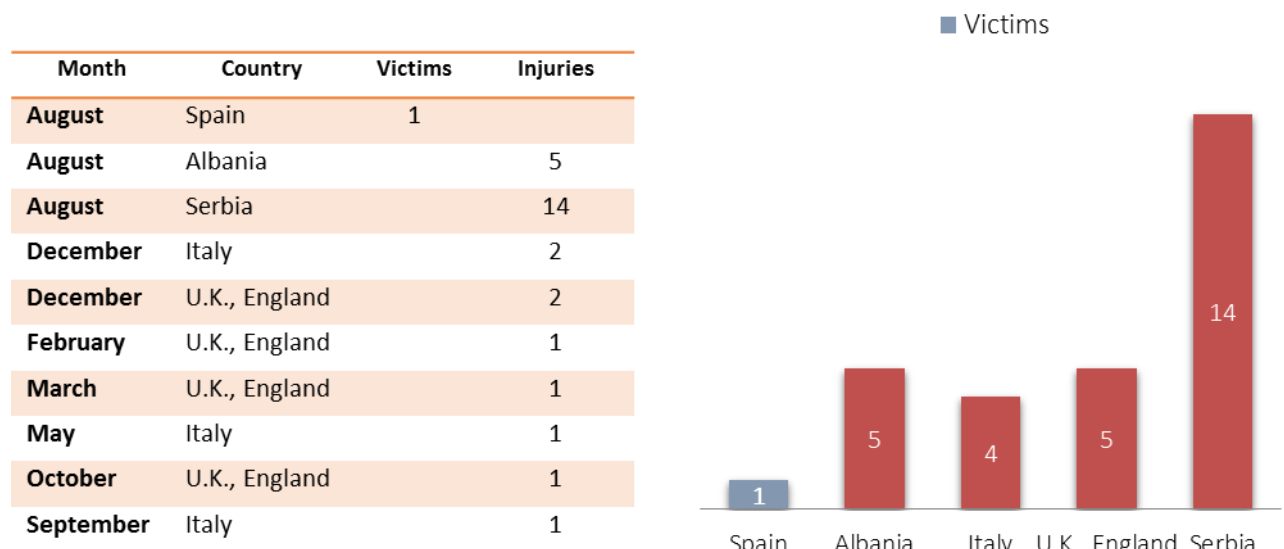


Figure 9

In addition, looking at the described scenario from a temporal approach, it has to be considered that just four epidemics (Ebola, Chikungunya, Anthrax and Mers-CoV), between all the reported European outbreaks, have been notified regularly during the 18 months considered in this analysis.

In this regard, it has been reported in details the all data related to the just described infectious diseases, with particular regard to each month and country of occurrence, as follow.

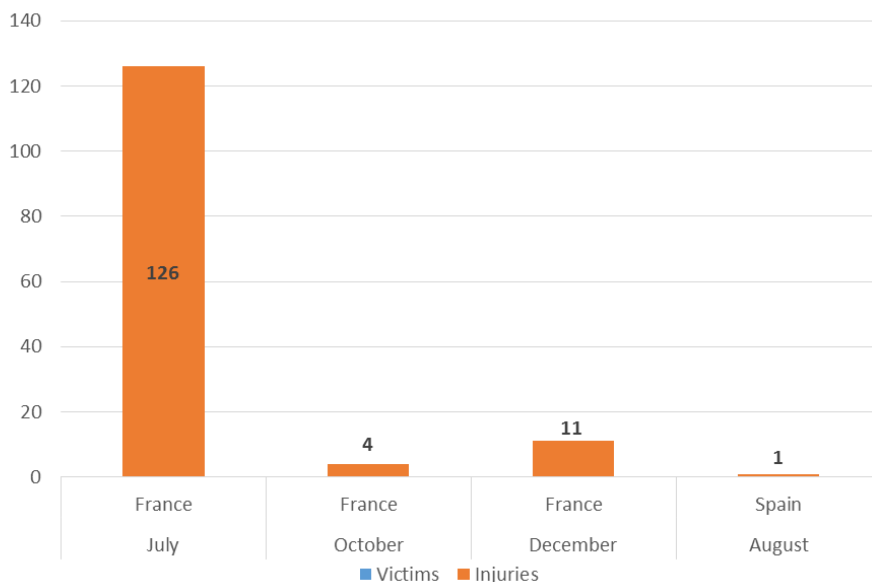
Ebola



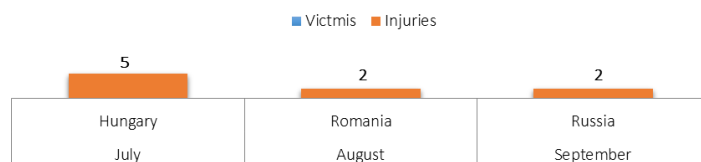
Month	Country	Victims	Injuries
August	Spain	1	
August	Albania		5
August	Serbia		14
December	Italy		2
December	U.K., England		2
February	U.K., England		1
March	U.K., England		1
May	Italy		1
October	U.K., England		1
September	Italy		1

Chikungunya

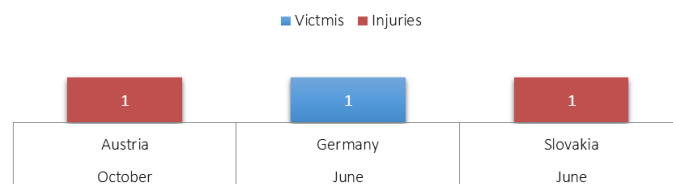
Month	Country	Victims	Injuries
July	France		126
October	France		4
December	France		11
August	Spain		1

Antrace

Month	Country	Victims	Injuries
July	Hungary		5
August	Romania		2
September	Russia		2

MERS-COV

Month	Country	Victims	Injuries
October	Austria		1
June	Germany	1	
June	Slovakia		1

Radiological-Nuclear Risk

According to analysis related to the Radiological and Nuclear risk, it is possible to highlight that, in Europe, mostly of reported cases have been related to the security of nuclear power plants or similar facilities.

In this regard, it appears immediately evident that more than 90% of events related to this threat refers to nuclear agreements, exercises implementation, eventual maintenance and restructuring activities as well as disarmament operations and new facilities construction (Figure 2).

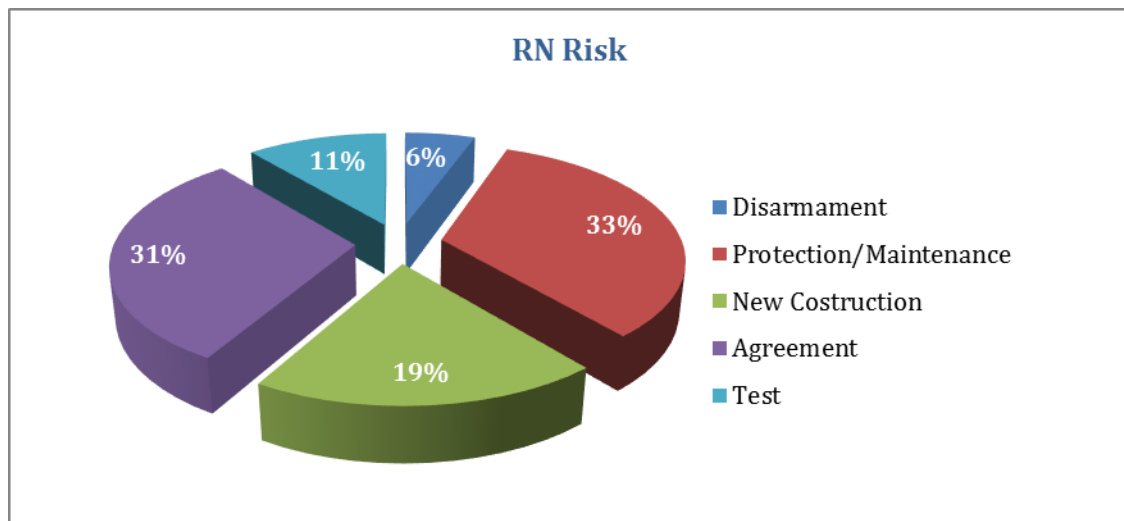


Figure 2

Considering all the reported cases, the eventual exploitation of nuclear weapons, radiological materials as well as nuclear waste hazard represented the leftover 10% of the total Radio-Nuclear threat reported in Europe between July 2014 and December 2015. Specifically, as reported in Figure , eventual hazardous events related to Radiological materials have been reported more frequently (68%) than nuclear weapons exploitations and nuclear waste dangerous situations (18% each).

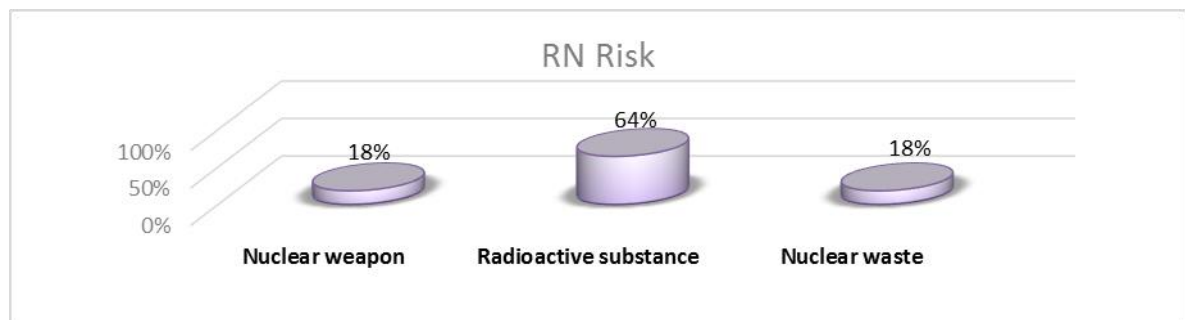


Figure 11

Finally, the present study has also considered the exploitation of new technologies related to the Radiological and Nuclear issue (Figure).

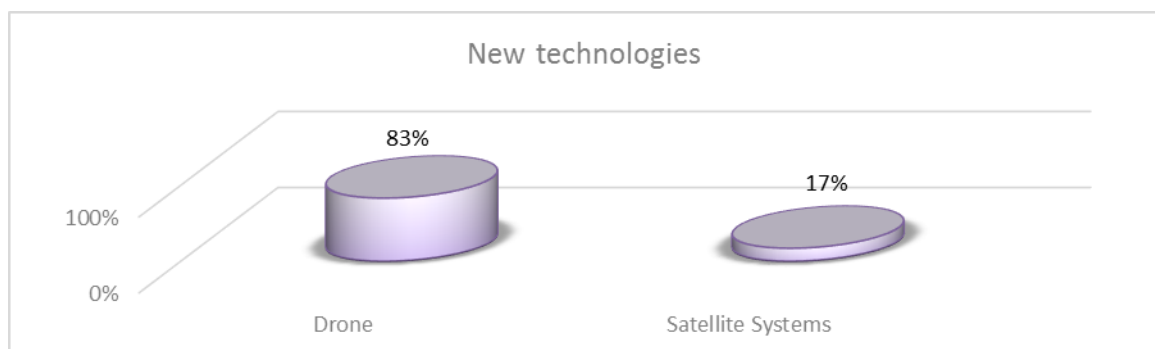


Figure 12

In this regard, it has been underlined that drones represent almost the completely involved technologies in order to monitor critical infrastructures related to energy production, storage and hazardous materials production.

Explosive risk

As follow, it has been reported a detail of main events related to the explosive risk occurred in Europe during the 18 months considered in the present study (Figure 13).



Figure 13

Therefore, starting with a preliminary analysis, the attention has been focused on the most relevant events, which have caused particular warning for the society.

On that purpose, also considering last terrorist attacks, which have hit some of the most representative European cities, it has been reported a growing wave of hoax, evocative of a common concern related to the risk of new attacks. Trend that have to be considered related to both emotional consequences on population and eventual economic repercussions due to emergency management activities.

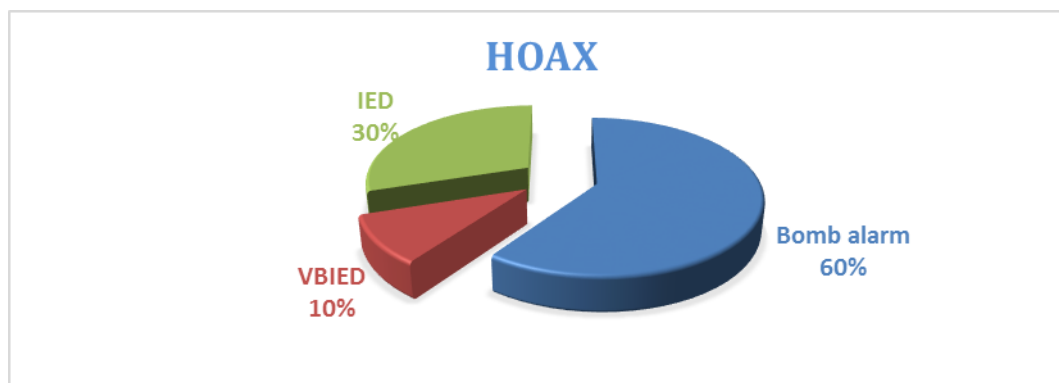


Figure 3

More in detail, as reported in Figure 3, 60% of cases can be related to hoax, the 30% concerns eventual IEDs (Improvised Explosive Device) exploitation, while 10% of cases referred to the use of VBIEDs (Vehicle Improvised Explosive Device).

In addition, a further analysis has focused on possible targets of attacks achieved through the exploitation of explosive materials.

In this regard, a first difference has considered the eventual targets between public and private areas (Figure).



Figure 15

While, as a second step, each specific target related to public areas has been underlined because of most frequently hit than others and due to their stronger emotional impact on population (Figure 4).

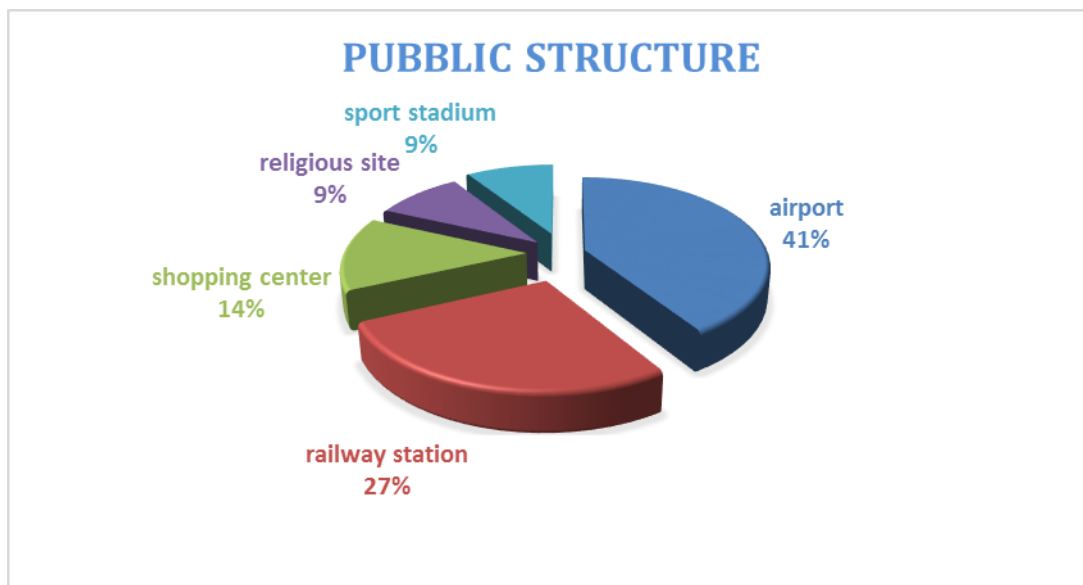
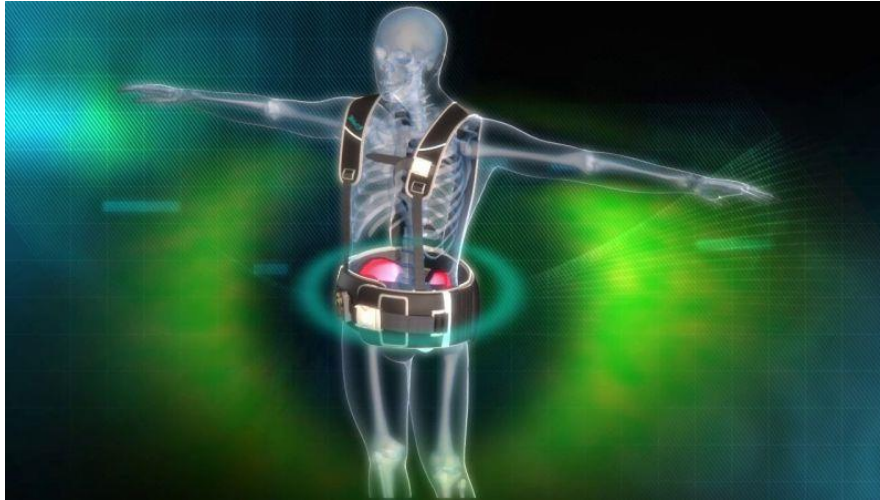


Figure 4

Life-Saving Protection Against Deadly Radiation

[Anti-radiation vest aimed to protect astronauts](#)



Bone Marrow Protected by the 360 Gamma

Once again the EU finds itself under attack by radical elements that stops at nothing in order to cause fear and disarray. Last past months made us more aware about the importance of being ready for unforeseen events, including terror attacks or accidents, and knowing how to manage them better if they occur. One topic that became more dominant in the news lately is the destructive potential of radioactive material if taken out of controlled environment. This may occur due to an accidental or intentional nuclear reactor meltdown, a radiological 'dirty' bomb or even a nuclear detonation. Most worrisome is a scenario in which terrorists acquire or fabricate a radioactive weapon.

President Barack Obama addressed this issue in April 2010 stated:

“Two decades after the end of the Cold War, we face a cruel irony of history. The risk of a nuclear confrontation between nations has gone down, but the risk of nuclear attack has gone up.”

U.S. Government report (National Planning Scenarios, March 2006) presented the cost of lives in case of a terror attack using a nuclear bomb. Ground detonation of a 10-kiloton nuclear bomb in downtown Washington D.C. would cause a blast that would kill approximately 15,000 people. Even more disturbing though is the number of deaths resulting from exposure to high dose gamma radiation: 95,000 to 190,000.

The report concluded that ***"perhaps the greatest potential impact on saving lives will be activities immediately following the detonation that address the reduction of the future radiation dose that will be received by the population in the fallout zone immediately downwind of ground zero"***. This report emphasizes the dangers of gamma radiation and underlines the need for first responders to operate under radiation to minimize further loss of life.

Regular protective clothing can shield from the alpha and beta radiation emitted from fallout, but offers no protection from gamma radiation. Shielding the human body from gamma rays require

large amounts of high-density material which are inherently heavy, trying to protect the entire body will result in very heavy equipment impairing first responders crucial mission. That is why an efficient protective gamma radiation equipment must implement the Selective Shielding concept, protecting what matters while keeping the shielding as light as possible. Mitigating the most fundamental danger of Acute Radiation Syndrome (ARS) is of the highest priority. ARS, also known as Radiation Sickness, is a serious illness that manifests itself when the human body receives a high dose of ionizing radiation over a short period of time (usually several hours) ARS arises due to the destruction of the individual's bone marrow, which results in anemia, infections and internal bleeding. Many casualties of the Hiroshima and Nagasaki atomic bomb detonations in 1945, and many of the firefighters who first responded to the Chernobyl nuclear power plant accident in 1986, became ill with ARS. Most of the people who do not recover from ARS will die within a few weeks to a few months after exposure, with the primary cause of death being the destruction of the person's bone marrow.

Upon exposure to radiation levels of up to 1000 cGy, most of the damage sustained is to the bone marrow tissue. While the median lethal dose of radiation in the human population is around 400 cGy. Protecting the bone marrow will provide a 2.5-fold increase in median lethal dose. That is why selective bone marrow shielding is now recommended by OECD/Nuclear Energy Agency as a means to protect emergency responders in severe accident management.

“While whole body shielding is inherently heavy, partial body shielding is lighter in weight and selectively shields tissues of increased radiosensitivity (i.e. bone marrow) with substantial amounts of shielding material to protect hematopoietic functions; therefore, potentially preventing the acute health effects of exposure to gamma radiation (i.e. Acute Radiation Syndrome -ARS).”



StemRad 360 Gamma

StemRad's breakthrough solution is to introduce a series of specialized radiation shields for the protection of bone marrow concentrations in humans. Such concentrations may be found in various bones in the body. In adults, the largest concentrations are in the hip bones. StemRad's range of shields was engineered to answer variations in bone Marrow concentration locations.



The 360 Gamma worn by Firefighter

The 360 Gamma, is of a belt-like design, focused on the protection of bone marrow that is present in the hip bones while allowing unhindered movement of the wearer. The 360 Gamma is designed first and foremost to protect against ARS, but also offers reduction of radiation induced cancer to the bone marrow, gastrointestinal system and female gonads in the protected area of the body by preventing radiation exposure.

Equipping personnel with the tested 360γ should have great impact on future radiological emergencies. In the detonation scenario mentioned above, StemRad's innovation would enable first responders to save countless lives. Had the 360γ existed back in Chernobyl, most of the responders would have survived. Had the Fukushima responders been equipped with the 360γ, the response would have been swifter and bolder- potentially averting much of the disaster. StemRad is determined to answer the need for effective gamma protection before disaster strikes again.

Based in Tel-Aviv, Israel, StemRad is a Startup company, leading in developing, manufacturing, and selling personal protection equipment that counters the harmful effects of ionizing radiation. Amongst other activities, StemRad is currently engaged in a joint project with Lockheed Martin, developing radiation protection equipment for astronauts during long duration missions in deep space.

More information about StemRad or the StemRad 360γ can be found in [this video link](#) or on StemRad's Website

Website: www.stemrad.com

Email: info@stemrad.com

PHAROS - Integrating Satellite and Terrestrial Tools for Advanced Forest Fire Management

By Javier Mulero Chaves, PHAROS Project Coordinator (German Aerospace Center, DLR)

The increasing amount of natural and man-made disasters makes it necessary to provide emergency management agencies with advanced tools to minimise the impact of crisis, both in terms of damages and human lives. Existing crisis management tools, which are in many cases hazard-dependent, generally focus on a particular aspect of crisis management, thus, not allowing practitioners to keep an overall view of the situation. Moreover, the use of a wide set of unrelated tools prevents practitioners from benefitting from the synergies which could be provided by integrated solutions. Taking into account this complex context, PHAROS provides an innovative multi-hazard service platform which integrates space-based observation, satellite communications and navigation assets to provide sustainable pre-operational services for a wide variety of users in multi-application domains, such as early detection of risks and emergencies, environmental monitoring, risk and crisis management and population alerting. The system exploits the synergies existing between the different tools, thus improving the overall added value, and proposes a flexible and scalable solution which can be extended with new tools and services, when available, to adapt to the different hazards and situations.

The European FP7 PHAROS project, coordinated by the German Aerospace Center (DLR) and with partners from six different European countries (DLR, Tecnosylva, Avanti Communications, Space Hellas, IQ Wireless, SPMM, Eutelsat and the Pau Costa Foundation) has been supported by the Catalan Fire Brigades (Bombers de la Generalitat de Catalunya) and the Forest Sciences Centre of Catalonia (CTFC). By keeping a close interaction with the end user community (civil protection agencies and fire brigades in different European countries), the PHAROS project has been able to identify the main requirements from the end user perspective when it comes to the provision of risk and emergency management services. On one hand, the need of providing services which can be used during the whole emergency management cycle (as opposed to systems covering only a particular phase) has been emphasized. Therefore, PHAROS offers services which can be used not only during the aftermath of a crisis (response phase), but also for preparedness and mitigation purposes as well as during the recovery phase. On the other hand, interoperability with already existing systems as well as the possibility to export information to other systems has been highlighted as aspects which could increase the acceptance of the proposed solutions.

During the project lifetime, PHAROS has selected forest fire as exemplary scenario. In this context, the PHAROS Pilot Demonstration will be held in the area of Solsona (Catalonia) between the 2nd and the 4th of March. The main objective of the pilot demonstration is to evaluate the system performance in a real scenario. Therefore, end users will be provided with the PHAROS system during a real fire case in the context of a prescribed burning organised by the Catalan fire brigades. Additionally, PHAROS has established a fruitful cooperation with the DLR VABENE++ Project for the pilot demonstration. This cooperation will allow the acquisition of aerial images during the prescribed burning and their transmission to the deployed control centre almost in real time and the provision of advanced products for the aftermath of the crisis, thus completing the common operational picture, improving situation awareness and supporting decision processes. A final dissemination event to present the project outcomes will be held at the DLR premises in Munich in May 2016.

Acknowledgment

The research leading to these results has received funding from the European Community's Seventh Framework Programme ([FP7/2007-2013]) under grant agreement n° [606982].

Focus on H2020 Project TARGET

Training Augmented Reality Generalised Environment Toolkit



*The TARGET project implements the **Pan-European platform for serious gaming and training** call funded under the Horizon 2020 Framework Programme of the European Commission. TARGET will receive nearly 6€ million in funding from the European Commission throughout its three year duration, from May 2015 to April 2018.*

PROJECT OVERVIEW

The mission of TARGET is to develop, trial and assess a **comprehensive open distributed pan-European Platform for serious gaming** leveraging state-of-the-art decision support tools, **for the training and competence assessment of Security Critical Agents (SCA)** including counterterrorism units, border guards and first responders (police, firefighters, ambulance services, civil security agencies or critical infrastructure operators). TARGET favours joint development of serious gaming Training Content (TC) and **collaborative** transnational training. TARGET will trigger the emergence of a **marketplace** for sharing, licensing and paying for serious TC between SCA, leveraging the existing European wealth of exercises.



Mixed-reality experiences will immerse trainees at operational, tactical and strategic command levels with scenarios that will include tactical firearms events, asset protection, mass demonstrations, cyber-attacks and CBRN incidents. Trainees will use real / training weaponry, radio equipment, command & control software, decision support tools, real command centres and vehicles. Social and ethical content will play an important role throughout all aspects of the project. If real-source information is not available, it will be substituted by AVR (Augmented / Virtual Reality - multimedia, synthetic role players). TARGET will deliver an extremely realistic and flexible AVR simulation solution incorporating a range of dynamic and variable scenarios. The final outcome will be a highly immersive training solution, resulting in superior and more effective training experiences for SCAs. The distributed Open TARGET Platform will provide extensible

standards-driven methods to integrate simulation techniques and AVR technology with existing SCA training equipment and be customisable to local languages, national legal contexts, organisational structures, established standard operational procedures and legacy IT systems. At key training points real-time benchmarking of individuals and teams will be instrumented. TARGET will support inter-agency SCA exercising across the EU and act as a serious gaming repository and brokerage facility for authorised agencies to share training material and maximise reuse and efficiency in delivering complex exercises.

TARGET, combining training, content and technology expertise, will be co-led by users and technologists, mainly SMEs. Two successively developed and trialled versions of the TARGET Solution will support user-technologist dialogue. The TARGET Ecosystem will enable sustainable impact, commercial uptake and synergies at EU level.

RESULTS AFTER 10 MONTHS OF THE PROJECT

After 10 months of intense effort and partner collaboration, the TARGET project has finalised user specifications and platform requirements, issued the 1st version of all 6 training case scenarios, carried out extensive technical discussions related to technical implementation, outlined all dissemination activities to take place throughout the project, developed and implemented ethical guidelines, and developed the UAV Photogrammetry drone for 3D modelling.

User site visits to end user partner organisations were carried out from July – November 2015 and enabled those involved in Work Package 1 “User Perspective, Trials, Assessment and Best Practices” to obtain user requirements for the TARGET platform, training scenario development and trials, and allowed the technical team to observe human factors during training exercises.



CBRN Exercise & TNA site visit to Slovakia (International Security and Emergency Management Institute)

JOIN THE COMMUNITY!

Are you interested in SCA training and serious gaming? Would you like to stay up to date on TARGET project results, news, events and publications? **Join the TARGET Community!**

The TARGET Community Management Platform aims to facilitate communication and information exchange between the members of the community of SCA training organisations, technology developers and stakeholders.

To receive an invitation, please contact target-arttic@eurtd.com with “**Invitation to the TARGET Community Management Platform**” in the subject line.

**SAVE THE DATE for the
TARGET PUBLIC WORKSHOP!**

The first TARGET Public Workshop will take place in Barcelona, Spain on 20-21 October 2016. We invite you to attend the event and learn about TARGET project results, training case scenarios and technology developments at project mid-term. Stayed tuned for further information on the TARGET website: www.target-h2020.eu.



THE TARGET CONSORTIUM



TARGET partners at the General Assembly in Hampshire, UK

Representing 17 partner organisations from 10 EU member states, the consortium brings together the expertise of major users, leading edge technologists and experts in technology assessment, dissemination, ethics, security sensitivity and project management. TARGET is coordinated by international management services firm ARTTIC, with technical coordination from VectorCommand LTD, an international command & control operations and training company.



A CLOSER LOOK AT THE TARGET TECHNOLOGIES

SYSTEM ARCHITECTURE

Led by Fraunhofer IVI, the **platform system architecture** is designed around a Message-oriented Middleware (MOM) and will operate with 2 systems: the **TARGET Editor** and **TARGET Runtime**. The system will include a **simulation engine** running the non-linear exercise scripts, **3D/2D modelling** for having the training at any location, an **assessment engine** to evaluate team and individual performance, an **operational web service** to communicate with mixed reality displays, and an interface to link to **existing legacy systems**. The **data stores** included in the system architecture include infrastructure stores, GIS stores, localisation, behavioural store, the 3D/2D geometry store, and a multimedia store.

USER INTERFACES

The **TARGET Platform User Interface** development is led by Technical Coordinator, VectorCommand LTD. It allows users to operate the **software** developed within the project. The **user interface system** will be used by all non-legacy components in the TARGET system. The user interface requirements were defined the first six months of the project and are currently being developed. The user interface toolkits will consist of the **simulator**, a **decision support system**, and an **assessment system**.

MODELLING AND SIMULATION



The International Security Competence Centre will lead the work package Modelling and Simulation. The **simulation engine** mentioned in the system architecture will be developed within this work package. A **Content library** and **3D/2D Geometry store** will be developed for use in the TARGET platform, will be developed and consist of 2D and 3D training algorithms. **3D models** will include building structures, human injuries, or vehicles. A **photogrammetry survey drone** has already been developed and will be used to rapidly prototype 3D models. **2D models** will be developed to describe the impact of an uncontrolled release of chemicals or uncontrolled exposure to radioactivity, as well as **disposition models** to determine which resources will be used in a given situation.

MIXED REALITY COMPONENTS

When possible and with value added to the scenarios, **real objects** and people will interact with **virtual objects** and characters. **Mixed reality** components will be used to maximise training. **Hardware** will include 3D headsets, Bluetooth, and / or smart watches and TC scenarios will include the following: **3D headsets** will be used during some of the TC scenarios, **3D printing**,



Point of View cameras to immerse trainees in a scenario, **non-linear dialogue** with virtual characters, **real weapons** with simulated behaviours / interactions / explosions and / or damage, and there is a potential within the project to develop **location tracking**.

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www.target-h2020.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653350.

EU Projects POP-ALERT and TACTIC Conference

**Susan Anson and Hayley Watson, Trilateral Research Ltd., London and Hara Caracostas,
European Organisation For Security, Brussels**

Improving preparedness in Europe through risk communication and community-based approaches: Final conference of the POP-ALERT and TACTIC projects

On 15th and 16th March 2016, over 80 researchers and practitioners from across Europe and beyond were brought together for the final conference of the POP-ALERT and TACTIC projects. The conference provided an opportunity for participants to learn more about increasing preparedness to various types of risk, engage in lively discussions, and to network with other key stakeholders interested in preparedness.

TACTIC and POP-ALERT, sister projects both funded under the European Commission's Seventh Framework Programme, focus on tools for increasing community preparedness for large-scale and cross-border disasters. The first day of the conference began with welcoming speeches from Philippe Quevauviller and Quillaume Lapeyre from the Research Executive Agency, European Commission, who provided insight into the common themes addressed by both projects and highlighted the motivations for funding research involving communities. For instance, both TACTIC and POP-ALERT focus on:

- The relationship between risk perception and preparedness; how do the public perceive different types of risk and what do these perceptions mean for preparedness?
- The importance of an effective risk communication strategy
- The use of technologies to prepare both organisations and the general public for large-scale and cross-border disasters; this includes the POP-ALERT Dashboard and the TACTIC Online Self-Assessment Platform (TOSAP)
- Participatory approaches involving the involvement of stakeholders in the development of preparedness tools through the use of pilots (POP-ALERT) and case study workshops (TACTIC)
- The collection of good practices in community preparedness

The introductory presentations from TACTIC's (Christian Kuhlicke) and POP-ALERT's (Hara Caracostas) coordinators also highlighted the key differences that make the projects complementary. While Christian spoke about the different tools that TACTIC's partners have developed for four hazards (flooding, terrorism, earthquakes and epidemics/pandemics), Hara presented on POP-ALERTS all hazards approach and the project's focus on increasing the preparedness of different communities (e.g., tourists, expats, refugees). Despite the differences between the two projects, increasing community preparedness to respond to crises and disasters is the core objective.

The projects' tools

Throughout the conference, participants learnt about the different tools that had been developed for organisations (e.g., public authorities and risk communicators) and the general public to improve their preparedness. The first day of the conference focused on POP-ALERT and the Dashboard that had been created. POP-ALERT's partners presented the findings from research undertaken with the public, which underpins the development of the Dashboard, and on the pilots of the Dashboard that had been undertaken with key stakeholders in Lisbon and Corsica. The Dashboard supports community preparedness by providing: information on different categories of hazard (e.g.,

bioterrorism/pandemics, chemical emergencies and natural disasters), training tools, resources to support communities in making a plan and emergency supply kit, and by providing localised emergency information for each country in case of a crisis.

Due to POP-ALERTS focus on different communities, Nikos Moustakidis from the Greek Centre for Security Studies presented on the extensive intercultural communication analysis that had been undertaken and the different models that had examined to understand the influence of culture on communication and preparedness. Jean Christophe Bourdin from the Northern Corsica Fire Department and Maria Telhado from the Municipality of Lisbon presented the preliminary results from the two Pilot Projects and emphasised the importance of the Dashboard in their work. Antonio Chagas from Edisoft presented the project's recommendations on how to build an efficient website for public authorities. Tim Prior from ETH Zurich presented the different factors identified throughout the research process that influence people's willingness to prepare. Thorsten Ziercke from SIEMENS discussed the role of standardisation in improving crisis communication at EU level, and finally, Dennis Davis from the International Association of Fire and Rescue Services presented a number of recommendations on how to improve preparedness and resilience in Europe. The second day of the conference focused on the tools that have been developed as part of the TACTIC project. The first presentation on TACTIC involved a demonstration of the TACTIC Online Self-Assessment Platform (TOSAP). The TOSAP hosts the tools that have been developed as part of the project, including:

- **A self-assessment for organisations:** through a series of questions, the organisational self-assessment aims to support organisations in developing and evaluating their risk communication strategy
- **A self-assessment for the general public:** by answering a series of questions, the self-assessment aims to support the public in evaluating and increasing their preparedness
- **Feedback reports:** once users have completed the respective self-assessment, they will receive a short feedback report explaining the relevance of the questions that they have been asked. Users will also be provided with information on how to further enhance their risk communication strategy or preparedness
- **A library of good practices:** the library includes examples of communication and education practices (e.g., brochures and films). Users will receive examples of good practices as part of their feedback from completing the self-assessment and the library can be manually searched

Following the presentation of the TOSAP, Cheney Shreve from Northumbria University provided an overview of the literature and research examining the relationship between risk perception and preparedness, that acts as the foundation of the tools that were developed during the TACTIC project. Cheney highlighted how levels of public preparedness are typically low and how risk perception alone does not automatically mean that a person will prepare. The presentation by Nuray Karanci from Middle East Technical University, highlighted the links between TACTIC and the emBRACE project focusing on Building Resilience Amongst Communities in Europe, and the relationship between resilience and preparedness.

Preparedness lessons from across Europe and beyond

Conference participants not only had the opportunity to learn about TACTIC and POP-ALERT but also to learn about preparedness from a number of invited speakers from across the globe. Andrew Staniforth, West Yorkshire Police provided participants with information on the ATHENA project, which focuses on the use of new communication media (e.g., social media) to empower citizens and enhance their ability to respond in crisis situations. Focusing on the response to a crisis, Benoît Ramacker from the Belgium National Crisis Center, discussed the Center's response to the November 2015 Paris attacks. Benoît's presentation provided insight into how communication in response to a terrorist attack is organised and developed. Catering for a truly European audience,

Christoph Oberacker from the Bavarian Environment Agency presented the lessons learnt from the 2013 flood in Bavaria in German, with interpreters providing translations into Turkish and English. Karin Metz and Sawyer Baker from the Global Disaster Preparedness Centre (GDPC) based in the United States of America highlighted the key issues in their global preparedness work (e.g., capacity to scale, demand driven, people centred) and highlighted preparedness initiatives including the First Aid and Hazard Apps and the Business Continuity Initiative. The final presentation of the conference was by Maggie Mort, Lancaster University, who presented an overview of research undertaken to understand children's experiences and understandings of floods and how they contribute to the community's resilience and recovery. Christian Kuhlicke closed the conference and invited participants to continue the morning's discussions during lunch.

The TACTIC and POP-ALERT consortiums would like to thank all of the conference participants for their engagement, feedback and questions during the conference.

About the projects

TACTIC, <https://www.tacticproject.eu/>, @TACTIC_EU

The Tools, methods And training for CommuniTies and Society to better prepare for a Crisis (TACTIC) project aims to increase preparedness to large-scale and cross-border disasters amongst communities and societies in Europe. TACTIC has seven partners from five European countries, and is funded under the European Commission's Seventh Framework Programme.⁴ Throughout its two-year duration, TACTIC has considered studies on risk perception and preparedness to develop a preparedness self-assessment enabling communities to assess how prepared they are for different types of crises. Additionally, TACTIC focuses on identifying and categorising good practices of communication and education practices for preparedness. Adopting a collaborative approach to preparedness, the self-assessment, communication and education practices have been discussed and analysed with stakeholders in a series of workshops as part of TACTIC's four case studies focusing on four types of crises: terrorism, floods, epidemics, and earthquakes. Subsequently, a long-term learning framework for improving community preparedness to a range of crisis situations will be developed. All of TACTIC's outputs will be presented in a web-based platform.

For further information on the TACTIC project, please e-mail Susan Anson at susan.anson@trilateralresearch.com

POP-ALERT, <http://www.pop-alert.eu/>, @popalerteu

POP-ALERT is a two-year project financed by the European Commission's Seventh Framework Programme.⁵ It has carried out behavioural research and a series of empirical studies, taking into account new issues related to targeting both local populations and visitors such as expats or tourists (cultural differences, language barriers, etc.). A portfolio of case studies on social networking and community self-reliance initiatives has been developed and POP-ALERT has identified the best ways to blend contemporary tools with existing practices in order to create flexible and easily deployable toolkits for preparing and alerting the European population in case of a crisis. The project has focused on improving current practices around the use of messaging and cultural sharing technologies that offer the best form of accessibility and use by citizens and authorities.

⁴ The TACTIC project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 608058.

⁵ The POP-ALERT project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 608030.

POP-ALERT used a pilot project in order to test the generic methodologies and to assess their effectiveness in raising an improved level of preparedness of the community.

For further information on the POP-ALERT project, please e-mail Hara Caracostas at:
hara.caracostas@eos-eu.com

GMV Contributes Towards Definition of the Requirements of the New Copernicus Satellites

Madrid, 12 February 2016. – [GMV](#) is playing a key role in the Copernicus Global Monitoring for Environment and Security program, participating actively in various projects for both the ground and space segment.

Copernicus is a joint program of the European Commission and the European Space Agency. Its aim is to implement the use of space data in environmental and civil-security applications. It was organized around a space component and a service component to aid management and decision-taking in six thematic domains: climate change, atmosphere monitoring, marine monitoring, land monitoring, emergency response and services for security applications.

Within the space component, the European Commission's space data unit has recently established a framework contract with a GMV-led consortium, which aims to define second-generation satellite user requirements of this ambitious program, by means of which Europe is now building up its own earth-observation technology and capability.

Copernicus now comprises five satellite families: Sentinel-1, designed to ensure the continuity of ERS and Envisat radar data, Sentinel-2 and -3, dedicated to Earth and ocean monitoring; and Sentinel-4 and -5, which will be dedicated to meteorology and climatology missions, based on a study of the composition of the Earth's atmosphere.

This new fleet of satellites is expected to provide a huge amount of fundamental images and data for the Copernicus program and offer a series of key services for a wide range of applications. The first action under this contract is therefore to launch a "[call for interest](#)" to gauge interest in participating in the definition of user requirements to guide the next generation of new Copernicus.

As a user-driven program Copernicus is bound to remain in constant evolution to make sure it addresses the needs of a great amount of users from many different fields. The aim of this "call for interest" is therefore to compile user needs. It will then serve as the first building block of a process aimed at defining the high-level requirements for the next generation of the Copernicus Space Component and the future generation of European satellites.

It is thus a unique opportunity to contribute to the creation of a "fil rouge" between this Space Component and the users. The survey data will be protected by Regulation 45/2001, which regulates processing of personal data by EU institutions. Registered users will be contacted by the contractor to find out the specific requirements they wish to bring up (e.g., application needs not covered by Copernicus, improvement of products, data access, instrument specs, etc.), doing so by means of technical questionnaires, face-to-face interviews, participation in thematic workshops, etc.

As well as leading the consortium, which also includes Spaceteq Partners (Belgium), FDC (France) and Noveltis (France), GMV will also be responsible within the project for specifying mission requirements of the next Copernicus missions.

.....
GMV is a privately owned technology business group founded in 1984 and trading on a worldwide scale in the following sectors: Aerospace, Defense and Security, Transport, Telecommunications and IT for public administration and large corporations. In 2014 it chalked up revenue of 117M€ and more than 1,100 employees. It runs subsidiaries in Spain, Germany, Colombia, France, USA,

India, Malaysia, Poland, Portugal, Romania and UK, and 65% of its turnover comes from international projects in all five continents. The company's growth strategy is based on continual innovation; 10% of its turnover is plowed back into R&D. GMV has achieved level 5 of the CMMI (Capability Maturity Model Integration), the world's most prestigious business-process improvement model and holds several international patents. GMV is currently the world's top supplier of ground control systems (GCS) for commercial satellites telecommunications operators; it is the European leader in satellite navigation processing ground segment (EGNOS and Galileo); it is the main supplier of C3I command and control systems to the Spanish army and the nation's top supplier of telematic systems for public transport. In the ICT sector it is a national benchmark as provider of advanced IP network cybersecurity solutions and services, mobility applications and applications for the public sector and the development of e-Government.

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Asia Emergency Management and Expo



Meet with Decision Makers and Practitioners in Risk and Emergency Management, Business Continuity and Disaster Recovery at AEMC!

AEMC is **Asia's specialized Emergency Management Conference for Urban Areas**. It is taking place from 10 to 12 May 2016 at the Venetian, Macao.

Over 30 international speakers from 14 countries have already been confirmed for the 3-days program, featuring thought leadership speeches and panel sessions, practical workshops and excellent networking opportunities.

The varied conference program is suitable for all levels of professionals, be it new or experienced, from a wide range of sectors. TIEMS will also be present throughout this event, with **K. Harald Drager (TIEMS President)** and **Guosheng Qu (TIEMS Vice President)** as two of the first class Key Note Speakers.

Concurrently to AEMC, there will be the Asia Emergency Management Expo (AEME). It serves as an international trade platform for service providers, manufacturers, trading companies and non-governmental organizations providing a broad range of products and services.

Why attend?

- To share good practice in emergency, risk and crisis management with international experts
- To improve knowledge and gain practical insights that can be directly put into action
- To be at the heart of global thought leadership
- To benefit from invaluable networking opportunities

Register Now! And benefit from the Discounted Entrance Fee for TIEMS members by using the promotional code: TIEMSAEMC16

For more information and further updates, please visit www.aemconference.asia or contact Ms. Jennifer Chen at events@verticalexpo.com.

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PROGRAM

10-May-16 (Tuesday)	
09:00 - 09:15	Welcoming Remarks
09:15 - 10:00	Prepare for Tomorrow, Today! Mr. Harald Drager – <i>President (Norway)</i> <i>The International Emergency Management Society TIEMS</i>
10:15 - 11:15	Lessons Learned from MH370 and MH17 Mr. Fuad Sharuji – <i>Vice President Operations Control Centre, former Crisis Director MH370 and MH17 (Malaysia)</i> <i>Malaysia Airlines</i>
11:15 - 12:15	Dealing with Uncertainty: Good Practice in BCM and ISO 22301 – Panel Session Mr. Henry Ee – <i>Asia President and Singapore Representative</i> Mr. Willem Hoekstra – <i>Hong Kong Representative</i> Mr. Mohan Menon – <i>Malaysia Representative</i> Mr. Roger Wang – <i>China Representative</i> <i>Business Continuity Institute BCI</i>
13:15 - 14:15	Crisis Communications Ms. Elmarie Marais – <i>Managing Director (Australia)</i> <i>GoCrisis</i>
14:15 - 15:15	Managing Rumors and Misinformation: Lessons from Kenya, Burma, and Beyond Mr. Christopher Tuckwood – <i>Executive Director (Canada)</i> <i>The Sentinel Project</i>
15:15 - 16:15	Building a Crisis Response Capacity Ms. Pauline Parsons – <i>Director, former Air New Zealand Emergency Planning Manager (New Zealand)</i> <i>GoCrisis</i>
16:15 - 17:15	Resting Before the Tiger – Crisis Management Gone Wrong. Workshopping the Case Studies Mr. Tim Curtis – <i>Director of International Operations (Australia)</i> <i>Executive Risk Solutions</i>
17:15 - 18:00	Emergency and Risk Management, Business Continuity Mr. Henry Ee – <i>Founder & Managing Director (Singapore)</i> <i>Business Continuity Planning Asia Pte Ltd (BCP Asia)</i>
19:00 - 21:00	International Dinner

11-May-16 (Wednesday)	
09:00 - 10:00	Search and Rescue Operations: Lessons Learned from Earthquake Disasters and Challenges for Capacity Building in Asia-Pacific Mr. Guosheng Qu – Vice President, Deputy General Team Leader of China International Search and Rescue Team (China) <i>The International Emergency Management Society TIEMS</i>
10:00 - 11:00	Building Resilient Communities & Lessons Learned – Panel Session Mr. Ellis Stanley – Global Chair (USA) Mr. Clay Tyeryar – Deputy Director (USA) Mr. Victor Bai – Asia Council President (China) <i>International Association of Emergency Managers IAEM</i>
11:15 - 12:15	Proactive Incident Management Mr. Ilya Umanskiy – Associate Managing Director, Security Risk Management (Hong Kong) Mr. Leon Hill – Director, Security Risk Management (Hong Kong) <i>Kroll</i>
12:15 - 13:15	Is your Emergency Management Team a “Team” or a “Group” Mr. Paul Barker – Managing Director (Thailand) <i>DMT Global (representing Intermedix) – WebEOC Presentation</i>
14:15 - 15:15	Emergency Management in the Transport Sector Mr. Chew Weng Lee – Deputy Director / Emergency Preparedness, Futures Division (Singapore) <i>Ministry of Transport, Singapore</i>
15:15 - 16:15	Guest Security: A dynamic open System Mr. Christian A. Buschhoff – CEO (Germany) <i>xEMP extra Entertainment Media Publishing oHG</i>
16:15 - 17:15	Fire Scenarios in High-Rise and Shopping Mall Buildings – Best Practices of Crowd Control and Mass Evacuation Mr. Marcin Cisek – Lecturer (Poland) <i>Main School of Fire Service, Poland</i>
17:15 - 18:30	Creating Chaos & Mayhem: 6 Key Items to Ensuring a Successful Disaster Exercise Mr. Darryl Culley – President (Canada) <i>Emergency Management & Training Inc.</i>
20:00 - 22:00	Networking

12-May-16 (Thursday)	
09:00 - 10:00	I am a Black Swan: The Psychology of Risk and How to Plan for the Un-Plannable Mr. Howard Mannella – Managing Principal (USA) <i>Alternative Resiliency Services Corp</i>
10:00 - 11:00	Taking Care of People Ms. Amanda Sun – Director, Air China Emergency Planning Manager (China) <i>GoCrisis</i>
11:15 - 12:45	Human Side of Crises in the Workplace Ms. Doris Fong – Associate Director, Client Service Account Management (Hong Kong) Mr. David Levine – Senior Vice President (USA) <i>Optum International</i>
12:45 - 13:30	Mass Fatality Mortuaries and Equipment Mr. Simon Rothwell – Director (UK) <i>Flexmort (Roftek Ltd)</i>
14:30 - 17:30	Security – ASIS Session <i>ASIS</i>
17:30	Conference Closes

More details at: <http://www.aemconference.asia/>

14th PSCE Biannual Conference in Brussels

- What is the current status of the implementation of the European Agenda for security?
- What will be the core set of specifications, and roadmap for procurement, to achieve future evolution of EU broadband applications and interoperable radio communication solutions?
- Which are the most important ethical, legal and social issues in PPDR networked information exchange?
- How to address the topics associated to the Pan European Information Space?
- How to prepare the emergency calling for the next generation network?
- How Copernicus and Galileo services support crisis management?

These are just some of the questions that will be under discussion at the next **PSCE Conference that will take place on 18 and 19 May 2016 in Brussels, Belgium**. PSCE events, regularly attended by a senior user, research and industry participants from across Europe, represent platforms for lively and interactive debates where stakeholders discuss with each other and react to the questions of an expert audience.

There will be a co-located **Workshop on Ethical, Legal, Social Issues in PPDR Networked Information Exchange on 17 May 2016**.

The preliminary version of the programme is available [here](#).

The registration form is available [here](#).

More information, including the accommodation is available [here](#).

Nice Global Forum on Homeland Security and Crisis Management



Nice Global Forum

International Congress on
Homeland Security and Crisis Management

25-28 October 2016 | Nice, France



Nice Global Forum on Homeland Security & Crisis Management, October 25-28, 2016 in Nice, France will bring together **Ministers for Homeland Security, Mayors, heads of law enforcement agencies**, as well as industry experts to strengthen cooperation and share views, experiences and knowledge in the fields of homeland security threats and natural disasters.

NGF 2016 offers a unique opportunity to network with world experts and key opinion leaders from the industry, government and academia, as well as an impressive programme of keynote speakers, panelists and sessions.

The extent of the homeland security and natural disaster threats coupled with the complexity of dealing with it, have motivated many governments during the last decade to create new ministries to meet the needs of homeland security. However, the capability of cities and nations to meet these challenges alone is limited.

The Nice Global Forum, NGF 2016 Congress, will bring together industry, government and academia to share knowledge, experience and strengthen cooperation, to improve the safety and security of cities and citizens.

Register now to join Homeland Security & Crisis Management peers at NGF 2016 in Nice!

Next TIEMS Newsletter

The next TIEMS Newsletter is planned for June 2016.

TIEMS issues its electronic newsletter quarterly, and it is distributed to more than 100 000 experts worldwide, with articles on global emergency and disaster management events and activities, TIEMS news, etc.

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Contact TIEMS Secretariat at secretariat@tiems.info or fax: +32 2 286 80 39.

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Issue no. 27 is planned for June 2016 and contributions are welcome. Please, contact one of the editors or TIEMS Secretariat if you have news, an article of interest, or like to list coming events of interest for the global emergency and disaster community or like to advertise in the next issue.

