



The International Emergency Management Society

Members Newsletter – Issue 8 – April 2009



Photo courtesy of Eneas'

Featured in this issue:

H1N1 – Is it the next Pandemic, and are we prepared?

TIEMS Latest News incl. Annual Conference Update

CHORIST project: Solutions for early warning

Oil, Gas & Chemicals Safety & Disaster Management

Plus news on forthcoming conferences and events incl. special discounts for our members

Amazing speakers and sunsets...

**TIEMS 2009 Annual Conference
Istanbul, Turkey**

9th – 11th June 2009

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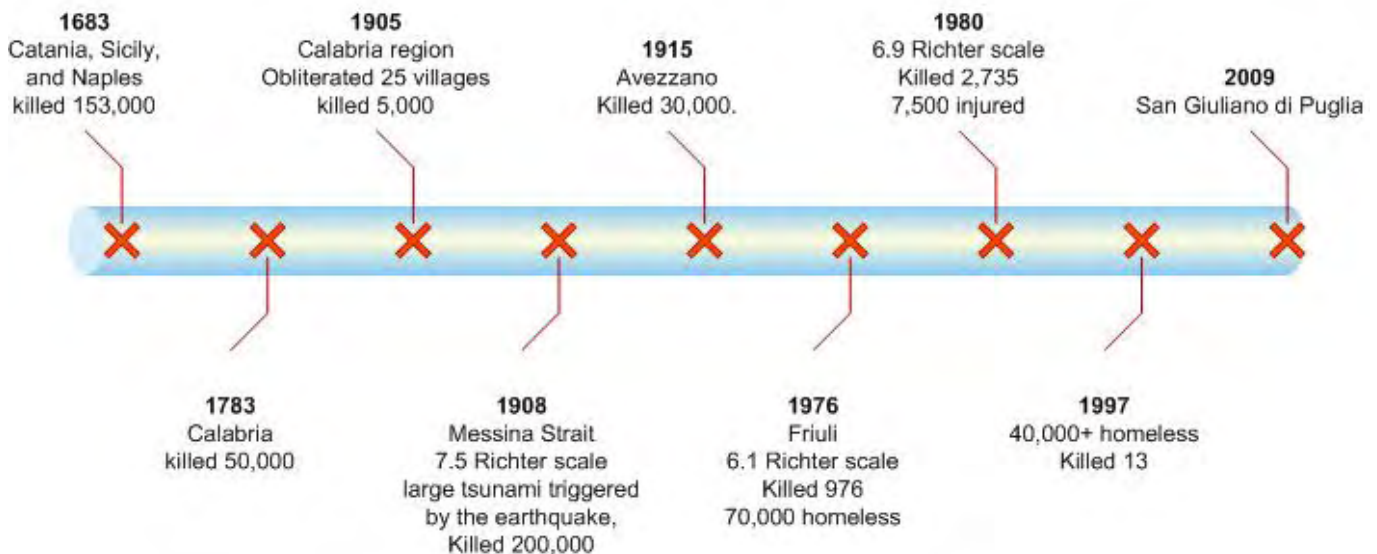
Message from the President

The recent earthquake in Italy remind us all of the power of nature, and the need to be prepared for natural disasters. The earthquake which struck the village of San Giuliano di Puglia was the latest in a long line of quakes to hit southern Italy. The death toll is close to 300, and thousands have been made homeless. I like to express the deepest sympathy with the victims and their families, as I'm sure will all members of the Society.



Presidents
Message

There is a long history of earthquakes in Italy¹:



Looking at the above history emphasizes the importance of using the knowledge we have from the past to plan for the future, ensuring we are prepared. Key words in this respect are risk assessment and consequence analysis, and using them to guide and regulate where to build, how to build, and how to prepare the population - through proper education and training, starting in elementary school, and making awareness and preparedness core to learning without scaring people. Simply put, 'learning how to live positively with Mother Nature'

Teaching, learning, and sharing knowledge about emergency and disaster management is core to the TIEMS mission and aims:

- ❑ *TIEMS is Dedicated to Developing and Bringing the Benefits of Modern Emergency Management (EM) Tools and Techniques to Society for a Safer World*
- ❑ *Exchange Information on the use of Innovative Methods and Technologies to Improve our Ability to Avoid, Mitigate, Respond and Recover from Natural and Technological Disasters*

To achieve this TIEMS is building a global network of experts in the profession, and with encouraging results from last year, showing a growth to 477 members from 46 countries (at the end of 2008), we continue to develop this concept and hope to double this figure in 2009.

In order to give the readers of the TIEMS newsletter a better understanding of the society, I wanted this issue to give a brief history of TIEMS.

¹ Source BBC News

The Society established in Washington, USA in 1993 was first recognised as The International Emergency Management and Engineering Society (TIEMES), registered in Dallas, Texas as a non-profit organisation. Among the group of founders were Jim Sullivan, USA (First President), K. Harald Drager, Norway (First Vice President), Suleyman Tufeci, USA (First Treasurer), Jean Luc Wybo, France, Ross Newkirk, Canada and Charles Kelly (Present TIEMS Treasurer). The **Mission and Aim** now is as the original developed by the founding members in 1993.

The Society was reorganized in 1996 and its name changed to The International Emergency Management Society (TIEMS), and its registration moved to Florida, USA. The Society is now registered in Belgium, where it holds formal status as an International, Independent and Not for Profit NGO.

TIEMS has had five Presidents throughout its history to date:



and has had fifteen international conferences in all corners of the world, from its first in Fort Lauderdale, USA in 1994, to the forthcoming conference in Istanbul which we hope you will all join us to celebrate our 16th year.



So from its early start, TIEMS has been a truly international society further evidenced by its seventeen TIEMS Board members who gather from thirteen different countries.

This year's annual conference, in Istanbul, Turkey, will add again to the various geographic locations that the society will visit, and both myself, and TIEMS local host, Muhammed Sahin, Rector of Istanbul Technical University welcome you to join us, to discuss the theme ***"New Methods to Manage Intercontinental Emergency Situations"***.

The program for the conference is as always comprehensive containing many high quality papers and a selection of notable keynote speakers addressing key issues of importance in global emergency and disaster management.

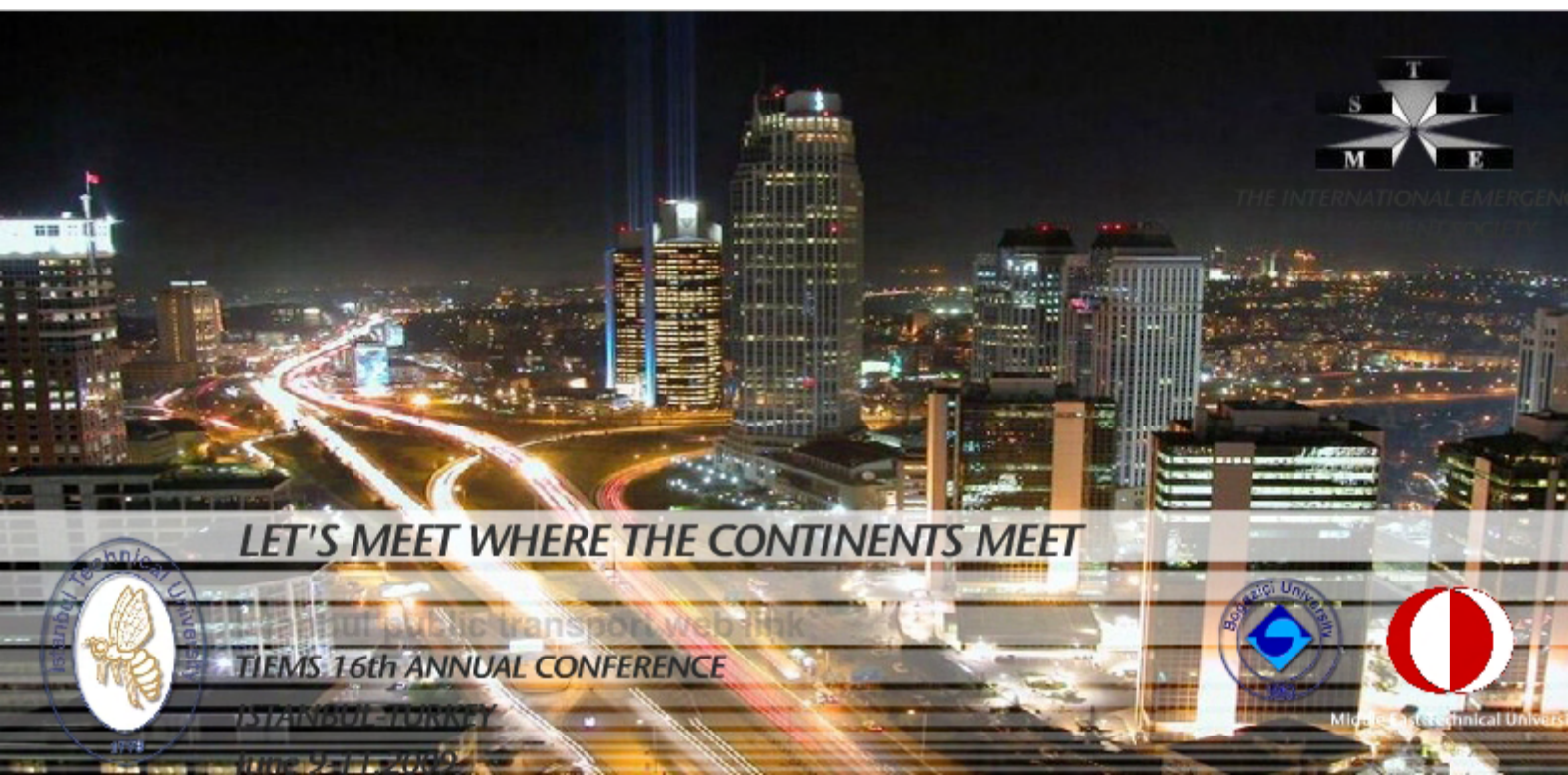
As TIEMS President I am constantly considering how to maintain and develop the society to fulfil our mission and aim. At present formalization of more TIEMS Chapters around the world is high on my agenda, and I am pleased to see the interest of many members in supporting this, and hopefully we see several new chapters formalized in 2009, and more local TIEMS activity in line with our thinking to ***"think globally but act locally"***.

With the increasing TIEMS global activity also comes wider global recognition of TIEMS, and gives opportunity to positively influence the global political agenda in emergency and disaster management to the benefit of a safer world. Two issues in particular which I currently being explored and to be presented, discussed and concluded in Istanbul, include:

- A concept for establishing "A TIEMS International Certification of Emergency and Disaster Managers"
- A concept for establishing a TIEMS Council or Advocacy Forum

Emergency and disaster management is all about communication, and I welcome the readers of this newsletter to join us in Istanbul, or any other TIEMS event this year, and take part in the TIEMS global agenda on communication and exchange of experience in emergency and disaster management.

K Harald Drager



Editors Welcome

Dear TIEMS members and supporters. Welcome to the first edition of the TIEMS newsletter for 2009 inside which we have information on important forthcoming TIEMS events such as the 16th Annual Conference in Istanbul, as well as announcement of a forthcoming workshop in Belgium.

This issue also brings you articles from our members and supporters, examining subjects such as solutions for early warning of natural hazards and industrial accidents, and others looking at our preparedness to the threat of pandemics.

We hope these articles will motivate other members to contribute with their own stories of research, practice and stories from actual incidents to the forthcoming newsletters.

We hope you enjoy reading this issue, and as always your comments, suggestions and contributions to improve the TIEMS newsletter are always welcome.



Editors
Message

Snjezana Knezic

Alan Jones

Technical / Sub Editor

--- STOP PRESS ---

Influenza H1N1 – Is it the next flu Pandemic?

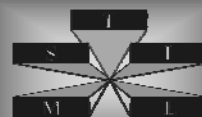
The recent outbreak of the influenza virus H1N1, has highlighted again to us all the importance of not only national, but international co-ordination of emergency management. The nations of the world have been planning and training for a Pandemic for many years now, and the subject has been a feature at many TIEMS events of recent years, and also this newsletter. It is now time to put those plans into action, and the speed with which action has been taken, will almost certainly impact upon the spread of this latest virus, and its subsequent impacts.

This issue features an article written before this newsletter went to print, looking at the predicted implications of a Pandemic Flu outbreak. However have our planning assumptions been correct, many having been based on an expectation of H5N1 being the next new pandemic, and are the plans in place fit for purpose? TIEMS welcomes members and supporters to comment, and send us articles on the current outbreak; what affect it is having; and how they are managing its impacts upon their organisations.

The society will be monitoring the events closely as they are unfolding as we are sure our members will, and the events will no doubt be an important feature of discussion at our next annual conference.

TIEMS 2009 Annual Conference Istanbul, Turkey

9th – 11th June 2009



New Methods to Manage the Intercontinental Emergency Situations

Bringing together international experts from around the world for 16 years, the TIEMS annual conference moves from continent to continent, and now we move to a city, which spans two. Join us and other interested individuals, policy makers, risk & emergency managers, and scientists from private, public and the third sector, and contribute to our efforts to manage risk, responses, and ultimately achieve a safer world.

Some of the Speakers include:

- Ferruccio Cerruti, Managing Director of ETEA, Italy
- Britt-Marie Drottz Sjöberg, Professor of Psychology at The Norwegian University of Science & Technology, Norway
- Shan Chunchang, Director of the Expert Panel for Emergency Management, China
- Hippolyte Fofack, Senior Economist, World Bank, USA
- Gerald Epstein, Senior Fellow, Center for Strategic & International Studies, USA
- Jesper Nielsen, Government Relations Manager, UMS, Denmark,
- Martin von Bergh, Managing Director of Von Bergh Global Medical, Germany.

Key benefits of attending:

- Discover new technologies and support tools for effective response
- Hear case studies from emergencies around the world
- Help guide policy and practice in Emergency Management globally
- Network and build new contacts with colleagues from all sectors within the field
- Many more...

For more information or to register visit www.tiems.org

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Get you organisation known... sponsor the TIEMS Annual Conference... it's not to late!

TIEMS is a not for profit NGO which finances its activities through membership and sponsorships. We work hard each year to run events at the lowest costs possible so as to encourage wide participation from across the world, ensuring we reach our aim of creating a truly international forum for the exchange of information.

Therefore TIEMS invites companies, institutions, organisations and individuals who like to financially support TIEMS activities, to consider one of TIEMS sponsorship packages we have available.

All the packages to varying levels will bring your organisation, institution or company;

- Recognition
- Advertising potential
- Publicity
- And a range of complimentary registrations

BENEFITS	SPONSOR LEVEL	Bronze 1,500 Euro	Silver 3,000 Euro	Gold 6,000 Euro
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Recognition in TIEMS Newsletter (2 issues per year)		X	X	X
Recognition on TIEMS web site (for 12 months)			X	X
Recognition on TIEMS Conference site for 6 months (preceding the conference)			X	X
One quarter page advertisement space in TIEMS Newsletter (2 issues per year)		X		
One half page advertisement space in TIEMS Newsletter (2 issues per year)			X	
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Sponsor insert in participant handout/bag			X	X
One 3x6 meter space for presentations at conference		X	X	X
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One complementary registration at TIEMS Annual Conference		X		
Two complementary registrations at TIEMS Annual Conference			X	
Three complementary registrations at TIEMS Annual Conference				X

Further details available from www.tiems.org or by contacting:

alan.jones@westsussex.gov.uk

TIEMS 16th Annual Conference

9th to 11th June 2009, Istanbul, Turkey

"Let's meet where the continents meet"

The TIEMS 16th Annual Conference will take place at Istanbul Technical University – Suleyman Demirel Convention Centre between 9th – 11th June 2009. The event as ever, promises to be a captivating one, and we expect over a hundred participants from all over the World to attend.



The objectives of the Conference are based on the ever-increasing frequency of disasters in recent years, and the scale of damage they bring. In particular we continue to see considerable challenge in respect of developing viable and effective approaches, to mitigate the impacts of emergencies on the population and the environment. The new threats faced, from developing technologies, globalisation, and political tensions are increasing. These, together with the risks associated with climate change, and threats to our safety like pandemic flu, not forgetting the more traditional hazards, bring about a need for a coordinated approach to research and international collaboration on emergency management.



Two devastating earthquakes occurred in Turkey, (August 17 and November 12) in 1999, measuring 7.4 and 7.2 respectively. The first earthquake was a catastrophe for the entire country, affecting 10 cities including Istanbul, and causing over 15,000 casualties. The country has re-built itself however it is accepted that Istanbul is awaiting another major earthquake within the next couple of decades, and needs to be prepared.



The TIEMS 2009 conference will be held on the 10th anniversary of those devastating earthquakes, and we are confident to bring international experts together to discuss new techniques to help improve the way we manage such intercontinental emergencies in the future.

Participants, will be able to find out about the latest techniques, equipment and theories, and discuss important issues of global emergency management including within the scientific program, the following:

- Global Cooperation in Emergency Management
- Information Decision support
- GIS in Emergency Management
- Terrorism and Security
- Critical Infrastructure Protection
- Emergencies and the Media
- Psychological Aspects of Disasters
- Training and Education
- Business Continuity

- Risk Assessment and Professional Practice
- Information and Communication Technologies
- Environmental Protection
- Climate Change
- Health Emergencies & Response

We are also proud to announce the following keynote speakers will address the conference:

- Ferruccio Cerruti (Italy) Managing Director of ETEA SICUREZZA SRL, presenting “Risk Management starts from Risk Assessment and Simulation”
- Shan Chunchang (China) Director of the Expert Panel for the Emergency Management Taskforce under the General Office of the State Council of China. Presenting a “Brief introduction of China’s Emergency Management under the construction of harmonious society”
- Britt-Marie Drottz Sjöberg (Norway) Professor at NTNU. Presenting; “Norway Risk communication for saving health and life”
- Hippolyte Fofack (USA) World Bank. Presenting an; “Overview of Emergency and Disaster Management in Africa”
- Pierluigi Mancini / Jerome Bequignon (Italy ESA) Presenting; “A User Driven Initiative to tailor Satcom Services for the benefit of Civil Protections in Europe”
- Gerald Epstein (USA) Center for Strategic & International Studies. Presenting; “The Global Forum on Biorisks: A Comprehensive, International, Multisectoral Approach”
- Jesper Nielsen (Denmark) UMS Denmark. Presenting; “Population alert – Possibilities in the past, present and in the future”

- Martin von Bergh (Germany) Von Bergh Global Medical Consulting. Presenting; “New Concepts for Future Disaster Response”
- Hasan Boduroglu (Turkey) Professor at Istanbul Technical University and Chairman of the Earthquake Foundation of Turkey. Presenting; “A Critical Review of Emergency and Disaster Management in Turkey”

The Scientific Paper Committee have so far, fifty peer-reviewed research papers expected, as well as ten practice papers, and around ten posters, so we expect there will be something to capture everyone’s imagination.

Following its success last year the TIEMS Rohrmann Student Scholarship will again support two students in their wish to attend the Conference and present their research. The Student Scholarship committee, are currently considering the applications received this year and hope to make their announcement shortly.

The TIEMS annual conference is the place for bridging the gap between theory and practice in emergency management, and exhibitors and sponsors are welcome also to expose their ideas, models, products, etc in the exhibition area, and thus meet the delegates for fruitful dialogue to develop their ideas. A special exhibitor and sponsors area will also give them an opportunity for exposure to all delegates during the plenary sessions.

Besides the importance of emergency management in the World nowadays, the location of the Conference will no doubt also attract attendees. Istanbul is the only city in the world that is built on two continents: Asia and Europe, and you will discover an immense range of archaeological wonders, world famous monuments and historical locations, illustrating the countries history rich history as the capital of three empires: Roman, Byzantine and Ottoman.

The program also includes social events, giving participants and accompanying partners / family opportunity to relax and enjoy Istanbul's beautiful surroundings.

Local organizers of the Conference are: Istanbul Technical University, Middle East Technical University, Bogazici University, Chamber of Survey and Cadastre Engineers (HKMO), Turkish Chamber of Civil

Engineers (IMO), Istanbul Metropolitan Municipality (IBB) and Turkish Earthquake Foundation.

For those who wants more, the reports of past and announcements of actual annual events are posted on TIEMS web-site; www.tiems.org under TIEMS Events / TIEMS 2009.

Oil, Gas & Chemicals Safety & Disaster Management 2nd Benelux International Workshop 25th / 26th September 2009, Antwerp, Belgium

After the great success of the first International Workshop *"Fuel Safety & Disaster Management"* held in Luxembourg, by the newly created TIEMS BeNeLux Chapter, we are pleased to announce another great event.

The second TIEMS international workshop on "Oil, Gas & Chemicals Safety & Disaster Management" will be organised this fall in the Hilton Antwerp, Belgium.



Following the original idea to bridge a gap between the academic world and the industry the main topics of the workshop will include: storage, transportation, distribution, retail activities, risk analysis, incident investigation, terrorism and security, critical infrastructure, the role of the media, business continuity, etc.

The organizers are also pleased to announce the following its success last year the

continuation of the disaster exercise demos to be held on the second day of the workshop. Providing participants a view of the plans in practice, this year's exercise will be followed by entertaining visit to the Provincial Institute for Fire and Ambulance, Ranst, Belgium.



Company responders, field supervisors, local authorities, emergency and rescue services, environmental and wildlife organisations, those involved in inland transportation and storage of oil, retail managers, regulatory bodies, HSE managers, specialized response material companies, are welcome all welcome and encouraged to attend this this event.

Contact e-mail address:
TIEMS.Benelux.2009@skynet.be



LET'S MEET WHERE THE CONTINENTS MEET
TIEMS 16th ANNUAL CONFERENCE
ISTANBUL-TURKEY
June 9-11, 2009

For further details visit www.tiems.org

TIEMS 2009 Annual Conference

Thanks to "ETEA SICUREZZA SRL" a Silver sponsor

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ETEA Sicurezza SRL is an engineering society established in 1993. The company is specialized in industrial safety, with close attention to:

- ☐ Personnel Safety
- ☐ Industrial and Civil Safety and Security

Formalisation of TIEMS Benelux Chapter

As we informed our members in the last issue, TIEMS has in the past months made great efforts to establishing new chapters.

We are pleased to announce that the formal procedure of establishing the Benelux Chapter is almost finished and we hereby want to inform TIEMS members and supporters from the area of the opportunity to now join this Chapter.

Giedo Van pellicom and Jan Berghmans from Q8, who have launched this initiative, have ambitious plan such as, further conferences, symposiums, round tables and training courses such as that above, and co-operation with universities and other organisations in the area. TIEMS strongly support Benelux Chapter in their mission including the promotion of TIEMS at events such as the 2009 STOC Expo Europe where

the BeNeLux Chapter will be represented as a speaker.

For further details about the chapter contact Jan Berghmans, jaberghm@q8.com



Organisational Resilience Key in Current Economic Climate

Business continuity managers are facing difficult times. The global financial crisis signifies reduced budgets and resources, climate change increases the risk of natural disasters, and on top of this the continuing threat of terrorist attacks and pandemics leads to a busy forward schedule for Australian businesses to prepare for.

To ensure our businesses, the Australian economy and critical infrastructure are protected in these uncertain times it is vital that organisations are prepared for disaster and have effective business continuity plans in place.

Identifying potential risks, strategies and impact prior to an incident taking place will result in greater organisational resilience – response, management and recovery.

The 4th Annual Business Continuity & Disaster Recovery Forum will incorporate key resilience and business continuity case studies from a selection of industries including; Foxtel, Sydney Water, the Attorney-General's Department, ABC, ANZ, IAAG, Government of Western Australia and Myer.

Mike McKay, Acting Superintendent, Special Projects, Queensland Police Service will also be presenting a keynote session on the 'Lessons learnt from the Cyclone Larry Disaster recovery program.'

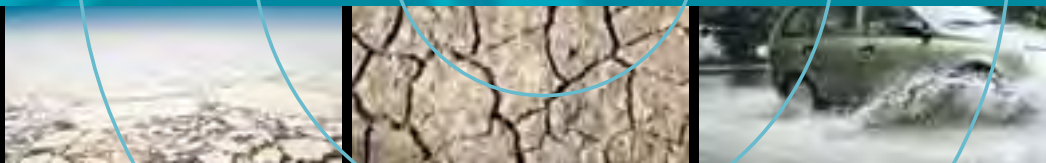
For more information or to register visit www.iir.com.au/continuity, contact IIR Conferences on +61 2 9080 4090 or email Lkirby@iir.com.au

If TIEMS members wish to register with the 10% discount please use the discount coded registration form, or alternatively contact the customer service team on +61 2 9080 4090 and quote the VIP discount code L0918 TIEMS.

4th Annual

Business Continuity & Disaster Recovery Forum

15th – 16th June 2009
Swissotel, Sydney



With Cases Studies & Presentations From:

Michael Rothery, *Ag First Assistant Secretary, National Security Resilience Policy Division, Attorney-General's Department*

Mike McKay, *Acting Superintendent, Special Projects, Queensland Police Service*

John Skellern, *Head of Procurement, Myer*

Peter Brouggy, *Project Manager, Banking & Finance, IAAG*

Tracy Keys, *Business Continuity Manager, Foxtel*

David Parsons, *General Manager, Emergency Risk Management, Sydney Water*

Robert Oldfield, *Director, Organisational Resilience*

Dr Carl Gibson, *Head, New Risk Management Unit, LaTrobe University*

Stephen Flohr, *Manager Business Continuity, Australian Broadcasting Corporation (ABC)*

Kenny Seow, *Business Continuity Advisor, RiskCover, Government of Western Australia*

Must Attend Post-Conference Workshops:

Wednesday 17th June 2009

WORKSHOP A: Keeping Business Continuity Alive – Ensuring Business Continuity Remains a Priority During Troubled Times

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CHORIST project: Solutions for early warning of natural hazards and industrial accidents

By Patrice SIMON, EADS Secure Networks

The CHORIST project is a three-year research spanning from June 2006 till July 2009, co-funded by the European Commission which explored the domain of telecommunications for emergency risk management.

17 partners from 8 European countries have participated to this project, and they are now in the phase of testing the system through field trials in Barcelona. A demonstration is planned for 26-27 March 2009.

WHY CHORIST?

CHORIST proposes technical solutions in the frame of emergency risk management, these risks being both natural hazards (e.g. flash floods) and industrial accidents (e.g. chemical plant explosion).

CHORIST focuses on the disaster response phase of the emergency risk management, i.e. the one starting just before an event occurs and ending typically a few hours after. The prior disaster preparedness and prevention phase and the following recovery phase, even if taken into account in the study, are not directly addressed.

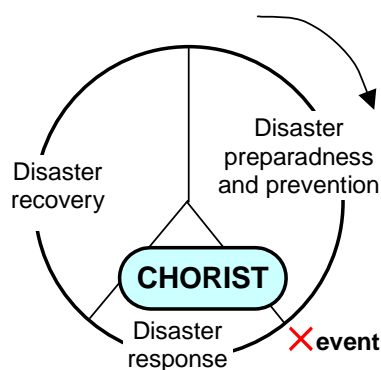


Figure 1: The early warning

The main goals of CHORIST are:

- The early warning to authorities and citizens and

- The early intervention of emergency rescue teams to rescue the citizens in danger.

A CHORIST system is mainly aimed at helping authorities to improve their work of providing security to the populations whom they are responsible for. Systems already exists, but improvements can still be made.



Figure 2: Actors in CHORIST

The CHORIST project has developed and integrated several information technologies and telecommunications solutions that enhance how information is being prepared, accessed and communicated in the early warning and early intervention phases. They are based on emerging technologies, but they are always considering the interoperability with the legacy systems in this area. More specifically, CHORIST aims at developing and integrating three subsystems:

1. A fully integrated, reliable and performing alert chain delivering alerts to authorities with inputs from heterogeneous sensors, disparate agencies and citizens;
2. Heterogeneous communication means (radio, TV, sirens, GSM) to dispatch warning messages from

authorities to as many citizens as possible within the crisis area and with limited delay;

3. Secured, rapidly deployable and interoperable voice and high data-

rate telecommunication systems for the field rescue teams:

4. TEDS base station and an ad-hoc networks

THE PROPOSED SOLUTIONS

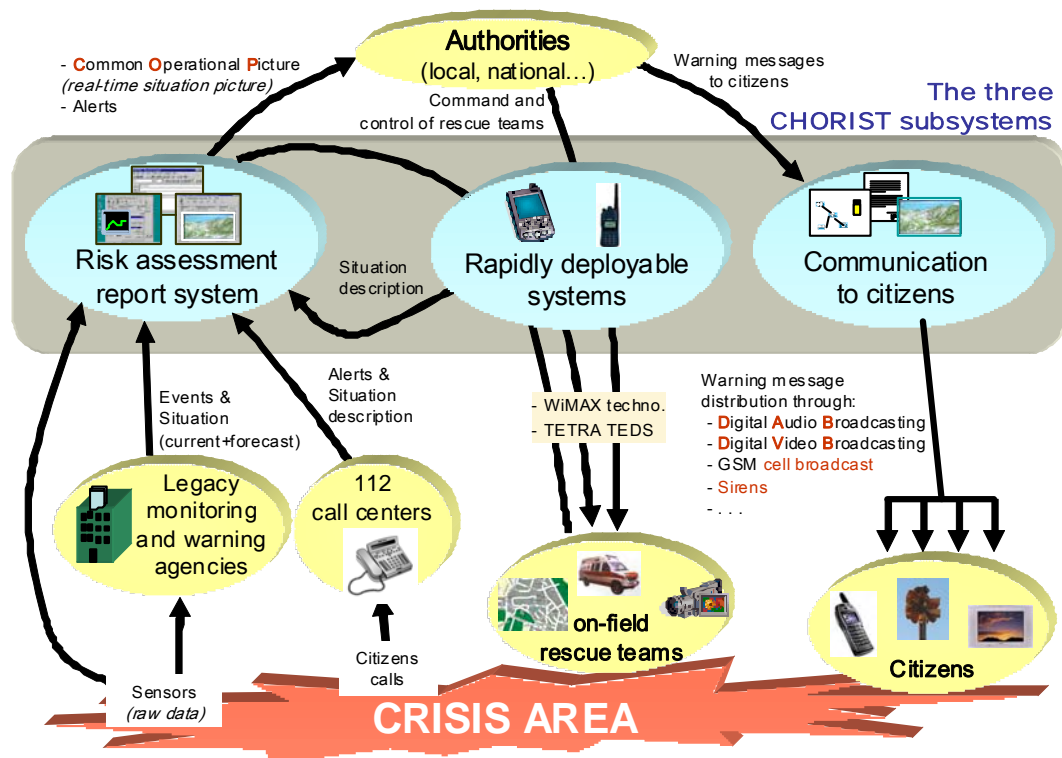


Figure 3: Solutions proposed by CHORIS

Further information available from



www.chorist.eu

TIEMS 2009 Annual Conference

Thanks to "Harmony Technologies Co., Ltd" a Bronze sponsor



www.harmony.en.china.cn

Established in 2002, Beijing Harmony Technologies Co., Ltd (HARMONY) is the biggest solution provider in the China state-level and provincial-level Emergency Management System ICT platform construction. HARMONY provides services in the

Emergency Management industry for the government including: consulting, platform design & fulfilment, application and data development and management.

Headquarter in Beijing and branches in Hei-longjiang, Shanxi, Guangdong, and Sichuan provinces, HARMONY focuses on government EMS, HIT, eGovernment info sharing and resource integration applications etc.

HARMONY is the undertaker and consulting member of the Emergency Management System (EMS) research project for the State Council of China, the consulting member of Beijing EMS Research Group, the Chief architect for the EMS IT platform of the Beijing 2008 Olympic Games.



CRITICAL COMMUNICATIONS CONGRESS '09

10% discount
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26th - 28th May 2009, Munich • International Congress Centre (ICM)

The brand new conference and exhibition for emergency and critical communication users

As part of one of the world's largest mission critical communications events, the Congress is a great place to network and hear the experiences of other mission critical communications users. By attending the event you'll get practical advice on how to enhance the resilience, flexibility and effectiveness of your communications.

Key themes discussed at the event include:

- Achieving interoperability between different organizations and technologies
- Best practice in emergency preparedness
- Effective incident management and response
- The latest in data applications and mobile broadband for emergency communications

Benefit from an expert panel of speakers, including:

- **Dr David Boyd**, Director of Command, Control & Interoperability,
US Department for Homeland Security
- **Jeanette Innes**, Assistant Director & Programme Manager for Telecommunications Resilience,
UK Civil Contingency Secretariat
- **Ali Inci**, Information and Communications Technology Manager, **Balfour Beatty Rail**
- **Fawaz Al-Khudhairi**, Supervisor Wireless Engineering Group, **Saudi Aramco**
- **Herman Wietgreffe**, Communication Systems Division, **Nato C3 Agency**
- **Dr. Stefan Pickl**, University of the Federal Armed Forces, **Munich**
- **Peter Wüthrich**, Head of Telematics,
Federal Office of Civil Protection, Switzerland

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Pandemic Threat: How Unprepared Are We?

By Geary W. Sikich, Logical Management Systems, Corp.

Will your business survive an influenza pandemic or a pandemic that, until relatively recently, has been inconceivable (such as drug resistant tuberculosis or adenovirus or methicillin-resistant staphylococcus aureus (MRSA) or....)?

Will your company still be in business? If the business does survive, then what?

What will the socio-economic landscape look like?

Will you and your employees have jobs to go to? Will survivors have so much work that they will not be able to manage demand?

How will you or your company's management know that the pandemic has actually ended, and that it's safe to return to normal social interaction?

Are you and your company prepared for a second, third, or even fourth wave of outbreaks?

Will your government still be able to govern?

Is your company prepared to understand the ramifications of primary markets for goods and services being in a state of constant disruption?

A pandemic influenza is utterly different from ordinary flu, which kills between 1 million and 2 million people worldwide in a typical year. In the worst previous catastrophic pandemic, in 1918, an estimated 20 million to 50 million died from the Spanish Flu. That's more than the number of people who died from the Black Death in the Middle Ages, with more people killed in 24 weeks than AIDS has killed in 24 years.

What should risk professionals, public and private sector planners, and executives at all levels expect when dealing with each other during and after a pandemic crisis?

Active Analysis Methodology

"Active Analysis" is a system employed by Logical Management Systems, Corp. based on the LMSCARVERTM Analysis Elements. "Active Analysis" provides a flexible framework for the continuous accumulation and assessment of "detectors and indicators" of change. As defined below there are eight key elements:

Part 1: Consists of choosing a Touchpoint for analysis. This touchpoint now becomes the Essential Element of Analysis (EEA) Touchpoint for the assessment grouping.

Part 2: Consists of selecting a component that makes up a measure of effectiveness for the EEA Touchpoint. Each sub-element is ranked using the number scale 1 – 5, where 1 is the lowest importance and 5 is the highest. You can add comments as to why you rated the sub-element as you did. Once a sub-element is selected, you can complete the LMSCARVERTM Touchpoint Analysis, ranking each sub-element using the numeric rating system. LMSCARVERTM Analysis Elements are:

- "Critical": Determine the criticality of the service, product, etc. that your organization utilizes. This may be supplied via your organization's value chain or an external entity.
- "Accessible": Determine "Accessibility" by ranking the element as to the ease with which one can access the element. One needs to assess the accessibility to the item, the accessibility to alternative items that can be substituted, and the accessibility of the item to disruption.
- "Recognizable": Determine how readily recognizable the element is.
- "Vulnerable": Determine the total loss and / or degree of degradation that the organization can sustain.

- “Effect” Determine what impact the loss and / or degradation presents to your organization.
- “Recovery” Determine what your organization's recovery ability is in terms of time and costs.
- Recovery Time Objective (RTO): Anticipated time to recover operation.
- Recovery Point Objective (RPO): Amount of loss that can be sustained without impact to operation.
- Maximum Tolerable Outage (MTO): Amount of disruption that can be sustained by the operation over time including market share loss. Maximum Tolerable Outage is predicated on how long a customer can be without your service and / or product before they seek alternatives.
- Customer Tolerance Level (CTL): Customer Tolerance Level can be determined by how many delays, disruptions to service, etc. a customer is willing to put up with before changing (not being a customer anymore).
- Cross Functional Touchpoint: A touchpoint of or relating to two or more functions where a dependency for output and / or input occurs.

Part 3: Consists of a written explanation of the consequence management significance to your organization for degradation or total loss of the EEA Touchpoint element and its constituent sub-elements.

Part 4: Consists of a written explanation defining the business ramifications / significance to your organization for degradation or total loss of the EEA Touchpoint element and its constituent sub-elements.

Part 5: Focuses on a quantitative analysis that allows you to estimate costs associated with a potential disruption.

Part 6: Focuses on assessing six criteria for customer vulnerability / exposure and

determining the impact to the enterprise of customer disruptions.

Part 7: Consists of a written explanation that establishes and defines the business case for addressing the potential impact to your organization for degradation or total loss of the EEA Touchpoint element and its constituent sub-elements.

Part 8: Consists of a written explanation that establishes and defines the business case for not addressing the potential impact to your organization for degradation or total loss of the EEA Touchpoint element and its constituent sub-elements.

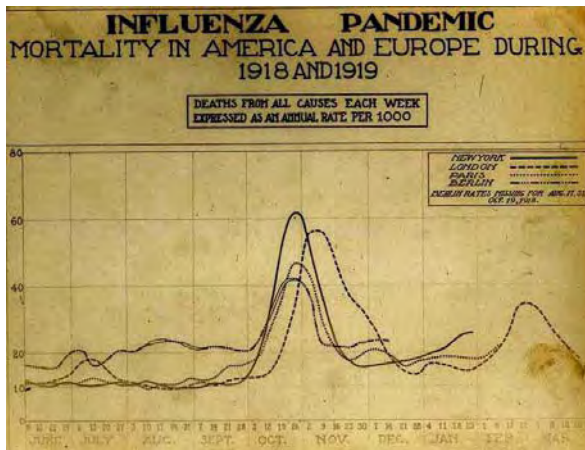
Possible Scenarios

A pandemic features shock value, variability, mortality, and morbidity. Shock value occurs when transparent vulnerabilities are exposed. Transparent vulnerabilities are so obvious that they are easily overlooked; they are the ones we:

- See when they are pointed out;
- Recognize when we are aware of them; and;
- Often fail to acknowledge — leading to potentially significant consequences when the vulnerability is realized.

WHO and other organizations base current pandemic planning on historical evidence. Previous pandemics have occurred with waves of infection that generally last 8 to 12 weeks and, traditionally, run their course in 500 to 800 days. While using these assumptions as a basis for planning may be helpful, there is no guarantee that the next pandemic will follow the pattern of previous pandemics.

It is very difficult to predict the exact timing and duration of a pandemic. There is no certainty that there will be a second wave or third wave. The Spanish Influenza in 1918 (see Exhibit 2) had several waves of outbreak. The 1957 and 1968 pandemics also had second waves.



confusion, and panic to rule the day. If we adopt “Active Analysis” techniques, we will operate with greatly reduced shock, chaos, confusion, and panic, as a result of being more flexible, and adroit at addressing pandemic uncertainties.

Shock and Awe — The Reactive Period (60 to 180 days)

The WHO declares Phase 6 (see Exhibit 3) and the governments and businesses of the world set out to minimize the impact of the pandemic (tactical response).

So, what can we expect? If we practice linear thinking, we can expect shock, chaos,

Phase	Description
Interpandemic Period	
Phase 1	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk ^a of human infection or disease is considered to be low.
Phase 2	No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk ^a of human disease.
Pandemic Alert Period	
Phase 3	Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact ^b .
Phase 4	Small clusters of human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans ^b .
Phase 5	Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).
Pandemic Period	
Phase 6	Pandemic increased and sustained transmission in general population ^b .

^a The distinction between phase 1 and phase 2 is based on the risk of human infection from circulating strains in animals. The distinction is based on various factors and their relative importance according to current scientific knowledge.

^b The distinction between phase 3, phase 4 and phase 5 is based on an assessment of the risk of a pandemic. Various factors and their relative importance according to current scientific knowledge may be considered.

Reactive Border Closings

When the pandemic is declared, some countries react by closing their borders. This action, while purely a defensive reaction, has many implications from an economic perspective. Other countries begin to close their borders, in reaction to the spate of border crossings by refugees from the pandemic, further exacerbating the situation.

As borders are closed, international trade is brought to a standstill or is carried out on an extremely limited basis.

Idle Workers, Medical Aid, and Traditional Government Services

If the H5N1 pandemic in any way parallels the influenza of 1918–1919, it is estimated that approximately 66 percent (two-thirds) of the deaths will occur in a period of 24 weeks (approximately 168 days), and more than 50

percent will occur in even less time, roughly within the first 90 days. The potentially staggering death toll and the reactive response to the pandemic will lead to slowdowns of already fragile economies, leading to accelerations of workforce layoffs worldwide as markets react, rapidly shrink, or completely cease to exist.

Faced with suddenly idled workers worldwide and the need to provide medical aid to populations that are succumbing to a global pandemic, governments are thrown into chaos. How will they deal with this? Keep in mind that governments are generally funded through the collection of taxes (individual and corporate). Without its revenue base (taxes), a government's ability to assist will be restricted. Government assistance will be further restricted as government will be faced with the same problem as non-government entities: a workforce that is stricken with the virus.

Traditional services of government, such as military, police, fire, and emergency medical services and administrative and tax functions are soon strained to the point of breaking. Governments worldwide begin to organize military forces to keep order internally, and to supplement police, fire, and emergency medical services. The situation is soon exacerbated by many of the government's own employees falling victim to the influenza.

World Economy Screeches to a Halt

Soon, the world economy screeches to a halt as the wheels of commerce grind to a stop, creating a state of stagnant economic inertia. Once this state is reached, the real problems related to the pandemic start to surface. In trying to keep their economies growing over time, governments worldwide, through organizations such as the Federal Reserve Board, try to steer an economic course between too rapid growth that leads to inflation and too slow growth that leads to recession. Steering an economy in any direction is a very difficult job.

Steering an economy during a pandemic will be almost impossible. First, it will be difficult

to determine which sectors are hit hardest by the pandemic. Second, the speed of the pandemic's spread will cause economies to become more reactive. Third, and by far the biggest problem, economies are really the sum total of the actions of hundreds of millions of individual decision-makers all over the world all making decisions on buying and selling.

The pandemic will have an immediate influence on these decision-makers' actions. Because the pandemic will be a rapid and uncertain event, no government will have the power to actually control all these decision-makers, as they will not have the economic strength to revitalize their economies through government spending. Government will not be able to spend its way out of the stagnation created by the pandemic. Business will not be able to spend its way out of the stagnation created by the pandemic, either.

As the pandemic runs its course in the ensuing 18–24 months (approximately 600 – 800 days), the worldwide economy begins to experience severe pains, as the world population is faced with shortages due to curtailments by governments, in an attempt to contain the pandemic, on international and domestic travel, transportation, and trading. Commerce moves to a cash basis and becomes localized — meaning, if you cannot get it locally, and you cannot pay in cash, you are probably not going to get it. Worldwide, society moves to “barter in isolation” as a way of life as the normal flow of goods and services are disrupted.

Sector Analysis — (60 to 180 days)

The **financial sector**, having experienced runs on banks, is faced with solvency issues. Institutions such as the World Bank, International Monetary Fund, and Asian Development Bank see donor nations suspend their commitments of funds and see recipient nations petition for restructuring of their loans. The **manufacturing sector** feels the impact as factories are forced to close, either due to quarantine, or from lack of availability of raw materials and curtailment of imports and

exports due to border closures. The **service sector**, comprised of volume-driven firms, sees volume dwindle, and the forced layoff of many workers. The **telecommunications sector** is under intense pressure, as workers attempt to telecommute. The **insurance sector** sees an upsurge in claims for medical benefits, causing a slowdown due to volume impact. The **health-care sector** is overwhelmed by patient volume, as the pandemic takes hold, and more people fall victim to the influenza. The **energy sector** sees a decline in demand as well as a spike in prices for raw materials. The **utility sector** sees a spike in residential demand as more and more workers are forced to stay at home as quarantine restrictions, facility closures, lack of work, and fear of exposure take hold. The **agriculture sector** sees a demand for food products that cannot be met, as **transportation sector** assets are idled by quarantine and border-closure restrictions. The **education sector** shuts down, as students and teachers are furloughed when schools close due to health concerns, quarantine, and transportation system impacts that preclude travel to and from school. The **high-technology sector** sees demand for access and support related to growth in the use of the Internet, but is faced with a workforce that has the same exposure, or, in some instances, greater exposure, as the other sectors.

By the sixth month (180 days) of the pandemic, most sectors either will have scaled back operations such that they are operating with minimal staff, or they will have voluntarily shut down due to lack of staff and resources. They may even be forced to shut down due to quarantine by the government. We may, indeed, see rationing of critical resources, and limited distribution capabilities creating duress on societies worldwide. For those societies, like the United States, with a population that is used to getting what is needed to sustain day-to-day living, this may be quite a shock.

There could be outbreaks of violence (New Orleans after Katrina is an example) that will require force to quell. Countries with low levels of preparedness may resort to even

more repressive actions in order to control their populations. And, there will always be the spectre that a country will fear an attack by a neighbour while it is in a weakened state. Speculation and fear could rule the day during this time frame.

While this picture of the first phase of the pandemic is pretty bleak, it is not without precedent in recent history. We have experienced violence, and looting after hurricanes, earthquakes, and other natural disasters. The world, unfortunately, is still not as civilized as we would like it to be.

Dynamic Consistency Problems — Paralysis (180 to 320 days)

As the world settles in to the reality of the pandemic, adjustments are made. The United Nations (U.N.), WHO, and other entities (e.g., Centers for Disease Control [CDC]) set out to contain the outbreaks that continue to materialize. Businesses readjust to the realities of a changed and changing operating model. It is no longer business as usual. Supply-chain adjustments are being made, albeit slowly and sporadically due to disruption of transportation systems. Service center operations (call centers, etc.) are being reconfigured to adjust to the need to focus on geographical areas currently less affected by the pandemic.

After reassessing their status and effectiveness, assets mobilized by WHO, the international community, governments and industry begin to adjust their efforts. Death tolls show signs of levelling off and even declining in some areas. This may be a false positive, in that pandemics have been shown, in the past, to be cyclical in the rise and fall of death tolls. In this phase, a paralysis begins to take effect as economies, affected by the reaction of governments (border closures, quarantine, etc.), become bodies at rest, not bodies in motion.

World governments begin to realize that the energy required to regenerate global economic motion will be massive. Some countries reopen their borders. This action does not instantaneously restart stagnant

economies, as many had hoped. Unlike a light switch being turned on, merely reopening borders will not generate pre-pandemic levels of commerce. Much like restoring systems after the loss of power during an electrical outage, restarting an economy cannot be accomplished instantaneously. One of the things that we are told to do when power goes out is to turn off electric appliances. Why? The simple fact is that when power is restored, if all appliances are on, the stress on the system may cause an overload surge, creating a more severe outage than the initial incident created. The global economy will be faced with solving a significant problem: how to restart an intricate and complex system that has evolved over time in such a way that it can manage the stresses associated with its functioning.

Sector Analysis — (180 to 320 days)

The **financial sector** is faced with regaining the confidence of the investing public. The **manufacturing sector** is faced with attempting to restart without access to normal streams of raw materials that are imported or are dependent on transportation systems that are potentially still affected by local outbreaks of the flu. The **service sector** is faced with much the same situation as the financial sector. The **telecommunications sector** is faced with issues regarding loss of connectivity due to loss of or sporadic disruption of support infrastructure (electrical power). The **insurance sector** faces the overwhelming task of processing claims with limited human resources. The **health-care sector** faces less patient volume; however, health-care supplies are becoming increasingly difficult to acquire due to the pandemic's impact on the transportation system and the inability of production facilities overseas to ship supplies. The **energy sector** faces supply (raw materials), transformation (refining raw materials into useable energy), and transportation issues. The **utility sector** faces strains due to an aging infrastructure not designed to meet the types of demand placed on it. The **agriculture sector** faces localization due to transportation issues. Seasonal demands for food products change the market for food

distribution and retail operations. The **education sector** faces limited capability to reopen facilities, as teacher shortages and fearful parents may keep students away from educational institutions. The **high-technology sector** faces continuing high demand for access, and support related to the Internet.

By the 10th month (320 days) of the pandemic, the impact on the global economy will have reached all sectors. While disruption in the chaotic sense is possible, the gradual localization of economies is more likely to occur. It should be noted that we have not factored in any naturally occurring phenomena such as weather-related and natural-disaster situations that are likely to exacerbate difficulties of local economies. Speculation and fear could be replaced by paralysis, despair, and retrenchment during this time frame.

Worst Case — Collapse (320 to 600 days)

The world suddenly becomes larger as localization takes root. Realizing that surviving the pandemic will require a rethinking of business strategies, many sectors see a reverse in trend as large, integrated companies are forced to downsize and localize. As the world settles into this new reality, more adjustments are made. The U.N., WHO, and other entities (e.g., CDC), while still combating outbreaks, are less effective due to constraints put in place by local governments.

Governments, businesses, and consumers readjust to the realities of changes in economic models. Goods and services more and more reflect the localization brought about by disruptions to transportation channels. While it is no longer business as usual, some local economies begin to revitalize as lack of access to raw materials or changes in demand are compensated for by readily available products. Supply-chain adjustments continue to be made as countries dependent on external resources are seeing the balance of power shift. Consumer societies are being forced to face sobering realities.

Death tolls may again begin to rise as local efforts to stem the continued pandemic and deal with normal medical issues, are forced to cope with lack of materials (vaccine, medicines, etc.) due to the impact of the past 320 days of the pandemic.

Paralysis Gives Way to Collapse

In this phase, paralysis gives way to collapse as localization changes the economic model. Collapse is not to be viewed as a return to the "Stone Age." Rather, it is a collapse of global trading systems, and a refocusing of these systems to address a more local or regional marketplace. The economies begin slowly to move from localized inertia (bodies at rest) to bodies in motion. This motion is limited due to the impact of the pandemic, local restrictions, and the localization of goods and services that may lead to a change in consumer mentality.

World governments begin to realize that the energy being expended on localization could form the basis for the regeneration of the global economy.

Trade talks between consumer and supplier nations dominate the day. Financial concerns in the transportation industry are a major focus, as the trade routes are dependent on recovery of national and international transportation systems.

Reviving trade, however limited, is an action that could begin to revive and expand local economies, but it will not instantaneously return the world to pre-pandemic days.

Major players in the global economy are still faced with solving the significant issue: how to restart an intricate and complex system that has evolved over time in such a way that it can manage the stresses associated with it's functioning. And these players may begin to question which country should lead and manage this undertaking.

Sector Analysis — (320 to 600 days)

The **financial sector** may shrink as international conglomerates are forced to divest and localize. The **manufacturing**

sector is still faced with issues regarding access to normal streams of raw materials and dependency on transportation systems that remain affected by local outbreaks of the flu. The **service sector** may dwindle as the workforce could be assimilated into the manufacturing sector in order for society to survive. Volume of demand for services will still be the major issue. The **telecommunications sector** begins to recover as it localizes, much like the utility sector. The **insurance sector** continues to be buffeted by the overwhelming task of processing claims with limited human resources. The **health-care sector** faces sporadic jumps in patient volume as the pandemic hits a second wave of outbreaks. Health-care supplies become increasingly difficult to acquire, mainly due to production constraints. The **energy sector** continues to face supply (raw materials), transformation (refining raw materials into useable energy), and transportation issues. The **utility sector** continues to face infrastructure strains, as demand begins to increase due to workforces beginning to return to some office functions. Brownouts and blackouts are a regular occurrence and are now viewed as part of life versus a crisis situation. The **agriculture sector** sees localization lead to development of unique markets for products. Seasonal demands for food products are unchanged. The United States continues to suffer regional spot outages. The **education sector** faces limited capability to reopen facilities as teacher shortages and fearful parents may keep students away from educational institutions. Government use of commandeered facilities continues. The **high-technology sector** faces continuing high demand for access and support related to the Internet. Support services could reach marginal levels due to continued workforce disruption.

By the 20th month (600 days) of the pandemic, the impact on the global economy will have changed the operations of all sectors. Localization of economies has become the norm and is creating a baseline of growth that could propel the recovery of the global economy. Any naturally occurring phenomena such as weather-related and

natural-disaster situations that are likely to exacerbate difficulties of local economies have not been factored in. Paralysis, despair, and retrenchment are replaced with local revitalization and rediscovery during this time frame.

Complex Global Economy

The U.S. economy is part of a complex global economy. And increasing complexity often reaches a point of declining returns. Will we have the wherewithal, as nations, to fight off the temptation to “go it alone”? Each cog (nation state) in the global economy is, in some way, a link in a gigantic supply chain. Where a country fits into that chain is of critical importance to the recovery process. The U.S. economy generated \$11.7 trillion in gross domestic product in 2007 — will it be at the head of, middle of, or at the end of the chain when a pandemic occurs?

The cost of investment is predicated on where a country is in the chain. If a country is a consumer (an importing country, e.g., the United States, based on the U.S. trade balance), then the cost of investment is related to the availability of alternate sources, and nearness to the delivery point of the finished product. However, being a consumer in the post-pandemic economy may be a difficult situation if the consuming nation does not have a strong financial standing or a readily acceptable trade alternative (i.e., monetized commodities).

If a country is a supplier (an exporting country, e.g., the countries rich in natural resources), the country has to determine where along the supply chain its entry point is. However, being a supplier in the post-pandemic economy may be as difficult as being a consumer if other suppliers (i.e., shippers, etc.) have breakdowns due to financial woes brought on during the pandemic.

A country's investment (its economy) is going to reflect the degree of damage that the pandemic does to its population and the economic infrastructure that that population supports.

Restarting the Global Economy

Restarting a complex global economy may create a cost benefit curve that looks very promising at first, for the easiest, most general, most accessible, and least expensive solutions will be the ones that are attempted first. As these solutions realize maximum value and, essentially, are exhausted, continued economic stresses will require further investments in complexity.

The question will be: Where do the governments, peoples, and businesses of the world come up with the money to pay for investments in complexity that return the global economy to the status quo? Realize that in the 600 to 800 day time frame, a lot of the cash reserves of the world's economies will have been spent fighting the pandemic.

Sector Analysis — (600 to 800 days)

The **financial sector** may face solvency issues as a result of people choosing alternative methodologies, such as barter, hard currency, or just not having any income to save. The **manufacturing sector** is now faced with raising capital to expand beyond the local markets, as access to raw materials and transportation systems will require capital to be expended in order to grow. The **service sector** may continue to wither as the workforce, which has been assimilated into the manufacturing sector, is no longer available and volume of demand remains low. The **telecommunications sector's** recovery could be the most robust if the infrastructure that supports it (i.e., the utility sector) can provide needed support. Again, capital, or lack of it, will be a key factor. The **insurance sector** will have to be deconstructed and reconstructed in a different model. The **health-care sector** will have to be deconstructed and reconstructed in much the same way as the insurance sector. The **energy sector** will continue to face supply (raw materials), transformation (refining raw materials into useable energy), and transportation issues. The **utility sector** will continue to face infrastructure strains as demand begins to increase when workforces begin to return to some office functions. The **agriculture sector** faces a

transformation from localization to globalization. The **education sector** continues to have to address limited capability to operate, as teacher shortages and fearful parents keep students away from educational institutions. The **high-technology sector** may see a drop in demand as the pace of innovation is altered or permanently slowed.

Complexity

Complexity as a result of a pandemic occurs because of systems disruptions due to interdependencies within critical infrastructures, global economics, etc. As one area reacts, there is a cascade effect that has an impact on other areas. For example, closure of borders creates impacts on trade worldwide.

By the 24th month (800 days) of the pandemic, the recovery will be well underway, albeit reflective of the altered operations within all sectors. Localized economies may limit expansion by virtue of these local governments deciding that they do not wish to participate in a global economy that has become fraught with vulnerabilities.

This article has not factored in any naturally occurring phenomena such as weather-related and natural-disaster situations that are likely to exacerbate local economies' difficulties. It is therefore critical to establish an information-gathering and monitoring system for such phenomena that establishes activation triggers for response at the tactical level (emergency response), grand tactical level (operational/multi-divisional response) and strategic level (enterprise-wide) that can be applied and communicated worldwide.

Projections for the Future

Consider these aspects of predicting the future. The material that follows carries a possible error rate of 100 percent. The projections could be completely wrong. What is written is pure speculation based on a random event occurring at some time in the future. However, the forecast does not have any date-specific time frame and,

therefore, could be 100 percent correct — eventually!

Forecasting without incorporating an error rate uncovers, according to Nicholas Taleb, three fallacies, all arising from the same misconception about the nature of uncertainty. The first fallacy is that variability matters. These projections can't be taken too seriously; casting them without a date suggests a range of possible outcomes.

Second, Taleb points out the fallacy of failing to take into account forecast degradation as the projected period lengthens. People do not realize the full extent of the difference between near and far futures. H5N1 is extremely lethal at present. Viruses mutate in order to survive. Some speculate that the influenza virus that creates a pandemic will be far less lethal than the current strain of H5N1. This, however, also allows for the virus to spread faster and for a longer time and to infect more people — because victims stay alive longer and can pass it to many others over time.

Third, Taleb offers possibly, the most grave (in his opinion), fallacy concerning a misunderstanding of the random character of the variables being forecast. People cannot realize the consequences of the rare event. It is the lower bound of estimates (worst-case scenario) that matters when engaging in a decision.

Impacts That Can Be Attributed to a Pandemic

The following are the initial, albeit speculative, impacts that can be attributed to a pandemic.

Business (All Forms of Private Enterprise)

- Reduction in workforce leads to a reduction in output capacity.
- Reduction in consumption (people staying at home) leads to a decrease in demand.
- Reduction in revenue leads to less profit, leading to less taxes being paid.

- Lack of consumption demand leads to employees being laid off, leading to loss of benefits (health-care insurance, etc.)
- Reduction in disposable income leads to further consumption declines and consumption focused on necessities (e.g., health-care insurance may become a luxury).
- Redistribution of family asset spending leads to purchasing necessities only:
 - food;
 - medical (e.g., health insurance deductibles; treatment for influenza if not covered under your existing plan);
 - housing; and
 - private transportation — if possible.
- More layoffs occur, due to a worldwide sloughing off of demand and some countries closing borders as they attempt to isolate themselves.
- Business bankruptcies increase. Medium and small businesses will feel the pain because they have limited cash reserves. Large enterprises will suffer as a result of loss of consumers and suppliers. (How dependent is your business on the small to medium-size supplier or vendor? Or, is your small or medium size business heavily dependent on a customer [large enterprise] that may experience a drop in demand, putting your operations at risk?)

Medical Support Systems (All Medically Related Endeavors)

- Doctors are in demand for patient diagnosis and office visits.
- Hospitals become overwhelmed with patients.
- Patients must be isolated from traditional patient care.
- Isolation facilities become limited, if available at all.
- Respiratory equipment is in short supply for patients with secondary pneumonia.
- Committees will decide who gets respirator support and who does not.
- Supplies of medication will be limited (e.g., no vaccine for 6 to 9 months).
- Hospital and public pharmacies must increase security for medications.

Investments (Anything That Can Be Monetized) Fall

- Redistribution of family assets leads to reduced investing.
- Companies need cash for operations, leading to reduced investments.
- Investors seek “safe havens” for investing (e.g., no Third World investments).
- Reduced capacity is available to process investment activity — up to 40 percent of staff is sick.
- Stock and bond markets behave erratically, leading to less and less investment in publicly traded stocks and bonds.
- Private equity investments in companies drop for all the above reasons and all the subsequent points yet to come.

Commodity Markets

- Demand becomes erratic, leading to reduced trading.
- Open pit operations are limited due to physical concerns (i.e., exposure to others in the trading pit).
- Electronic trading (heavier now than ever) becomes erratic, as power supply systems and the Internet are less consistent.
- Commodity delivery becomes erratic.

Depletion of Business Assets

- Investments decrease or cease.
- Company assets are redistributed to meet current expense issues.
- Growth is replaced with survival strategies.
- Revenue continues to slip.
- Unemployment grows.
- National disposable income declines.
- Human capital (talent – an overlooked asset) is not easily replaceable, takes long lead times to train, shows less loyalty, and is more dependent on technology.

Increase in Business Failures

- Unemployment increases.
- Personal disposable income decreases.
- Demand for government services (at all levels) increases.

Government

- Revenues drop substantially (tax base drops).
- Quarantine and isolation requirements use most of government assets.
- Ability to provide traditional support services is limited.
- Demand for services increases.
- Social unrest ferments due to “someone has to help us” mentality.

Bankruptcies

- Business failures increase to unprecedented levels.
- Personal and commercial bankruptcies increase.
- Backlog develops in court processing of bankruptcies.
- Creditors wait longer for assets distributed by courts.
- Creditors see drop in assets from bankruptcies.
- Creditors become more restrictive in loaning money and extending credit.
- Credit and loan availability drops.
- More companies fail due to lack of loans and credit.

Failure of Creditors

- Delays in bankruptcy processing and asset distribution result in lender failures.
- Bankrupt company assets are not redistributed into the market.
- Business marketplace contracts because of operational asset decline.
- Lender failures compound bankruptcy backlog and asset distribution.

Opportunities

- Large numbers of qualified, trained individuals become available for employment.

- Companies prepared to identify these people will grow stronger and faster.

A substantial number of opportunities in various sectors will exist as a result of company failures. These may include starting up a business and / or taking over businesses that have collapsed. Companies may find that if they are nimble and can realign their business offerings that they will have created opportunity.

Pandemic Planning 5 Steps to Consider

All companies, large and small, should include the possibility of an avian flu pandemic in their business planning and as a supplement to the existing emergency-response, business continuity, disaster recovery, and crisis management plans (hereafter collectively referred to as contingency planning). Although the format for the influenza plan will vary from company to company based on industry sector, and degree of commitment to pursuing such things as providing personal protective equipment, I have generally found that the following process works well.

First, conduct a business impact assessment (BIA) to determine the internal and external impacts that would arise from a pandemic. This is, however, not the traditional business impact assessment that we see performed by most firms. You need to focus on degradation of human capital, depth of staff (bench strength, to use a sports term), critical skill sets, client base, stakeholders, demand for your product/service and how it might change, financial reserves (amount, liquidity, and accessibility), supply chain, and outsource providers.

Second, develop a plan that coincides with the strategic plan for the organization. The pandemic plan should describe how your organization will achieve its strategic goals and objectives in the event of a pandemic.

Six key elements of the plan that should be described in detail are as follows: strategy, what you are committed to doing in your plan; concept of operations, how you will

fulfill these commitments and implement the plan; structure, how your organizational structure will best serve your needs should a pandemic occur; resource management, how you will manage your human capital and other assets (buildings, hardware, and capital); core competencies, what skill sets are necessary to continue operations and what degree of succession planning is needed to ensure stability, and continued operation; and pragmatic leadership, what levels of authority will exist and what decision rights can be exercised during a pandemic.

Third, develop and execute a regular training, drill, and exercise regimen for your organization.

Fourth, develop a robust maintenance program to ensure that your plan is kept up to date and that the information in it reflects the current operational focus of your organization.

Fifth, develop an outreach program to facilitate the integration of your plan into that of the community and your value chain (suppliers, customers, and stakeholders).

Concluding Remarks

Businesses need to practice “critical thinking” and to learn to incorporate randomness assessments into the planning process. Rethinking probabilities and their impacts will help to create a strategic framework for contingency planning that recognizes issues of complexity as crucial to the planning effort.

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11th – 13th May 2009
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This Conference aims to discuss the state of the art in structures subjected to earthquakes, including the geophysical aspects, the behaviour of historical buildings, seismic isolation, retrofitting, base isolation and energy absorption systems, as well as a wide range of applications and case studies.

<http://www.wessex.ac.uk/09-conferences/eres-2009.html>

CFOA & Flood Fighters Spring Meeting

5th May 2009
Fire Service College, UK

In partnership with the Inland Water Safety Group (IWSG) this will be a conference for all those responsible for flood emergency services and business continuity, as well as community safety. CPD 5 Hour certified event looking at the ways to mitigate and respond better to flooding.

www.flood-fighters.com

ISCRAM 6th International Conference on Information Systems for Crisis Response Management

10th – 13th May 2009
Goteborg, Sweden

The 6th International Conference on Information Systems for Crisis Response and Management will cover all aspects of

information systems for crisis response and management.

On Sunday, 10th of May, the traditional program for Ph.D. students will be complemented by tutorials and sessions of Special Interest Groups. The main 3-day conference will be held from Monday to Wednesday, featuring a range of special sessions; paper presentations, technology demo sessions and panels

<http://www.iscram.org/>

ERES 2009 – 7th International Conference on Earthquake Resistant Engineering Structures

11th – 13th May 2009
Cyprus

ERES 2009 is the seventh international conference in the series on Earthquake Resistant Engineering Structures organised by the Wessex Institute of Technology. The Meeting provides a unique forum for the discussion of basic and applied research in the various fields of earthquake engineering relevant to the design of structures.

This Conference aims to discuss the state of the art in structures subjected to earthquakes, including the geophysical aspects, the behaviour of historical buildings, seismic isolation, retrofitting, base isolation and energy absorption systems, as well as a wide range of applications and case studies.

<http://www.wessex.ac.uk/09-conferences/eres-2009.html>

Mitigate, Prepare, Respond, Recover – Plan To Take Action

11th – 14th May 2009

Alberta, Canada

This spring, management and emergency preparedness practitioners from across Canada will gather in beautiful Banff, Alberta for the ninth-annual Disaster Forum. Join them for four days of professional development sessions and social activities – with a distinctively western Canadian flavour.

Your conference organizers have brought together a world-class group of speakers – ranging from experts in preventing and responding to emergencies and attacks on critical infrastructure, to seasoned professionals who have been involved in responding to some of the most significant disasters in recent history.

<http://www.disasterforum.ca/events.html>

Critical Communications Congress 2009 – “The Future of Mission Critical Mobile Communications”

26th – 28th May 2009

Munich, Germany

The Critical Communications Congress is a new conference and exhibition providing answers to the challenges faced by mission critical mobile communications users.

The Congress will combine case study feedback from current users with analysis of how technologies and applications will develop over the coming years.

This is your chance to compare approaches and strategies and discover the future of mission critical communications.

10% TIEMS Member Discount Available

Quote CG2551TMSN when booking

<http://www.criticalcomms.com/>

14th International Conference: Crisis Situation Solutions in Specific Environments

27th – 28th May 2009

Slovakia

The conference will be hosted by the Department of Crisis Management, University of Zilina in Zilina, Slovakia. The goal of the conference is to exchange the latest findings and practical experiences of crisis management and crisis planning, persons and property protection, risks and crises in economic environment, tasks of human factors in crises situations and transport in crisis situations.

<http://fsi.uniza.sk/kkm/>

June 2009

TIEMS 16th Annual Conference

9th – 11th June 2009

Istanbul, Turkey

The annual conference will seek to encourage international co-operation and communication, develop new methods and knowledge, and evaluate technologies and techniques, being used in the international approaches to talking the challenges of emergency management. It will also provide delegates with an invaluable opportunity to network with a truly international delegation of participants and speakers.

www.tiems.org

4th Annual Business Continuity & Disaster Recovery Forum

15th – 16th June 2009

Sydney, Australia

Ensuring your businesses, the economy and critical infrastructure are protected in these uncertain times it is vital that organisations are prepared for disaster and have effective business continuity plans in place.

10% TIEMS Member Discount Available

Quote L0918 TIEMS when booking

www.iir.com.au/continuity

19th World Conference on Disaster Management (WCDM 2009)

21st – 24th June 2009

Toronto, Canada

Addressing issues common to all aspects of disaster management. The conference program includes speakers from many parts of the world and provides excellent opportunities for training and networking among those in the fields of Emergency Planning/Management, Business Continuity, Emergency Response, Risk Management, IT Disaster Recovery, Disaster Management Research, Emergency Communications, Emergency Health, Security, HR, Environmental, Community Planning, as well as for the organizations which supply and service these professions

<http://www.wcdm.org/>

July 2009

Safe 2009 – 3rd International Conference on Safety and Security Engineering

1st – 3rd July 2009

Rome, Italy

The success of the first two International Conferences on Safety and Security Engineering held in Rome in 2005, and Malta in 2007, has prompted the organisers to reconvene the meeting in 2009. The purpose of the Conference is to provide a forum for the presentation and discussion of the most recent developments in the theoretical and practical aspects of Safety and Security Engineering.

<http://www.wessex.ac.uk/09-conferences/safe-2009.html>

August 2009

2009 Conference on Community Preparedness

9th August 2009

Alexandria, USA

The 2009 National Conference on Community Preparedness: The Power of Citizen Corps is being hosted by FEMA's Community Preparedness Division on Aug. 9-12, 2009, at the Hyatt Crystal City Hotel in Arlington, VA. The conference is open to all who are interested in making their communities safer, stronger, and better prepared for all types of hazards.

<http://www.iaem.com/NCCP2009.htm#registration>

September 2009

Oil, Gas & Chemicals Safety & Disaster Management - 2nd TIEMS Benelux International Workshop

25th - 26th September 2009

Antwerp, Belgium

The second TIEMS international workshop on "Oil, Gas & Chemicals Safety & Disaster Management" will follow the original idea to bridge a gap between the academic world and the industry the main topics of the workshop will include: storage, transportation, distribution, retail activities, risk analysis, incident investigation, terrorism and security, critical infrastructure, the role of the media, business continuity, etc.

www.tiems.org

Or contact TIEMS.Benelux.2009@skynet.be

1st International Conference on Disaster Management & Human Health

23rd – 25th September 2009

New Forest, UK

Recently, there has been a disturbing increase in the number of natural disasters affecting millions of people, destroying property and resulting in loss of human life. These events include major flooding, hurricanes, earthquakes and many others.

All these events pose unprecedented risks to human health on a world scale which requires a massive effort by the international community. This conference therefore focuses on current global health risks, and how best to prepare for, respond to and recover from disasters in order to reduce human health impacts.

<http://www.wessex.ac.uk/09-conferences/disaster-management-2009.html>

November 2009

IAEM 57th Annual Conference & EMEX 2009

31st October – 5th November 2009

Orlando, Florida

The IAEM Annual Conference provides a forum for current trends and topics, information about the latest tools and technology in emergency management and homeland security, and advances IAEM committee work. Sessions encourage stakeholders at all levels of government, the private sector, public health and related professions to exchange ideas on collaborating to protect lives and property from disaster.

<http://www.iaem.com/events/annual/intro.htm>

MORE EVENTS AND INFORMATION ON THE TIEMS CALENDER WWW.TIEMS.ORG

If you would like to publicise your event please email details to:

alan.jones@westsussex.gov.uk