

EDIMA-CERT®

TIEMS INTERNATIONAL EMERGENCY & DISASTER MANAGER CERTIFICATION PROGRAM

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ISO 31000, Emergency, disaster, management, standards, certification.

1.0 Abstract

This paper proposes a TIEMS concept for developing a program for international certification of Emergency & Disaster managers.

Firstly, a brief overview of existing similar programs world-wide is investigated with pro and cons for the different available programs. These programs are looked upon in the context of existing national and international standards for Emergency & Disaster management and national requirements where such exist.

Based on the above findings, a TIEMS concept is outlined offering such a certification in cooperation with international universities and training centres, where necessary courses and training in Civil Emergency & Disaster management, can be offered.

An education and training model is sketched with thematic topics to be covered and actual training to be performed, to reach the three proposed education levels, Bachelor, Master and Doctor, in Emergency & Disaster Management, as well as the different certification steps to be applied for the different levels.

The sketched program is briefly compared with existing courses and training available today in Emergency & Disaster management, and necessary new courses and training needs are outlined.

Based on above findings, a proposed R&D project is briefly outlined, and interested parties are invited for discussion of the concept in a workshop during TIEMS Annual Conference 2009, for concluding further steps to make this project funded and started.

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2.0 Background

Accidents and disasters are part of our daily life, and over time we have developed systems, organisations and means to avoid, mitigate and recover from these events. We share a global

understanding today and have developed cross-border cooperation and international help in the case of unfortunate events. Knowledge and experience are accumulated and made available to everybody through databases over the internet and theory and practical courses are available world wide in universities and training centres.

People involved in this field have different education and practical background, and some may have a title of Emergency & Disaster managers or similar. However, there is no world wide standard (not yet, but very soon) for education and training of a professional called Emergency & Disaster Manager and accordingly certification of them. Some schemes exist, but no one fulfil the goal of being world wide used and recognized.

TIEMS has developed an international network of professionals working with disaster and emergencies, and these individuals represent; universities, institutions, training centres and companies involved in the professional work of avoiding, mitigating and recovering from accidents and disasters.

Through this network, TIEMS has started investigating the possibility to establish an international certification scheme for Emergency & Disaster managers, and this paper is a presentation of the ideas and status and an invitation to a workshop at TIEMS annual conference in Istanbul in June 2009, to discuss and conclude the further way to establish this certification scheme.

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3.0 International standards

When searching for international standards in Emergency & Disaster management, the following results seem important to recognize:

- During 2009, a new standard from the International Organization for Standardization (ISO), on Risk Management will be published; (*Target publication date: 2009-06-30*) the ISO 31000, with the title “Risk Management – Principles and Guidelines for Implementation”
- This will (indirect) ratify, or at least give more importance to the ISO Guide 73, published the first time in 2002. ISO Guide 73 describes Risk as: “The possibility of (negative) deviation from the expected outcome or event.”
- More standards are listed below under **5.3**
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4.0 Available certification schemes

There are several different certifications programs for emergency managers currently in existence.

The most important are

- the FEMA Professional Development Series (PDS) Certificate, the Advanced Professional Series (APS) Certificate,
- the International Association of Emergency Managers (IAEM) Certified Emergency Manager® (CEM®) and Associate Emergency Manager (AEM) Certificates.
- In the last few years, undergraduate and graduate level programs in emergency management and homeland security have also been developed by different educational institutes (universities, high schools etc...)

An internet survey shows very good information on:

4.1. www.IAEM.com (International Association of Emergency Managers)

What Is a Certified Emergency Manager?

- One has the knowledge, skills and ability to effectively manage a comprehensive emergency management program.
- One has a working knowledge of all the basic tenets of emergency management, including mitigation, preparedness, response and recovery.
- One has experience and knowledge of interagency and community-wide participation in planning, coordination and management functions designed to improve emergency management capabilities.
- can effectively accomplish the goals and objectives of emergency management
- ...

Why Become a Certified Emergency Manager?

- To receive recognition of professional competence.
- To join an established network of credentialed professionals.
- To take advantage of enhanced career opportunities.
- To gain access to career development counselling.
- To obtain formal recognition of educational activities.
- ...

Requirements for the Certified Emergency Manager Program:

- Emergency management experience.
- Education.
- Training..
- Contributions to the profession.
- Comprehensive emergency management essay.
- Multiple-choice examination.
- ...

The website also shows programs for schools etc.

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4.2. www.fema.org (Federal Emergency Management Agency)

4.2.1. The FEMA Professional Development Series (PDS) Certificate,

<http://training.fema.gov/EMIWeb/PDS/>

The Professional Development Series includes seven Emergency Management Institute independent study courses that provide a well-rounded set of fundamentals for those in the emergency management profession. Many students build on this foundation to develop their careers.

Students who complete all the courses will receive a PDS Certificate of Completion.

The courses, in recommended order of completion, are:

- IS230 Principles of Emergency Management
- IS235 Emergency Planning
- IS242 Effective Communication
- IS241 Decision Making and Problem Solving
- IS240 Leadership and Influence
- IS244 Developing and Managing Volunteers

- IS139 Exercise Design

4.2.2. The Advanced Professional Series (APS) Certificate :

<http://training.fema.gov/emiweb/APS/>

Advanced Professional Series (APS)

The ability to perform essential work in a disaster requires skills in emergency operations and management. These skills may be developed through this series of courses that offers "how to" training focused on practical information. This new series emphasizes applied skills in disaster operations, alongside of and building on Professional Development Series management and coordination skills.

The original Advanced Professional Series (APS) course line-up was established five years ago, and updated in 2004, to motivate and challenge students to continue emergency management training. Courses address top skills for performing emergency management and disaster duties. APS courses are classroom courses unless otherwise noted.

Click on Certificate of Completion and Request to the left for certificate information.

Required Courses

EOC Management and Operations, G775

Incident Command System/Emergency Operations Center Interface, G191

Rapid Assessment Workshop, G250.7

Recovery from Disaster, the Local Government Role, G270.4

Mitigation Planning Workshop for Local Governments, G318

Elective Courses (choose any 5)

Donations Management Workshop, G288

Multi-Hazard Emergency Planning for Schools, G362

Emergency Planning and Special Needs Populations, G197

NIMS Resource Management, IS-703 (Independent Study)

Debris Management, G202

Mass Fatalities, G386

Exercise Program Manager, G137

Flood Fight Operations, G361

Emergency Management Operations Course for Local Governments, G110

Homeland Security Planning for Local Governments (formerly Terrorism Planning), G408

Community Mass Care Management, G108

Evacuation and Re-entry Planning, G358

Basic Public Information Officers, G290

Hazardous Weather and Flood Preparedness, G271 or Anticipating Hazardous Weather and Community Risk, IS271 (Independent Study)

Warning Coordination, G272

Advanced Incident Command System, G400

4.3. www.uic.edu (University of Illinois at Chicago)

FOUNDATIONS OF EMERGENCY MANAGEMENT AND BUSINESS CONTINUITY PLANNING

This course provides the basics of disaster preparedness. The course takes the "All Hazards" approach, and is a study of natural disasters such as, earthquakes, hurricanes and tornados, as well as man-made incidents such as acts of terrorism, chemical spills

or release, fire and explosions. The course focuses on the different aspects of potential hazards for each type of incident. These aspects include severity, risk of occurrence, methods of mitigation (risk reduction) and preparedness, response and recovery procedures. The knowledge base developed in this course will be used as a foundation to develop written Emergency Action Plans.

4.4. Fairleigh Dickinson University (USA / UK / Canada)
<http://view.fdu.edu/default.aspx?id=1536>

Disaster and Emergency Management Certificate School of Administrative Science

This undergraduate, six-course, eighteen credit, certificate program is tailored to government workers and other individuals from the nonprofit sector interested in pursuing undergraduate courses geared towards improvement of management and supervisory skills, while earning credits that lead to a baccalaureate degree. Transfer credits (up to 90), life experience/portfolio assessment (up to 30 credits), College Level Examination Program (CLEP-up to 30 credits) can be applied towards a 120-credit Bachelor of Arts in Individualized Studies degree. Student must take at least 30-credits of course work at FDU to be conferred a degree.

4.5. Conclusion on available certification schemes

The most developed certification scheme for Emergency & Disaster managers is the one offered by IAEM. This is a very good and comprehensive certification scheme.

However, it is mostly related to American emergency management culture, and does not involve only American universities and training centres. This is not practically relevant for a global certification scheme, which in TIEMS opinion should include world wide universities and training centres. Such a certification scheme does also need to recognize cultural and language differences in addition to a basic global scheme.

TIEMS proposed scheme will therefore include in his basic global package, references to the ISO standards (ISO 31000, ISO 22399, BS 25999-1 and -2, etc...) which will include those skills we find necessary in a global context, and for the different regions or countries, include a regional or local scheme with the relevance to regional or local culture and languages.

A global network of universities and training centres which like to join TIEMS certification scheme, will be approved on the basis of the quality and relevance of the courses and training offered. TIEMS plans to establish certification centres world wide, linked up with TIEMS chapters, making it possible to achieve a certification around the world, without centralization, achieving a globally distributed certification scheme, which stimulates global cooperation and Emergency & Disaster management formalization and capacity building.

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5.0 Relevant definitions

5.1. Emergency & Disaster Management :

is the discipline of dealing with and avoiding risks. It is a discipline that involves preparing for disaster before it occurs, disaster response (e.g. emergency evacuation,

quarantine, mass decontamination, etc.), as well as supporting, and rebuilding society after natural or human-made disasters have occurred.

(source : http://en.wikipedia.org/wiki/Emergency_manager)

5.2. Risk :

the possibility of (negative) deviation from the expected outcome or event.

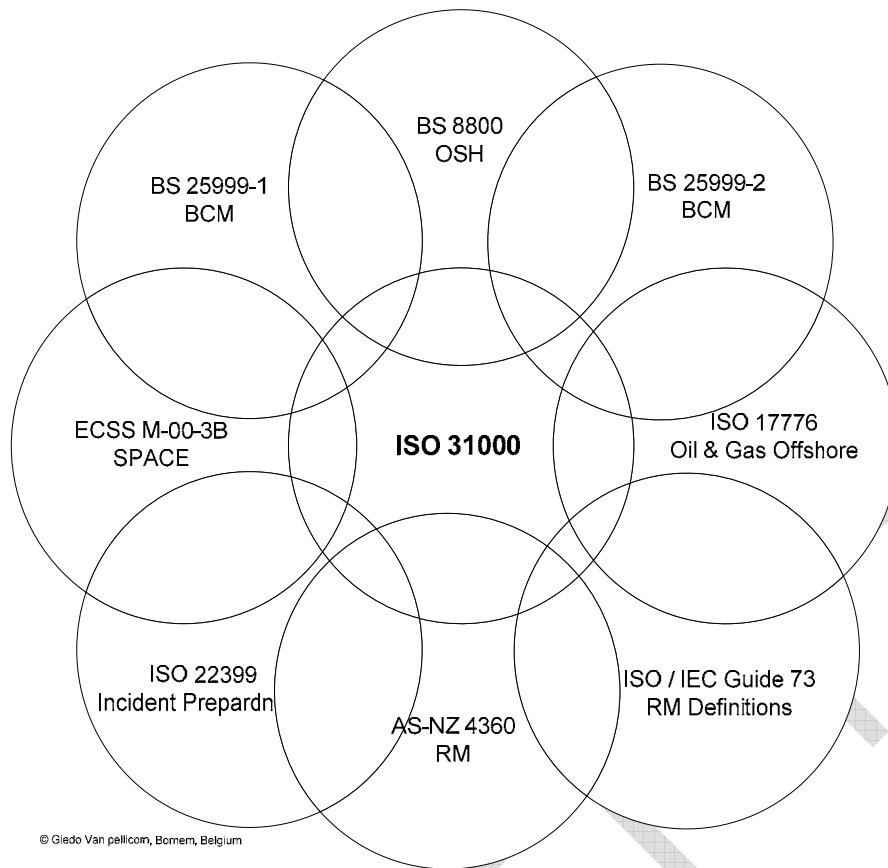
(source : ISO Guide 73)

5.3. Possible sources of Information:

- ISO/PAS 22399:2007 Societal security - Guideline for incident preparedness and operational continuity management
- British Standard : 25999-1:2006 ; Business continuity management - Part 1: Code of practice
- British Standard : 25999-1:2006 ; Business continuity management - Part 2: Specifications
- NFPA 1600; Standard on Disaster/Emergency Management and Business Continuity Programs; 2007 Edition
- ISO 17776:2000, Petroleum and natural gas industries - Offshore production installations ; Guidelines on tools and techniques for hazard identification and risk assessment
- Australian New Zealand standard : 4360 on Risk Management
- British Standard : 8800:2004 ; Occupational health and safety management systems – Guide; Annex E : Guidance on risk assessment and control
- European Cooperation for Space Standardisation : M-00-3B : Risk Management
- ISO/IEC DIS 31000:2008 Risk Management – **Draft International Standard.**
- ISO/IEC 31000:2009 Risk management - Risk assessment guidelines. (to be published)
- ISO/IEC Guide 73 ; Risk management – Vocabulary
- ISO; International Workshop Agreement, IWA 5 : 2006
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6.0. Relation to standards :



Conclusion : ISO 31000 will be the crossroad of most important standard on Risk Management and translated to business continuity standards; in Emergency & Disaster Management

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7.0 TIEMS proposed international certification scheme

Already some institutes, schools, Universities and professional training schools (EDUCATIONAL PARTNERS) , are developing a course in Risk Management.

We have the intension to set up, in cooperation between the Educational Partners and TIEMS a certification program to end with **Certified Emergency & Disaster Manager**.

The educational partners will set up (in their own organisation) a **Certified Emergency & Disaster Manager Program** ©

This program will be set up in accordance with TIEMS regulations, and in comparison with applicable standards (institutional, local, organisational, governmental) standards, laws and other particular regulations.

TIEMS will, by request of the potential partner, provide an initial programme compliance evaluation. Then will do regular and periodic audits (according to ISO 19011) to assure the permanent high level of education and exams.

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8.0 Means

8.1. Implementation of educational program

Educational partners will fill in their educational program to a level of minimum of ** points “per annum schola” in the EDIMA-CERT® system.

For discussin with Educational Partners : Depending on the Post Graduate, Masters Graduate, or Phd Graduate, program will take 1, 2 or 3 years of education. This process will need to be further detailed and discussed.

The EDIMA-CERT points will be assigned by the EDIMA-CERT® CATALOG, which will be established and maintained by the EDIMA-CERT® BOARD. This board will consist of members appointed by the TIEMS international board, together with one person delegated by each educational partner. The Board will have a right to propose the incorporation of other members from standardization institutions.

The EDIMA-CERT® Catalog will be presented and discussed yearly at the TIEMS conference and published after its final approval.

Together with the EDIMA-CERT® CATALOG, the individual evaluation procedure will be defined and maintained to enable design and operation of TIEMS testing environment.

An educational program that collect the (**) point plus 10% per annum, can be recognised as an complete program. This 10% is necessary to let open the possibility, for the students, to make a limited choice between different lessons, depending on the local situation.

8.2. Essential Elements of the program are : (in accordonace with International Workshop Agreement, IWA 5, on Emergency preparedness)

- 8.2.01. Program Management & Administration - including
 - o Establishment of Roles, Responsibilities & Authorities
 - o Coordination with Stakeholders
 - o Stakeholder Requirements,
 - o “All Hazards Approach”
 - o Research
- 8.2.02. Laws and Authorities - including
 - o Regulatory Considerations
- 8.2.03. Hazard Identification, Risk Assessment and Impact Analysis - including
 - o Human Impact
 - o Hazard and threats
 - o Risk (or Probability)
 - o Vulnerability
 - o Consequence
 - o Intelligence
 - o Cost-Benefit Analysis
- 8.2.04. Hazard Mitigation & Prevention
 - o Protection measures
- 8.2.05. Resource Management including
 - o Resourcing
 - o Operations Personnel / Human Resources
 - o Capacity Planning
- 8.2.06. Mutual Aid / Memorandum of Understanding (MOU)

- 8.2.07. Planning
- 8.2.08. Direction, Control and Coordination - including
 - o Incident Management System
 - o Emergency Operations Centers
 - o Cooperation between Responding Agencies
- 8.2.09. Communications and Warning - including
 - o Warning and Informing
- 8.2.10. Operations and Procedures
 - o Mitigation
 - o Preparedness
 - o Response
 - o Recovery
- 8.2.11. Logistics and Facilities
- 8.2.12. Training
- 8.2.13. Exercises, Evaluations and Corrective Actions including
 - o Quality Assurance
 - o Performance Evaluation
- 8.2.14. Crisis Communications and Public Information
- 8.2.15. Finance and Administration

8.3. Set up agreement between the Educational Partner and TIEMS.

- The potential partner will describe its goal in the EDIMA-CERT® programme and the correlation of its education programme offer to the Catalog to the EDIMA-CERT® Board.
- The Board will assess the application and if it falls in the scope, it will be approved.
- The Partner will be published at the EDIMA-CERT® website.
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8.4. Pre-Auditing of Educational Program.

All necessary steps to prepare the real audit and to fullfill the stage 1 audit proces, conforming the instructions of ISO 19011.

This process will need to be further detailed and discussed.

8.5. Lead Auditors for program recognition.

Lead auditors will have the following skills.

- Lead Auditor ISO 9001 training recognised by IRCA or IATCA
- A minimum of 20 audits as lead auditor
- Working knowledge of English and minimum one more European language, using Latin Alfabet.
 - o http://en.wikipedia.org/wiki/European_languages
 - o http://upload.wikimedia.org/wikipedia/en/b/b7/Languages_en3.PNG
 - o ...
- Experience in Emergency & Disaster Management
- Accepted by TIEMS EDIMA-CERT® BOARD.
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9.0. Execution :

This process will need to be further detailed and discussed.

9.1. Certification of Educational Partners

- The TIEMS Educational Partners are : Universities, High School, Institutions, and every legal and natural person that can prove to be involved with professional education and training, can candidate, to be recognised as Educational Partner.
- The educational partner have to proof a minimum of 5 years in educational services to individual persons.
- There will be allowed to create a consortium, which would cover the required EDIMA-CERT® scope.
- There is a minimum fee of 250 Euro per 12 month or pro rate tempore for the rest of the year till 31/12 of the running year, and the cost for the yearly inspection by the TIEMS recognised auditor.
- The individual persons how aply to become a TIEMS **Certified Emergency & Disaster Manager**, must be TIEMS Full Member, and have paid membership fee for the running year.
- The cost for the audit; including for the auditor, his traveling, hosting food and beverage, wages, will be covered by the institute. The total cost is to be estimated at present prices of auditing by ISO 9001 Lead Auditors, what is about (depending where in Europe between 900 and 1400 Euro a day.

9.2. Certification steps for individual candidates:

This process will need to be further detailed and discussed.

Step 1: Register for Participation

To participate in the EDIMA-CERT® , and have access to the content on the TIEMS EDIMA-CERT® web site, you must be a TIEMS member and register as candidate for the EDIMA-CERT® . Enrol online in the Register Now section.

After successful registration the EDIMA-CERT® Candidate will receive a Personal Identification Number (PIN) through email confirmation. These number must be used when he/she want to access the secure areas of the site that include special bulletins, training schedules, EDIMA-CERT® materials and online testing.

Step 2: Prepare yourself for the exams / on line test.

Candidates for the TIEMS EDIMA- CERT® will be expected to have working or fundamental knowledge of the following:

- Fundamental knowledge an Emergency Management & Business Continuity Management as described in ISO 22399
- Fundamentals on Risk Evaluation and Risk Management as described in ISO 31000
- Fundamental knowledge of both ISO 31000 and ISO/IEC Guide 73
- Knowledge of BS 8800, BS 25999-1 and BS 25999-2

Step 3: Complete Associate Training

- To reach the learning Objectives, the candidates have a choice of either instructor-led classroom, self-study or training sessions.
- The training must be designed to performance-based learning objectives, which are tested in the TIEMS level certification exam.
- If you follow a training and get certificated by a TIEMS recognised institution (see note 1), this certificate will cover step 2 AND 3
- If this recognised institute is using a TIEMS recognised exam, than this will also cover step 4 of this procedure.

Step 4: Achieve TIEMS Level Certification

- To demonstrate mastery of the learning objectives, you must successfully pass the TIEMS EDIMA-CERT® exam.
- The online examination will be accessed from the TIEMS web site.
- A second attempt is permitted within a specified time if you fail the first examination. You will be required to take the instructor-led classroom training if you fail the second attempt.
- Step 4 is cover by TIEMS exam in TIEMS Educational Partner.

Step 5: Maintain EDIMA-CERT® Level Certification

- To maintain the TIEMS EDIMA-CERT® certification, the candidate must continue to complete training and exams for new modules added to the particular EDIMA-CERT® site.
- The candidate have to gain, minimum X ‘points’ per annum with a minimum of 3X ‘points’ in 3 year.
- Points can be gained by following lessons, writing articles, giving lectures, practical experience, Field Experience, Real Disasters Experience etc... The value of the points ar set by TIEMS EDIMA-CERT® Control Board.
- If you don't complete training and pass the exam for new modules, within the announced timeframes, or not collecting a total of 15 ‘points’ in 3 year, your EDIMA-CERT® certification will be expire.

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10.0 Further plans

This paper only sketches the ideas and structure of TIEMS proposed international Emergency & Disaster management certification scheme. However, it includes contributions of observations and facts on the relevance of this certification and capacity building in Asia, Australia, Europe and Africa, by the co-authors of this paper. Because IAEM has a well developed scheme for North America, we have not addressed North America in this scheme, but left that to the existing scheme already available in North America. We have neither addressed Latin America yet, but TIEMS plans include Latin America as well.

This paper is the basis for a workshop at TIEMS annual conference in Istanbul in June, where TIEMS invites to a broader discussion of this proposal, with the expected outcome of a plan for further steps with this proposal, and open invitation to universities and training centres to join this effort.

Others steps to do :

- Establish the EDIMA-CERT® Board (after discussion in Istanbul)
- Prepare the Catalog draft
- Select max. 3 pilot partners (for the first two years they will get the TIEMS EDIMA-CERT® programme for free)
- Prepare the evaluation procedures and tools
- Pilot trial with max. 10 Educational Partners (will become part of the development team and will get the certification process for free for first two years).
- Incremental development of information services (website, e-testing, ...) for the candidates and partners.

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11.0 References

International standards under 5.5. above

Websites under 4.0. above

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12.0 Acknowledgements

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13.0 Authors Biography

Giedo Van pellicom is TIEMS Principal Registration Officer. He is responsible for all official paperwork, official publications and relation with the Belgium Government where TIEMS has the Registration Office. He has a University degree in both Occupational Safety & Health (University of Leuven 1992) and Risk Management (University of Leuven 2004). He also has a degree in Cross Border Disaster Relief Management from the European Red Cross Federation, a Post Graduate as Legal Expert and is also trained ISO 9001 Lead-auditor. He is the (co-)founder, Director and President (CEO) of different companies that work in the field of occupational safety, emergency management and legal expertise. He is recognised by different Belgium Courts (Sep 1999) and accepted by the Belgium Ministry of Work (March 2004); as a field expert in the investigation of heavy accidents, emergency management and safety planning and prevention. His publications are all in the field of emergency management and occupational safety (3 books and about 25 articles in professional and scientific magazines). From 2001 he is giving lectures about safety management and risk control at most Flemish Universities and safety schools. In his free time he is a voluntary High Rank Red Cross Officer in the Belgian Red Cross and member of the organisation of the 'Dodentocht' (see www.dodentocht.be) in his home town city Bornem in Belgium.

K. Harald Drager is one of the founders of TIEMS. Since 2002 he is the President of TIEMS and has contributed significantly to the development of the society. He has a Master's degree in control engineering from the Norwegian Technical University in 1966, and a Master's degree from Purdue University in USA in industrial engineering in 1973. His specializations are risk, safety and emergency management, chemical hazards and project management. He is among others TIEMS responsible for "Consensus Building and Forum" in the EU initiative project "Public Safety Communication Forum Europe", which is a forum to facilitate communication and global consensus between all stakeholders on key public safety communication and information management issues. He has published numerous papers internationally on emergency, disaster and risk management.

Jaroslav Pejcoch is TIEMS Director for Scientific Program. He is the President and co-founder of T-SOFT Company (Crisis management, interoperability, Security). Before T-SOFT he worked at the Electronic Research institute Tesla VÚST as Director of IT Division. He is the founding member of the AFCEA Czech Chapter and member of the Board of Directors and is member of the Czech National Committee of ISDR, and member of the Presidium of the Czech Association of Crisis Managers. From 1975 he is teaching at Czech Technical University – Faculty of electronic. His publication activities are in areas of computer graphics, computer user interfaces, information and communication technologies, information logistic and systems for protection of citizens and environment, interoperability of systems, crisis management, critical infrastructure protection. He is married, have 4 children and is living in Prague and Telc. His hobbies are music (active piano player), mountaineering and photography.

DRAFT 1.3