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DISSEMINATION LEVEL		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

CONTENTS

1	INTRODUCTION	4
1.1	PROJECT SCOPE	4
1.2	PURPOSE OF THE DOCUMENT	4
1.3	DOCUMENT VERSIONS SHEET	4
2	REFERENCE DOCUMENTS, DEFINITIONS AND ABBREVIATIONS	5
2.1	REFERENCE DOCUMENTS	5
2.2	DEFINITIONS	5
2.3	ABBREVIATIONS	5
3	EXECUTIVE SUMMARY	7
4	BACKGROUND	8
5	PARTICIPANTS	9
5.1	LIST OF PARTICIPANTS	9
5.2	GUESTS	10
5.2.1	<i>CEDRALIS</i>	10
5.2.2	<i>eMessage</i>	10
5.2.3	<i>eVigilo</i>	10
5.2.4	<i>Unified Messaging Systems (UMS)</i>	10
6	AGENDA	12
7	PRESENTATIONS	14
7.1	VIDEOS	14
7.2	MODULE 1: SITUATION AWARENESS TOOLS	14
7.2.1	<i>Project REACH112 - by EENA</i>	14
7.2.2	<i>Project DYVINE - by EADS Defence and Security Systems</i>	15
7.2.3	<i>Rule based technique - by AVANTI Communications</i>	16
7.3	MODULE 2: WARNING SYSTEMS	17
7.3.1	<i>Reaching citizens with CHORIST... everything but technology - by TUDelft</i>	17
7.3.2	<i>Cell Broadcasting - by SPMM</i>	18
7.3.3	<i>The Cell Broadcast way forward - by one2many</i>	18
7.3.4	<i>Project DEWS - by Elsag Datamat</i>	19
7.3.5	<i>The Alerte Box - by the City of Gronfreville l'Orcher (FRANCE)</i>	20
7.3.6	<i>The UMS Population Alert System - by Unified Messaging Systems (UMS)</i>	21
7.3.7	<i>Alerting of population and embedded systems - by e*Message</i>	23

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

7.3.8	<i>The eVigilo alert solution - by eVigilo</i>	24
7.3.9	<i>Satellite Based Alarm System - by AVANTI Communications</i>	25
7.4	MODULE 3: PMR BEYOND VOICE AND SMS	26
7.4.1	<i>Challenges of Public Safety Communications - by THALES Communications</i>	26
8	CONCLUSION	27

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

1 INTRODUCTION

1.1 PROJECT SCOPE

The CHORIST project proposes solutions to increase rapidity and effectiveness of interventions following natural hazards and industrial accidents, in order to enhance citizens' safety and communications between rescue actors.

1.2 PURPOSE OF THE DOCUMENT

This document is the report of the end of project seminar on the communications for environmental risk management. The seminar took place in Istanbul on 23 and 24 June 2009, involving participants from the CHORIST project, end-users members of the CHORIST User Advisory Board and guests met during the project duration, and who intended to exchange ideas and to plan for future cooperation.

1.3 DOCUMENT VERSIONS SHEET

Version	Date	Description, modifications, authors
1.0	17-07-09	First release
1.1	21-07-09	Some mistakes corrected

Table 1 : Document versions sheet

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

2 REFERENCE DOCUMENTS, DEFINITIONS AND ABBREVIATIONS

2.1 REFERENCE DOCUMENTS

None

2.2 DEFINITIONS

None

2.3 ABBREVIATIONS

ABAS	Address Based Alert System
BAPCO	British Association of Public-Safety Communications Officers Limited
CCTV	Closed Circuit TeleVision
CHORIST	Integrating Communications for enHanced envirOnmental RISK management and citizens safeTy
CMAS	Commercial Mobile Alert System
COP	Common Operational Picture
DEWS	Distant Early Warning System
DVB-SH	Digital Video Broadcasting - Satellite services to Handhelds
DYVINE	DYnamic VIsual NEtworks
EADS DS	EADS Defence and Security
EADS	European Aeronautic Defence and Space company
EC	European Commission
EENA	European Emergency Number Association
EGNOS	European Geostationary Navigation Overlay System
ETWS	Earthquake and Tsunami Warning System
GAS	Group Alert System
GPS	Global Positioning System
GSM	Global System for Mobile
IP	Internet Protocol
LBAS	Location Based Alert System
LTE	Long Term Evolution
PAS	Population Alert System
PSCE	Public Safety Communication Europe
PMR	Professional Mobile Radio
RDS	Radio Data System
REACH112	REsponding to All Citizens needing Help 112
SCART	Syndicat des Constructeurs d'Appareils Radiorécepteurs et Téléviseurs, Radio and Television Receiver Manufacturers' Association)

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

SMS Short Message Service
SPMM Stichting Platform Mobile Messages
TAS Travellers Alert System
TEDS TETRA Enhanced Data System
TV Television
UAB User Advisory Board
UMS Unified Messaging Systems
VLR Visitors Location Register

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

3 EXECUTIVE SUMMARY

After having developed and integrated three prototypes, performed field tests and a demonstration in Barcelona, Spain, in March 2009, the CHORIST consortium wanted to look at the future of the project, which finished on 31 July 2009. Through presentations by the CHORIST consortium members, and by external speakers, future research topics and collaboration were initiated through a seminar which took place in Istanbul, Turkey, on 23 and 24 June 2009.

The audience involved 18 CHORIST consortium members, 7 end users from the CHORIST User Advisory Board (UAB) and 6 guests. 13 presentations were made and 4 videos promoting the CHORIST project were shown.

They addressed:

- MODULE 1: SITUATION AWARENESS TOOLS
 - Project REACH112 - by EENA
 - Project DYVINE - by EADS Defence and Security Systems
 - Rule based technique - by AVANTI Communications
- MODULE 2: WARNING SYSTEMS
 - Reaching citizens with CHORIST... everything but technology - by TUDelft
 - Cell Broadcasting - by SPMM
 - The Cell Broadcast way forward - by one2many
 - Project DEWS - by Elsag Datamat
 - The Alerte Box - by the City of Gronfreville l'Orcher (FRANCE)
 - The UMS Population Alert System - by Unified Messaging System (UMS)
 - Alerting of population and embedded systems - by e*Message
 - The eVigilo alert solution - by eVigilo
 - Satellite Based Alarm System - by AVANTI Communications
- MODULE 3: PMR BEYOND VOICE AND SMS
 - Challenges of Public Safety Communications - by THALES Communications

Most interest and discussions addressed the Warning System, which is thought as a mature topic which should get out from research lab to be deployed and submitted to large scale tests in the year(s) to come. The other interest concerned the video surveillance.

Contacts were taken so that collaboration in the months to come may take place.

All slides and video shown are available for download from the CHORIST web site: www.chorist.eu

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

4 BACKGROUND

The past

The CHORIST project ran from 1 June 2006 till 31 July 2009. After having developed and integrated three prototypes, the CHORIST consortium performed field tests and a demonstration in Barcelona, Spain. The demonstration itself took place on 26 and 27 March 2009.

The topics addressed were:

- MODULE 1: the risk assessment reports: How to provide a real time picture of the situation on natural hazards and industrial accidents with their consequences to the authorities ?
- MODULE 2: the warning system: How to warn most people of an area in a matter of a few minutes ?
- MODULE 3: the rapidly deployable communication networks: Which services beyond voice and SMS, and how to provide them to field rescue teams ?

Why a seminar ?

However, though the CHORIST consortium tackled the topic of the Early Warnings for natural and industrial disasters, and though the audience of the demonstration involved many people outside CHORIST, (1) only proposed results from the CHORIST Consortium were presented, and (2) it did not plan for post-project activities.

This is why an end of project seminar, open to external speakers was planned: The initial goal -as defined in September 2008- was to present the results of the assessments of the field trials, but this had already been done during the demonstration days. So, it was rather more suitable to redirect the seminar to discuss about the future of CHORIST research topics, and to plan for future collaborations.

The seminar took place in the Citadel Hotel, located in the old city of Istanbul, on 23 and 24 June 2009.



Project: CHORIST	Deliv. ref.: SP0.D41
EC contract: 033685	Deliv. title: Report on the open seminar on communications for environmental risk management
	Deliv. version: 1.1
	Submission date: 20/07/09

5 PARTICIPANTS

The seminar involved 31 participants listed in the next section.

5.1 LIST OF PARTICIPANTS

CHORIST consortium (18 people)

Company	Country	Attendant
EADS Secure Networks	FRANCE	Patrice SIMON
		Hervé MOKRANI
AVANTI COMMUNICATIONS	UNITED KINGDOM	Trevor BARKER
ELSAG DATAMAT	ITALY	Domenico PANNUCCI
		Massimo ARGENTI
EADS Defence and Security Systems	FRANCE	Benjamin PÉNET
		Philippe CHROBOCINSKI
KOMCENTRA	CEZCH REPUBLIC	Jaroslav PIVONKA
one2many	THE NETHERLANDS	Peter SANDERS
THALES COMMUNICATIONS	FRANCE	Farid BENBADIS
VODAFONE	TURKEY	Kaan DANDIN
EC Joint Research Center	ITALY	Daniele GALLIANO
SPMM	THE NETHERLANDS	Wim van SETTEN
		Steven LAGERWEIJ
		Fatih DULKADIR
TUDeft	THE NETHERLANDS	Ellen JAGTMAN
BAPCO	UNITED KINGDOM	Paul HIRST
EENA	BELGIUM	Gianni PETITI

Users (User Advisory Board) (7 people)

Company	Country	Attendant
Kokom & PSCE	NORWAY	Egil BOVIM
National Police Board	SWEDEN	Mats T PERSSON
Metropolitan Police Service	UNITED KINGDOM	Graham LEEDHAM
Metropolitan Police Service	UNITED KINGDOM	John WOOD
Municipality of Gonfreville l'Orcher	FRANCE	Alban BRUNEAU
Dept. for Rescue Services, Ministry of the Interior	FINLAND	Mikko JÄÄSKELÄINEN
Public Warning Systems, Swedish Civil Contingencies Agency	SWEDEN	Håkan MARCUSSON

Guests (6 people)

Company	Country	Attendant
CEDRALIS	FRANCE	Delphine ARIAS-BUFFARD
		Philippe BIVAS
eMessage	GERMANY	Dietmar GOLLNICK
		Carsten HOFFMAN
eVigilo	ISRAEL	Guy WEISS
UMS	DENMARK	Jesper NIELSEN

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

5.2 GUESTS

5.2.1 CEDRALIS

Created in 2002, Cedralis is a French company specialised in risk management and people protection. Pioneer in management crisis services, Cedralis works with many local authorities of any sizes, with a unique global offer in France allying successful technological services and specialists' advices.

With more than 200 French customers (local authorities, public services, firemen, hospitals, banks, etc.), the company has 5 employees and a turnover of 1 000 000 Euros. Because Risk Managers have access to city events, they can decide to use a mass notification alert system that sends out e-mails, text, voice messages, TV messages and video. Thanks to Viappell!, customers are able to contact a large number of targeted people in a very short period of time.

A box called "Alertbox®" is also installed to public buildings or houses, and people can automatically receive those multiple alert messages. The "Alertbox®" also includes signal sound and lighting flash. Because communication is based on multiple supports, even with earthquake, the RDS connexion will continue to alert population.

5.2.2 eMessage

e*Message is a mobile network operator specializing in reliable communication solutions and the leader in the continental European paging market. The e*Message Group offers a full range of Alerting, Business Paging and Data Broadcast services, as well as a professional trunked radio network for voice and data transfer made available to industry companies, public agencies and service providers in the Berlin-Brandenburg region. e*Message, based in Berlin and Le Chesnay near Paris, is continuously developing new services and expanding the nationwide paging networks with excellent coverage that deliver the highest reliability. The company was founded in 2000 and took over Deutsche Telekom's and France Telecom's paging activities in the course of the same year.

5.2.3 eVigilo

eVigilo develops the industry's fully integrated, multi-technology mass alert platform that can reach millions of people in just seconds, to enhance safety and security and save lives in emergency situations. Developed in close collaboration with top experts in homeland security, the company's flagship MobileAlert platform is the most effective and efficient turnkey solution for mass alert systems used by governments, homeland security and rescue forces, educational institutions, energy companies, industry and public utilities. eVigilo is managed by its founders and backed by a high calibre, experienced team of security and software professionals. eVigilo's MobileAlert platform is worldwide the first cell broadcast based emergency mass notification platform whose capabilities have been tested under real conditions in a nationwide drill involving all first responders, the Army, public and private entities.

www.evigilo.net

5.2.4 Unified Messaging Systems (UMS)

Leading supplier of advanced message handling services

Since its establishment in 1997, UMS has pioneered the development of advanced message handling systems. We supply services for industry and commerce, authorities and organisations that are dependent on effective, secure and fast communication.

UMS is the leading supplier of advanced message handling in Northern Europe. We emphasize fast and reliable communication of information, and our services comply with the strongest security and availability requirements.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

We have a large number of well-established customers all over Europe. Our offices are situated in Norway, Sweden and Denmark, as well as distributors in Germany and the Netherlands.

Business idea

UMS is to be a leading international supplier of automated alert and preparedness services and population alert.

www.umsc.com

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

6 AGENDA

Tuesday 23 Jun. 2009 – 9:00-17:00

MODULE 2: Warning systems

9:00-9:10: Welcome	Patrice SIMON / EADS DS	10 mn
9:10-9:15: CHORIST project video	Patrice SIMON / EADS DS	5 mn
9:15-10:00: Message Design	Ellen JAGTMAN / TUDelft	45 mn
10:00-10:30: Citizen Alert via 2G, 3G and LTE Cell Broadcasting - the technology, the standards & the way forward	Wim van SETTEN / SPMM & Peter SANDERS / one2many	30 mn
10:30-11:00: BREAK		30 mn
11:00-11:05: CHORIST module 2 video	Patrice SIMON / EADS DS	5 mn
11:05-11:30: Other channels considered in project DEWS	Domenico PANNUCCI / ELSAG DATAMAT	25 mn
11:30-12:00: Alerts through Fibre Optics	Alban BRUNEAU / Municipality of Gonfreville l'Orcher, FRANCE	30 mn
12:00-14:00: LUNCH		2 h
14:00-14:30: Population alert systems (incl. demo)	Jesper NIELSEN / UMS	30 mn
14:30-15:00: Paging networks	Dietmar GOLLNICK / eMessage	30 mn
15:00-15:30: MobileAlert system pilot	Guy WEISS / eVigilo	30 mn
15:30-16:00: BREAK		
16:00-16:30: Satellite Based Alarm Systems: A feasibility study	Trevor BARKER / AVANTI COMMUNICATIONS	30 mn
16:30-17:00: Working session	ALL	1h
<ul style="list-style-type: none"> + Population education and training + Authorities operational constraints + Dedicated end devices for deaf and blinds + ??? 		

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

Wednesday 24 Jun. 2009 – 9:30-15:30

MODULE 3: PMR beyond voice and SMS

9:30-9:35: CHORIST module 3 video	Patrice SIMON / EADS DS	5 mn
9:35-10:00: Challenges of Public Safety Communications	Farid BENBADIS / THALES COMMUNICATIONS	30 mn

MODULE 1: Situation Awareness tools

10:00-10:05: CHORIST module 1 video	Patrice SIMON / EADS DS	5 mn
10:05-10:25: Project REACH112	Gianni PETITI / EENA	20 mn
10:25-11:00: BREAK		35 mn
11:00-11:30: Project DYVINE	Philippe CHROBOCINSKI / EADS DS	30 mn
11:30-12:00: Rule-based Systems for Early Warning	Trevor BARKER / AVANTI Communications	30 mn
12:00-14:00: LUNCH		2 h
14:00-15:00: Working session	ALL	1 h
<ul style="list-style-type: none"> + What is the added-value of multi-event monitoring systems compared to existing one-event monitoring systems ? + How to present the COP ? + Sensor networks ? + Integration of the voice as the input of most of information. + ??? 		
15:00....: GOODBYE BREAK		

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

7 PRESENTATIONS

7.1 VIDEOS

The four dissemination videos shot during the field trials, and showing the various sides of the CHORIST project in "real" situations are shown. These videos are:

- a video presenting the whole project (6mn 29s)
- a video presenting the module 1 (4mn 11s)
- a video presenting the module 2 (4mn 11s)
- a video presenting the module 3 (5mn 15s)

7.2 MODULE 1: SITUATION AWARENESS TOOLS

7.2.1 Project REACH112 - by EENA

- **Summary of the presentation**

The project REACH112 (REACH = REsponding to All Citizens needing Help) is a 3 year project funded by the European Commission that starts on 1 July 2009. objective is to test solutions to help people with disabilities and/or with communication impairments to interact with 112 call centres. It will be based on the TotalConversation solution that will allow authorities to understand calls made with the sign language.



- **Questions & Answers:**

Q1: This issue is burning in Europe. Have you also considered addressing countries out of the consortium?

A1: Yes, EENA will monitor what happens in other countries, and it will disseminate the results of the project.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

7.2.2 Project DYVINE - by EADS Defence and Security Systems

- **Summary of the presentation**

The project DYVINE (DYnamic VIsual NEtworks) was a two year project funded by the European Commission that started on 01 Sep. 2006. It proposed concepts of how to merge information coming from many fixed surveillance cameras. However, through field test, it showed that though promising, video processing still has to be enhanced.



- **Questions & Answers:**

Q1: The cameras used were point to the same point, or were their controllable ?

A1: The cameras used during the field tests in Valencia, Spain, were fixed (both shooting at the same direction, or controllable) and mobile (on helmets).

Q2: Some CCTV networks allow for several people to control the same cameras. This creates chaos. Have you taken this into account ?

A2: This has been taken into account in the requirements, though this has not been tested.

Q3: Some research activities led by a participant with cameras showed that there were problems exactly defined where the camera was pointing. Has the same problem been faced up ?

A3: Yes, the same problems occurred in DYVINE. The calibration phase of cameras takes time.

Q4: Are there will to continue on this activity ?

A4: Yes, though the business model is more suitable to medium size companies than to larger groups.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

7.2.3 Rule based technique - by AVANTI Communications

- **Summary of the presentation**

This presentation introduced a genre of software tools that have been used in a variety of applications areas to efficiently process large volumes of events according to complex rules.

Described under a variety of names, including 'rule-based engines', 'optimisation' and 'complex event processing', the tools are not well-known but have been successfully used for many years in complex, demanding processing situations, including financial and early warning systems. One such tool has been used to process events arriving in the CHORIST system.

The purpose of the presentation was to make these tools known to a non-specialist, i.e. non computer expert, audience.

The presentation gave an overview of the key characteristics, advantages and caveats to be taken into consideration when using the tools. A set of simple programming examples was shown to give concrete form to the general principles.

The main thrust of the presentation was that the variability of the algorithms that process the flow of incoming information is so high that coding it into software makes it a bad option to choose: the software needs to be often updated. Moreover, most software is event oriented (if... then...), which makes these algorithms difficult to implement when they deal with constraints.

The rule-based programming allows simple software to be deployed at customer premises, and - potentially- complex algorithms to be defined and tuned later by the customer or by third parties. Moreover, the rules can be written in a "natural" language, with constraints.



- **Questions & Answers:**

No questions.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

7.3 MODULE 2: WARNING SYSTEMS

7.3.1 Reaching citizens with CHORIST... everything but technology - by TUDelft

- **Summary of the presentation**

The various steps leading to design the warning messages to be sent to the population is explained: First the scenarios are analysed to define the required actions. Then, the constraints of the authorities have to be dealt with in order to select the messages to be sent. Then, constraints of the technology have to be addressed, which may limit the possibilities to send the warning messages. Finally, there are constraints due to the population which have to be addressed.

A schematic view of all the questions to answer to build a warning message is presented.



- **Questions & Answers:**

Q1: A slide proposes that instructions are given in the form "YOU SHALL NOT" or "YOU HAVE TO". The "YOU HAVE TO" may be understood by "YOU MAY" in some countries.

A1: The way the message is designed depends on each country and each culture. The presentation does not intend to force one way or the other, but it says that a generic tool should be flexible enough to adapt to local particularities.

Q2: Do libraries of warning messages exist ?

A2: No.

Q3: Is the message preferably built as a free text, or following a predefined structure ? Some authorities prefer to follow scenarios and predefined structures with a limited set of possible choices. It is even better to follow a predefined terminology in case of stress.

A3: It depends on each case. No position is taken here as a universal rule.

Q4: In case a warning message needs to be sent in several languages, a possibility avoiding automatic translators is to train the operators to use several languages.

A4: OK.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

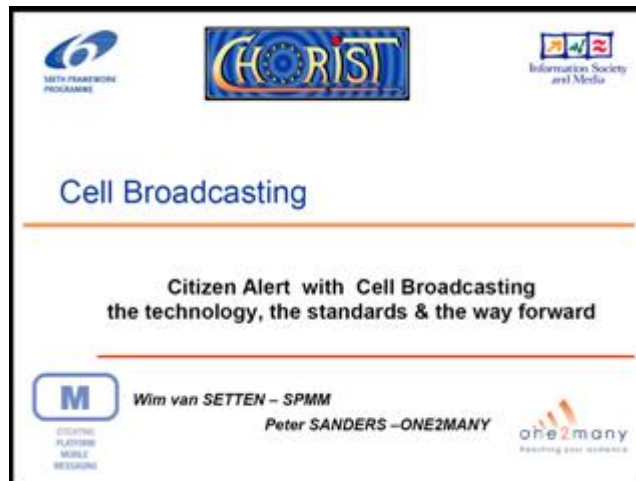
Q5: Most people will certainly read just the beginning of the message, and so most important information should be put there. For instance, the URGENCY level, the SENDER and the TOPIC. This should be standardised in Europe.

A5: OK

7.3.2 Cell Broadcasting - by SPMM

- **Summary of the presentation**

The pertinence of the GSM Cell Broadcast technology as suitable to broadcast warning message is presented. Most recent development with VODAFONE Turkey and one2many are exposed. Then, a list of actions to be engaged by the European Commission so that Cell Broadcast is used to send warning messages is proposed.



- **Questions & Answers:**

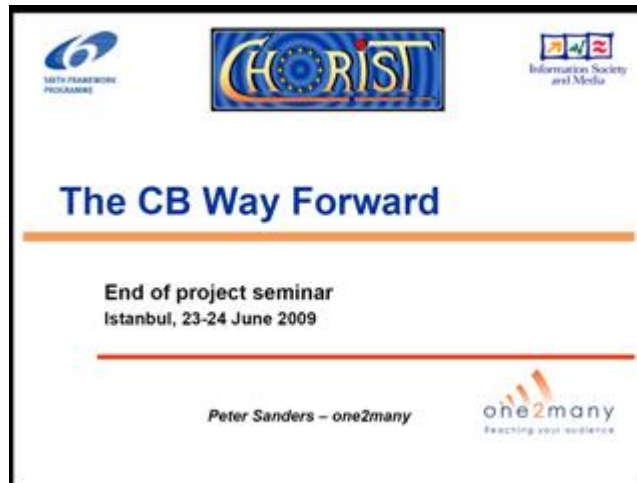
None.

7.3.3 The Cell Broadcast way forward - by one2many

- **Summary of the presentation**

A technical solution is proposed so that Cell Broadcast is suitable with the constraints of the Earthquake and Tsunami Warning System (ETWS) in Japan and the Commercial Mobile Alert System (CMAS) in the USA. The status on LTE development related to public warning systems is also made.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09



- **Questions & Answers:**

Q1: Who pays for this ?

A1: Nothing is defined now, but commercial application would probably help telecommunication operators to find a commercial interest in Cell Broadcast.

7.3.4 Project DEWS - by Eltag Datamat

- **Summary of the presentation**

DEWS (Distant Early Warning System) studies how warning messages can be distributed in a multi-country context. Solutions of broadcast are proposed including SMS, TV text overlay, fax, email, web feeds and instant messaging.



- **Questions & Answers:**

Q1: How can the population be alerted by a fax or an email when people do not spend their time waiting for faxes or reading their emails ?

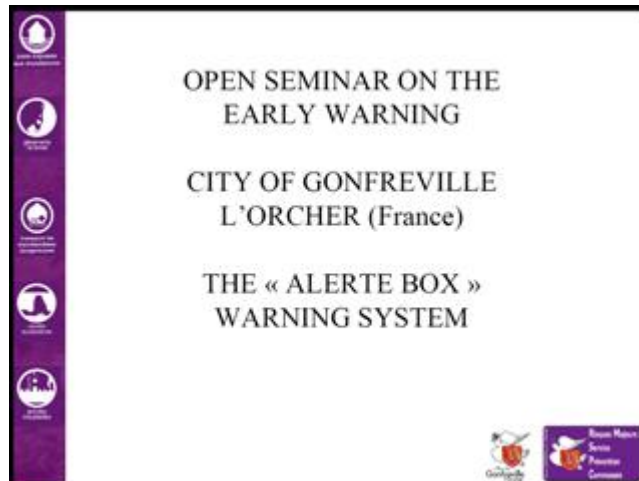
A1: The solution is defined for agencies and authorities, not for the population.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

7.3.5 The Alerte Box - by the City of Gronfreville l'Orcher (FRANCE)

- **Summary of the presentation**

The features of the AlerteBox installed in the inhabitants of the city of Gonfreville l'Orcher, in France, close to the harbour of Le Havre are explained. This box allows the connection of homes to Internet as well as a mean by authorities (the mayor, in fact) to warn the population. The box displays warning, and by means of a button on it, recipients can acknowledge the message.



- **Questions & Answers:**

Q1: Why is an RDS input ?

A1: To receive warning messages through RDS.

Q2: How many AlerteBoxes were sold ? What is the price ?

A2: About 3000 houses are equipped. The price is confidential, but it is in the order of 100 € per box.

Q3: Who provides the box to the population ? Do they buy it ?

A3: The city provides the box along with a connection to Internet through Fibre Optics.

Q4: Who is the manufacturer of the box ?

A4: The SINOVA company with the help of CEDRALIS concerning the design.

Q5: What about the output on a TV set ?

A5: The messages are displayed on a TV set onto the current program by means of an SCART connector

Q6: The TV must be turned on to receive a warning message ?

A6: There a display panel on the AlerteBox so that alerts are displayed even when the TV is off.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

Q7: Are warning messages available in several languages?

A7: Yes.

Q8: What is the area targeted?

A8: The city of Gonfreville l'Orcher is close to the harbour of Le Havre. Two thirds of its surface is filled with industrial plants, and so the population of the city is aware of the risks.

Q9: How are people transiting in the city be made aware of an event?

A9: Roamers are not targeted.

Q10: Are security issues addressed ?

A10: No. But, warning messages indicate to watch another media. So, this media shall validate the truthfulness of the warning.

Q11: Who manages the system ?

A11: The personnel of the city council.

Q12: Is there training ? Regular tests ?

A12: It is planned.

7.3.6 The UMS Population Alert System - by Unified Messaging Systems (UMS)

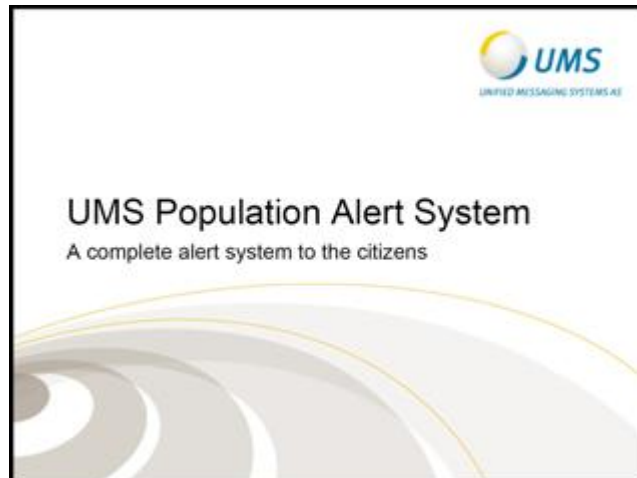
- **Summary of the presentation**

Unified Messaging Systems proposes a complete solution named Population Alert System (PAS). It is based on the three following modules:

- Address Based Alert System (ABAS): Sends voice messages to fixed phones in a given area.
- Location Based Alert System (LBAS): Sends voice messages or SMS to mobile phones in a given area.
- Travellers Alert System (TAS): Sends voice messages or SMS to a list of phones (used when registered travellers are at stake).

A demonstration of the Group Alert System (GAS) was done: Some mobile phone numbers of the audience were previously recorded in a database; So, their owners were able to receive a voice message at the same time, a few seconds after the message was sent by the operator.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09



- **Questions & Answers:**

Q1: How can thousands of people be warned by means of one-to-one phone calls or SMS ?

A1: The messages are massively sent to the public fixed telephone network or to the GSM network. However, the software implements patented algorithms that allow sharing out the load of the phone networks to avoid congestions.

Q2: Do you have figures ?

A2: 30,000 calls per hour is not difficult to reach with a small configuration of the PAS.

Q3: The Visitors Location Register (VLR) of the GSM network is not always up to date, because of roaming. So, how all people in a given area can be reached ?

A3: A request is sent on all cells to force terminals to register.

Q4: Where has the system been deployed ?

A4: In two places in Norway.

Q5: Have you considered the fact that the transfer of massive information from a single device may be considered by the network as an attack, and so that the transfer of information might be immediately blocked ?

A5: Nothing of the like has ever been identified during field tests.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

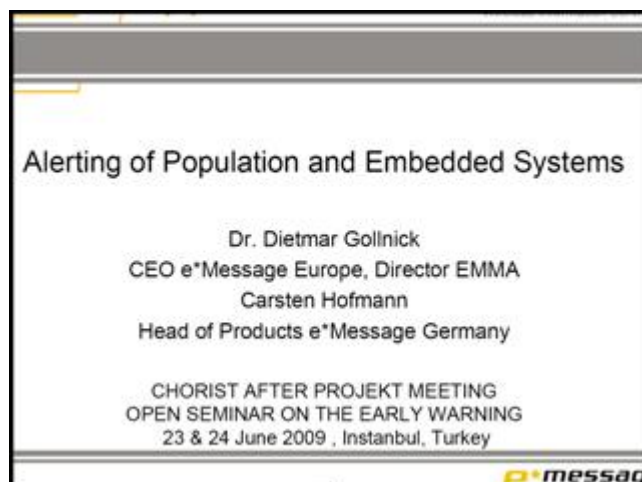
7.3.7 Alerting of population and embedded systems - by e*Message

- **Summary of the presentation**

The e*Message solutions embeds several building blocks: e*Alert, e*Warn, e*Motion and e*Wip (Wip = wireless information platform). The information distributing solution eMotion is based on e*Wip data transmission platform (in parallel it is used as paging network) that transmits relatively small messages simultaneously to large groups of end devices which today are weather stations (next day's weather forecast) and pagers (text), but that could just as well be devices to warn the population.

Moreover, e*Message proposes the "Embedded Warn Module" -size of a 1 cent coin, cost = 3 € - that could be installed in smoke detectors, weather stations, sirens or any special alerting device or device of dual use. It is planned to be used in fixed devices rather than in mobile ones.

A prototype of a small device including the Embedded Warn Module and a chip hosting a library of voice message is shown to the audience; it only need a power supply and a signalling output (e.g. display, loudspeaker) to be operational. This is the kind of device to be included in smoke detectors.



- **Questions & Answers:**

Q1: How can an (even non previously predefined) small area be addressed ?

A1: The warning message sent by the paging network includes geographical coordinates of area to be alerted (e.g. polygon). Only devices (preconfigured, or connected to a GPS) within this dynamically defined area take the message into account. Some especially developed algorithms are used.

Q2: Pagers should be mobile devices. Not understandable that you address fixed devices.

A2: We do not speak about "pagers". We speak about countrywide networks of best coverage which - among others - provide data broadcast and paging services. With a large diversity of possible terminal devices - mobile and fixed ones.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

7.3.8 The eVigilo alert solution - by eVigilo

- **Summary of the presentation**

The eVigilo MobileAlert solution uses the Cell Broadcast technology provided by one2many. This solution is part of an overall one including radio, TV, and other IP based technologies, to warn the population. Result of the test of a pilot in Israel is presented, showing great interest by the authorities as a complement to sirens.



- **Questions & Answers:**

Q1: Are there tests planned with population ?

A1: Yes, there will be some.

Q2: Have you noticed any reluctance from people about receiving alerts on their own mobile phone ?

A2: There is no such problem in Israel. There is no psychological block of people who prefer to be saved.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

7.3.9 Satellite Based Alarm System - by AVANTI Communications

- **Summary of the presentation**

It is known that satellite systems can provide a complementary system to terrestrial networks for early warning. Indeed satellite systems are sometimes the only viable communications systems remaining after a major disaster that has caused the terrestrial systems to collapse.

This has been recognised by organisations such as the European Space Agency which are making efforts to promote the use of satellites in this area.

This presentation describes one project, sponsored by the European Space Agency, to investigate the best option for providing such satellite services in Europe

The Satellite Based Alarm System project proposes solutions based on satellite to send messages to the population. They include the recently launched Solaris S-band satellite, and EGNOS (European Geostationary Navigation Overlay System). The project is carrying out a feasibility study of using these systems to support early warning, which covers both technological and commercial issues.

The project is just starting, so results are not yet ready.



It is likely that this project will provide valuable input to the efforts of the CHORIST consortium to extend the current CHORIST system to encompass satellite, thereby complementing the terrestrial systems already being used to warn citizens.

- **Questions & Answers:**

Q1: Are receivers standard ?

A1: In case of EGNOS, receivers are standards.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

7.4 MODULE 3: PMR BEYOND VOICE AND SMS

7.4.1 Challenges of Public Safety Communications - by THALES Communications

- **Summary of the presentation**

The results of the CHORIST project concerning the upcoming technologies for field rescue teams are presented. They consist of a broadband ad-hoc mesh network and a TEDS base station and terminal. The advances in term of end-user services are also highlighted, showing that technology allows jumping from voice and SMS to video, command & control...



- **Questions & Answers:**

Q1: Video and high quality pictures can be transmitted, but field tests showed that technology is not ready to send streaming video.

A1: End users in Catalonia, Spain, said they preferred high quality pictures. This allows strapping many technical problems.

Q2: OK, but sometimes, even if not all the time, videos are needed. So, how to proceed ?

A2: Video is stored locally. It can be retrieved either after the mission, or during the mission, but with a little delay in the transfer.

Project:	CHORIST	Deliv. ref.:	SP0.D41
EC contract:	033685	Deliv. title:	Report on the open seminar on communications for environmental risk management
		Deliv. version:	1.1
		Submission date:	20/07/09

8 CONCLUSION

The end of CHORIST project seminar took place in an attractive place and in a very pleasant ambience. The presentations managed to attract the interest of the audience, and many questions arose. Though involving several people out of the consortium, discussions were frank and there are several collaborations which are very likely to take place in the next months, on research matters and industrial projects. Details are not given for reasons of commercial confidentiality.

However, there were too few end-users who managed to get to the seminar: The distance, the lack of available time, the absence of a demonstration compared to the 26-27 March 2009 Barcelona event, and the fact that there is no commercially available system available on the conclusion of the project, are all thought to be contributing factors to this lack of attendance.

Moreover, as noticed throughout the duration of the CHORIST project, most interest lay in MODULE 2 - the warning system- and very little in the other modules, except for what concerns video cameras; interesting to notice that these two topics are the ones that we did / do / will face in our private life.

All in all, it is considered that the seminar was a positive event and that it is promising for the future of the concepts presented all along the life of the CHORIST project.