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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)	

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1 INTRODUCTION

1.1 PROJECT SCOPE

The CHORIST project will propose 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 presents the structure and data flows of the training system of the CHORIST SP2 (Risk assessment report systems).

1.3 DOCUMENT VERSIONS SHEET

Version	Date	Description, modifications, authors
1.0.1	16/01/07	Document template
1.0.2	03/09/08	First version
1.0	18/12/08	Release
1.1	15/10/09	Typos corrected & set to PUBLIC

Table 1 : Document versions sheet

Project:	CHORIST	Deliv. ref.:	SP2.D3
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2 REFERENCE DOCUMENTS

2.1 REFERENCE DOCUMENTS

- [1] CAP reference: <http://www.oasis-open.org/specs/index.php#capv1.1>
- [2] Efficient XML Interchange Working Group Public Page: <http://www.w3.org/XML/EXI>
- [3] TSO: Definition of the OASIS Tactical Situation Object and Data dictionary of the OASIS Tactical Situation Object in: <http://www.oasis-fp6.org/documents.htm>
- [4] WAP Binary XML Content Format: <http://www.w3.org/TR/wbxml/>
- [5] XML Binary Characterization Working Group Public Page: <http://www.w3.org/XML/Binary>
- [6] XOP Recommendation: <http://www.w3.org/TR/xop10/>
- [7] SP2 input protocols study (CHORIST-SP2.D51-V1.0.doc)
- [8] ERAW & ERAW System definition and design (CHORIST-SP2.D1-V1.0.doc)

2.2 DEFINITION

2.3 ABBREVIATION

CAP	Common Alerting Protocol
ERAS	Environmental Risk Assessment (system)
ERAW	Environmental Risk Awareness (system)
NA	Not Applicable
TSO	Tactical Situation Object
UDT	User Data Terminal
W3C	World Wide Web Consortium
WBXML	WAP Binary XML
XML	Extensible Markup Language
XOP	XML-binary Optimized Packaging

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3 ACTING AS THE SP2 INPUT

In order to run training sessions that are as close as possible to reality, the SP2 training system endeavours to be equally very reminiscent of real world systems and tools. The SP2 training system uses the CAP protocol for alert messaging.

The Training system is composed of the training tool itself and simulators. Simulators function as information providers acting as sensor grids should, providing a series of data e.g. water levels in a flash flood. The training tool allows for information to be fed that typically originates from human actors like 112 calls etc.

3.1 SP2 INPUT INFORMATION PROVIDERS

The actors and entities providing information to the SP2 are classified in 4 categories:

- The **citizens** (or more generally, the population) are a source of information for SP2. The types of information they provide are either information concerning present or soon to occur disasters **through emergency call centres** like 112 call centres, or information concerning past disasters. The latter source can be collected through studies and is valuable for identifying the nature and probability of disasters in order to improve knowledge on the associated risks and vulnerabilities; however these are not useful for the CHORIST project, as this information relates to recovery phase of a disaster event, and not to the early warning - the objective of the CHORIST project. Thus, the CHORIST project will only focus on alerts coming from emergency call centres and resulting from citizens' calls.
- **National or Regional Environmental and Industrial Risk Survey Agencies** monitoring a specific type of disaster (such as Meteorological and/or Hydrological Agencies, Geological Survey Agencies...) are of paramount importance as they already exist and they provide substantial and reliable information. They provide two kinds of information: (1) situation information and (2) alerts. The situation information, such as meteorological current or forecast maps, is useful to evaluate the impact of a disaster. The sharing of these data between the legacy agency and CHORIST is not studied in this document (but probably in the ORCHESTRA project). This document will focus on **alerts** issued from these Agencies.
- **Public Safety Members** (e.g. Firemen, Policemen, Forest Rangers) may also raise alerts or provide new elements (updates) to the SP2 concerning disasters that are already being monitored or that will presumably soon occur. .
- And a wide variety of **sensors**:
 - Some **continuous sensors** provide "real-time" data which are injected in software running models to forecast disasters. For example, weather radars can provide raw information on precipitations which is used for flood forecast; seismographs can help to forecast tsunamis by detecting earthquakes. Other continuous sensors are used to follow the development and displacement of phenomena to vulnerable sites, satellite data for dusts/sands storms monitoring.
 - Other sensors raise alerts only when the values they measure exceed some predefined thresholds. For example, there are some sensor devices collocated with sirens, which automatically raise alerts for tsunami threats.

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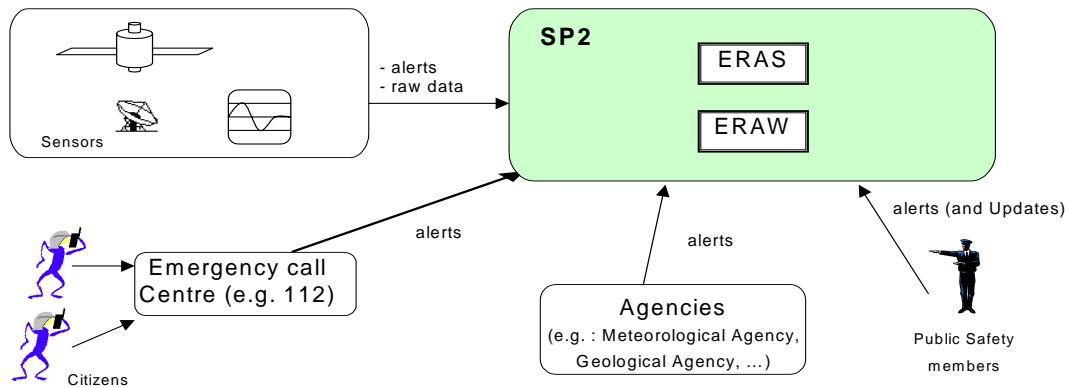


Figure 1: SP2 input information providers

The training system will act as the first three categories, while simulators will feed data for the last category.

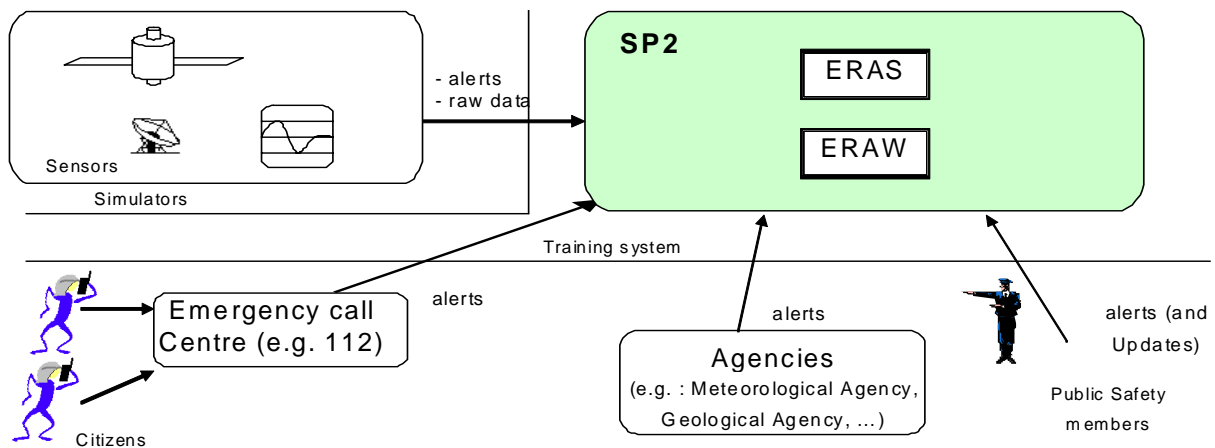


Figure 2: SP2 training system interaction model

3.2 SP2 INPUT INFORMATION DESCRIPTION

As said in [7] common formats have been chosen to transmit information, thus allowing interoperability between the systems. Having a common input means based on CAP messages, the training system and its tools can easily replace actual data source systems.

Once started, simulators will produce a series of realistic messages depending on configuration definitions. They will be posted to the system as if coming from bona fide systems like sensor grids.

The training system will allow a given simulation to be run based on steps and user interactions.

Defined in a database, the steps will construct a scenario that provides matching input at defined moments or on defined conditions as what would come from people involved in or with knowledge of the disaster e.g. citizens, public safety or other agencies. The steps will follow based on a time schedule and can occur simultaneously.

To better tailor the training or to add specific test conditions, the trainer will be provided with the means to add input, akin to what a 112 operator does. Whilst in progress, the simulation can be changed e.g. steps can be delayed or the sequence of their occurrence altered, thus allowing the trainer more flexibility.

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The CAP messages are delivered by HTTP post to SP2 ERAW – please note that the location of the ERAW has to be configured as appropriate. .