General Presentation & Overview

Application area of DITSEF

▶ **Main problems of the First Responders (FR) (fire fighters, police, etc.) in case of crisis occurring at critical infrastructures is *the availability of relevant information* for the First Responder and for the Local Manager due to several origins:**

- Loss of communications
- Poor accuracy of localisation
- Lack of information concerning the environment (temperature, hazardous gases, etc.)
- Poor efficiency of the Human Machine Interface (HMI) on the first responder side are the main current drawbacks

▶ **Current impact**

- Reduced safety of FR
- Reduced efficiency of FR

Objectives of DITSEF

▸ Main objective

- DITSEF will provide technological demonstration for an operational system with :

  - A technological step
  - In coherence with the legacy
  - In coherence with First Responders operational needs
  - With technical coherence between, positioning, sensors, and HMI technical aspect to obtain a usable solution.

Objectives : four application items

▶ Communication

- DITSEF will enhance the communication between the First Responders on the field and between the units and their HQ by providing self-organising, robust ad-hoc communications where the existing infrastructure may be compromised.

▶ Positioning

- The provision of accurate 3D positioning in indoor environments is specially difficult for current techniques. Therefore, the DITSEF project will investigate and implement novel techniques, which will take into consideration the operational environment and the end-users' needs.

▶ Sensors

- It is of vital importance that, for an operation, the First Responders are equipped with sensors that offer a reliable overview of the situation and of the potential threats (CBRN, fire, etc.), in order to provide more accurate situation awareness and enhanced decision making.

▶ Human Machine Interface

- When implementing the aforementioned solutions, it must not be neglected that the First Responders have very little time to react. For that reason the HMI provided by DITSEF will play an important role in "reading", sending and continuity of real-time information.
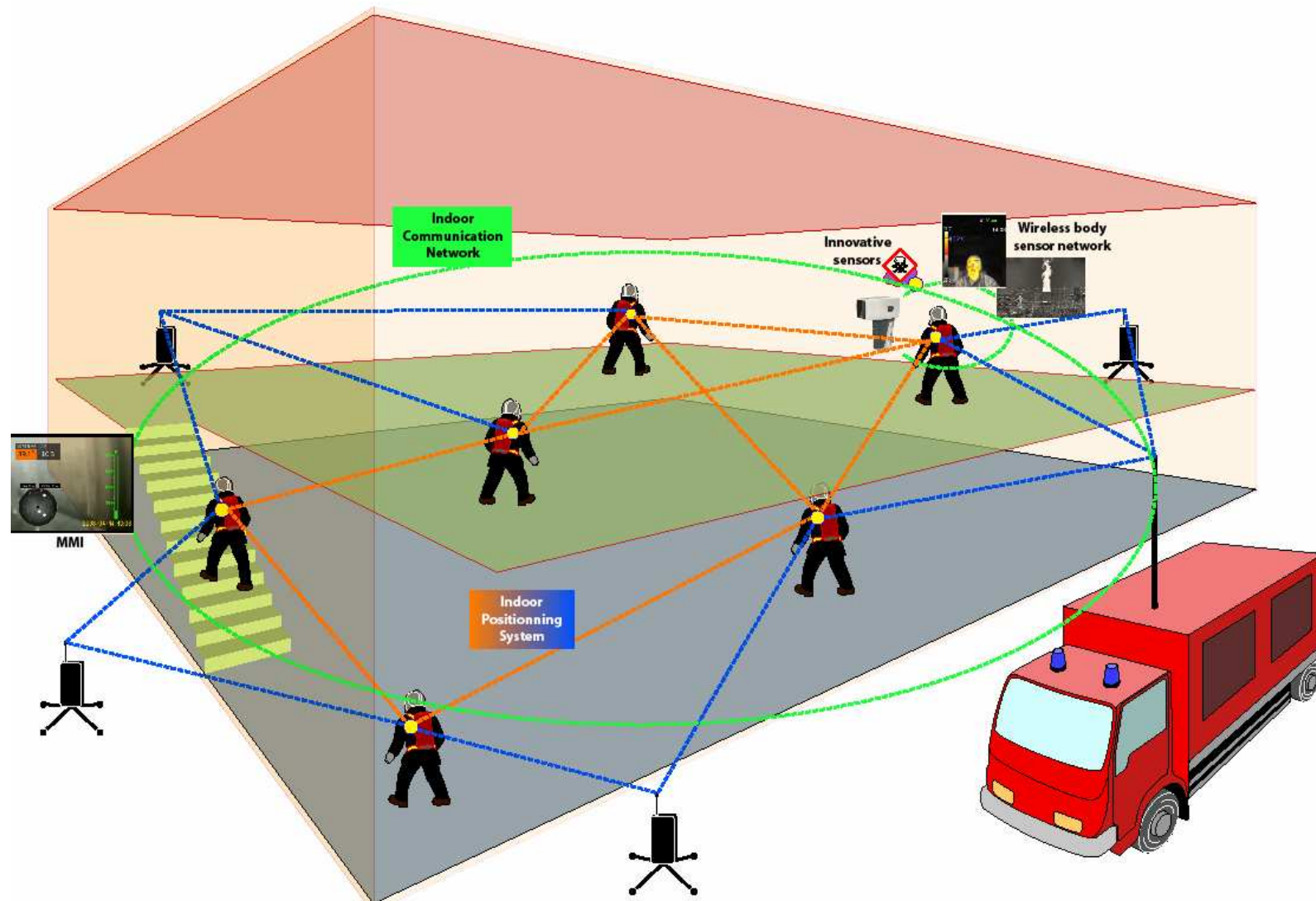
Consortium Partners

Consortium partners:

- 10 partners
- 6 countries: France, Netherlands, Greece, Italy, Czech Republic, Bulgaria

Company		Country	Domain aera
MES-TDCP	Ministry of Emergency Situations – National Center of Professional Education	Bulgaria	Security center demonstration
INFI	Infitheon Technologies	Greece	Communication
TSOFT	T-SOFT	Czech R	HMI
NCSR DEM	Demokritos	Greece	Communication
KEM	Kemea	Greece	End-users needs
SDS	Sagem Defense Securité	France	Coordination & Optronics sensors
CAS	CASSIDIAN	France	Indoor Communication
CEA	CEA LIST & CEA LETI	France	Chemical Sensors & Indoor positioning
TNO	TNO	NDL	HMI (Tactile interface & enhanced vision)
ED / SSI	Elsag Datamat / SELEX SI	Italie	System integration & Demonstration

Contract status of Ditsef

▸ **Call identifier :** *FP7-ICT-SEC-2007-1*

▸ **Starting date:** *1st January 2010*

▸ **36 months duration**

▸ **Overall budget:** *4 245 436 €*
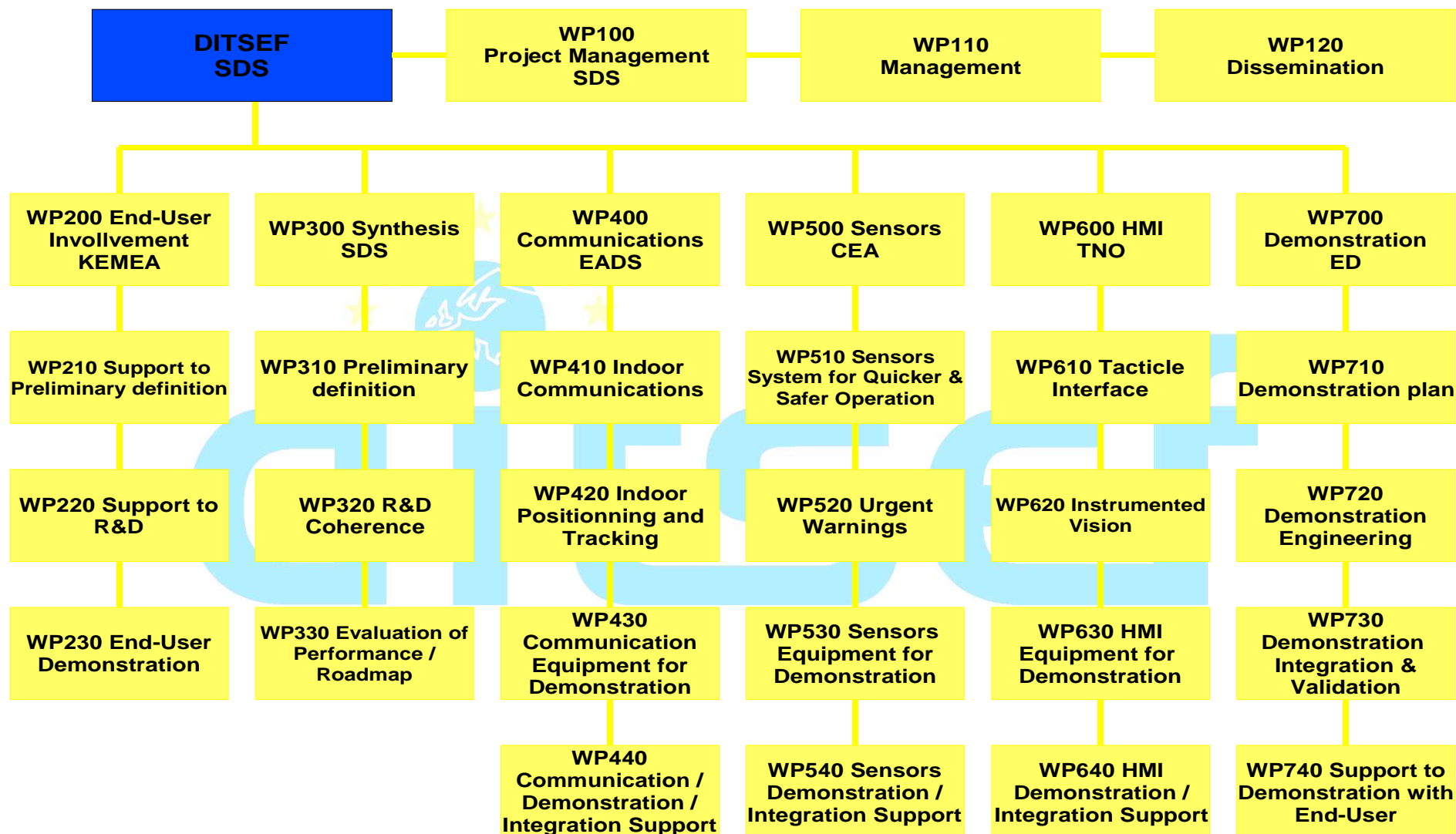
▸ **Financial EC contribution:** *2 800 000 €*

DITSEF workshops (1/2)

▶ **First Workshop : The first workshop has been dedicated to the common and usual scenarios which drive for a FR interventions (analysis of potential threats, typical emergency operations with definition of role of FR according their defined missions).**

- **End-user inputs: Presentation of some typical infrastructures (arrangement of the buildings, legal constraints, emergency measures) and of typical intervention of FR**

▶ **Second Workshop : Discussion and analysis of the technical and functional requirement issues.**

- **End-user inputs: Classification of expected functional requirements in line with defined scenarios**
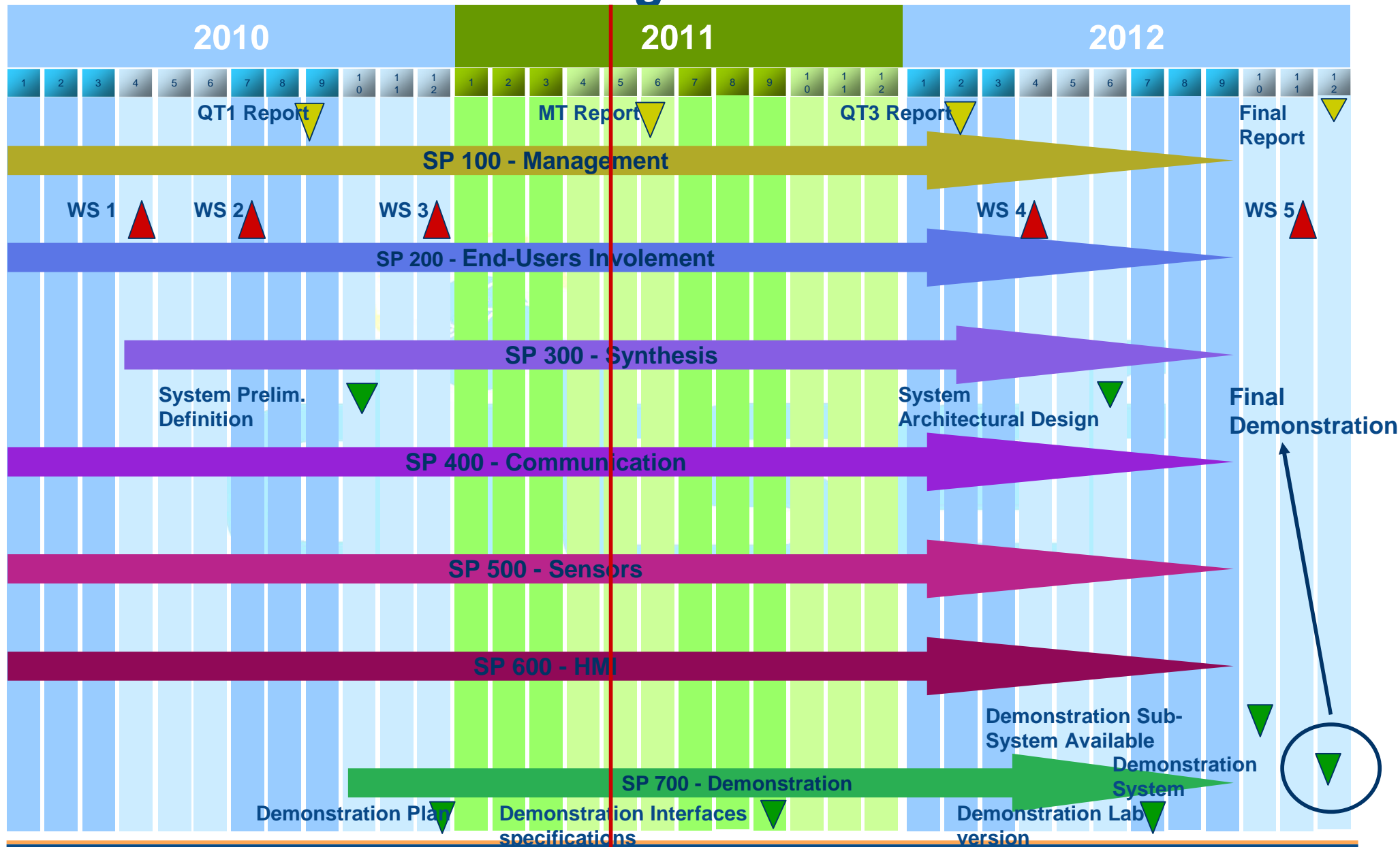
DITSEF workshops (2/2)

▶ **Third Workshop : Presentation by the consortium of the selected technologies (innovated and/or improved) and analysis by End-Users.**

- **End-user inputs: Analysis and Classification of the most valuable future technical solutions proposed by R&D**

▶ **Fourth Workshop : Presentation of innovative results proposed by R&D in line with the End-users support.**

- **End-user inputs: analyse and comments with the R&D team of the proposed solutions and first view on the integration in a systemic approach.**

▶ **Fifth Workshop : Demonstration on site with concrete FR evolving in concrete site and scenario.**

- **End-users inputs: Discussion on future needs and research plan experimentation and demonstration program.**

WorkPlan: WBS

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┌─────────────┐     ┌──────────────────┐     ┌──────────────┐     ┌──────────────┐
│  DITSEF     │─────│      WP100        │─────│    WP110     │─────│    WP120     │
│   SDS       │     │ Project Management│     │  Management  │     │ Dissemination│
│             │     │      SDS          │     │              │     │              │
└─────────────┘     └──────────────────┘     └──────────────┘     └──────────────┘
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WP200 End-User Involvement KEMEA	WP300 Synthesis SDS	WP400 Communications EADS	WP500 Sensors CEA	WP600 HMI TNO	WP700 Demonstration ED
WP210 Support to Preliminary definition	WP310 Preliminary definition	WP410 Indoor Communications	WP510 Sensors System for Quicker & Safer Operation	WP610 Tacticle Interface	WP710 Demonstration plan
WP220 Support to R&D	WP320 R&D Coherence	WP420 Indoor Positionning and Tracking	WP520 Urgent Warnings	WP620 Instrumented Vision	WP720 Demonstration Engineering
WP230 End-User Demonstration	WP330 Evaluation of Performance / Roadmap	WP430 Communication Equipment for Demonstration	WP530 Sensors Equipment for Demonstration	WP630 HMI Equipment for Demonstration	WP730 Demonstration Integration & Validation
		WP440 Communication / Demonstration / Integration Support	WP540 Sensors Demonstration / Integration Support	WP640 HMI Demonstration / Integration Support	WP740 Support to Demonstration with End-User

DITSEF Macro Planning

DITSEF PROJECT May 2011
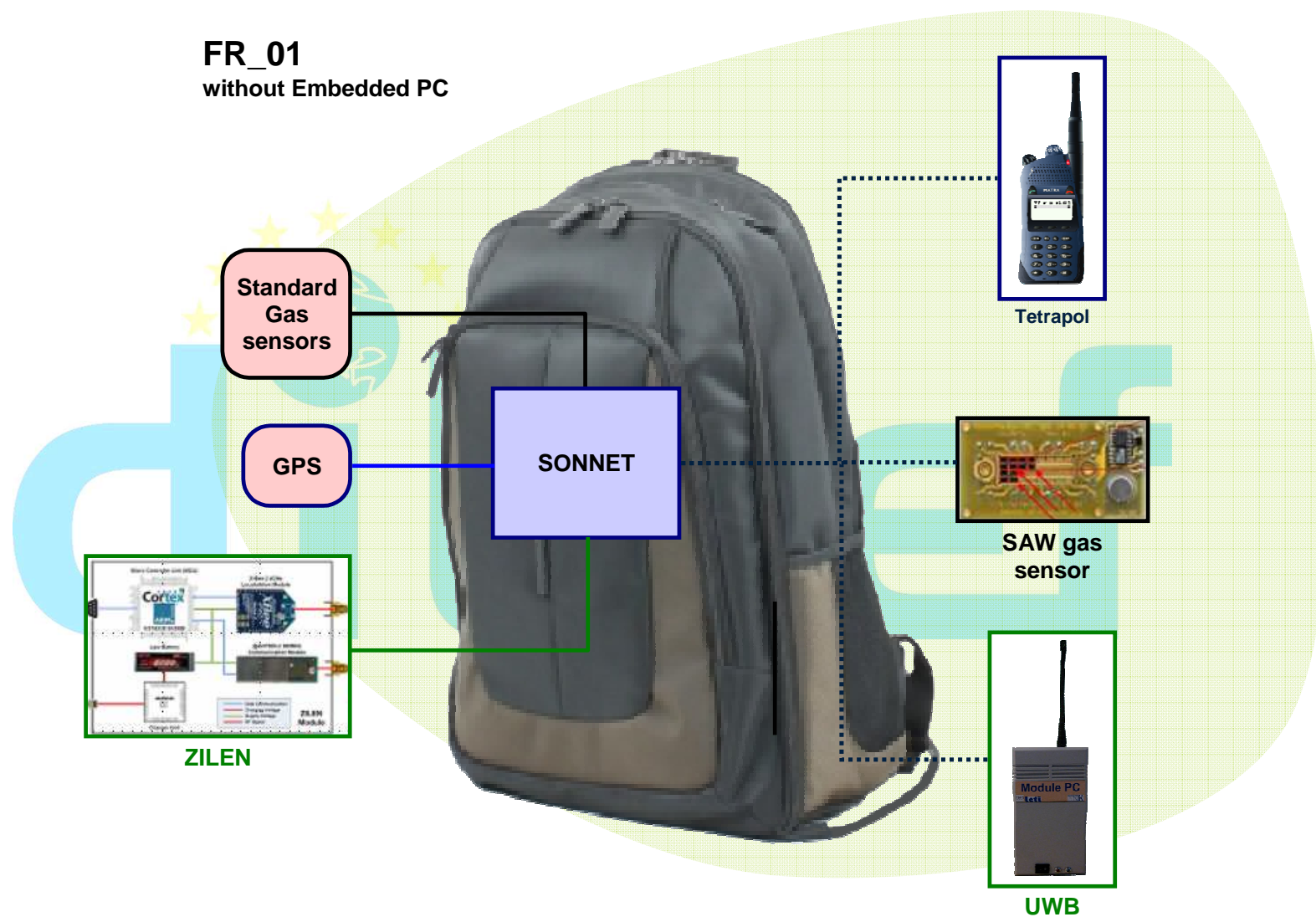
DITSEF PROGRESS

▸ **First, second and third Workshops finished**

▸ **Architecture hardware and software has been achieved**

▸ **First integration test (Unit test) : October 2011**

▸ **Second integration (system) in March 2012**

▸ **Final integration in June 2012**

▸ **Demonstration in October 2012 (Bulgaria)**

DITSEF Hardware – Basic First Responder
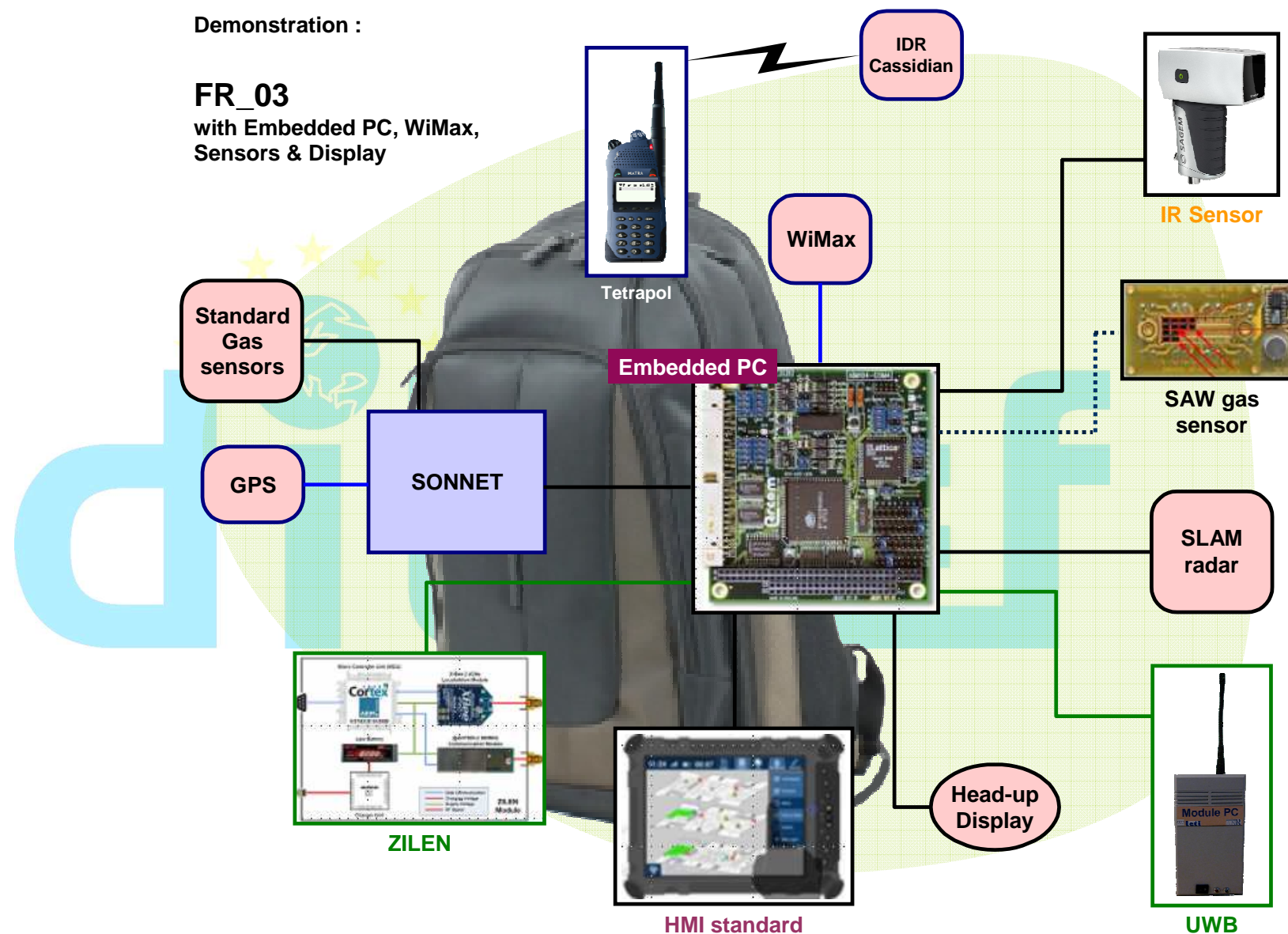
Demonstration :

FR_01
without Embedded PC

Standard Gas sensors

GPS

SONNET

ZILEN

Tetrapol

SAW gas sensor

Module PC

UWB

SEVENTH FRAMEWORK PROGRAMME

CASSIDIAN
An EADS Company

cea

TNO

KeMeA

T-soft

MINISTRY OF EMERGENCY SITUATIONS
CIVIL PROTECTION National Service

SELEX
Sistemi Integrati

Demokritos
National Centre for Scientific Research

INFITHEON
Technologies

SAFRAN
Sagem

DITSEF Hardware – Full equipped First Responder

Demonstration :

FR_03
with Embedded PC, WiMax,
Sensors & Display

IDR
Cassidian

IR Sensor
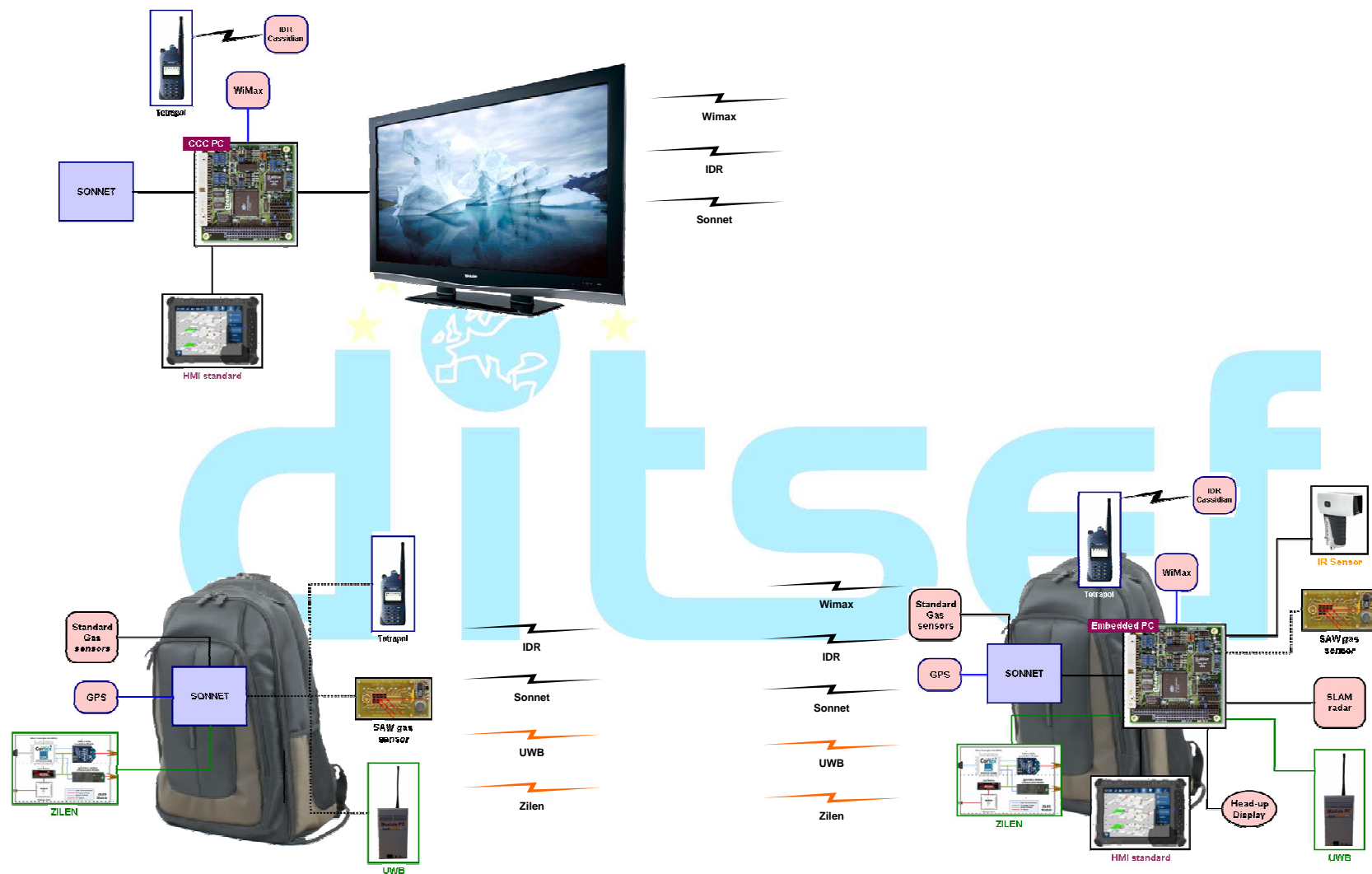
WiMax

Tetrapol

Standard
Gas
sensors

SAW gas
sensor

Embedded PC

GPS

SONNET

SLAM
radar

ZILEN

Head-up
Display

Module PC

HMI standard

UWB

DITSEF Hardware – Technical solution for CCC HMI

Command Control Center HMI

IDR Cassidian

Tetrapol

WiMax

CCC PC

SONNET

HMI standard
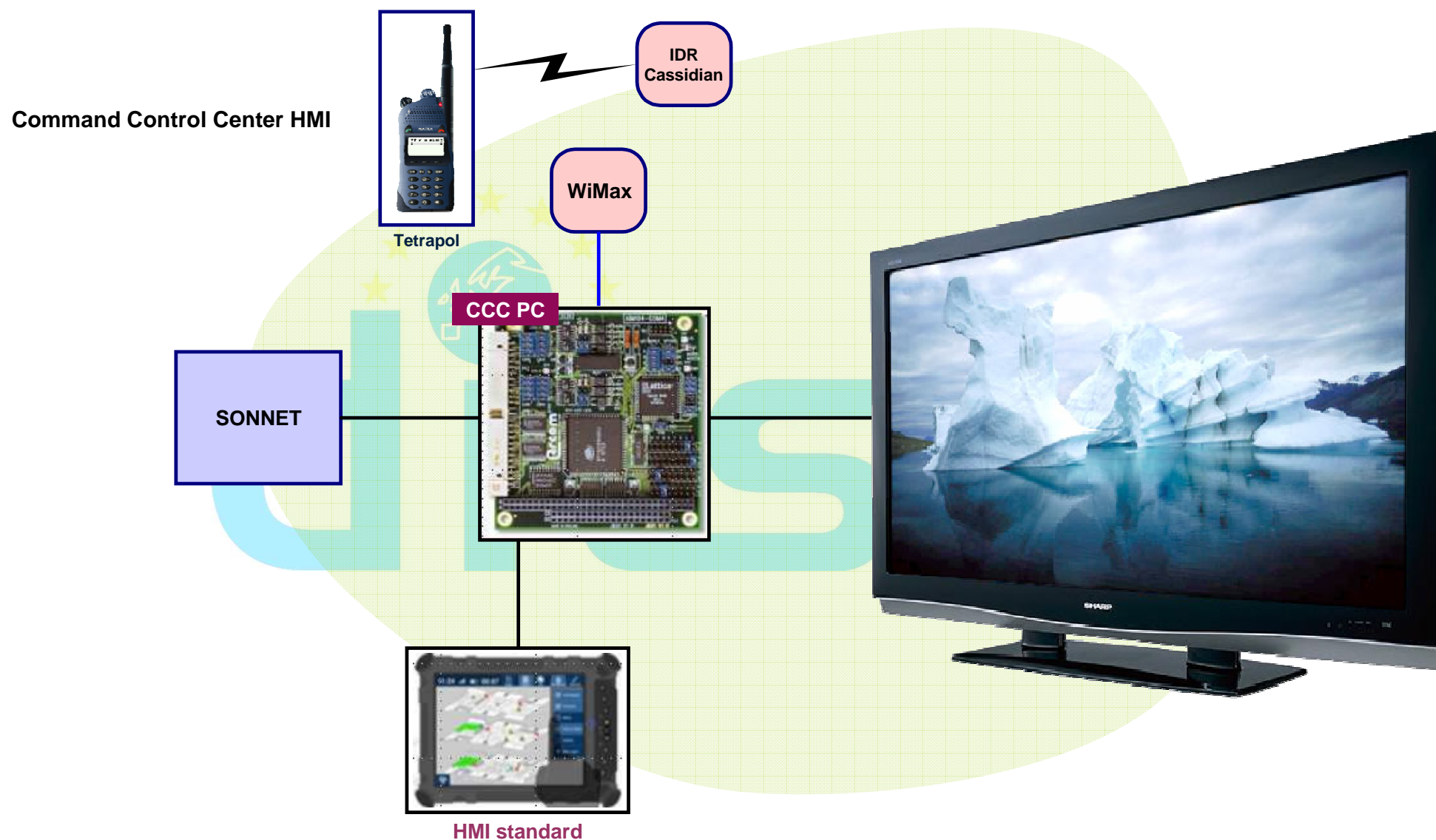
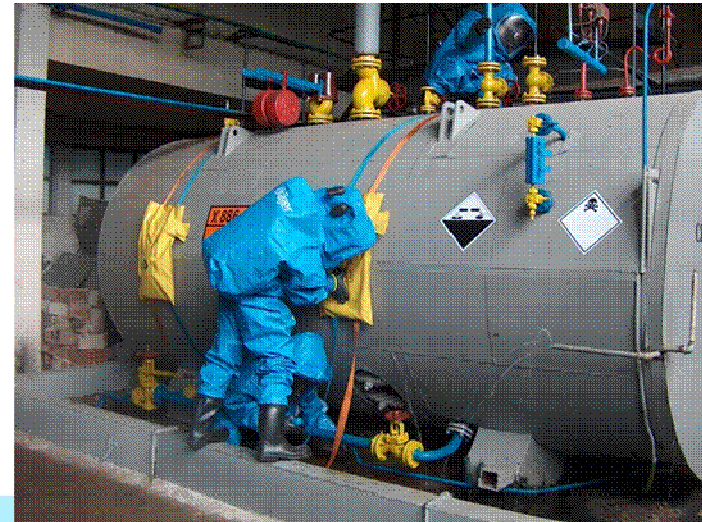# DITSEF Hardware – Demonstration

▐▐▐▐ Demonstration

▸ **5 First Responders**

  • **Four basic First responders**
  • **One more full equipped First responders**

▸ **One command Control Center**

▸ **Two sites**

  • **International Hotel**

  • **Chemical factory**

DITSEF Communication (1/2)

▶ **DITSEF Web Site:**

- **Open to public access**
- **Public release Publications: scientific/technical journals, Congress/Seminar papers, etc.**
- **Web content relative to DITSEF publications**

▶ **Address :**

- **http://www.ditsef.eu/**

▶ End-User Club: a DITSEF User Club's relative

- **Allows DITSEF info/data dissemination.**

- **User Club members are recognized personalities from the users and civil security world.**

- **End-users will promote the DITSEF results in their own organizations which will lead to a faster and efficient implementation and standardization.**

- **Email Address for End-user Club :**
  - Philippe Clément : philippe.clement@sagem.com
  - Georges Leventakis : gleventakis@kemea.gr