



Shared Situation Awareness An Enabler for Collaboration

PSC Europe Forum Conference , October 2013 Bucharest, Romania

→ Thesis (1)

- A common understanding of the situation is the most basic pre-requisite for successful communication and collaboration



Source of pictures: NPIA



→ Thesis (2)

- A collaborative culture of information sharing will become state of the art also in emergency, crisis and disaster management

~~You are, what you know~~

You are, what you share !

→ „You are, what you share!“

- This paradigm change has already taken place in the domain of maintaining private social contacts.

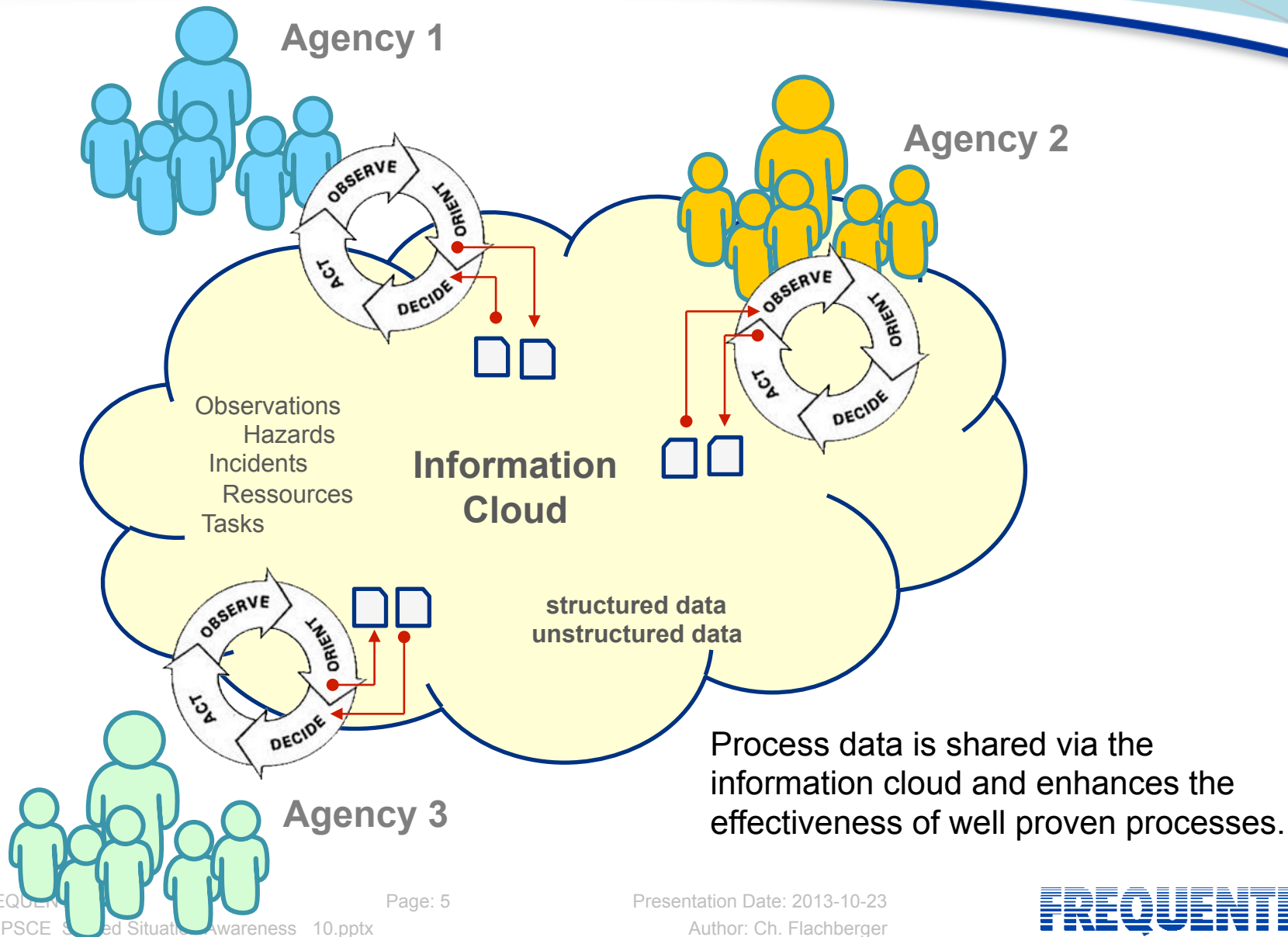


- This paradigm change is currently taking place in the private business. Shared workspaces are replacing email and folder structures.

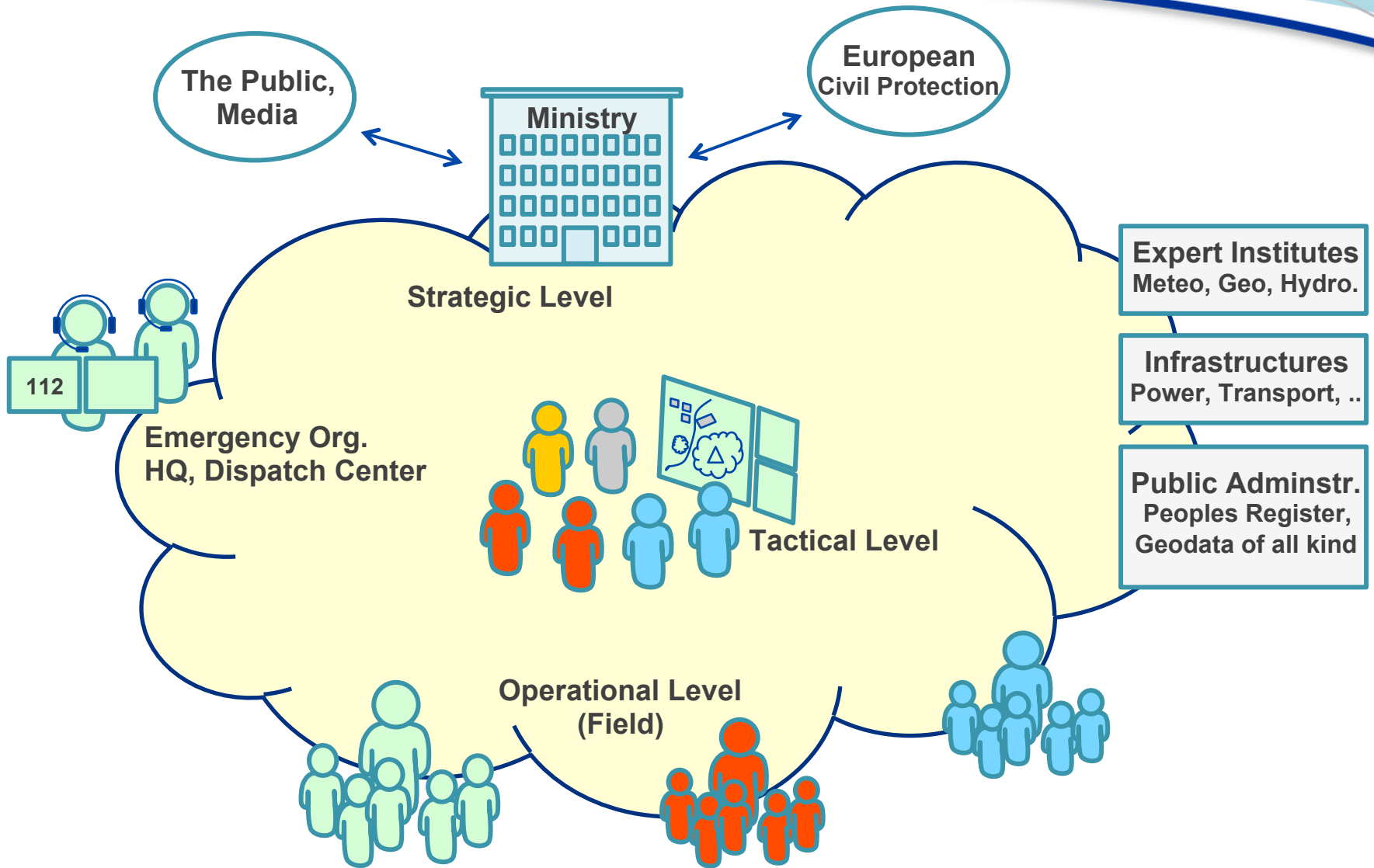


- In the domain of emergency, crisis and disastermanagement, one of the enablers will be appropriate technology, providing:
 - technical interoperability
 - ease of use

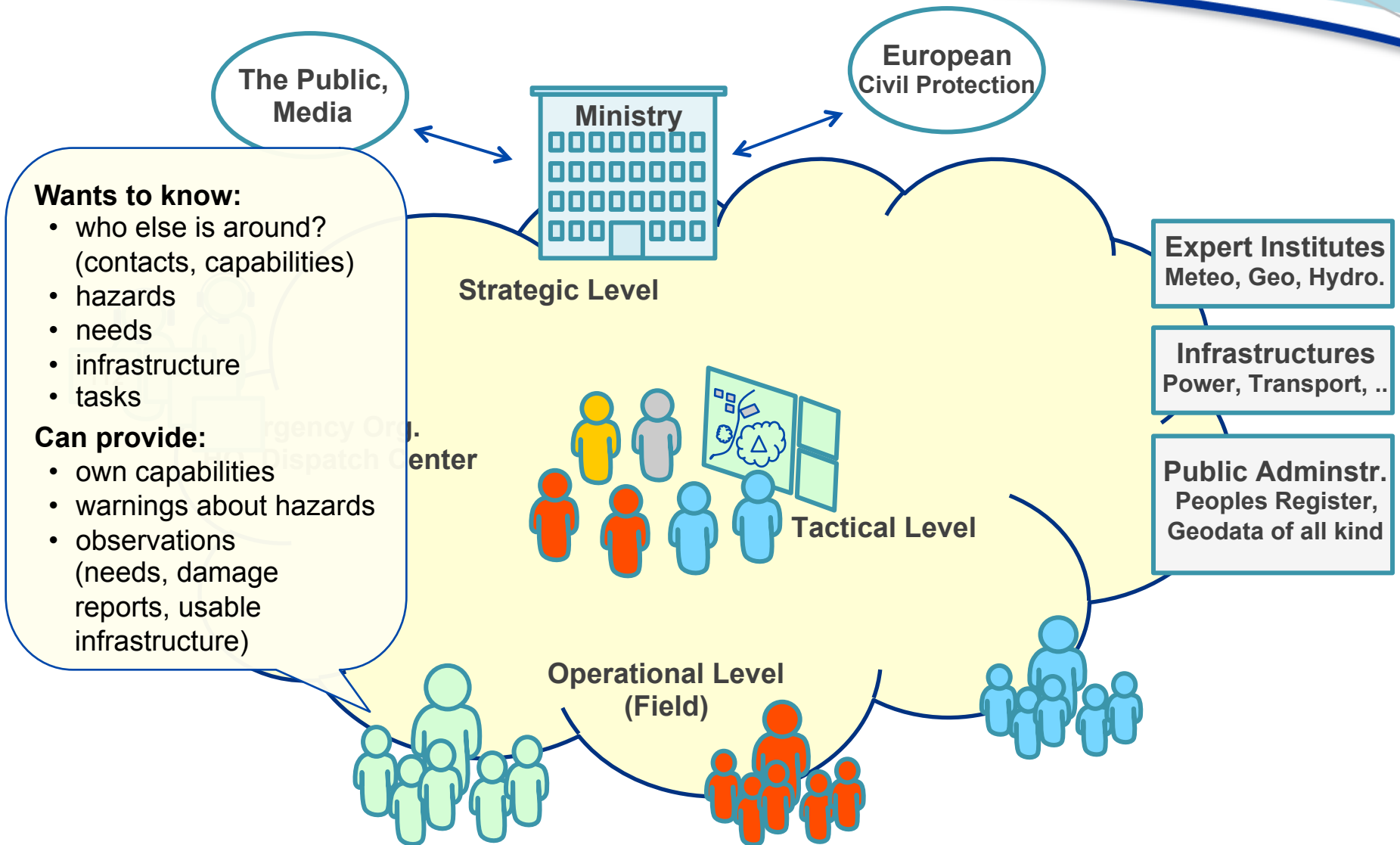
→ Don't change procedures – enrich them!



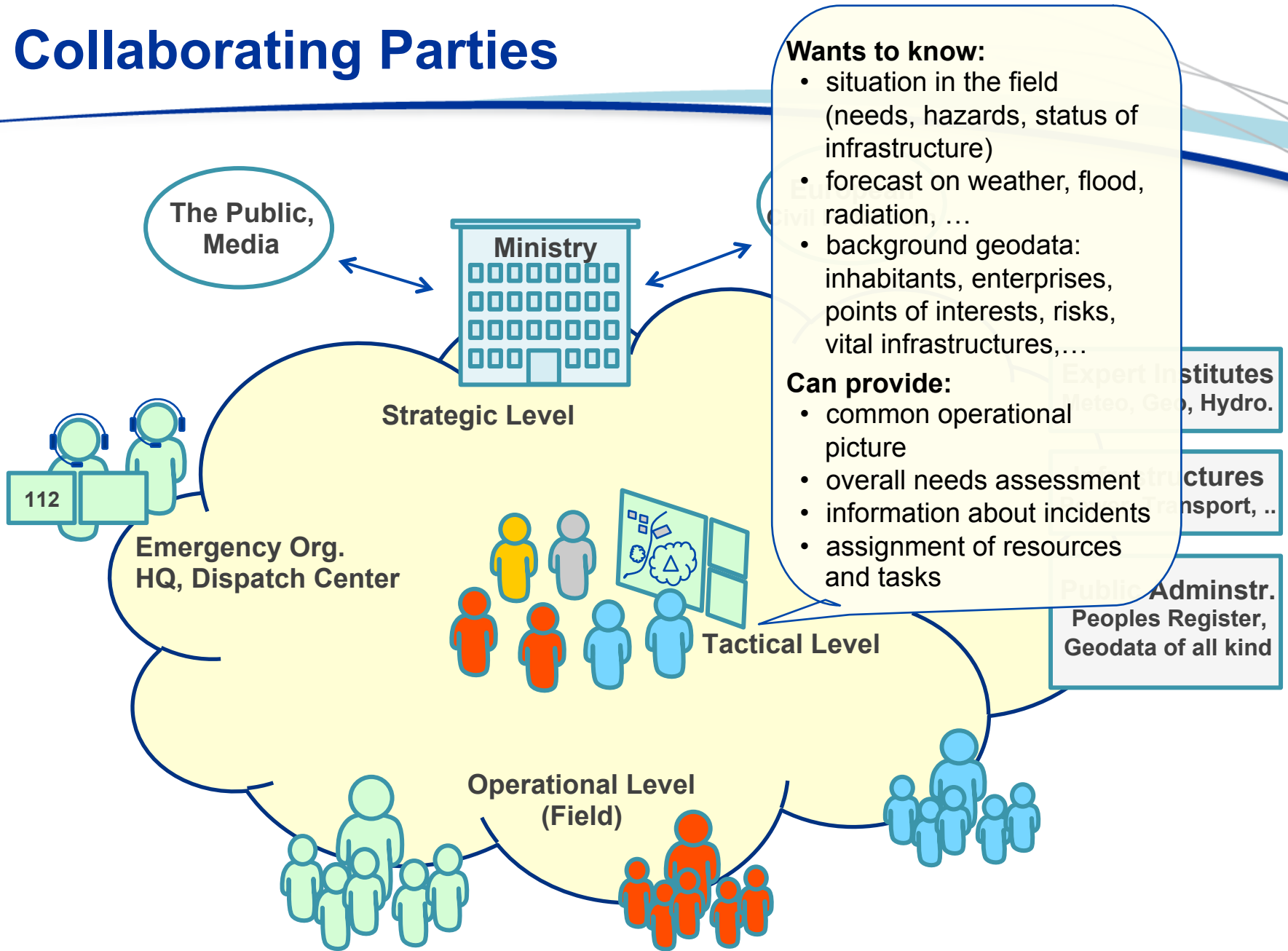
→ Collaborating Parties



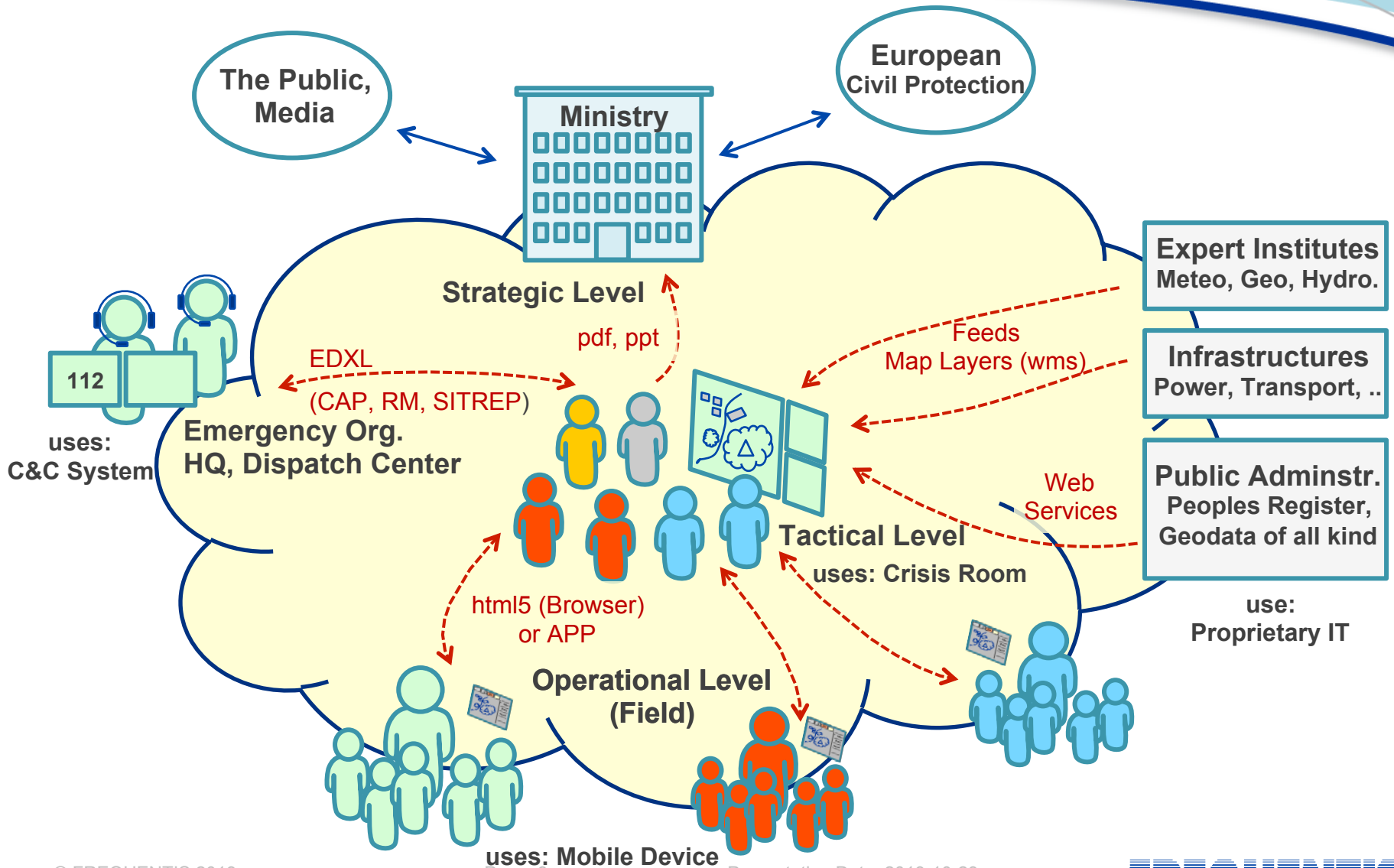
→ Collaborating Parties



→ Collaborating Parties



→ There are Standards for Information Exchange



→ Communication Infrastructure



→ The Field Commander's View

The screenshot displays a mobile application interface for a field commander. The main view is a map with various hazard icons: a red triangle with a flame, a blue triangle with a lightning bolt, a yellow triangle with an exclamation mark, a red square with a white exclamation mark, and a yellow biohazard symbol. A red shaded area is visible on the map. A callout box points to a yellow exclamation mark icon with the text "Danger of Land Slide".

WARNING
Danger of Land Slide
2013-10-16 07:31 CIVP_SBG
Danger of Land Slide

Status: defined
Time: 2013-10-16 07:31
Category: WARN LNDSLD
Position: Lat 47.814 Long 13,043

The interface includes a top navigation bar with the IDIRA logo and standard navigation icons. The bottom of the screen shows a mobile OS navigation bar with a clock displaying 09:36 and various status icons.

→ The Field Commander's View

The screenshot displays a mobile application interface for a field commander. The main view is a map with several hazard icons: a red triangle with a flame, a blue triangle with a lightning bolt, a yellow triangle with an exclamation mark, and a red square with a white exclamation mark. A callout box points to a yellow triangle icon with the text "Danger of Land Slide". The map shows streets like B158, B1, Sterneckstraße, and B150. The right panel contains the following information:

WARNING
Danger of Land Slide
2013-10-16 07:31 CIVP_SBG
Danger of Land Slide

Status: defined
Time: 2013-10-16 07:31
Category: WARN LNDSLID
Position: Lat 47.814 Long 13,043

The bottom of the screen shows a standard Android navigation bar with a back arrow, home button, and recent apps button. On the right side of the bottom bar, there are icons for a mobile phone, USB, a globe, the IIRA logo, a laptop, and a clock showing 09:36.

→ The Field Commander's View

The screenshot displays the IDIRA mobile application interface. On the left, a map shows a street network with various emergency icons: a fire, a biohazard, a warning sign, and several blue diamond icons. A red callout box labeled 'USAR' is positioned over a specific location on the map. On the right, a white information panel provides details for the selected incident:

NEED
USAR
2013-10-16 08:33 FBG_Glasenb
2 buildings collapsed

Status: **open**
Time: 2013-10-16 08:33
Category: NEED USAR
Position: Lat 47.813 Long 13,038

Origin: FBG_Glasenb
Contact: Joe Feuerber
TETRON 123.456

IDIRA
Call

The bottom of the screen shows a standard Android navigation bar with a back arrow, home button, and recent apps button, along with a status bar displaying the time 09:36 and various system icons.

→ The Field Commander's View

The screenshot displays the IIRA mobile application interface. On the left, a map shows a residential area with streets like Sterneckstraße, Gersbach, and Höhenstraße. A red shaded area indicates an evacuation zone. Various icons are overlaid on the map, including a fire, a biohazard symbol, and several blue diamond icons with exclamation marks. A white box with the text 'Evacuation' is positioned over the map. On the right, a data panel provides incident details:

INCIDENT
Evacuation
2013-10-16 10:53 POL_SBG
Nursing home Überfuhrstrasse
Evacuation

Status: progress
Time: 2013-10-16 08:33
Category: EVAC
Position: Lat 47.809 Long 13,033

The bottom of the screen shows a standard Android navigation bar with icons for back, home, and recent apps, along with system status icons for battery, signal, and time (09:36).

→ The Field Commander's View

The screenshot displays the IDIRA (Incident Detection and Response Information System) interface. On the left, a map shows a residential area with several incident markers: a fire (flame icon), a biohazard (yellow biohazard symbol), and multiple evacuation points (blue diamonds with exclamation marks). A red exclamation mark marker is also present. A white box with the text 'Evacuation' is overlaid on the map. The right panel provides details for the selected incident:

INCIDENT
Evacuation
2013-10-16 10:53 POL_SBG
Nursing home Überfuhrstrasse
Evacuation

Status: progress
Time: 2013-10-16 08:33
Category: EVAC
Position: Lat 47.809 Long 13,033

2013-10-16 10:53 POL_SBG
Transport capacities needed

The interface includes a top navigation bar with icons for search, navigation, and information, and a bottom status bar showing the time as 09:36 and various system icons.

→ The Field Commander's View

The screenshot displays the IIRA mobile application interface. On the left, a map shows a street network with various icons: red triangles with exclamation marks, blue diamonds with exclamation marks, yellow triangles with exclamation marks, and red squares with exclamation marks. A green line traces a path through the streets. A white box with the text 'Evacuation' is overlaid on the map. On the right, a data panel provides incident details:

INCIDENT
Evacuation
2013-10-16 10:53 POL_SBG
Nursing home Überfuhrstrasse
Evacuation

Status: progress
Time: 2013-10-16 08:33
Category: EVAC
Position: Lat 47.809 Long 13,033

2013-10-16 10:53 POL_SBG
Transport capacities needed

The bottom of the screen shows a standard Android navigation bar with icons for back, home, and recent apps, along with system status icons for battery, signal, and time (09:36).

→ The Field Commander's View

INFRASTRUCTURE
Access route
2013-10-16 11:07 CIVP_SBG
Recommended safe access route
to Aigen, Parsch, Gaisberg-E

Status: defined
Time: 2013-10-16 11:07
Category: INFRA
Position: Lat 47.809 Long 13,042

→ The Field Commander's View

The screenshot displays the IDIRA mobile application interface. On the left, a map shows a street network with various emergency icons: fire (flame), medical (ambulance), police (police car), and hazardous materials (biohazard, radiation, and explosion symbols). A green line highlights a specific route on the map. A callout box labeled 'FBG_Aigen' is positioned over a red square icon on the map. On the right, an information panel provides details for the selected unit:

CAPACITY
FBG_Aigen
Fire Brigade Aigen
USAR, FIRE, TRANSPORT
RLF: 2 KF: 1 BUS: 3

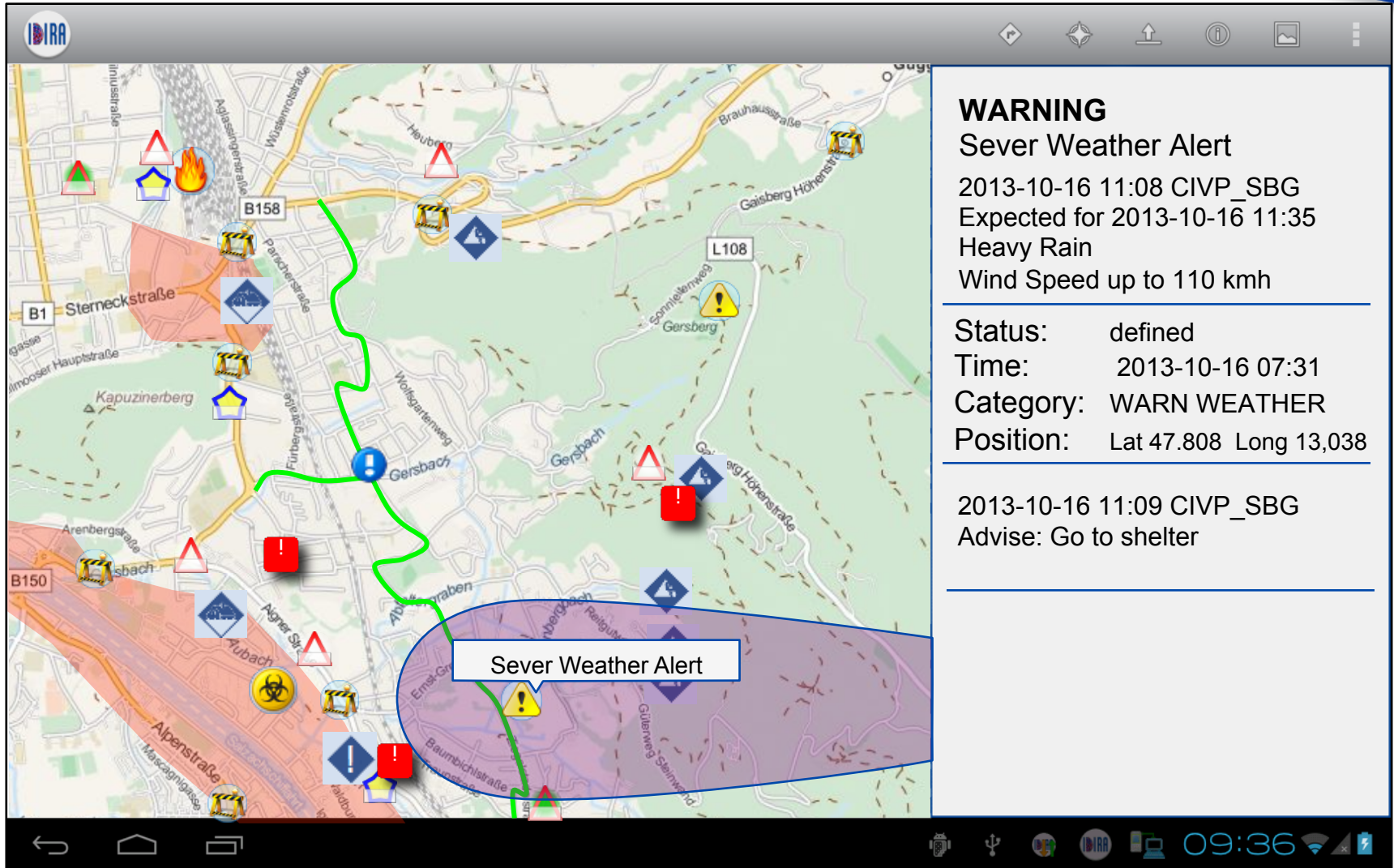
Status: **partly available**
Time: 2013-10-16 11:08
Category: CAP TRANSPORT
Position: Lat 47.808 Long 13,036

Contact: John Doe
TETRON 123.456

IDIRA Call

The bottom of the screen shows a standard Android navigation bar with icons for back, home, and recent apps, along with system status icons for battery, signal, and time (09:36).

→ Example: Field Commander



The screenshot displays a mobile application interface for field command. On the left, a map shows a network of roads with various warning icons: red triangles with exclamation marks, blue squares with exclamation marks, yellow triangles with exclamation marks, and red squares with exclamation marks. A green line highlights a specific route. On the right, a white panel contains a 'WARNING' section with the following text:

WARNING
Sever Weather Alert
2013-10-16 11:08 CIVP_SBG
Expected for 2013-10-16 11:35
Heavy Rain
Wind Speed up to 110 kmh

Status: defined
Time: 2013-10-16 07:31
Category: WARN WEATHER
Position: Lat 47.808 Long 13,038

2013-10-16 11:09 CIVP_SBG
Advise: Go to shelter

At the bottom of the map, a blue callout box contains the text 'Sever Weather Alert' with a yellow warning icon. The application's status bar at the bottom shows the time as 09:36 and various system icons.

→ Tactical Level



- Regional Crisis & Disaster Management Centre
- Civil Protection

- Within the Projekt „IDIRA“, we implemented a deployable Infrastructure



→ Tactical Level

The screenshot displays the IDIRA Container Viewer interface. The browser address bar shows `idira.frequentis.com:3003/cclient/docs/cclient.html`. The top navigation bar includes a clock showing 22:24:51, a 'Logout' button, and the IDIRA logo. The main area is a map of Salzburg, Austria, with several layers overlaid. A 'Gene Layer Selection' panel is open, showing a list of layers: Incident (checked), ESA (checked), Infrastructure (checked), Users (checked), Resources (checked), DSS (unchecked), Sensors (unchecked), WMSGROUP (unchecked), and WFSGROUP (unchecked). A 'Found Features' popup is visible, listing: Bridge (checked), Bridge: ICE/RJ 90 München... (checked), Bridge: S3 (checked), Observation: 2013-10-16T12... (checked), and Observation: 2013-10-16T19... (checked). The map shows various landmarks like 'Salzburg Hauptbahnhof (Lokalbahn)', 'Salzburg Aighof', 'Salzburg Mülln-Alt', 'Universität Mozarteum', and 'Kapuzinerberg'. On the right side, an 'Observation' form is displayed with the following fields: Report-ID (2063c08c-1214-53e3-7135-5da0b9332725_gzuba,2013-10-16T21:44:15+), Sender (gzuba), Time (*) (2013-10-16T21:44:15), Latitude (*) (47.808385020885105), Longitude (*) (13.037366692993526), Area (POINT(13.0373666929935 47.8083850208851)), and Description (*) (Celaustritt Bahnhof Muelln). At the bottom of the form are buttons for 'Update', 'Cancel', 'Close Area', and 'Close'. The status bar at the bottom of the application shows 'Wed, 16 Oct 2013 19:56:28 GMT', 'Info', 'Observation successfully canceled', 'gzuba', 'Tactical', and 'Data CC-BY-NC-SA by OpenStreetMap'.

→ Tactical Level

- Information exchange with all connected systems
 - C&Cs, public authorities, infrastructure providers, expert institutes
- Visualisation of the Common Operational Picture
 - Selectable layers
 - Combination of data from external systems and input from users
- Collaboration with the operational level
 - Provision of the COP to the operational level
 - Gathering of observations, needs, warnings posted by the field commanders
 - Exchange of information about capacities and positions
- Incident & Task Management
 - Alerts and observations from different sources can be summarized to incidents (hides the details, avoiding information overload)
 - Tracking of response actions on incident level
 - Assignment of tasks to organisational units (operational resource dispatching remains within the responsibility of unit commanders)

→ Project IDIRA

“Interoperability of Data and Procedures in Large-Scale Multinational Disaster Response Actions”

Project start date: May 1st, 2011

Project duration: 48 months

Consortium: 18 organizations from 7 countries



→ Project “DRIVER”

”DRiving InnoVation in crisis management for European Resilience”

Aftermath Crisis Management Demonstration Programme Phase II

Goal

Ability to adapt European CM to future demands

- European test bed for crisis management capabilities
- Well-balanced comprehensive portfolio of CM tools (“fieldable solutions”)
- More shared understanding of Crisis Management (CM) across Europe

Running Time: 2014 – 2018 (4,5 years)

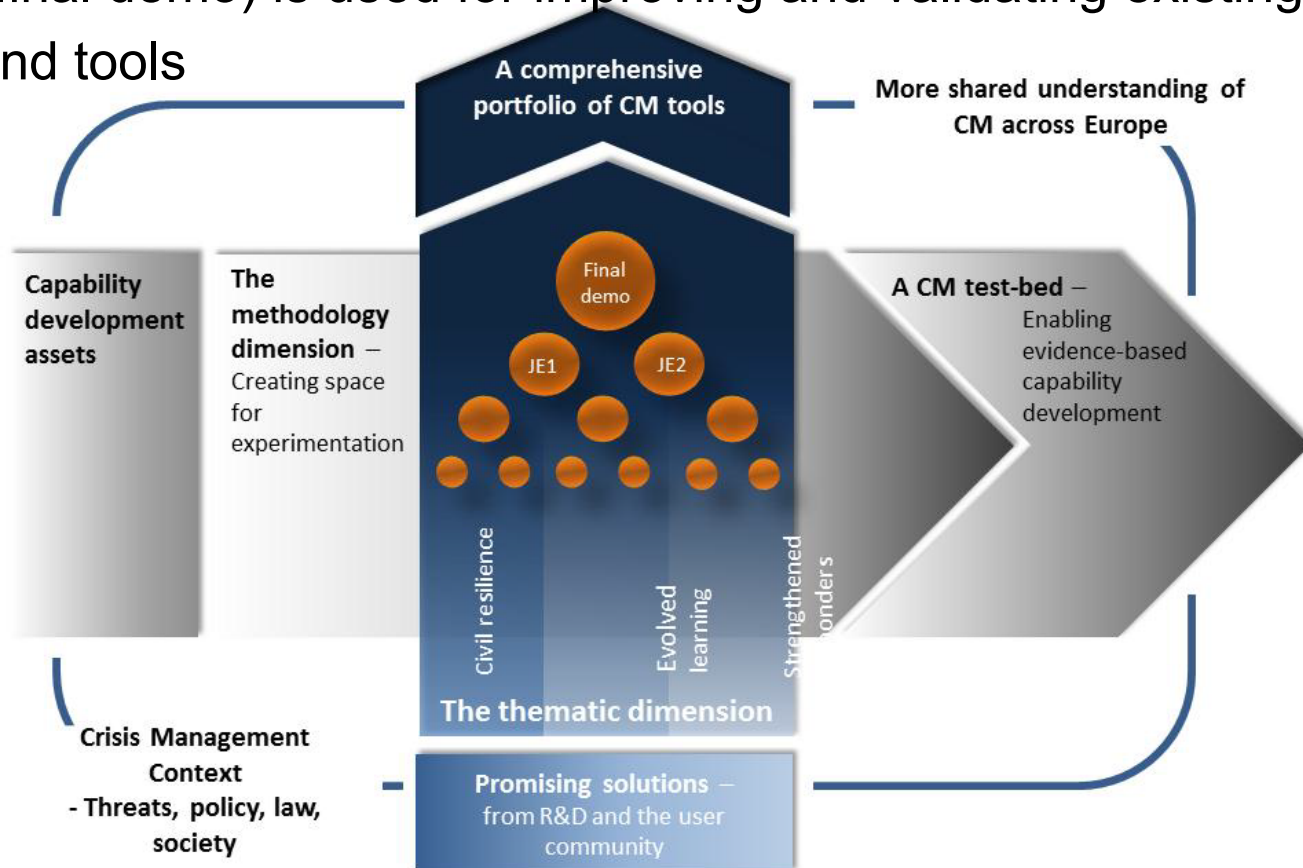
Consortium: > 40 Partners

Projekt leader: ATOS (Spain)

→ Project “DRIVER”

Project Concept

A series of experiments (starting with small trials and ending with the big integrated final demo) is used for improving and validating existing concepts and tools



→ Project “EPISECC”

„Establish Pan-European Information Space to Enhance seCurity of Citizens”

Goal:

Common Information Space for Crisis and Disastermanagement

Running Time:

2014 – 2016 (36 months)

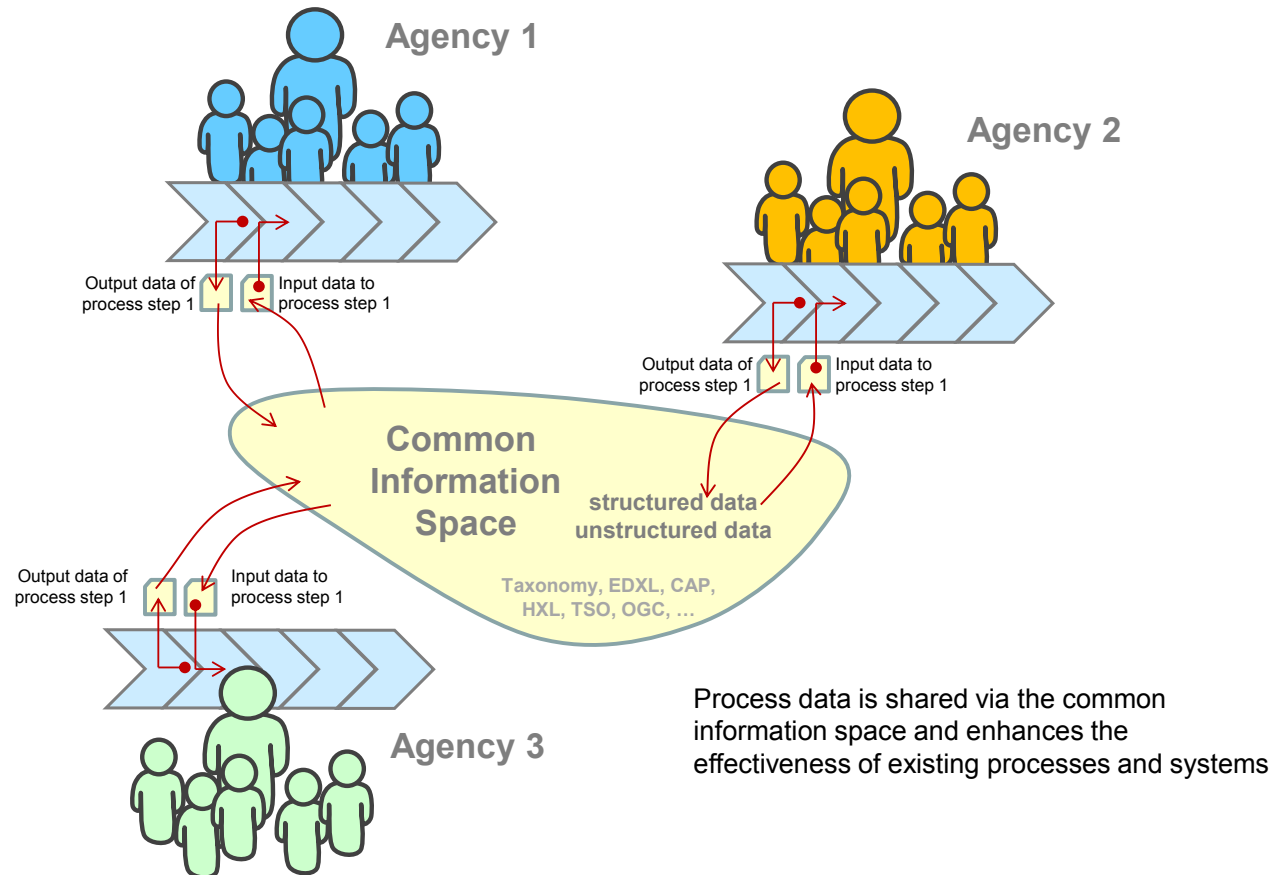
Consortium: 12 Partners

Project Lead: Austrian Institute of Technology

→ Project “EPISECC”

Project Concept

Structured and unstructured information is shared between different agencies





Contact

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