



Our Difference, Your Success

A Common Operational Picture for wide-area situational awareness and emergency response planning

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Context – Crisis management

- In a state of crisis
 - Authority flows down the hierarchy
 - Information needs to come back
- Collection, analysis and immediate sharing of critical information is of paramount importance.
 - Taking decisions founded on all relevant information



Context – INSARAG guidelines

- International Search and Rescue Advisory Group
- INSARAG guidelines for preparation, and operation of emergency response
 - Emergency response as structured and orderly process
 - Progress and traceability by report forms

The image displays a collection of INSARAG (International Search and Rescue Advisory Group) report forms, which are standardized tools for emergency response. The forms shown include:

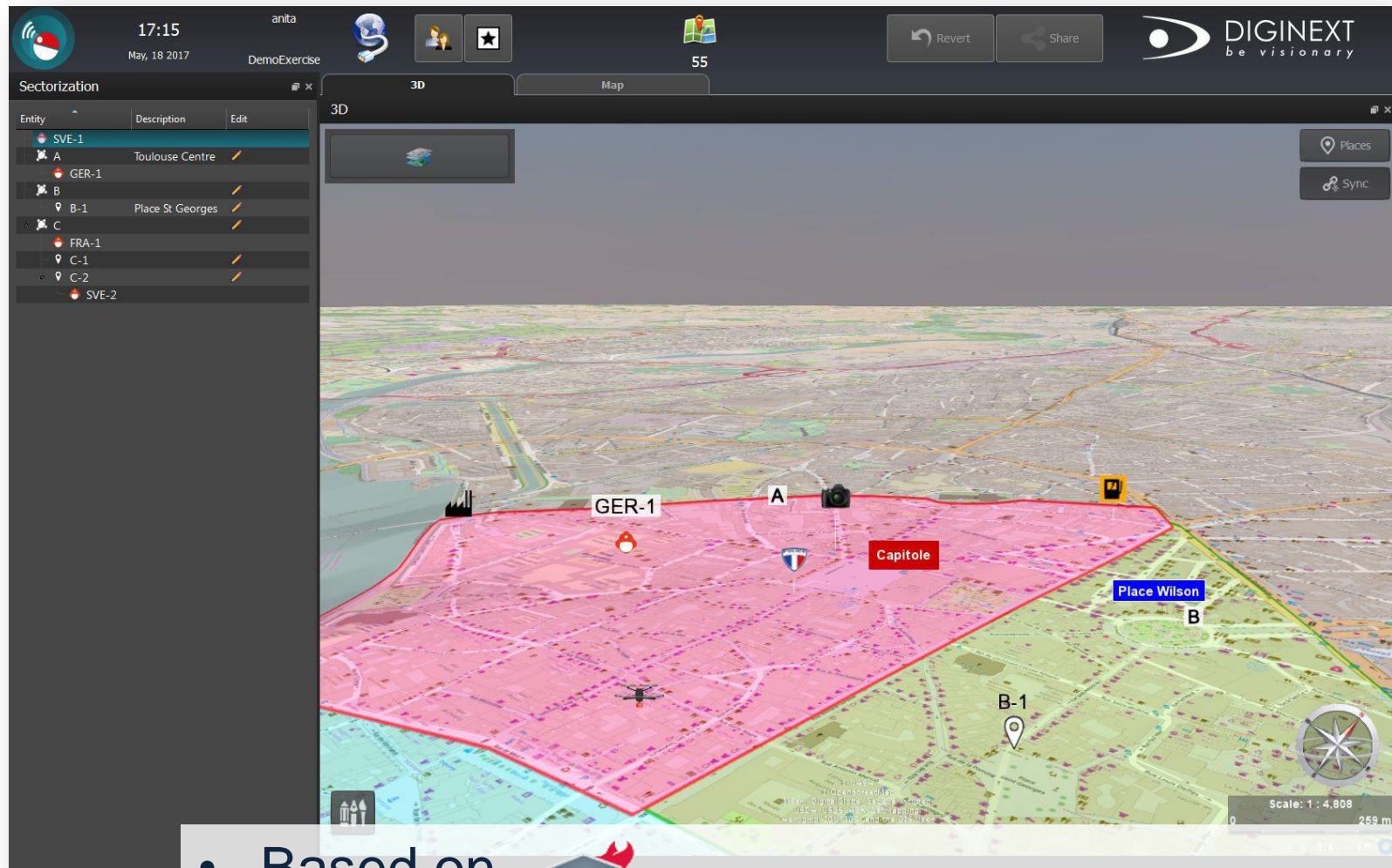
- Victim Extrication Form:** Used to collect basic information of all victims extricated to be handed to the UC or LEMA as available.
- Worksite Triage Form:** Used during assessment to classify worksites with rescue opportunities.
- Worksite Report form:** Report of activity at a Worksite for a specific work period (or to handover the Worksite).
- USAR TEAM FACT SHEET:** Form to be completed in the VED before departure and given to RDC/ICC on arrival. It includes sections for Team Information, Support Requirements, and Contacts.
- Incident/Sector Situation Report:** Tool used to summarise operations and situation in an incident or sector. It includes sections for Reporting Period, Situation, Planning, and Objectives.

Context – Flow of Information

- Structured...
 - Pen & Paper
 - Low transmission speed
- ... But limited
 - No immediate sharing of information with all involved parties
 - No visual overview of the situation

A collage of various INSARAG forms, including: Worksite Report form, Victim Extrication Form, USAR TEAM FACT SHEET, Incident/Sector Situation Report, and Victim Information form. The forms are overlapping and show different sections of the documentation process.

The Shared Common Operational Picture



- Based on



Crimson

Crisis Management Solutions

The Shared Common Operational Picture



- 2D and 3D views of the tactical situation with the optimal information required
- Focused on both strategic and tactical visions
- Powered by  VirtualGeo

The Shared Common Operational Picture



The Shared Common Operational Picture

- Multi-sites system
- Real-time information sharing between levels of command and organisations
- Every kind of data collection: geo-location, voice, messaging, maps, images, videos, social media, etc.



The Common Operation Picture in Action



INACHUS

Technological and
Methodological Solutions for
Integrated Wide Area Situation
Awareness and Survivor
Localisation to Support Search
and Rescue Teams



ZONeSEC

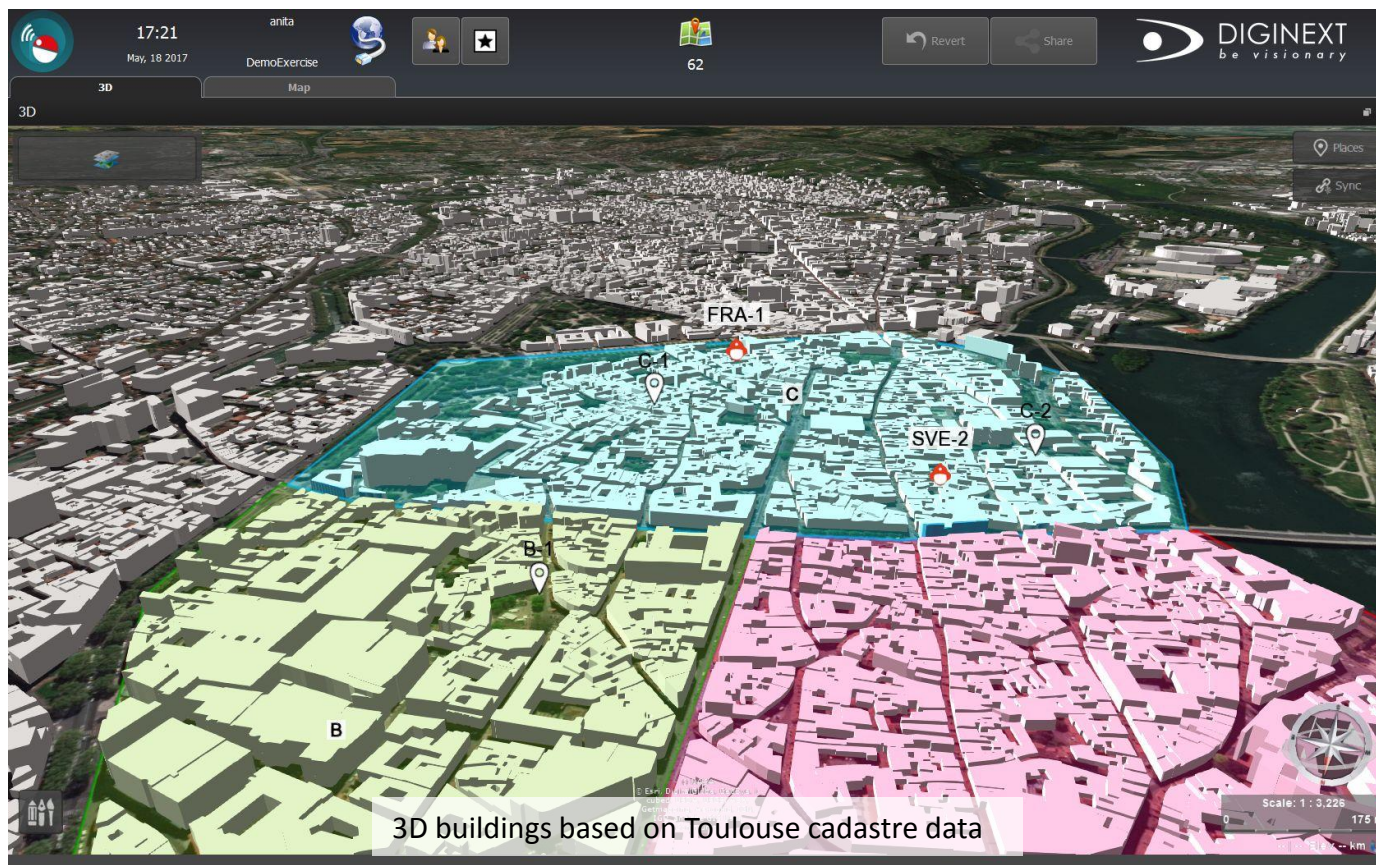
Towards a EU framework for the
security of Widezones

The projects have received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n° 607522 (Inachus) and n° 607292 (ZONeSEC).

The Common Operation Picture in Action



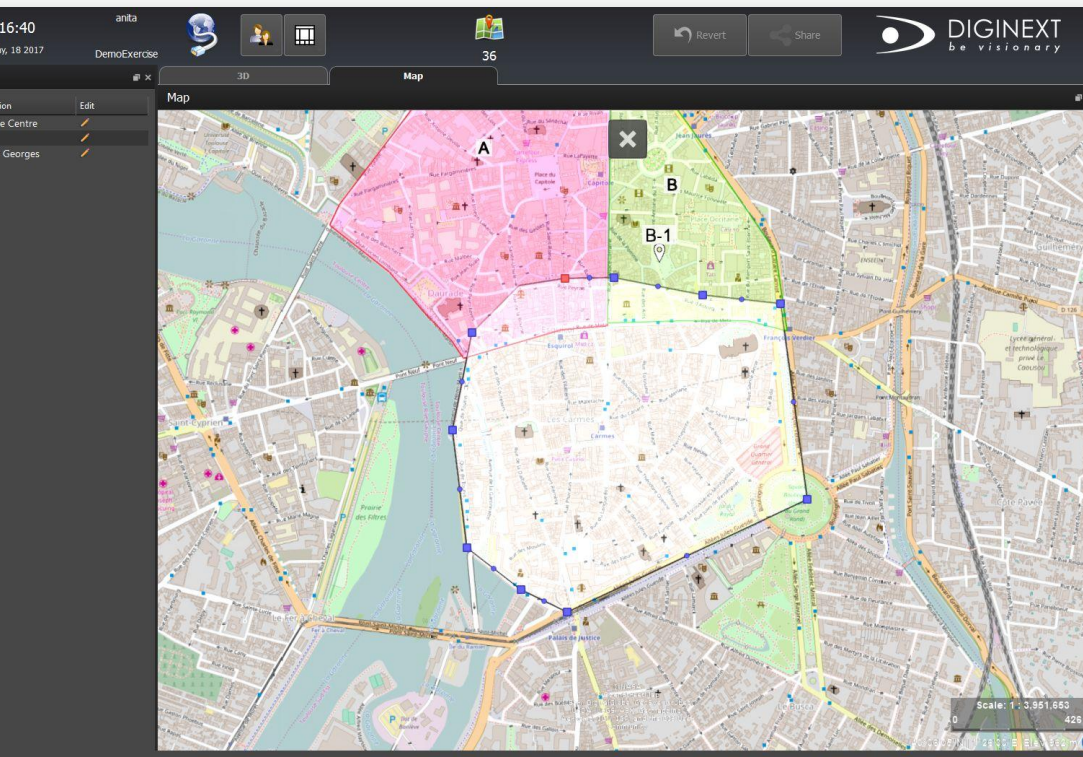
- COP targeting USaR emergency response
- Supports the INSARAG guidelines



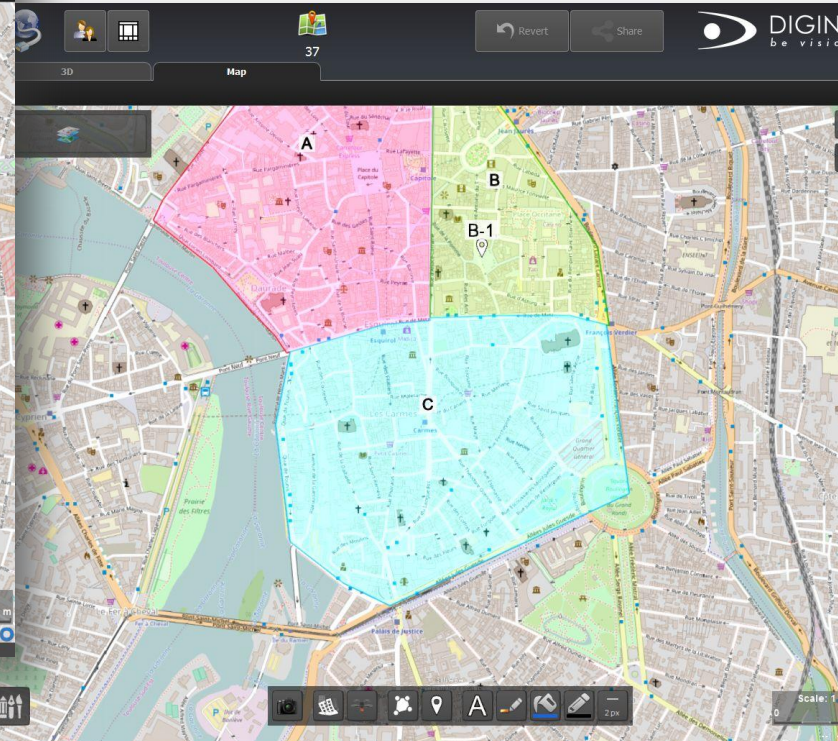
The Common Operation Picture in Action



- Easy but precise edition via manipulation of control points
- Automatic clipping of new sectors



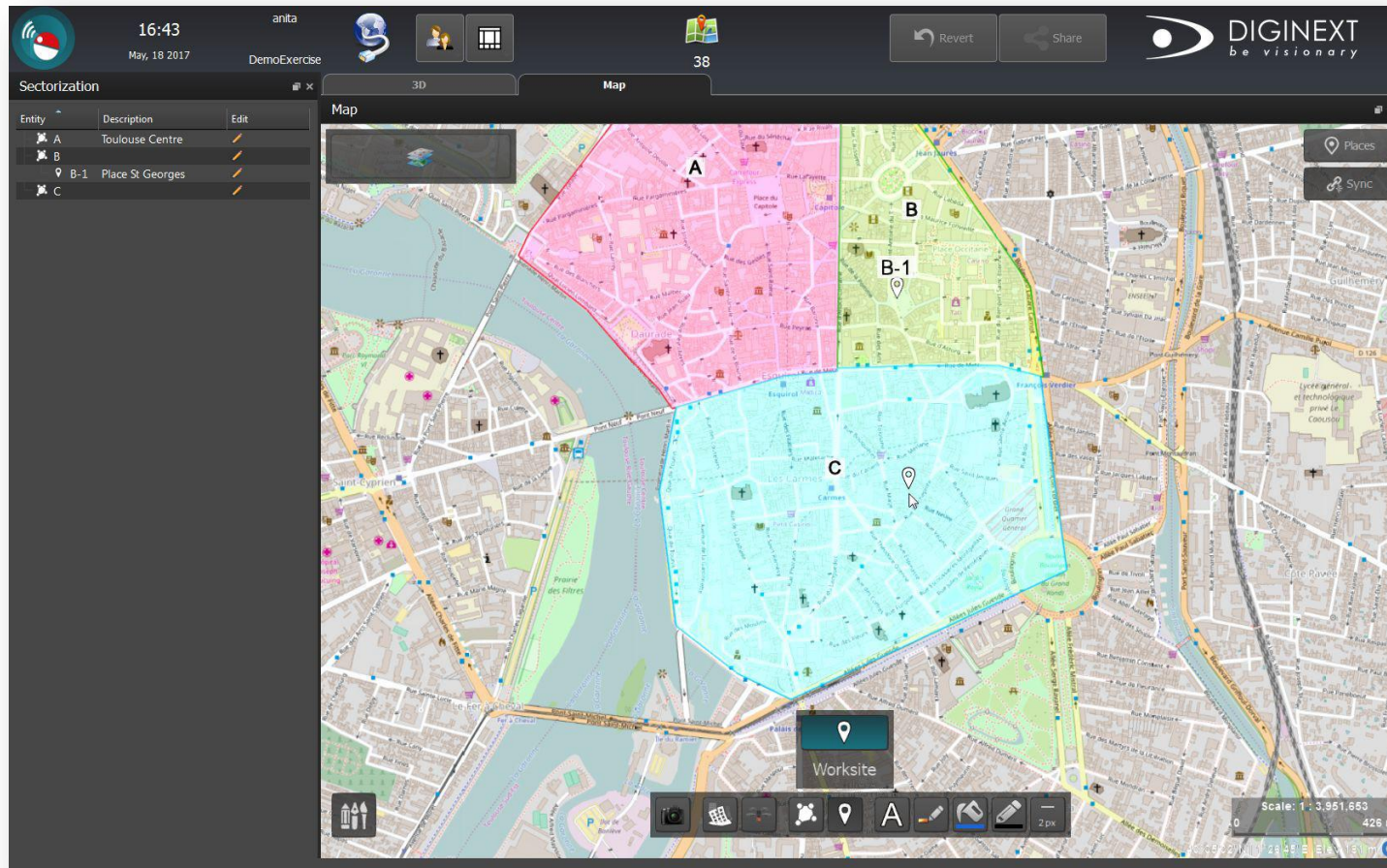
Sectorization example in Toulouse



The Common Operation Picture in Action



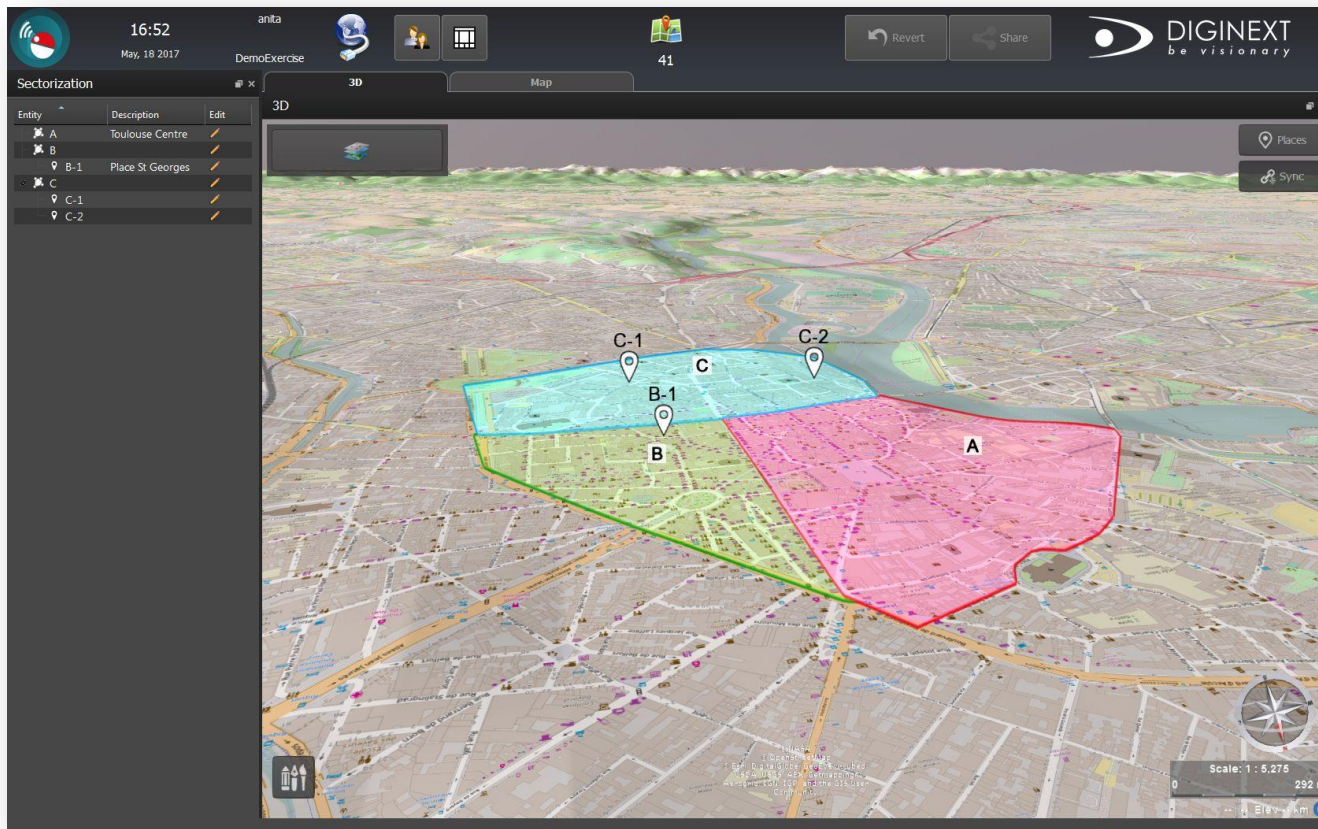
- Creation of worksites in the sectorization by drag&drop



The Common Operation Picture in Action



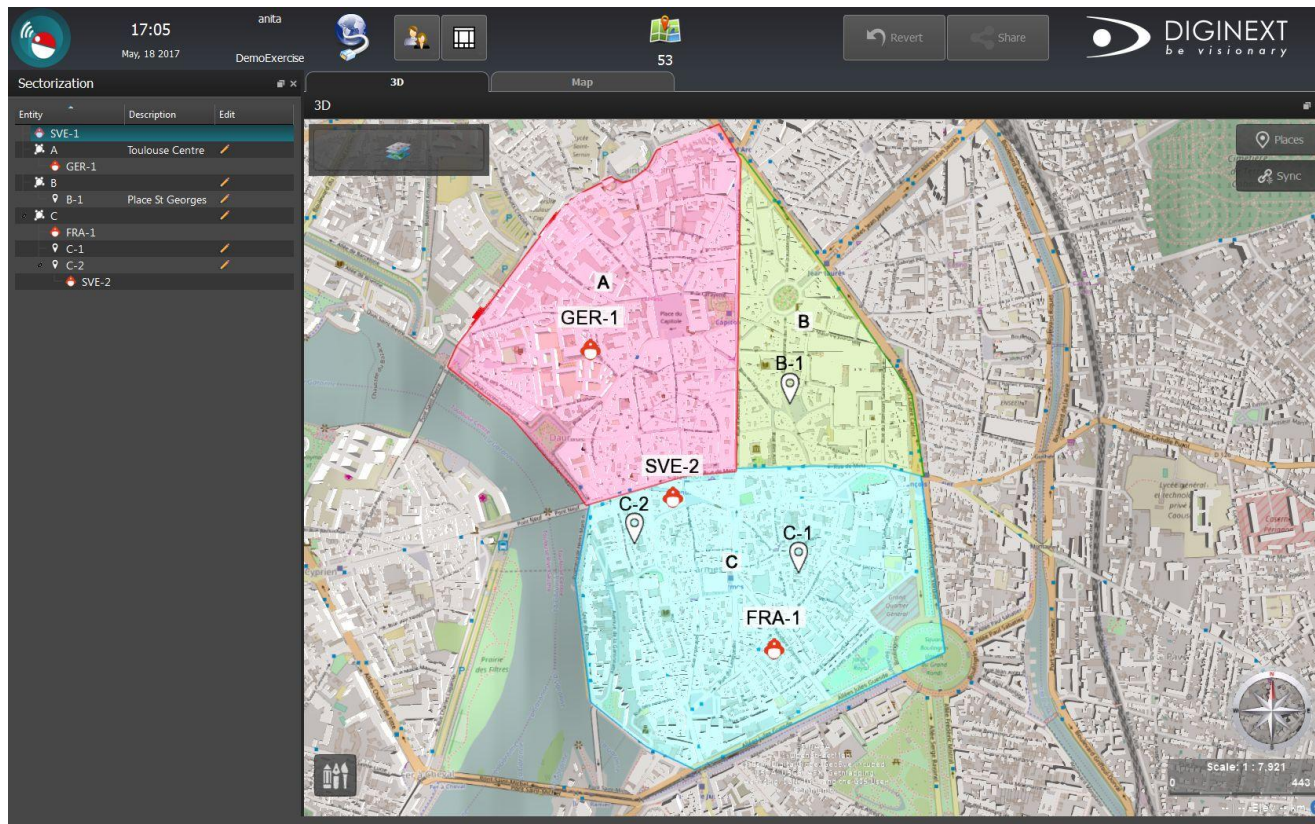
- Automatic INSARAG-compliant naming by synchronisation with the Inachus emergency-support backend



The Common Operation Picture in Action



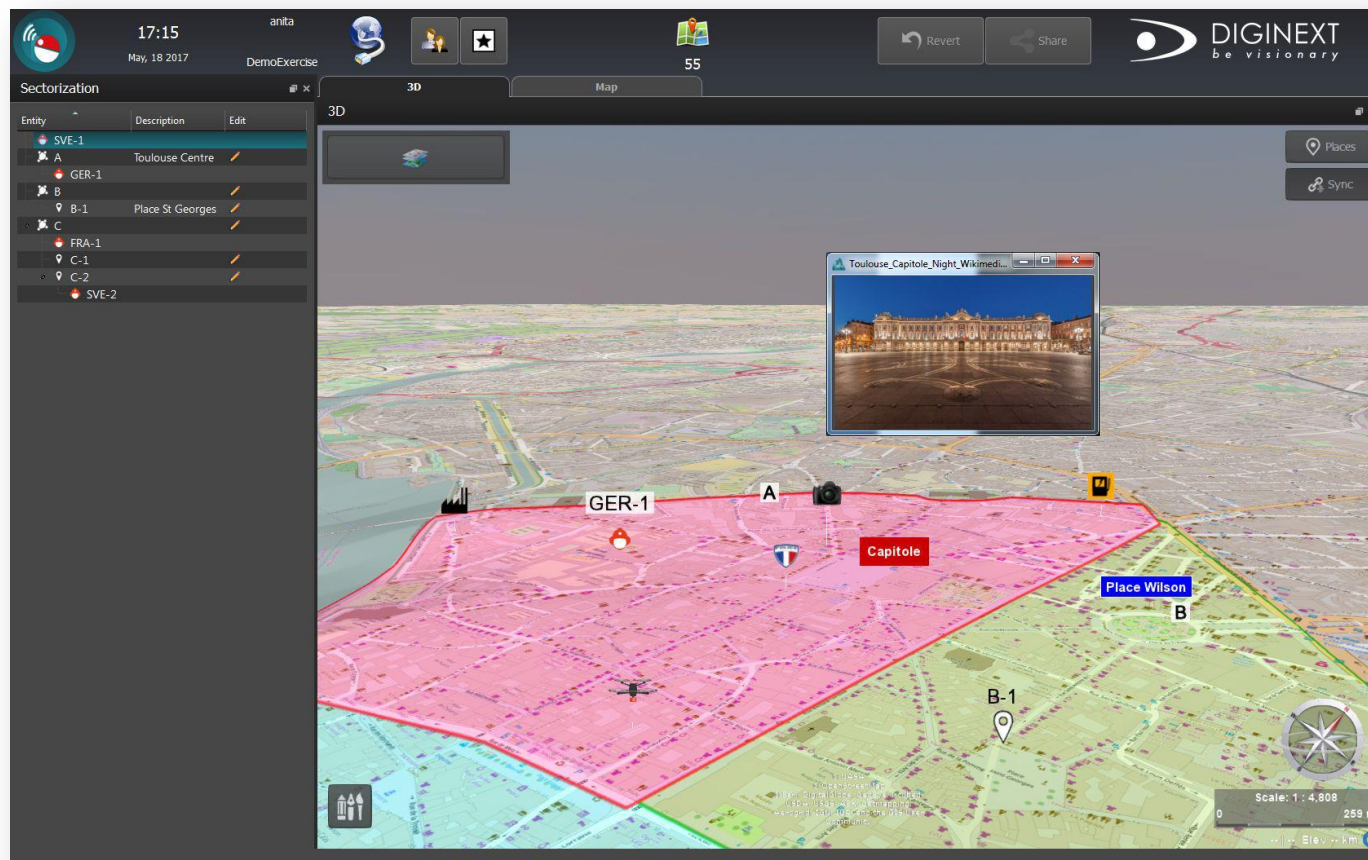
- Team assignments managed directly in the map view
- Synchronisation of incoming and assigned teams with the Inachus emergency-support backend



The Common Operation Picture in Action



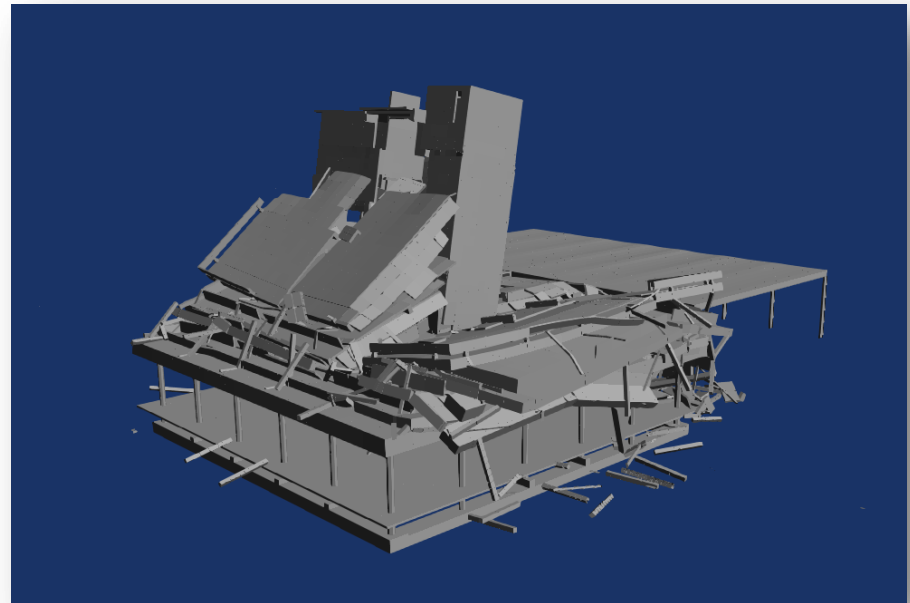
- Various types of annotations to the map to create a comprehensive overview of the crisis scene



The Common Operation Picture in Action



- Visualization of 3D models
 - Simulation results of collapsing buildings



Pyne Gould building, Christchurch
Collapse simulation by LUAS, ASI, Fraunhofer EMI

The Common Operation Picture in Action



- Visualization of point cloud data
 - Scan data from UAVs or LiDAR of the intact and destroyed sites



The rubble pile at the Ågesta training site, near Stockholm, that was used for the first INACHUS pilot demonstration



Towards a EU framework for the security of Widezones

The Common Operation Picture in Action



- For area situational awareness
- To monitor critical infrastructures e.g. Highways, water and gas pipelines...

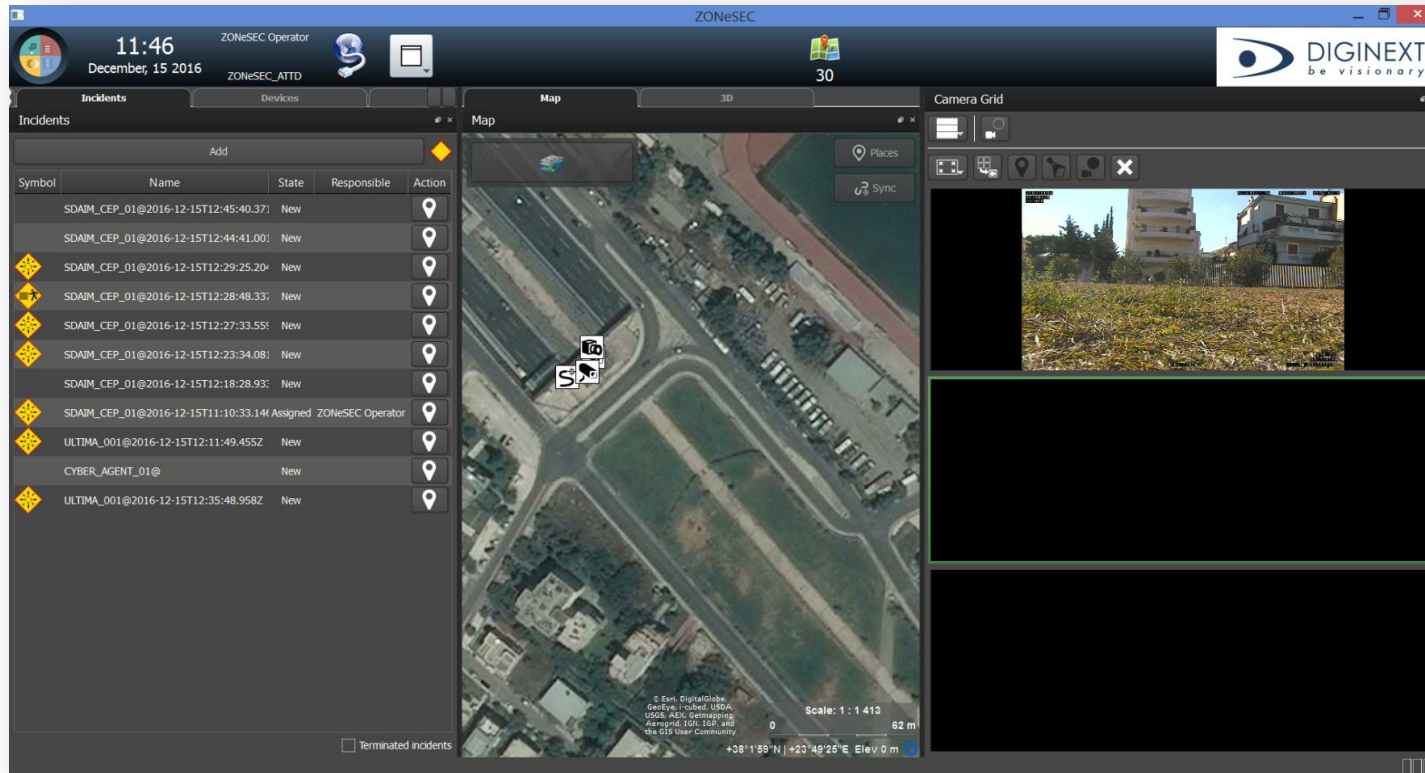
The screenshot displays the ZONeSEC software interface. At the top, a header bar shows the time '17:23' and date 'December, 15 2016', along with user roles 'ZONeSEC Operator' and 'ZONeSEC_ATT'D'. The interface is divided into several tabs: 'Log', 'Incidents', 'Devices', 'Map', 'Camera List', '3D', and 'Camera Grid'. The 'Incidents' tab is active, showing a table of incidents. The 'Map' tab is also visible, showing a satellite map of a city area with several yellow diamond-shaped warning icons placed on the map. The bottom right corner of the map shows a scale of '1 : 12 923' and coordinates '+38°13'N | +23°49'5'E Elev 0 m'.

Symbol	Name	State	Responsible	Action
Yellow diamond with black border	SDAIM_CEP_01@2016-12-15T16:48:11.253+0200	Terminated	ZONeSEC Operator	
Yellow diamond with black border	SDAIM_CEP_01@2016-12-15T16:47:39.324+0200	Terminated	ZONeSEC Operator	
Yellow diamond with black border	SDAIM_CEP_01@2016-12-15T16:45:47.502+0200	Terminated	ZONeSEC Operator	
Yellow diamond with black border	SDAIM_CEP_01@2016-12-15T16:45:47.779+0200	Terminated	ZONeSEC Operator	
Yellow diamond with black border	ULTIMA_001@2016-12-15T16:32:10.432Z	Terminated	ZONeSEC Operator	
Yellow diamond with black border	SDAIM_CEP_01@2016-12-15T16:38:16.072+0200	Terminated	ZONeSEC Operator	
Yellow diamond with black border	SDAIM_CEP_01@2016-12-15T16:27:00.066+0200	Terminated	ZONeSEC Operator	
Yellow diamond with black border	CYBER_AGENT_01@	Terminated	ZONeSEC Operator	
Yellow diamond with black border	SDAIM_CEP_01@2016-12-15T16:15:45.923+0200	Terminated	ZONeSEC Operator	
Yellow diamond with black border	SDAIM_CEP_01@2016-12-15T16:08:31.161+0200	Terminated	ZONeSEC Operator	
Yellow diamond with black border	SDAIM_CEP_01@2016-12-15T15:59:07.938+0200	Terminated	ZONeSEC Operator	

ZONeSEC



- Deployed intelligent sensor network and legacy systems
 - Devices are geo-localized and updated in real-time



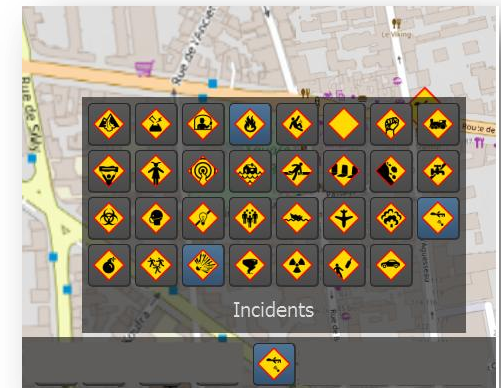
The Common Operation Picture in Action



- Geo-localized alerts from sub-systems



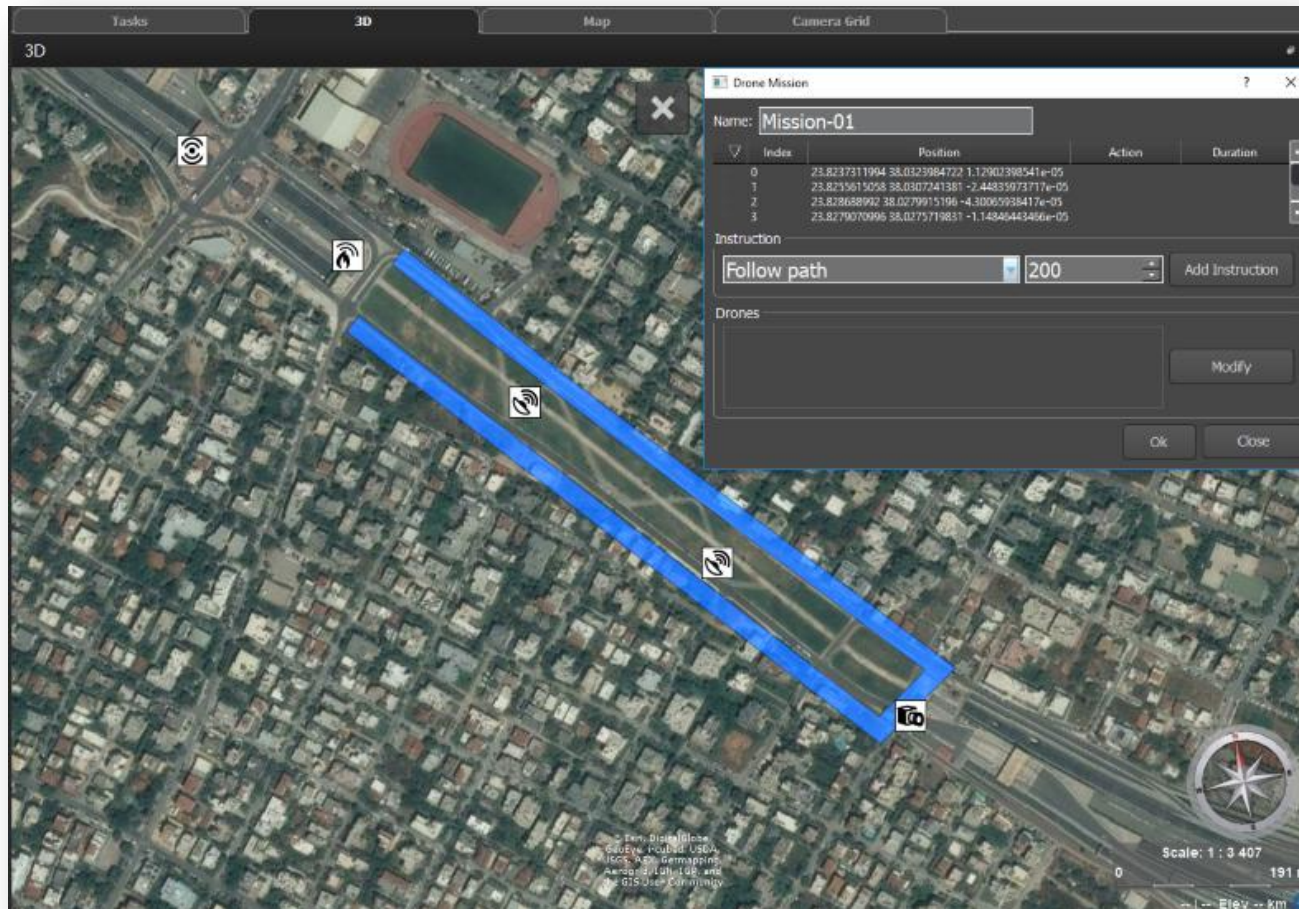
- ... and from operators
 - Drag & drop of new alert on the map
 - Add details and share them



The Common Operation Picture in Action



- Real-time interactions with UAV
- Mission planning



The Common Operation Picture in Action

- Real-time video and information from UAV



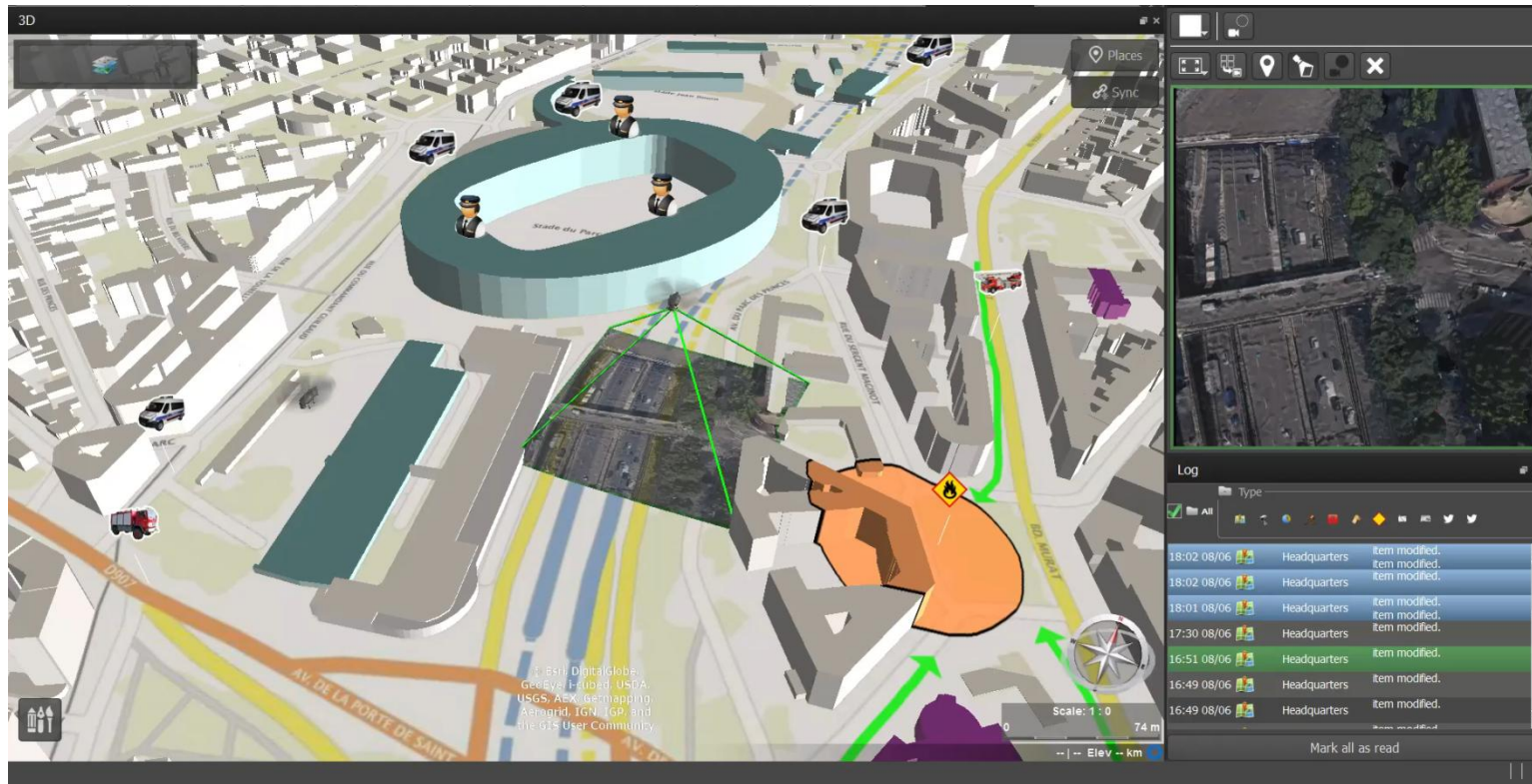
The screenshot displays the ZONeSEC software interface. At the top, the status bar shows the time as 12:36 on December 15, 2016, and the user as ZONeSEC Operator. The interface is divided into several panels:

- Incidents Panel (Left):** A table listing incidents with columns for Symbol, Name, State, Responsible, and Action. The table contains 18 entries, mostly with a 'New' state and 'ZONeSEC Operator' as the responsible party.
- 3D Map Panel (Center):** A 3D aerial view of a city area with buildings, roads, and a large green field. A scale bar at the bottom indicates 17 meters.
- Camera Grid Panel (Right):** A panel showing a grid of camera feeds. The top feed is a live video from a UAV, showing two people standing in an open area. The bottom feed is a black screen.

The interface also includes a 'Terminated Incidents' checkbox at the bottom left and a 'Camera Grid' title bar at the top right.

The Common Operation Picture in Action

- On-ground projection of video stream from UAV
 - Into the 3D environment



The Common Operation Picture in Action



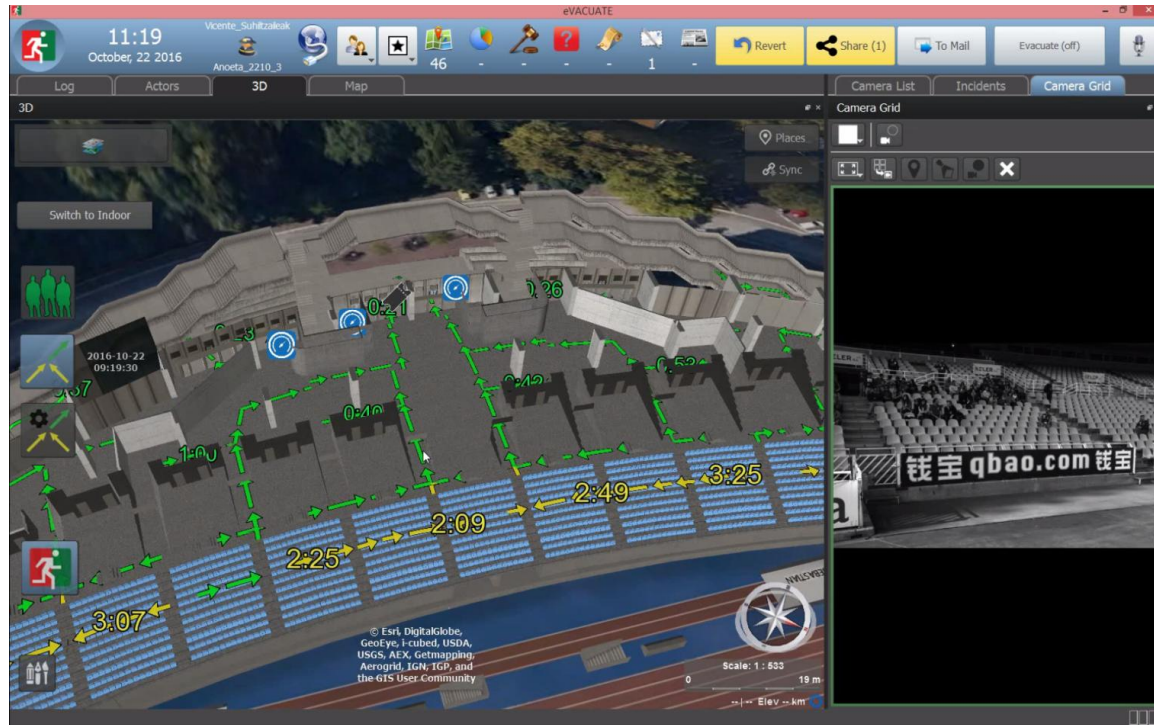
- ZONeSEC aims to address the needs of Wide zone surveillance from detection to alert
- The COP will help to achieve this goal by providing operators and crisis manager with
 - An **holistic view** of the wide-zone enriched with **real-time 2D and 3D** shared information coming from **multi source sensors**
 - **Interactive tools** to shorten the detection alert response time
 - By sending **direct orders** to sub-systems (like UAV) to gather specific data
 - By providing operator with means to raise alert, either from the control centre or from the field with a COP mobile version.

The Common Operation Picture in Action



eVacuate:

A holistic scenario-independent, situation-awareness and guidance system for sustaining the active evacuation route for large crowds



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 313161.

The Common Operation Picture in Action



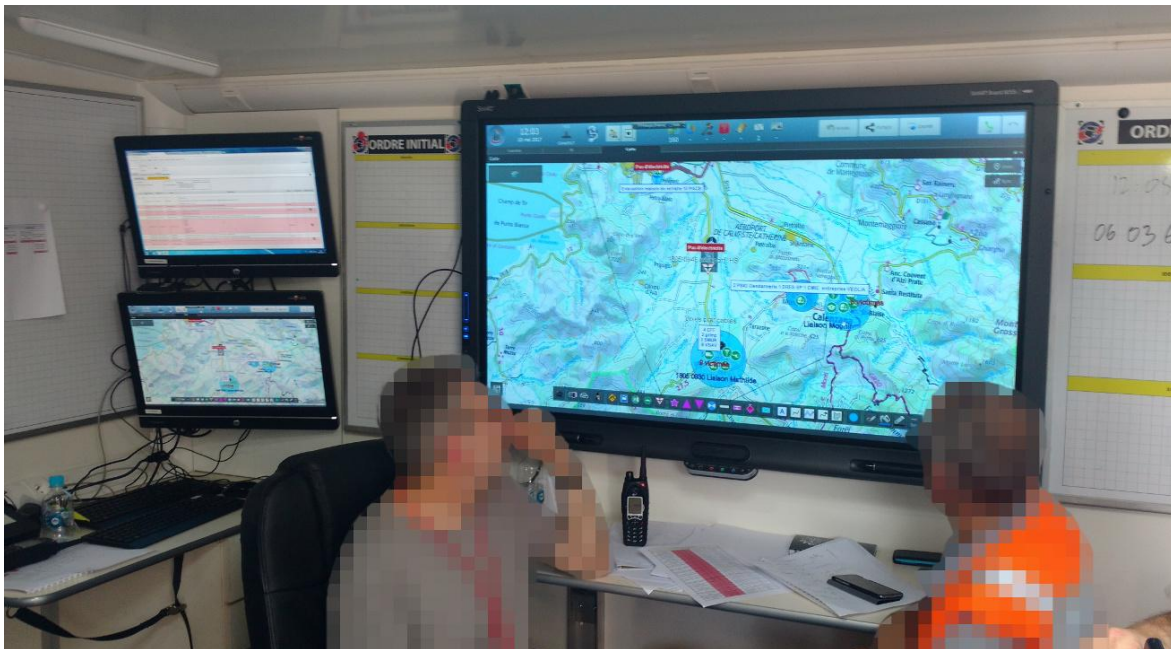
- 4 pilots with end-users
 - The Anoeta football stadium, San Sebastian, Spain
 - Athens international airport, Athens, Greece
 - STX Shipyard, St-Nazaire, France
 - San Mames metro station, Bilbao, Spain



The Common Operation Picture in Action



- Crimson is used for training by ENSOSP – National Superior School of Fire Brigade Officers, Paris





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