



# driver+

Driving Innovation in Crisis Management  
for European Resilience



## TRIAL #2 LARGE FOREST FIRE IN A MEDITERRANEAN ENVIRONMENT

Valabre, France - October 2018

Research Operational needs  
Lessons learned  
Shared Understanding  
Trials Guidance Methodology  
Knowledge base  
Reference implementation Tools Pragmatic  
European Test-bed  
Crisis Virtually connected facilities  
Unpredictability  
Management  
Challenges Innovative solutions  
Cooperation Experience  
Innovation Disasters  
Crisis Labs  
Analysis Trial-driven development  
Portfolio of Solutions  
Practitioners

## ABOUT DRIVER+

### A EUROPEAN PROJECT TO DRIVE INNOVATION IN CRISIS MANAGEMENT

The scale and pace of crises pose enormous challenges for the Crisis Management (CM) sector, with new threats emerging all the time. An already complex field must also strive to integrate new technologies and methods, cope with a rapidly changing infrastructure, understand evolving risks, be effective across cultural, administrative and national boundaries and engage with populations to enhance their resilience. Innovation is therefore critical but will only be successful if it is relevant and accessible to practitioners and operators. Many crises involve interfacing diverse CM systems and solutions. Major crises can also frequently involve more than one country or region, which may have differing CM infrastructures and cultures. It is also highly likely that this will necessitate interfacing different systems and combining different solutions. CM innovation must therefore be capable of meeting these multifaceted challenges and delivering solutions that are modular, flexible and adaptable.

These solutions must be tested and validated in realistic environments; they must be evaluated to assess their true benefits and for their overall suitability, before being adopted by end-users. Failure to meet these needs could result in less than perfect solutions being introduced or in the increased costs of CM capability development, due to the imperfect management of ever more complex crises.

In May 2014, dedicated practitioners' organisations, research institutes, industries and SMEs teamed up to support the European Union to tackle this issue. Until April 2020 the broad aim of the DRIVER+ project, funded under the European Union's 7th Framework Programme, will be to improve the way capability development and innovation management are addressed, by assessing and delivering solutions that can be used, and combined, to address different types of large-scale crises.

## DRIVER+ CORE OBJECTIVES



### A pan-European Test-bed

To develop a pan-European Test-bed for Crisis Management capability development enabling practitioners to create a space in which stakeholders can collaborate in testing and evaluating tools, processes or organisational solutions.



### A Portfolio of Solutions

To set up a Portfolio of Solutions in the form of a database-driven website documenting several Crisis Management solutions, open to any external organisations willing to share data and experiences of solutions.



### A shared understanding

To foster a shared understanding in Crisis Management across Europe, through the enhancement of the cooperation framework.

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# TRIAL GUIDANCE METHODOLOGY

## GUIDELINES TO SUPPORT PRACTITIONERS

### WHY A TRIAL GUIDANCE METHODOLOGY ?

#### ADDRESSING CURRENT CRISIS MANAGEMENT CAPABILITY GAPS

The Trial Guidance Methodology is designed for high-level crisis managers as it facilitates the investigation of innovative capabilities, leading to improved crisis management operations. It focuses on a step-by-step approach to carrying out Trials in a pragmatic, yet sound and ethical way. It addresses the nature of the operational context and optimum ways of working. Integrating the perspectives and expertise from different types of stakeholders in the design of a Trial is essential to stimulating innovation and true capability development within the Crisis Management (CM) domain.

The methodology consists of three phases: preparation, execution and evaluation. The preparation phase results in a Trial design with multiple elements that are captured in the Trial Action Plan.

The main outcome – the design of the Trial methodology – will be applied and executed in the second phase. The Trial committee ensures the feasibility of realising all the decisions taken in the first phase. Three main elements of each Trial are: the specific adaption of the Test-bed in accordance with the Trial design; the finalisation and simulation of the identified scenario within the Test-bed; the ability to run the evaluation approach covering the three DRIVER+ performance measurement dimensions (CM, Trial, solutions). The last step of the execution phase is the running of the actual Trial: the defined scenario is simulated; the potential innovative solutions are applied and the relevant data is collected. In addition to the data collected during the Trial, additional feedback from external stakeholders (participating actively as Trial actors or passively as observers) is gathered after the main event.



Overview of the Trial Guidance Methodology: Phases, Tasks and Results

# TEST-BED INFRASTRUCTURE

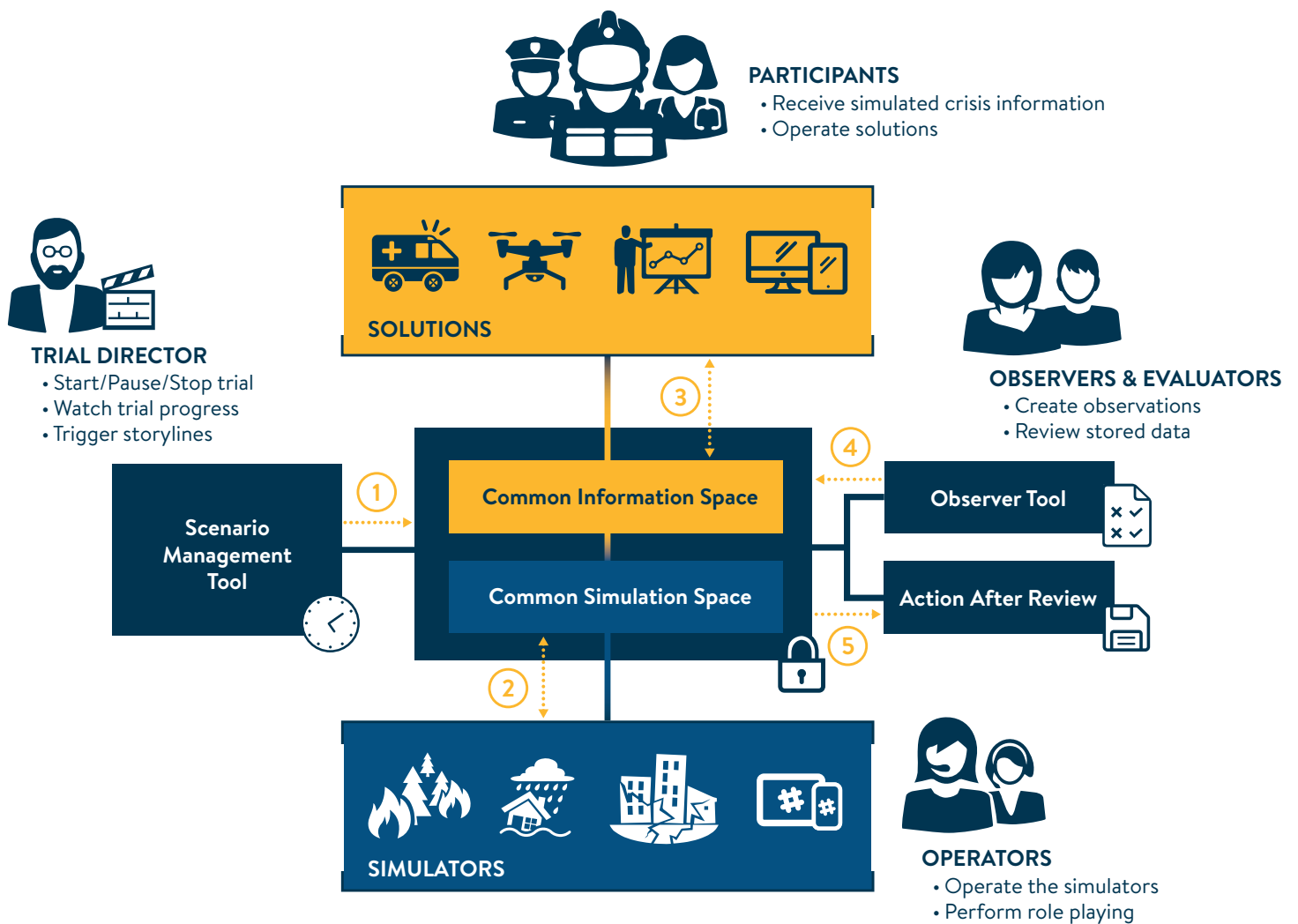
## A SPACE FOR TRIALLING

### WHY A TEST-BED?

TO FACILITATE PREPARING, EXECUTING AND EVALUATING A TRIAL

The Test-bed provides you with software components to:

- Connect Solutions for data and information exchange
- Connect Simulators to create a fictitious, but realistic, crisis
- Create and control the scenario's storylines
- Record and collect observations and logs



- ① The Trial starts: storylines are activated, and the fictitious crisis evolves.
- ② Simulators process storylines and additional operator actions. Simulator data is sent to the Solutions.
- ③ Solutions are fed with simulator data, share information, and request actions from the Simulators.
- ④ Observers create observations, which are shared and recorded in the Test-bed.
- ⑤ The Trial ends and all logs and observations are collected for evaluation.

## **SOLUTIONS**

The solutions are assessed during the Trial. They can be connected to the Test-bed via CIS adapters such that they can send and receive data from other solutions and simulators.

### **Common Information Space (CIS)**

Set of KAFKA topics to exchange data between solutions, to receive data from and send commands to simulators.

## **SIMULATORS**

Provide a fictitious crisis during the Trial for participants and solutions, so solutions can be evaluated effectively in a realistic setting and such that participants feel immersed in the simulated crisis. They offer data and visualisations, such as 3D virtual reality views, flooding plots, fire progressions, panicking crowds and jammed traffic, simulated (social) media messages or a regional/national set of available resources.

### **Common Simulation Space (CSS)**

Set of KAFKA topics to exchange information between simulators, so they are synchronised and can act as one. Simulators send, via a gateway to the Common Information Space, data to solutions and receive instructions to be executed.

### **Scenario Management Tool**

Acts as composer and conductor, offering the Trial staff control over the Trial. During preparation, the staff can create storylines and acts, which represent possible evolutions of the simulated crisis. During the Trial itself, the staff can start and pause the Trial, its storylines and acts, thereby influencing the direction of the Trial and the challenges that the participants face.

### **Observer Tool**

Runs on tablets and in browsers, to create observations quickly that are targeted at specific moments in time during the Trial. Photos can be added, so that as much data as possible can be collected.

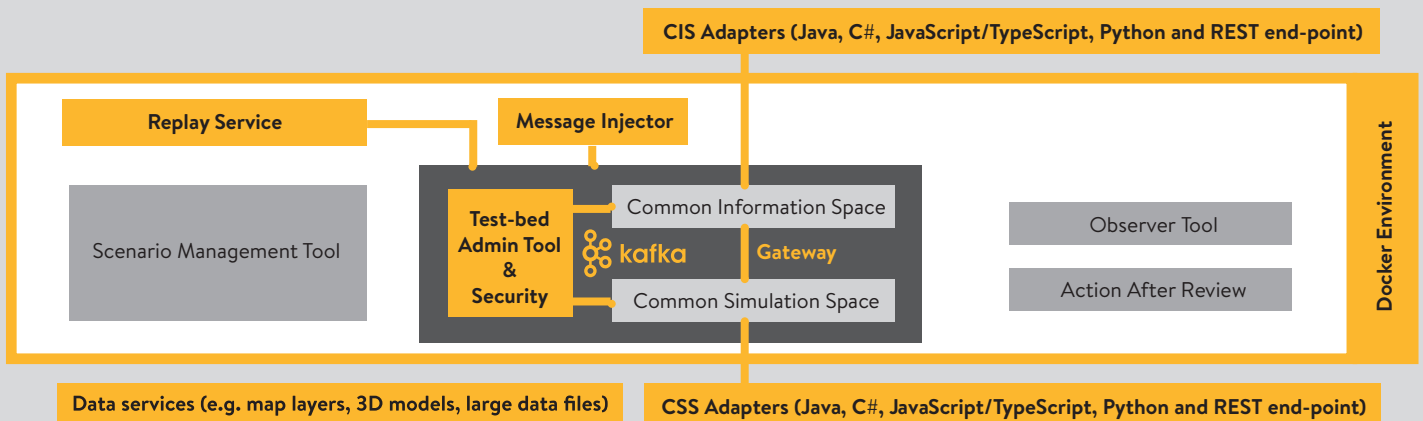
### **After Action Review**

Facilitates a detailed, data-based evaluation after the Trial. Stores all messages and observations exchanged during the Trial execution, as well as screenshots from running applications, so it can be reviewed together.

# TEST-BED INFRASTRUCTURE FOR SOFTWARE DEVELOPERS AND SYSTEM ADMINISTRATORS



To deploy, configure and run the Test-bed anytime and anywhere, and to simplify connecting Solutions and Simulators, these extra components are available to software developers and system administrators.





### **Docker environment**

Part of the DRIVER+ website on which you can select the Test-bed components to be installed. It creates one installer containing the Docker images of all the selected components, such that these can be easily installed in one go.

### **Replay Service**

Developer component to send out a set of pre-recorded messages across one or more KAFKA topics. Can also be used to demonstrate solutions in a realistic context.

### **Test-bed Admin Tool**

Developer component to set-up and manage the KAFKA topics and security needed in the CIS and CSS for a specific Trial.

### **Message Injector**

Developer component to quickly send out a message on one KAFKA topic.

### **Gateway**

Translates messages from CSS to CIS and vice versa. CIS messages are standardised for use in emergency services communications. CSS messages are optimised for massive throughput and quick handling by simulators.

### **Data Services**

A set of complementary services to support the Trial, e.g. for storing large data sets, a height model, data from a flooding simulator, a set of fictitious resources, points of interest, map layers, et cetera.

# PORTFOLIO OF SOLUTIONS

## SHARING INFORMATION ABOUT INNOVATION

### WHAT ARE WE LOOKING FOR?

#### CRISIS MANAGEMENT SOLUTIONS

A solution is a building block that contributes to a Crisis Management function. Solutions can be technologies, tools, methods, concepts, or recommendations that regard potential technical, organisational, procedural, legal, policy, societal, or ethical improvements to the European Crisis Management legacy. It may be a new piece of software or training approach, a new item of equipment or a new way of collaborating.

In the context of the DRIVER+ Portfolio of Solutions, a solution is presented as a coherent set of tools and methods to use them, which can be used “as is” in the trials and which addresses specific needs of the stakeholders by providing matching functionality.



### WHY A PORTFOLIO OF SOLUTIONS?

#### THE RATIONALE

The scale and pace of crises pose enormous challenges for the Crisis Management sector, with new threats emerging all the time. An already complex field must also strive to integrate new technologies and methods, cope with a rapidly changing infrastructure, understand evolving risks, be effective across cultural, administrative and national boundaries and engage with populations to enhance their resilience. Innovation will be successful if it is relevant and accessible to practitioners and operators. Major crises can also frequently involve more than one country or region, which may have differing Crisis Management infrastructures and cultures. It is also highly likely that this will necessitate interfacing different systems and combining

different solutions. Crisis Management innovation must therefore be capable of meeting these multifaceted challenges and delivering solutions that are modular, flexible and adaptable.

Practitioners need to know that any new solution has been tried and tested and proven to be valuable in a realistic and challenging environment. These solutions must be tested, validated and evaluated to assess their true benefits and for their overall suitability, before being adopted by end-users.

## HOW IS THE PORTFOLIO OF SOLUTIONS ORGANISED?

### A DATABASE-DRIVEN WEBSITE TO DOCUMENT CRISIS MANAGEMENT SOLUTIONS

The Portfolio of Solutions (PoS) is a database driven website describing the capabilities of all the available DRIVER+ solutions. It includes information on the experiences with a solution (i.e. results and outcomes of Trials), but also the needs it addresses, the type of practitioner organisations that have used it, the regulatory conditions that apply, the societal impact considerations, a glossary, and the design of the trials. It will be extended with third-party solutions when required by the Trials, allowing for the introduction of solutions already used by practitioners or relevant to the Crisis Management field. Ultimately, it will be opened up for any external organisation to share data and experiences on solutions, which should in turn ease the successful implementation and usage of solutions by other practitioners.

In the DRIVER+ context, a PoS has distinctive meanings:

It includes a set of building blocks (DRIVER+ Solutions) that can be used in trials and beyond. These solutions are adapted to the DRIVER+ Test-bed and the Trials. This includes the integration of the tools in the Test-bed, the integration testing, resolving of the technical issues and the documentation of the solutions in a trial-independent manner.

The PoS is a database driven website aiming to document all the available DRIVER+ Solutions. It will contain much of the information that is being gathered while applying the Trial Guidance Methodology.

The results of the assessment of the solutions and outcomes of the Trials will be stored and made accessible via the PoS database, downloadable in PDF format.



## WHERE IS IT?

IT'S ONLINE!

Visit it now on <http://pos.driver-project.eu/>

# TRIALS

## TOWARDS INNOVATIVE SOLUTIONS

### WHY ORGANISE TRIALS?

#### ASSESSING AND EVALUATING SOLUTIONS IN REALISTIC ENVIRONMENTS

The DRIVER+ approach takes as a starting point the fact that there is a strong innovation momentum present in the Crisis Management community. At the same time, there is inertia to change, which can prevent this momentum from resulting in sustainable improvement. This points to the need for a better evidence base for Crisis Management capability investment decisions.



Innovation is critical but will only be successful if it is relevant and accessible to practitioners and operators. Many crises involve interfacing diverse Crisis Management systems and solutions. Major crises can also frequently involve more than one country or region, which may have differing Crisis Management infrastructures and cultures. It is also highly likely that this will necessitate interfacing different systems and combining different solutions.

Crisis Management innovation must therefore be capable of meeting these multifaceted challenges and delivering solutions that are modular, flexible and adaptable.



These solutions must be tested and validated in realistic environments; they must be evaluated to assess their true benefits and for their overall suitability, before being adopted by end-users.

A series of four Trials and a Final Demonstration will be conducted. The aim is to investigate innovative solutions under simulated crisis conditions, by gradually adapting them to operational constraints, as well as creating acceptance among users through their active involvement and by providing evidence to decision makers that they are cost-effective.



## IDENTIFYING THE GAPS TO BE BRIDGED

### ASSESSING AND IMPROVING

DRIVER+ seeks to improve the way capability development and innovation management are tackled, by testing and evaluating solutions that address the operational needs of practitioners dealing with Crisis Management (CM). Therefore, it is of utmost importance for the project to start by understanding what are the main problems that CM practitioners are currently facing and build upcoming DRIVER+ activities on this basis, to ensure that the project results correspond to the practitioners needs.



In January 2018, DRIVER+ drew up a list of 21 gaps organised in five CM functional domains: decision support; information sharing and coordination; engaging the population; resource planning and logistics, casualty management. Starting first by identifying and describing the CM capability gaps faced by the end-users involved in the project, this initial set of gaps was then challenged and enriched through an in-depth analysis of the available literature in this field and during an assessment and validation workshop involving the wider CM community.

The four Trials to be conducted during the project duration will therefore focus on these capability gaps, i.e. “the difference between a current capability and the capability considered necessary for the adequate performance of one or more disaster management tasks”, as identified by the CM practitioners.

## HOW DO WE PICK THE SOLUTIONS TO BE TESTED?

### DRIVER+ CALLS FOR APPLICATION

For each of the Trials, a Call for Application is launched to identify innovative solutions that address the identified gaps and which will help the emergency services manage major crisis more effectively and more efficiently. Both internal and external applicants interested in submitting an application are invited to answer the same set of questions, which subsequently ensures a fair and equitable comparison. On the basis of these answers, the solutions to be tested are selected.

<b>Mission</b>	How does the solution contribute to crisis management?
<b>Integration</b>	How is it integrated into the existing crisis management operations?
<b>Readiness</b>	How mature is the solution and has it been tested or proved?
<b>Motivation</b>	How does the solution address the problems of practitioners?
<b>References</b>	Which references on the provider’s experience and solution application exist?
<b>Resources</b>	Which resources are needed to operate the solution?
<b>Know-How</b>	What expertise is needed to operate the solution?
<b>Platform</b>	On which platforms (e.g. technical/organisational) is the solution available?
<b>Technique</b>	On which technique (or technology if applicable) is the solution based?
<b>Investment</b>	Which investments are necessary to deploy the solution?

#### Trials selection criteria

# TRIAL #2

VALABRE, FRANCE - 22-26 OCTOBER 2018

## IN A NUTSHELL

### WHAT? WHY?

As Europe is facing one of the most intense heatwaves in its history, forest fires are raging from Sweden to Greece, with people forced to flee their homes and a staggering amount of casualties. In light of such dramatic events, new solutions are needed to better respond to these complex crises. In the context of its second Trial, the DRIVER+ project will test innovative Crisis Management solutions in a scenario that simulates a large forest fire occurring in a cross-border Mediterranean environment.

The aim of this Trial is to improve cooperation and coordination between several organisations and agencies from the same or different countries using innovative solutions for large scale and complex multi-event crisis. It will also evaluate the DRIVER+ Test-bed and methodology that has been developed. The event will be held over three days and will include various trial sessions.

## ORGANISATION

### WHO? WHERE?

The second DRIVER+ Trial is organised at Valabre (<http://www.entente-valabre.com>), a French public organisation for Civil Protection. It gathers a training school for fire fighters (ECASC), a test and research center (CEREN), and a technology development department (PONT), which works notably on enhancing GIS solutions for civil protection.



**Gap 1:** Shortcomings in the ability to exchange crisis-related information among agencies and organisations (also referred to as interoperability).

**Gap 2:** Limits in the ability to ensure a common understanding of the information exchanged (terminology, symbology) by all crisis managers and incident commanders involved in the response operations.

**Gap 3:** Insufficiency in the ability to incorporate accurate and verified information from multiple and non-traditional sources (e.g. crowdsourcing and social media) into response operations.

**Gap 4:** Lack of efficient coordination mechanism to overcome the limited capacity to deal with large numbers of severely burned casualties at member state level.

**Gap 5:** Limited ability to identify the location of injured/trapped/deceased casualties in large forest fires.

**Gap 6:** Barriers in capability to provide medical assistance to casualties by either transporting them to a safe place or bringing emergency medical service to the scene (when medical care is not provided by firefighters' units).

### List of selected and validated gaps

## TRIAL SCENARIO

### LARGE FOREST FIRE IN A MEDITERRANEAN ENVIRONMENT

A large forest fire is threatening wildland and urban interfaces in a Mediterranean environment (southeast of France). The hazard develops rapidly and the resources of the departmental fire brigade are soon exceeded, requiring support from other fire brigades (with coordination at regional level) and national means' deployment of water bomber aeroplanes.



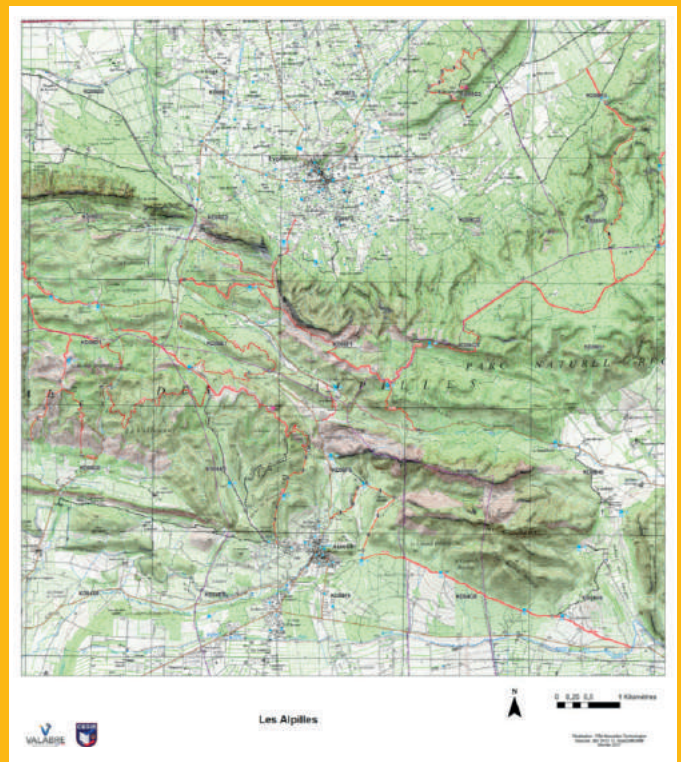
The forest fire risk is estimated as exceptional, and several major fires are already ongoing, therefore France has activated the European Mechanism. As a result, two Italian sections of ground means have been prepositioned in the south east of France, ready to be deployed upon request.

The direction of the wind pushes the fire towards human settlements (isolated housing, a camping) and activities (a SEVESO type industrial facility) creating cascading effects.

The main mission objective for the Trial 2 scenario is to “suppress the fire”, in order to (according to the

French doctrine): 1. Protect people ; 2. Protect goods and infrastructures ; 3. Protect the environment.

The overall mission is carried out under the command of the Incident Commander (senior fire officer). Coordination between agencies (firefighters' chain of command from two countries, environmental protection agency and emergency medical support) and countries, as well as horizontal and vertical information exchange are identified as major issues.



In total 23 submissions were received from the Call for Applications for Trial #2. A comprehensive review resulted in the solutions being assessed against their general crisis management support and their applicability in the Trial scenario. Nine solutions were pre-selected and seven of them were presented during a Workshop held in Valabre on 15th and 16th May 2018.

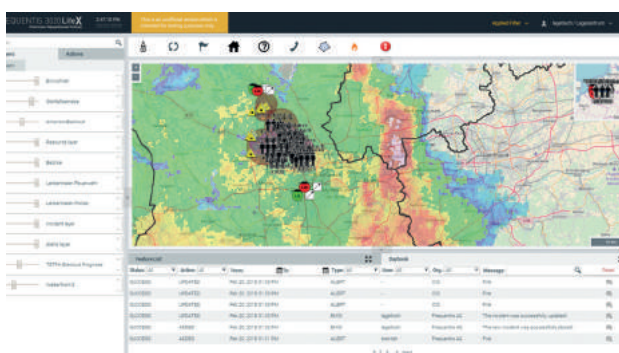
Four solutions have been selected to be tested in Trial #2. They will be operated during Trial #2 by practitioners playing their own role. They will then evaluate the added value of the solutions together with crisis management experts observing the Trial sessions. It is expected that the solutions will facilitate the processes of managing crises in similar types of incidents. It is expected that the selected solutions shall facilitate the sharing of information between and across organisations, improve situation assessment capabilities, eventually supporting decision-making.

# LIFE-X COP

## FREQUENTIS

### ABOUT THE SOLUTION IN A NUTSHELL

Decision makers in disaster management need to get an overview of the general situation (affected area, critical infrastructure ...) and information about current events and response activities (incidents, hazards, resources and capabilities, operation areas).

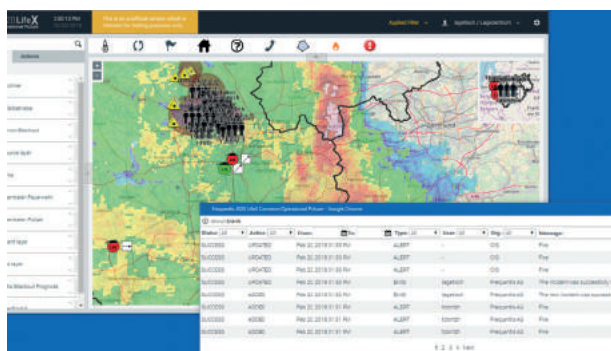


LifeX COP is a web-centric multi-user solution to address the lack of a Common Operational Picture (COP) in the field of Crisis Management. LifeX COP is able to collect information from various data sources (static or dynamic) and present them in a map-centric user interface.

This information can be grouped in layers which can be arranged to improve the visibility of the

data. Additionally, information can be filtered so non-interesting data can be hidden from the user view. LifeX COP enables each user to add comments in a logbook that can be reviewed at any time. Information is presented both in a map view and list view. In terms of visual design, the graphic user interface is very dynamic allowing the user to decouple windows (map, logbook and list) to be arranged in a multi-monitor operation centre.

LifeX COP improves Crisis Management by improving the communication and collaboration especially in large disasters where many stakeholders are involved.



### ABOUT THE PROVIDER WHO ARE THEY?

Frequentis AG (Austria) has been active for 60 years in the development and delivery of control centre solutions for safety critical applications in particular Air Traffic Management (ATM) and Public Safety and Transport (PST). The activities

cover self-financed R&D and marketing of systems and products for this specific market.

**FREQUENTIS**



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## GAPS ADDRESSED

### WHAT DOES THE SOLUTION BRIDGE?

- Limits in the ability to merge and synthesise disparate data sources and models in real time (historic events, spreading models, tactical situation, critical assets map, etc.) to support incident commander decision making.
- Shortcomings in the ability to exchange crisis-related information among agencies and organisations (also related to as interoperability).
- Limits in the ability to ensure a common understanding of the information exchanged (terminology, symbology) by all crisis managers involved in the response operations.

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## CRISIS MANAGEMENT FUNCTIONS

### WHAT IT DOES

- **Determine the principles of information exchange:** Semantic mapping of codes can be configured, so simultaneous use of different icon sets for different user groups is possible.
- **Map the hazards per geographic area:** The solution presents in a map all information related to an event: incidents, alerts, resources, observations and sensor data; added manually and/or automatically. Information is organised in layers that can be changed individually (show/hide, sort and set transparency).
- **Detect pending emergencies and provide early warning:** The COP receives CAP messages from external systems via feeds.
- **Maintain shared situational awareness:** Based in a Server-Client architecture, all information immediately available for all users: information layers are automatically refreshed. The COP allows multiple clients to access to the WEB GUI for tactical and operational users. Users can add information (observations, alerts, resource need...) related to an incident, which can be shared among the rest of the users.

- **Conduct damage and risk assessment: Data acquisition:** Data is dynamically collected from the field, which will be both be presented as user friendly information as well as machine readable information. Situation analysis: There are alerts triggered by sensor values, using a configurable rules engine. Information layout: All information is available in two combined ways: Map and List view. The Map view provides information organised by layers, which can be enabled/disabled and manipulated. The Geo-referenced data is dynamically imported to create the layers. The List view, on the other hand, organises the information in lists.

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## PLANNED ACTIVITIES

### DURING THE TRIAL

- Life-X COP will be used by all players involved in the Trial (one unique instance is deployed and accessed by the participants) to perform the following main functions:
- Manage geographical Common Operational Picture based on reporting of other solutions.
  - Define danger zone(s).

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## TECHNOLOGY READINESS LEVEL

### SOLUTION MATURITY

- TRL 6 – Technology demonstrated in relevant environment

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## ULTIMATE GOAL

### SOLUTION MAIN OBJECTIVE

- The aim of the solution is to collect the available data and make it available to all concerned parties in a well-structured manner.

# CRISISSUITE

## MERLIN

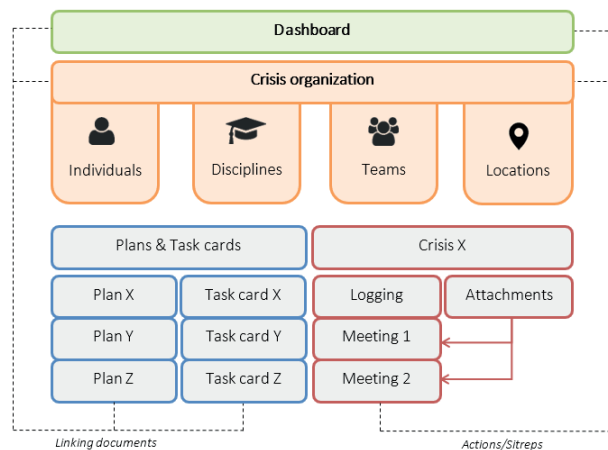
### ABOUT THE SOLUTION IN A NUTSHELL

CrisisSuite is an online software application enabling organisations to successfully manage information during a crisis. All crisis information is securely stored in the cloud and is available anytime, anywhere. This solution supports the netcentric working method (an information management approach) of crisis teams by creating an universal picture of the crisis by sharing it horizontally and vertically with all the other teams in the crisis organisation. It also assists in maintaining an effective crisis meeting structure and it decreases the administrative workload for the people managing the crisis.



Each member of a crisis organisation gets access to CrisisSuite and has their own personalised dashboard with the crisis plans that are relevant to them, an overview of the current crisis and

a list with all their unfinished actions for the current crisis.



The actions are immediately forwarded to the appropriate teams or individuals; and they, in turn, can indicate that the actions are being carried out or completed. At the same time, a reply can be sent as well. The crisis team can follow the proceedings of the actions in a simple overview.

Based on the log, the crisis team may compile situation reports (SitReps) and share them with individuals, teams or with the entire organization.

### ABOUT THE PROVIDER WHO ARE THEY?

Merlin Software B.V. develops practical software tools in the field of Crisis Management. These tools help an organisation to prepare for, respond to and learn from a crisis situation. Because crisis information is sensitive by nature, Merlin has spent the required efforts to obtain the ISO 27001 certificate for information security.

Merlin is affiliated with Parcival, specialist in Crisis Management and education, training and exercise.



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## GAPS ADDRESSED

### WHAT DOES THE SOLUTION BRIDGE?

- Shortcomings in the ability to exchange crisis-related information among agencies and organisations (also related to interoperability).
- Limits in the ability to ensure a common understanding of the information exchanged (terminology, symbology) by all crisis managers involved in the response operations.

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## CRISIS MANAGEMENT FUNCTIONS

### WHAT IT DOES

- **Communicate operational information across chain of command:** By storing all relevant operational information in a logbook, the chain of command can decide which parts to share. A logbook generally contains information about the current situation, the assessment of the situation (including anticipated changes) and the decisions and actions taken. Actions can automatically be sent down the chain of command to the people responsible for executing the actions.
- **Disseminate COP and assessment:** By selecting the relevant entries from the logbook in CrisisSuite, any team can disseminate their part of the COP with the relevant parties inside or outside of the organisation by sharing a situation report. Maintain shared situational awareness: By sharing the COP with any relevant parties a shared situational awareness is achieved. When a team receives multiple sitreps from other teams they can compile an aggregated sitrep to publish a higher-level overview of the current situation.
- **Support C3 decision making:** By supporting crisis managers and commanders in decision making by sustaining and sharing the COP with relevant information that is needed to make the right decisions at the right time.

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## PLANNED ACTIVITIES

### DURING THE TRIAL

CrisisSuite will be deployed in three instances:

- Instance A is used by the firefighters' command chain: COGIC, COZ, CODIS, incident commander, field command post, advanced medical post and transit point officer.
- Instance B is used by the Environmental Protection Agency (DREAL).
- Instance C is used by the Italian fire fighters' command chain.

The solution will perform the following main functions:

- Provide a centralised platform for the exchange of formal and informal information.
- Manage the overall tasking of all organisations involved (task definition, progress management).
- Manage the overall crisis day log of all organisations involved.
- Manage SITREP generation based day log.

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## TECHNOLOGY READINESS LEVEL

### SOLUTION MATURITY

- TRL 9 – Actual system proven in operational environment

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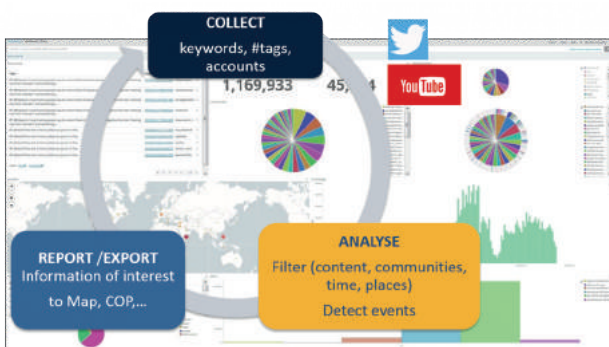
## ULTIMATE GOAL

### SOLUTION MAIN OBJECTIVE

- The aim of this solution is to successfully manage information during a crisis. This implies that all involved officers have access to the right information at the right time, in order to make the right decisions.

## ABOUT THE SOLUTION IN A NUTSHELL

Social media contains precious information which can bring an important contribution to situation assessment. This information can concern the incident(s) itself, the impact or the needs of the population affected by the crisis.



When trying to take this information into account, crisis managers face a major challenge which is finding relevant pieces of information in a huge volume of information. Social Media Processing automates a user-defined collection process and proposes content mining tools based on content analysis and network analysis to find the relevant information.

## ABOUT THE PROVIDER WHO ARE THEY?

Thales SIX supplies defence and security customers with secure communications and resilient network, intelligence and surveillance systems, command and control systems and information systems security solutions.

Thanks to its Big Data infrastructure, SMAP (Social Media Analysis Platform) is able to process the volume of data generated by Social Media (Twitter and YouTube). This solution offers automated support for the selective collection of posts from social media, which enables the collection and storage of large amounts of posts (several million).

It also offers advanced filtering functions based on content, time and space, which should bring some significant benefits to the use of social media in crisis finding relevant crisis information faster, and with more success.

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## GAPS ADDRESSED

### WHAT DOES THE SOLUTION BRIDGE?

- Insufficiency in the ability to incorporate accurate and verified information from multiple and non-traditional sources (e.g. crowdsourcing and social media) into response operations.

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## CRISIS MANAGEMENT FUNCTIONS

### WHAT IT DOES

- **Provide for crowd sourcing:** the crisis managers are able to mine the social media data and find incident-related information. The solution also enables the collection of specific accounts (potentially pre-registered trusted volunteers) and gives the ability to filter the social media data by accounts.
- **Address the need of vulnerable population:** SMAP provides the ability to collect information related to needs of the population which is posted in social media.
- **Maintain shared situational awareness:** the solution supports situation awareness by providing a view on incident, needs, damages as reflected in social media.

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## PLANNED ACTIVITIES

### DURING THE TRIAL

SMAP will be used by the Social Media manager who is part of the CODIS team.

The SMAP Solution will perform the following main functions:

- Collect Twitter data relative to a given crisis.
- Filter down collected information to identify Tweets of Interest.
- Send Tweets of interest to Common Operational Picture.

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## TECHNOLOGY READINESS LEVEL

### SOLUTION MATURITY

- TRL 5 – Technology validated in relevant environment

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## ULTIMATE GOAL

### SOLUTION MAIN OBJECTIVE

- The aim of this solution is to support the Social Media Managers in their search for crisis related information in Twitter during a specific crisis.

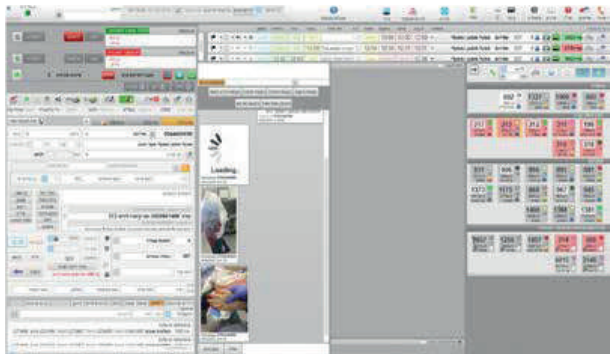
# MDA COMMAND & CONTROL

## MDA

### ABOUT THE SOLUTION

#### IN A NUTSHELL

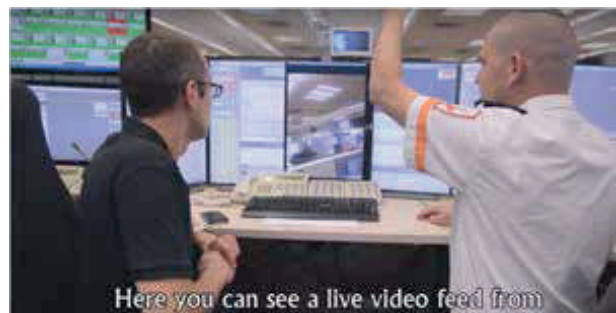
In a medical emergency, every second counts. MDA Command & Control aims to create an integrated system that allows the dispatcher to manage the scene in the most efficient way. This solution is made of different modules and allows the dispatcher to receive a layout of all the critical information needed, for example, the patient's vital medical information or current traffic.



The system is built to cope with the management of thousands of different operational events in real time, while putting an emphasis on the optimal use of the information resources. It allows for efficient, real time response to tasks in the

field (e.g. people in need for medical assistance) by allocating the site, the resources needed and available, tasking the resources and following up the accomplishment. This can be achieved for a large number of incidents simultaneously and for a large number of resources to the same task, grouping them if needed. The system receives and disseminates information to dedicated apps both used by the general public as well as by team members and volunteers.

With this solution, practitioners are able to : manage the vehicle fleet, dispatch rescue vehicles, mark the arrival status of rescue vehicles, include the option for video conference calls, send relevant information to hospital.



### ABOUT THE PROVIDER

#### WHO ARE THEY?

Magen David Adom (MDA) is the National Emergency Medical Service (EMS) for the state of Israel, National Blood Service and the National Red Cross Society. MDA has the responsibility to prepare for, respond to and learn from all health-related emergencies. MDA is involved in preparing for and responding to various disasters (conflict related, natural and technological),

by preparing the protocols, purchase of the equipment, training of staff and volunteers. MDA has vast experience in working with Ben Gurion international airport on its emergency plans. MDA has invested in the preparedness for a “unusual biological event”.



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## GAPS ADDRESSED

### WHAT DOES THE SOLUTION BRIDGE?

- Lack of efficient coordination mechanism to overcome the limited capacity to deal with large numbers of severely burned casualties at member state level.
- Limited ability to identify the location of injured/trapped/deceased casualties in large forest fires.
- Barriers in capability to provide medical assistance to casualties by either transporting them to a safe place or bringing emergency medical service to the scene (when medical care is not provided by firefighters units).

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## CRISIS MANAGEMENT FUNCTIONS

### WHAT IT DOES

- **Activate Crisis Management bodies:** The system allows emergency response resources to be dispatched to the scene.
- **Manage volunteers:** Volunteers are activated through the system and the apps and their actions are followed.
- **Conduct incident or emergency response:** The main objective of the system is to conduct a response to an emergency situation or to many emergency situations.
- **Deploy first responders:** the system is about the deployment and follow up to the functions of the first responders on the scene.
- **Develop and sustain a Common Operational Picture (COP):** The system integrates information from numerous sources on a real-time basis, creates a real live COP that is shared through the dedicated apps with the respective managers.

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## PLANNED ACTIVITIES

### DURING THE TRIAL

- MDA Common & Control will be used by Emergency Medical Services (EMS) headquarters and the firefighters' advanced medical post. This Solution will perform the following main functions:
- Call taking.
  - Dispatching EMS vehicles to collect the victims and send them to hospital.
  - Route EMS vehicles avoiding danger area(s).
  - Report on victims' status and victims being sent to hospital.

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## TECHNOLOGY READINESS LEVEL

### SOLUTION MATURITY

- TRL 9 – Actual system proven in operational environment

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## ULTIMATE GOAL

### SOLUTION MAIN OBJECTIVE

- The aim is an improved coordination between Fire services and regular EMS as well as an improved continuity in the management of victims' information.

# FUTURE

## WHAT WILL HAPPEN AFTER TRIAL #2?

This Trial is the second to a series of further Trials and various events. Two more Trials will be organised to operationalise and test Crisis Management solutions. They will all incorporate the lessons learnt and outcomes of Trial #2.

### Third Trial – The Netherlands

It will be organised on May 2019. The main objective of this Trial will be to find solutions for shortcomings in managing and planning large scale evacuation of the population in urban areas and to find solutions in managing the side effects.

### Forth Trial - Austria

It will be held on September 2019 to evaluate a selection of tools contributing to international or national Crisis Management processes, especially in the fields of: volunteer management; standardisation for representation of information; flexibility and ability to interoperate; and improvement of the vertical workflow (up and down) of information.

### Call for application for the forth Trial: Do not miss the opportunity!

The forth Call for application has been launched on 1st October 2018. If you would like to share your innovations with the Crisis Management community and are developing and deploying socio-technical solutions for first responders, consult our website to take part in this call:

<https://www.driver-project.eu/collaborate-with-us/call-for-applications-2/call-for-application-trial-austria/>

### The 4th edition of the Innovation for Crisis Management (I4CM) event: Mark your agenda!

The next edition of the I4CM will be held in June 2019 in Copenhagen, Denmark. This event will contribute towards building a shared understanding in Crisis Management across Europe. With the focus on key Crisis Management topics, like volunteers, this I4CM will address issues of common interest, develop synergies between initiatives, and to discuss the research roadmap for Horizon 2020 and beyond. More information to come, stay tuned!





## CMINE: Crisis Management Innovation Network Europe

The CMINE, which will be launched in December 2018, is intended to become an active and structured Community of Practice in the field of Crisis Management. It will be closely aligned with the Community of Users (CoU) initiative run by DG HOME and will complement other already existing communities, such as the Civil Protection Forum. The CMINE is designed to become an overarching Crisis Management network both at the EU level and beyond, creating a community of various types of stakeholders (including practitioners, policy makers, industry representatives, academia, civil society, and private bodies) that are involved in Crisis Management – providing a platform to link them together. The CMINE will facilitate exchanges between these stakeholders, in which challenges in the Crisis Management domain can be addressed, best practices can be exchanged, and solutions can be shared. The CMINE is an in-person and online community and will include live meetings as well as online discussions. The CMINE will closely follow up the outcomes of all Trials.



## DRIVER+ External cooperation platforms

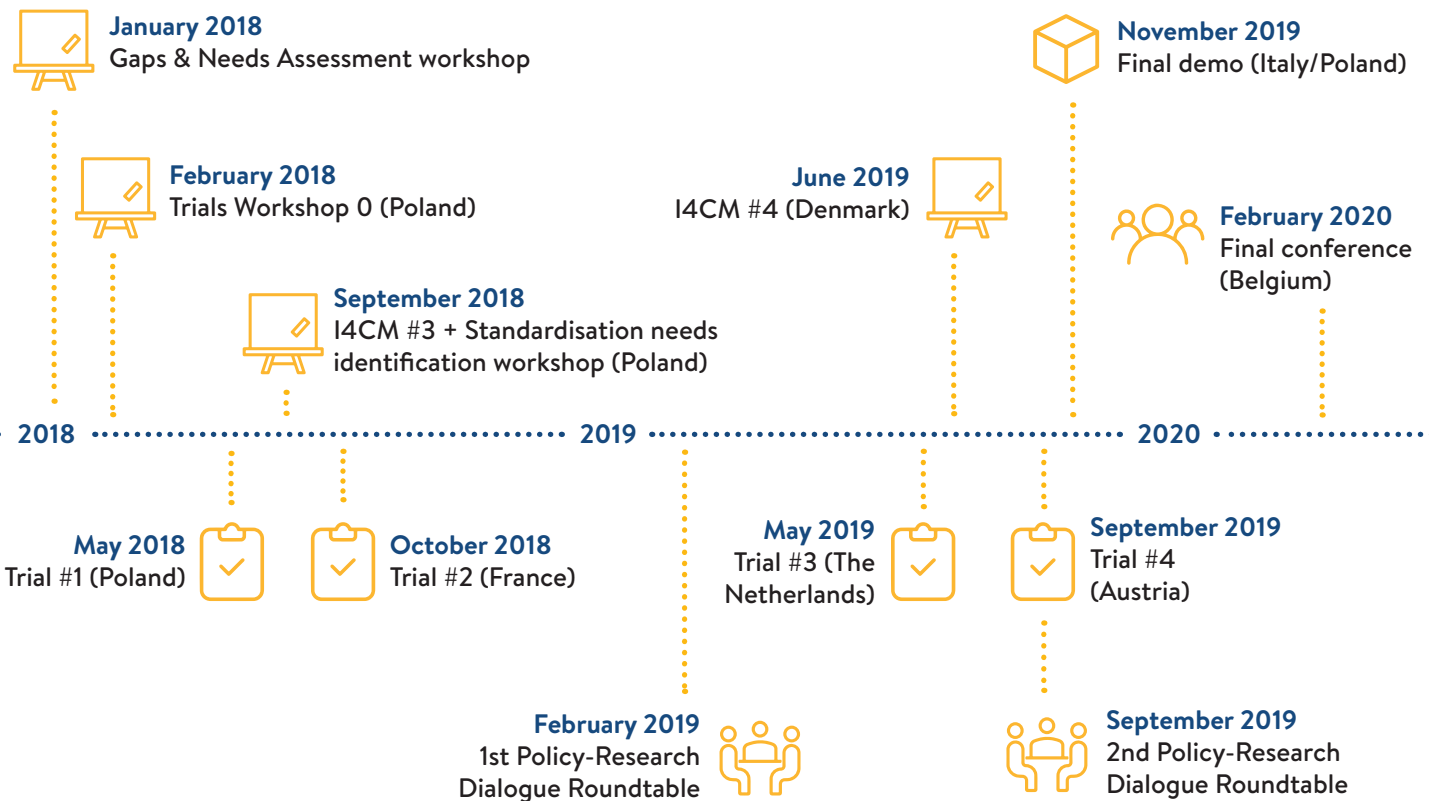
DRIVER+ follows an open and inclusive approach and invests significant efforts for involving external stakeholders in the project's activities through concrete external cooperation actions. The consortium seeks to closely work with innovative solution providers, interested and concerned practitioners that may benefit from the results of the project. To this end, two external cooperation platforms have been created: DRIVER+ External cooperation platform for Practitioners and DRIVER+ External cooperation platform for Solutions Providers. These platforms are supported by an online tool: the Community Management Tool (CMT). This is the online meeting place for the platform members to interact and share information, experiences and best practices. You will find more information on DRIVER+ website:

<http://www.driver-project.eu/collaborate-with-us/external-cooperation-platforms/>

# LET US HEAR YOUR VOICE

## CONTRIBUTE TO INNOVATION IN CRISIS MANAGEMENT

Are you a Crisis Management practitioner or solution provider? Are you a policy-maker impacted by Crisis Management issues? Are you involved in a related project or initiative? Your participation in the DRIVER+ activities is important to us and will help us to align with and to follow-up on relevant policies, challenges, gaps and community needs faced within the wide spectrum of thematic areas dealing with Crisis Management. To ensure that our activities are conducted taking into account your expertise and the technological state-of-the-art, we warmly invite you to take part in DRIVER+.



**CONTACT US NOW!**  
DRIVER-PROJECT.EU

More information about the project - [coordination@projectdriver.eu](mailto:coordination@projectdriver.eu)  
Interested in collaborating with us? - [cooperation@projectdriver.eu](mailto:cooperation@projectdriver.eu)  
Communication and media contact - [communication@projectdriver.eu](mailto:communication@projectdriver.eu)



Research Operational needs  
Lessons learned  
Shared Understanding  
Trials Guidance Methodology  
Knowledge base  
Reference implementation Tools Pragmatic  
European Test-bed  
Crisis Virtually connected facilities  
Unpredictability  
Management  
Challenges Innovative solutions  
Cooperation Experience  
Innovation Disasters  
Crisis Labs  
Analysis Trial-driven development  
Portfolio of Solutions  
Practitioners



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