

TEST-BED

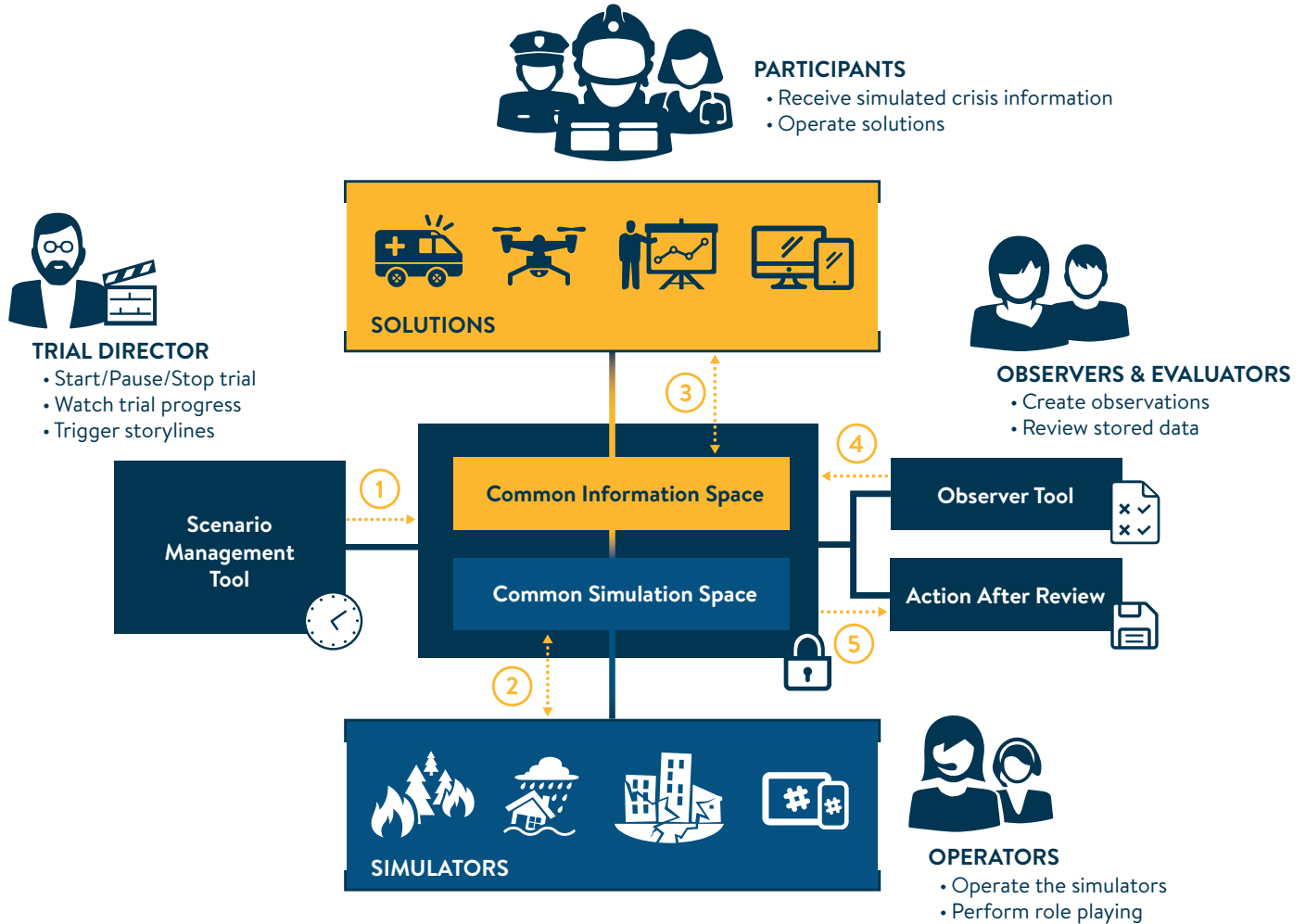
A PAN-EUROPEAN INFRASTRUCTURE



Driving Innovation in Crisis Management
for European Resilience

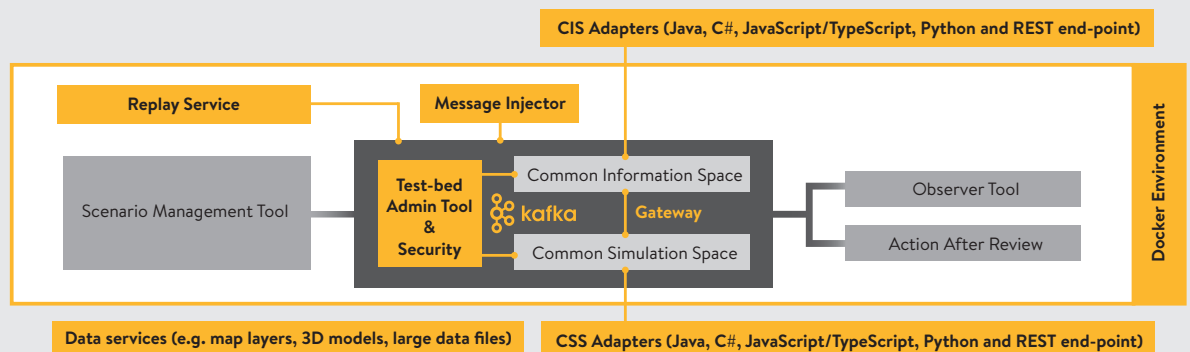
To facilitate preparing, executing and evaluating a Trial, the Test-bed offers you software components to:

- 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.

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.



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 effectively evaluated 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 Trial execution, 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 quickly create observations targeted at specific moments in time during the Trial. Photos can be added, such 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.

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.