driver+

Driving Innovation in Crisis Management
for European Resilience

Test-bed
Technical Infrastructure

TEST-BED TECHNICAL INFRASTRUCTURE

A TOOLKIT TO FACILITATE THE ASSESSMENT OF INNOVATIVE SOLUTIONS IN CRISIS MANAGEMENT

In 2014, dedicated and forward-thinking practitioner organisations, research institutes, industries and SMEs teamed up to drive innovation in crisis management for European resilience. The DRIVER+ project valorises the wealth of European innovation in crisis management through approaches that seek to improve the way capability development is tackled and potentially innovative solutions are assessed.

DRIVER+ has committed to deliver five sustainable outputs to the European crisis management community: a Trial Guidance Methodology, a Test-bed Technical Infrastructure, a European Crisis Management Innovation Network, a Portfolio of Solutions and a pan-European Centres of Expertise network.

WHAT IS IT?

Do you as a crisis management professional need to find a solution to a gap you experienced during operations, or perhaps, do you foresee an emerging need? The Test-bed Technical Infrastructure provides a toolkit to connect innovative crisis management solutions to each other and to your legacy system, to enable an exchange of information between them. This is referred to as the Common Information Space. In addition, different simulators can be connected to create a realistic crisis environment for you to try out a new solution. We call this the Common Simulation Space. It allows you to create a realistic environment in which you can trial solutions in a structured and systematic way following the Trial Guidance Methodology.

This technical infrastructure, which is free of charge and open source, consists of several software components to facilitate preparation, execution and evaluation of a Trial:

- 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

The Test-bed Technical Infrastructure can also support you to enhance the quality and realism of your training and exercises.

A European Committee for Standardisation (CEN) Workshop - Building a Common Simulation Space - is underway to define a technical infrastructure framework for connecting simulators.

WHO IS IT FOR?

Any organisation that wishes to support and run Trials to test new crisis management solutions, or to facilitate realistic training can use this toolkit. Training centres, practitioner knowledge centres, crisis management academies, and research & development institutions can all benefit.
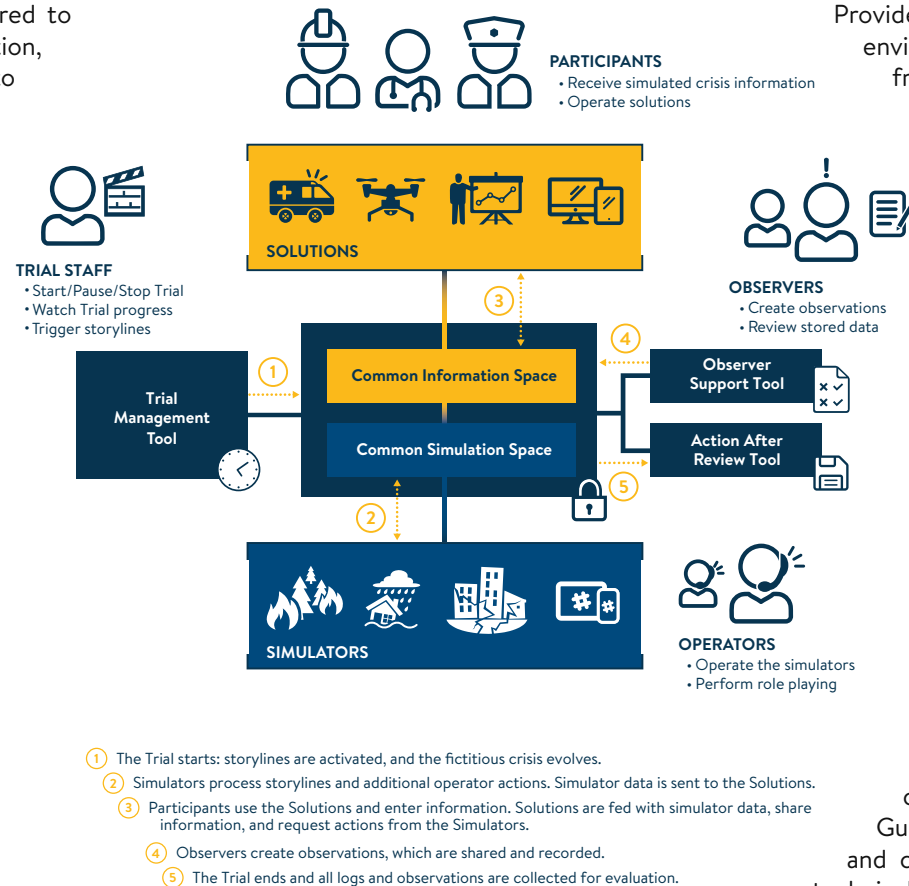
Providers of new solutions can test their innovations in a realistic environment and get meaningful feedback on their products from potential customers.

To support the use of the TTI, a Training Module (TM) has been developed providing education, practice and assignments via e-learning and face-to-face workshops. Next to technical explanation, this course covers all aspects of organising a Trial and is aimed at Trial organisers, solution providers and technicians. The TM is delivered as a complete training package, which means it can be hosted by several Centres of Expertise throughout Europe.

WHAT IS THE ADDED VALUE?

The Test-bed Technical Infrastructure allows for the integration of diverse solutions, simulators, Trial management as well as observation tools into a common platform for information exchange and cooperation. The Trials are designed by applying the Trial Guidance Methodology, while the TTI creates the realistic and controllable Trial environment. This methodological and technical support helps crisis management organisations avoid spending a great deal of money on acquiring and implementing solutions that turn out to have little added value.

Organisations can also contribute to upskilling and training of crisis management professionals by using the TTI in combination with existing tools and systems. Including these operational systems provides a high-fidelity training environment, and thereby crisis management staff can gain valuable experience and become better prepared to handle unforeseen situations during actual crises or incidents.

PARTICIPANTS
- Receive simulated crisis information
- Operate solutions

SOLUTIONS

TRIAL STAFF
- Start/Pause/Stop Trial
- Watch Trial progress
- Trigger storylines

OBSERVERS
- Create observations
- Review stored data

Trial Management Tool

Common Information Space

Common Simulation Space

Observer Support Tool

Action After Review Tool

SIMULATORS

OPERATORS
- Operate the simulators
- Perform role playing

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. Participants use the Solutions and enter information. Solutions are fed with simulator data, share information, and request actions from the Simulators.
4. Observers create observations, which are shared and recorded.
5. The Trial ends and all logs and observations are collected for evaluation.

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An animated video illustrating the Test-bed Technical Infrastructure can be found at:

https://youtu.be/rn1bxl53fpk

An animation with more technical background can be found here:
https://youtu.be/GI0RtSE5Tco

A more detailed description of the Test-bed Technical Infrastructure can be found here:
https://github.com/DRIVER-EU/test-bed-design

If you have any questions, please contact

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