TGM
Trial Guidance Methodology

driver+
Driving Innovation in Crisis Management
for European Resilience

Download the latest version of the TGM Handbook at:

https://tgm.ercis.org

If you have any questions, please contact us at
tgm@ercis.org

TGM
Trial Guidance Methodology

TRIAL GUIDANCE METHODOLOGY

A STRUCTURED APPROACH TO ASSESSING 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?

Many different innovative solutions are available to address the specific needs involved in improving crisis management. Before investing both time and money in figuring out which solution will best meet your needs, you may want to assess them in a non-operational context, such as in a Trial. The DRIVER+ project has developed a structured methodology called the Trial Guidance Methodology (TGM) to help you do this.

The TGM consists of three distinct, yet connected phases:

Preparation phase: The objective of this phase is to design your Trial. The design follows an iterative and non-linear six-step approach. It starts with the identification of the objectives and the formulation of the research questions. In the Trial, you should try to address the questions through an appropriate data collection plan as well as through evaluation approaches and metrics to analyse the data collected during your Trial. To do this, realistic scenarios must be developed and solutions to be trialled must be selected to figure out if they can be innovative.

Execution phase: This phase is much more than just the actual Trial. Before getting there, you need to check if you have everything you need to gather relevant data. After checking and testing, you are ready to run your Trial.

Evaluation phase: This phase amounts to a systematic assessment of the potential added value of the solutions that were trialled. When the analysis is done, you are ready to sum up the results, providing evidence on the impact of the solutions and to disseminate the results within and beyond your community.

The TGM gives step-by-step guidelines to carry out a robust assessment of the solutions through recommendations from the preparation phase until the evaluation of the results.

To support the application of the TGM two additional components were developed. The **Trial Guidance Tool (TGT)** supports the application of the TGM via a software tool, while the **Training Module (TM)** provides a complete training package via e-learning modules and face-to-face workshops. Given the significant standardisation potential, the TGM is subject of a Workshop Agreement of the European Committee for Standardisation (CEN).

WHO IS IT FOR?

The TGM is specifically designed for:

Crisis management practitioners who have identified one or more gaps, or have in mind solutions that can address these gaps

Professionals, dealing with research and innovation, for instance at an innovation department of a crisis management organisation

Designing a Trial using the TGM is a collaborative effort involving various stakeholders in a co-creation process. Other interested stakeholders may include solution providers, R&D organisations, universities and consultancy organisations.
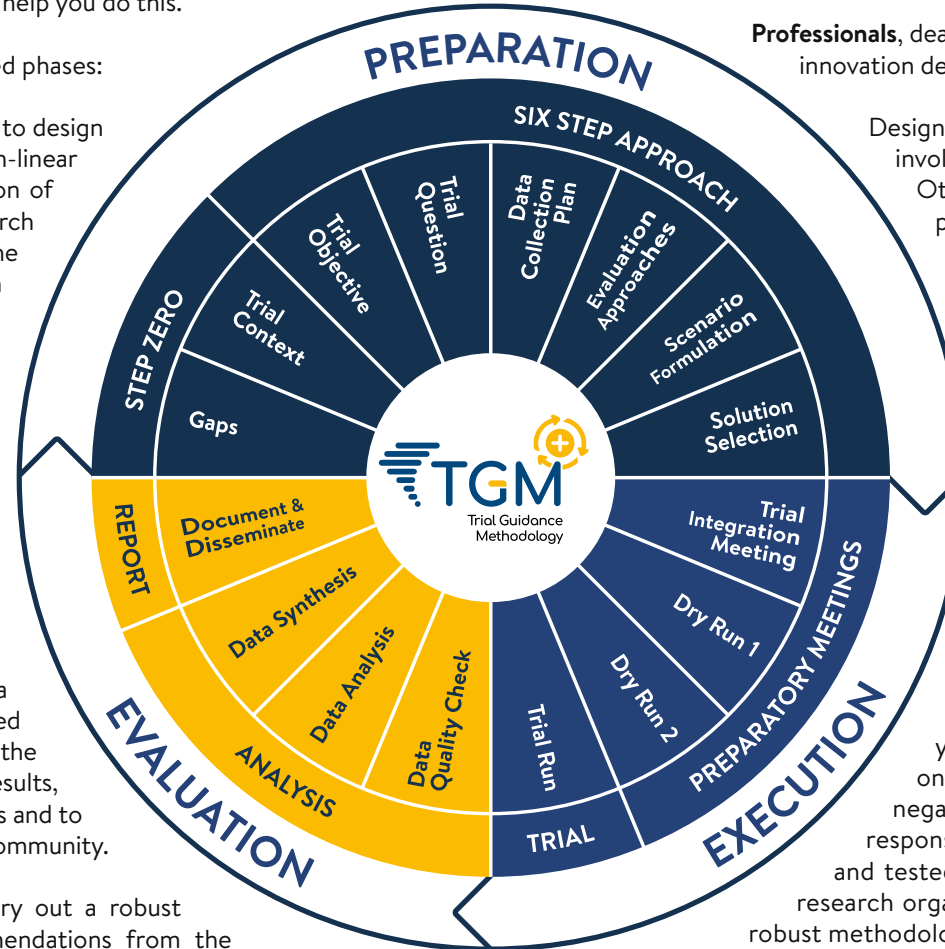
WHAT IS THE ADDED VALUE?

With the help of the TGM, you can assess the potential impact of a change brought by a solution on the socio-technical set-up of a crisis management organisation. Crisis management organisations often face difficulties in assessing the potential impact and benefits of new solutions. Investments in new, yet inappropriate socio-technical solutions not only produce significant costs but may also have a negative impact on the operational performance of response organisations. The TGM has been co-developed and tested in various Trials with practitioner organisations, research organisations and solution providers. It has become a robust methodology to evaluate innovative solutions.

CMINE
Fostering Innovation in
Crisis Management

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Driving Innovation in Crisis Management
for European Resilience

Join the community and become part
of this compelling initiative

www.cmine.eu

If you have any questions, please contact the
Resilience Advisors Network at
cmine@resilienceadvisors.eu

CMINE
Fostering Innovation in
Crisis Management

CRISIS MANAGEMENT INNOVATION NETWORK EUROPE

A COMMUNITY OF PRACTICE TO FOSTER INNOVATION IN CRISIS MANAGEMENT AND DISASTER RISK REDUCTION

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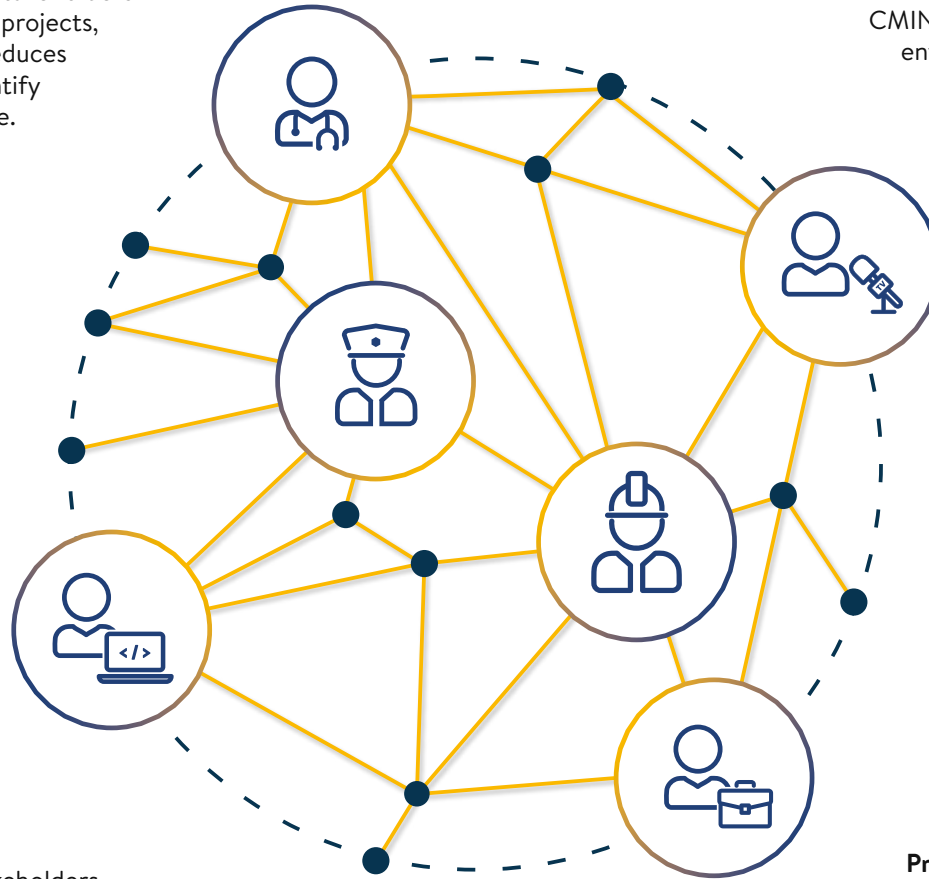
WHAT IS IT?

The Crisis Management Innovation Network Europe (CMINE) is a community of practice that fosters innovation and enhances a shared understanding in the fields of crisis management and disaster risk reduction in Europe. CMINE is creating an umbrella network of stakeholders active in crisis management by linking existing projects, networks and initiatives. By doing so, CMINE reduces fragmentation, generates ideas and helps to identify innovative solutions to improve European resilience.

CMINE comprises an online community platform and face to face meetings and workshops with the aim of tackling current and future challenges and facilitating the uptake of research and innovation by practitioner organisations. Different task groups have been set up to develop approaches aimed at resolving current issues in various crisis management domains, such as floods, wildfires or volunteer management.

CMINE is designed to evolve continuously through collaboration with the aim of becoming a pan-European platform, which is centred on the exchanges between various crisis management professionals.

WHO IS IT FOR?

CMINE brings together a diverse group of stakeholders that would not normally interact with each other on a regular basis. This includes policymakers, practitioners, members of the private sector, NGOs, science & research, training & exercising, media and standardisation representatives.

WHAT IS THE ADDED VALUE?

CMINE offers its members an online and offline environment to actively engage with other crisis management professionals. Its guiding principles and ambitions are to:

Become a platform for crisis management innovation in Europe: Share and discover key information such as results of research projects and cutting-edge crisis management solutions and stay up to date on crisis management news and events

Foster multi-stakeholder and cross-sectoral interaction: Join a diverse group of stakeholders active in crisis management, share knowledge, generate ideas and work together to solve current and future challenges

Engage with the professional community: initiate and participate in discussions about the latest developments and future trends in different crisis management domains, such as wildfires or floods

Provide visibility and networking opportunities to the crisis management community: Showcase your results (both EU-funded and national research projects) to increase visibility, while expanding your networks through our expert database

CoE
Centre of Expertise

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Driving Innovation in Crisis Management
for European Resilience

Download the toolkit and get your organisation ready:

https://www.driver-project.eu/centres-of-expertise-coe/

If you have any questions, please contact us at
coordination@projectdriver.eu

CoE
Centre of Expertise

CENTRES OF EXPERTISE

SERVICE PROVIDERS ADOPTING DRIVER+ OUTPUTS TO ENHANCE THE CAPABILITY DEVELOPMENT AND INNOVATION MANAGEMENT OF CRISIS MANAGEMENT PRACTITIONERS

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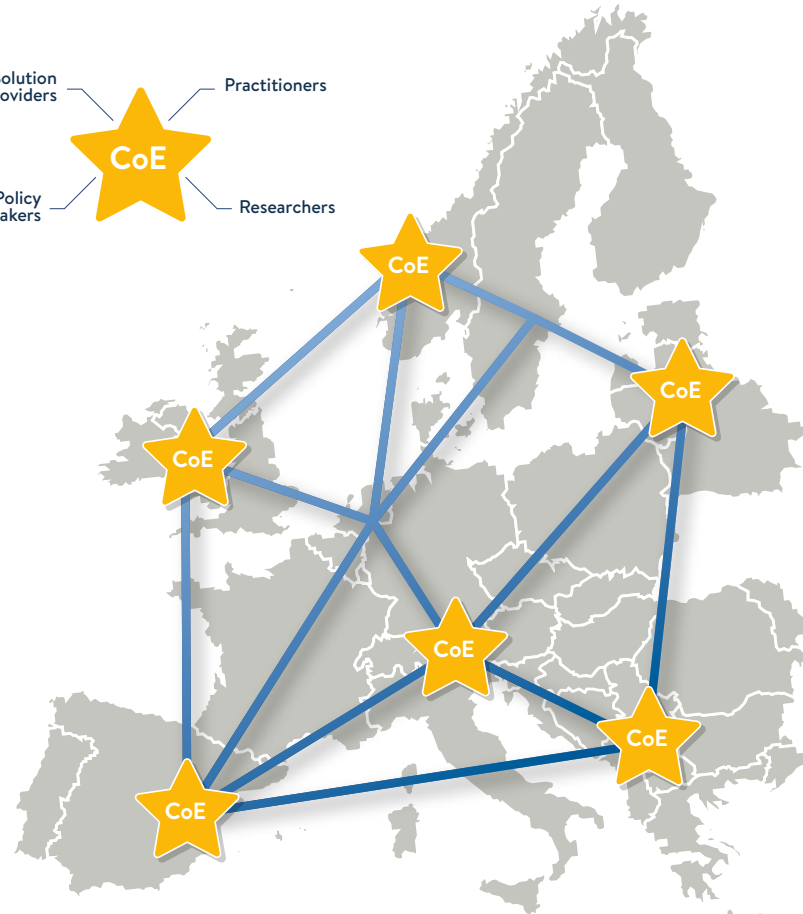
WHAT IS IT?

A Centre of Expertise (CoE) is an organisation operating in the domain of crisis management and disaster risk reduction that acts as the primary contact point for practitioner organisations at the national or regional level, supporting their capability development and innovation management. A CoE is considered as a final adopter and service manager of DRIVER+ products. It may choose to adopt the whole suite of DRIVER+ outputs or only some of its components. They will make sure other crisis management organisations have easy access to the products and will provide guidance and support on how to use them.

A CoE is free to tailor and adapt the DRIVER+ outputs to local or national needs, circumstances and capacities. It also maintains and updates the outputs and exchanges lessons learned between other Centres of Expertise in the various European Member States. In this way, CoEs become part of a pan-European network.

WHO IS IT FOR?

Organisations that already play a role in the capability development and/or innovation management of practitioner organisations are well-suited to adopt DRIVER+ outputs and become a Centre of Expertise. These may be national or regional training centres, crisis management academies and knowledge centres for specific crisis types such as forest fires.
They may cover a wide range of crisis management aspects or focus on a specific topic such as the usage of drones or training of fire fighters.
A CoE is a practitioner-centred organisation that has close relations with (applied) research organisations, solution providers and policymakers.

Solution providers — CoE — Practitioners

Policy makers — Researchers

WHAT IS THE ADDED VALUE?

Very likely, implementations and experiences will vary from organisation to organisations and between Member States. It is the responsibility of a CoE to gather these lessons learned and adapt, if necessary, the respective DRIVER+ products to organisational and/or national contexts. Sharing these experiences and lessons learned within the pan-European network of CoEs, is crucial. Only then the shared understanding in crisis management and a shared approach in practitioners' capability development can be achieved and further improved.

Becoming a Centre of Expertise will strengthen your pioneering position in the crisis management and disaster risk reduction ecosystem, both nationally and internationally. It will increase the visibility of your organisation at the EU level as an early adopter bringing forward innovation in crisis management.

Through this, you can expand and strengthen the portfolio of services that you already offer, for instance by sharing lessons learned and improving knowledge transfer between practitioners and research organisations. This can help developing new training programmes and improving curricula, as well as producing clear recommendations for policymakers about research programming and specific funding needs.

The DRIVER+ team has developed a toolkit to support you in jointly assessing the requirements for becoming a CoE, depending on which (combination of) outputs you wish to adopt.

PoS
Portfolio of Solutions

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Look for innovative solutions,
or add a solution yourself at:

https://pos.driver-project.eu/en

More technical information can be found here:
https://github.com/DRIVER-EU/PoS

If you have any questions, please contact

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PoS
Portfolio of Solutions

PORTFOLIO OF SOLUTIONS

AN ONLINE CATALOGUE TO ACCESS INFORMATION ABOUT INNOVATIVE SOLUTIONS FOR CRISIS MANAGEMENT

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WHAT IS IT?

The Portfolio of Solutions (PoS) is a state-of-the-art repository that provides an overview of innovative solutions for crisis management. The PoS is open to all interested stakeholders. The PoS is online, open-source and interactive, and matches available solutions (supply) with practitioner needs (demand).

For each solution, practitioners can share their user experiences and solution providers can give background information and offer support. The PoS therefore helps practitioners to decide whether a solution may be useful for them and provides support for the implementation and deployment of the listed solutions.

The PoS is a living platform where new solutions can be added and information updated at any time. Today, the PoS contains solutions that have been assessed within the DRIVER+ project as well as other third-party solutions.

You can easily search all available solutions within the PoS by using various filters such as by crisis cycle phase, innovation stage, crisis management gaps, crisis type and size.

The PoS is currently being scaled up and has the ambition to become the leading platform for crisis management solutions in Europe.

WHO IS IT FOR?

Do you, as a crisis management professional, need to fill a gap you experienced during operations, or do you foresee an emerging need? Do you want to scout the market for new trends and capability offerings? An innovative solution may already be available for you in the Portfolio of Solutions.

Are you a solution provider searching to improve your solutions' visibility and get to know your customers better? The PoS gives you the opportunity to showcase your solutions and to receive direct feedback from your target community.

Lessons identified
Gaps addressed
Knowledge database

EXPERIENCES

Shared place where stakeholders meet around solutions

PoS

SOLUTIONS

Crisis Management Functions
Technology Readiness Level
Innovation Stage

WHAT IS THE ADDED VALUE?

Practitioners can explore both available and emerging innovative crisis management solutions and learn which of them cover their needs. They do not have to rely solely on the information of the solution providers but get feedback from their peers as well.

Solution providers can use the Portfolio of Solutions to showcase their solutions. In particular, smaller and niche solution providers can benefit of this opportunity, given that a large marketing budget is not necessary to gain visibility through the PoS. The PoS therefore helps providers overcome the obstacles of a fragmented crisis management market, by allowing them to target their solutions directly towards the practitioner community.

The research community can use the PoS to study available solutions and understand specific gaps that should be addressed by further research. The presence of smaller and niche players is of particular value, as these players and their solutions are typically under-represented at main industry events.

By making it easier to adopt new, innovative solutions, the PoS contributes to a shared understanding of crisis management and an improved handling of crisis situations across Europe and beyond.

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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Steven van Campen – **vancampen@xvrsim.com**

TEST-BED TECHNICAL INFRASTRUCTURE

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

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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

Trial Management Tool

Common Information Space

Common Simulation Space

Observer Support Tool

Action After Review Tool

OBSERVERS
- Create observations
- Review stored data

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.