driver+

Driving Innovation in Crisis Management for European Resilience

D942.31 – REPORT ON TRAININGS FOR THE SELECTED SOLUTIONS

SP94 - TRIALS

FEBRUARY 2020 (M70)

This project has received funding from the European Union's 7th Framework Programme for Research, Technological Development and Demonstration under Grant Agreement (GA) N° #607798

Project information

Project Acronym:	DRIVER+
Project Full Title:	Driving Innovation in Crisis Management for European Resilience
Grant Agreement:	607798
Project Duration:	72 months (May 2014 - April 2020)
Project Technical Coordinator:	TNO
Contact:	coordination@projectdriver.eu

Deliverable information

Deliverable Status:	Final
Deliverable Title:	D942.31 – Report on trainings for the selected solutions
Deliverable Nature:	Report (R)
Dissemination Level:	Public (PU)
Due Date:	February 2020 (M70)
Submission Date:	28/02/2020
Subproject (SP):	SP94 - Trials
Work Package (WP):	WP942 – Solutions in Trials
Deliverable Leader:	FRQ
Reviewers:	Gerald Schimak, AIT Elisa Schroeter, DLR Alice Clémenceau, VALABRE Marcin M. Smolarkiewicz, SGSP
File Name:	D942.31 - Report on trainings for the selected solutions.docx
Version of template used:	V2.0 – June 2018

Revision Table

Issue	Date	Comment	Author
V0.01	08/05/2018	Initial draft, document structure	Joaquin Marquez-Bugella, FRQ
V0.02	23/05/2018	Add general principles of training	Joaquin Marquez-Bugella, FRQ
V0.03	28/05/2018	Add drawings to the general principles of training	Joaquin Marquez-Bugella, FRQ
V0.04	11/07/2018	Consolidation of the TOC and starting the introduction section	Joaquin Marquez-Bugella, FRQ
V0.05	08/08/2018	Restructuration of TOC, Section 2 and	Joaquin Marquez-Bugella, FRQ
V0.06	22/08/2018	Adding solution trainings feedback from Trial 1 execution	Ludwig Kastner, FRQ
V0.07	12/10/2018	Adding solution trainings feedback from Dry Run 2 of Trial 2	Ludwig Kastner, FRQ
V0.08	24/10/2018	Adding solution trainings feedback from Trial 2	Ludwig Kastner, FRQ
V0.09	17/04/2019	Adding solution trainings feedback from Dry Run 2 of Trial 4	Ludwig Kastner, FRQ
V0.10	28/05/2019	Adding solution trainings feedback from Trial 4	Ludwig Kastner, FRQ
V0.11	23/08/2019	Adding solution trainings feedback from Dry Run 2 of Trial 3	Ludwig Kastner, FRQ
V0.12	20/09/2019	Adding solution trainings feedback from Trial 3	Ludwig Kastner, FRQ
V0.13	25/09/2019	Review of current content	Miodrag Sajatovic, FRQ
V0.14	27/09/2019	Adding solution trainings feedback from Dry Run 2 of the Final Demonstration	Ludwig Kastner, FRQ
V0.15	02/12/2019	Adding solution trainings feedback from the Final Demonstration	Ludwig Kastner, FRQ
V0.16	04/12/2019	Adding lessons learned from the Final Demonstration	Ludwig Kastner, FRQ
V0.17	05/12/2019	Harmonizing lessons learned	Ludwig Kastner, FRQ
V0.18	09/12/2019	Adding attachment 1	Ludwig Kastner, FRQ
V0.19	10/12/2019	Adding attachment 2	Ludwig Kastner, FRQ
V0.20	11/12/2019	Adding attachment 3	Ludwig Kastner, FRQ
V0.21	16/12/2019	Adding attachment 4	Ludwig Kastner, FRQ
V0.22	16/12/2019	Adding attachment 5	Ludwig Kastner, FRQ

Issue	Date	Comment	Author
V0.23	16/12/2019	Adding attachment 6	Ludwig Kastner, FRQ
V0.24	16/12/2019	Adding attachment 7	Ludwig Kastner, FRQ
V0.25	18/12/2019	Adding attachment 8	Ludwig Kastner, FRQ
V0.26	19/12/2019	Adding attachment 9	Ludwig Kastner, FRQ
V0.27	20/12/2019	Adding additional figures	Ludwig Kastner, FRQ
V0.28	23/12/2019	Formatting figures and tables	Ludwig Kastner, FRQ
V0.29	09/01/2020	Formal review and final formatting	Hubert Künig, FRQ
V0.30	09/01/2020	Harmonizing content	Ludwig Kastner, FRQ
V0.31	09/01/2020	Harmonizing content	Ludwig Kastner, FRQ
V0.32.	13/01/2020	Internal review	Gerald Schimak, AIT
V0.33	13/01/2020	Internal review	Alice Clémenceau, VALABRE
V0.34	13/01/2020	Internal review	Adrian Bralewski, SGSP
V0.35	16/01/2020	Internal review	Elisa Schroeter, DLR
V0.36	20/01/2020	Updates resulting from internal reviews	Ludwig Kastner, FRQ
V0.37	22/01/2020	Formal updates resulting from internal reviews	Hubert Künig, FRQ
V0.38	24/01/2020	Spelling corrections in charts	Hubert Künig, FRQ
V0.39	29/01/2020	Training Material added to annexes	Hubert Künig, FRQ
V0.40	19/02/2020	Second Internal Quality Review	Gerald Schimak, AIT Elisa Schroeter, DLR Alice Clémenceau, VALABRE Marcin M. Smolarkiewicz, SGSP Hubert Künig, FRQ (edit.)
V0.41	21/02/2020	Final check and approval for submission	Alexander Scharnweber, DLR
V0.42	27/02/2020	Final check and approval for submission	Marijn Rijken, TNO, Project Director
V1.0	28/02/2020	Final check and submission to the EC	Francisco Gala, ATOS

The DRIVER+ project

Current and future challenges, due to increasingly severe consequences of natural disasters and terrorist threats, require the development and uptake of innovative solutions that are addressing the operational needs of practitioners dealing with Crisis Management. DRIVER+ (Driving Innovation in Crisis Management for European Resilience) is an FP7 Crisis Management demonstration project aiming at improving the way capability development and innovation management is tackled. DRIVER+ has three main objectives:

1. Develop a pan-European Test-bed for Crisis Management capability development:
    a. Develop a common guidance methodology and tool, supporting Trials and the gathering of lessons learnt.
    b. Develop an infrastructure to create relevant environments, for enabling the trialling of new solutions and to explore and share Crisis Management capabilities.
    c. Run Trials in order to assess the value of solutions addressing specific needs using guidance and infrastructure.
    d. Ensure the sustainability of the pan-European Test-bed.
2. Develop a well-balanced comprehensive Portfolio of Crisis Management solutions:
    a. Facilitate the usage of the Portfolio of Solutions.
    b. Ensure the sustainability of the Portfolio of Solutions.
3. Facilitate a shared understanding of Crisis Management across Europe:
    a. Establish a common background.
    b. Cooperate with external partners in joint Trials.
    c. Disseminate project results.

In order to achieve these objectives, five Subprojects (SPs) have been established. **SP91** ***Project Management*** is devoted to consortium level project management, and it is also in charge of the alignment of DRIVER+ with external initiatives on Crisis Management for the benefit of DRIVER+ and its stakeholders. In DRIVER+, all activities related to Societal Impact Assessment are part of **SP91** as well. **SP92** ***Test-bed*** will deliver a guidance methodology and guidance tool supporting the design, conduct and analysis of Trials and will develop a reference implementation of the Test-bed. It will also create the scenario simulation capability to support execution of the Trials. **SP93** ***solutions*** will deliver the Portfolio of Solutions which is a database driven web site that documents all the available DRIVER+ solutions, as well as solutions from external organisations. Adapting solutions to fit the needs addressed in Trials will be done in **SP93**. **SP94** ***Trials*** will organize four series of Trials as well as the Final Demonstration. **SP95** ***Impact, Engagement and Sustainability***, is in charge of communication and dissemination, and also addresses issues related to improving sustainability, market aspects of solutions, and standardization.

The DRIVER+ Trials and the Final Demonstration will benefit from the DRIVER+ Test-bed, providing the technological infrastructure, the necessary supporting methodology and adequate support tools to prepare, conduct and evaluate the Trials. All results from the Trials will be stored and made available in the Portfolio of Solutions, being a central platform to present innovative solutions from consortium partners and third parties, and to share experiences and best practices with respect to their application. In order to enhance the current European cooperation framework within the Crisis Management domain and to facilitate a shared understanding of Crisis Management across Europe, DRIVER+ will carry out a wide range of activities. Most important will be to build and structure a dedicated Community of Practice in Crisis Management, thereby connecting and fostering the exchange of lessons learnt and best practices between Crisis Management practitioners as well as technological solution providers.

Executive summary

One of the main objectives of the DRIVER+ Trials has been testing the acceptance of innovative aspects of involved solutions in the Crisis Management field by potential users. In order to enable a proper evaluation of these aspects, it must be ensured that any user operating new solutions had the chance to adequately familiarize themselves with these solutions. For this reason, several training sessions for solutions selected for DRIVER+ Trials were executed during the Dry Runs and repeated in the week of the Trial execution.

For all DRIVER+ solution trainings the "active learning" training method was applied, meaning that all training related activities had to be relevant, realistic, engaging, instructional and challenging. A main component of this training method is that all training participants had to focus on active problem solving using the solutions selected for the respective Trials. The DRIVER+ solution training coordinator was responsible for the organization of the solution trainings and had to assure that practitioners acquire the knowledge to use the solutions in the Trials properly. The solution training coordinator was in charge of the quality management for the trainings by performing reviews of all training materials and by collecting continuous feedback from the training participants.

The participants in the DRIVER+ Trials 1, 2 and 4 have mainly directly operated the involved IT solutions during the Trials execution. Thus, it was of highest importance that these participants get a profound knowledge about the general capabilities of each proposed new solution and learn to operate the solution in detail. As in Trial 3 and the Final Demonstration the selected solutions became more complex to be operated, it was decided that for those two events operators (mainly the solution providers) shall support the handling of the complex operations of the IT solutions. This allowed the practitioners to focus more on the scenario and on evaluating the benefits of each solution being less distracted by the technical handling of the IT solution.

Solution trainings were split into two parts - a short introduction part in form of a PowerPoint presentation was held for all participants of the Trial, explaining what a particular solution generally offers, while specific "hands-on" trainings presented the solution to participants in detail, explaining how this solution could be used within the Trial scenario context. Due to the limited amount of time the solution trainings were more and more focussing on the capabilities of the concerned solution which are most relevant for executing the Trial only. Personal computers were provided to the participants of the Trials, allowing them to directly verify each step in the "hands-on" manner during the second part of the solution training. Such an approach allowed for immediate clarification of questions. Instead of comprehensive manuals, brief tutorials were provided for each solution with focus on its functionality relevant for the Trial only.

Online questionnaires were filled by the participants after each of the "hands-on" trainings in order to collect information about the overall quality of the training, the trainer's performance and to gather feedback whether participants felt comfortable enough to use each solution during the Trial. A large part of this deliverable constitutes of the evaluation of this feedback, the lessons learned, and the corrective actions. Focussing on this point of view this document can serve anyone preparing future trainings for IT related solutions and thus contributes to the sustainability of the results of DRIVER+.

1. TABLE OF CONTENT

List of Figures

List of Tables

List of Acronyms

Acronym	Definition
3Di	One of the solutions trialled in the DRIVER+ project
AIT	Austrian Institute of Technology
ANSUR	Solution provider for the ASIGN solution
ASIGN	One of the solutions trialled in the DRIVER+ project
ATSA	Airborne and Terrestrial Situational Awareness (one of the solutions trialled in the DRIVER+ project)
CECIS	Common Emergency Communication and Information System
CM	Crisis Management
COP	Common Operational Picture
CSV	Comma Separated Values
DG	Directorate-General
DLR	Deutsches Zentrum für Luft- und Raumfahrt
DRC	Danish Red Cross
DRM	Drone Rapid Mapping
EASS	Estonian Academy of Security Sciences
ERCC	Emergency Response Coordination Centre
ERCC	Emergency Response Coordination Centre
EU	European Union
EUCP	EU Civil Protection
EUCPT	EU Civil Protection Team
EUCPT	EU Civil Protection Team
FD	Final Demonstration
FRQ	Frequentis
FRT	One of the solutions trialled in the DRIVER+ project: Field Reporting Tool
GHOR	Geneeskundige Hulpverleningsorganisatie in de regio (medical help organisation, part of SRH)
GMV	Solution provider for the SOCRATES OC solution
HumLogSim	One of the solutions trialled in the DRIVER+ project
ISO	International Standardisation Organisation
IT	Information Technology
JRC	Solution provider for the FRT solution
MDA	Solution provider for the MDA C2 solution

Acronym	Definition
MDA C2	One of the solutions trialled in the DRIVER+ project
NDMA	National Disaster Management Agency
OST	Observer Support Tool
ÖRK	Österreichisches Rotes Kreuz (Austrian Red Cross)
PC	Personal Computer
PFA	Psychological First Aid
PoS	Portfolio of Solutions
QWERTY	Typewriter-like keyboard layout
RPV	Remotely Piloted Vehicle
SGSP	Szkoła Główna Służby Pożarniczej
SIM-CI	One of the solutions trialled in the DRIVER+ project
SMAP	One of the solutions trialled in the DRIVER+ project
SOCRATES OC	One of the solutions trialled in the DRIVER+ project
SP	Subproject
SRC	Space Research Center
SRH	Safety Region Haaglanden
TNO	Toegepast-Natuurwetenschappelijk Onderzoek (Netherlands Organisation for applied scientific research)
TOC	Table of Contents
WP	Work Package
WWU	Solution provider for the HumLogSim solution
ZKI	One of the modules of Airborne and Terrestrial Situational Awareness solution

1. Introduction

This document provides information about the DRIVER+ Trials regarding the preparation, execution and evaluation of the solution trainings in the Dry Runs and in the weeks of the Trials. This report puts special focus on the feedback collected from the participants after they attended the trainings. The feedback collected from training participants has always been used as "lessons learned" for the preparation and execution of all future solution trainings.

1.1 Identification & intended audience

The intended audience of this report comprises:

- People interested in new Crisis Management solutions and issues related to know-how transfer to Crisis Management participants using these solutions.
- Future Trial owners of scientific and demonstration projects.
- Anyone involved in performing and evaluating trainings for new (mainly IT-) concepts and solutions.

1.2 Scope of the document

The report covers all solution trainings performed during DRIVER+ Trials 1 to 4 and the Final Demonstration.

1.3 Document structure

The document is structured following the DRIVER+ schedule of solution trainings. After an introduction about the general training approach, it describes the preparation and execution of solution trainings for DRIVER+ Trials 1 to 4, followed by the Final Demonstration. The findings and actions for improvements are described in the related section of each Trial. The training material itself is provided in the Annexes.

Annex 1 lists the DRIVER+ Terminology.

Annexes 2 to 5 contain the feedbacks to trainings from Dry Run 2 of Trials 2, 3, 4 and the Final Demonstration, respectively.

Annex 6 provides some suggested improvements for the CrowdTasker solution, as an example of constructive training feedback.

Annex 7 contains an example of original feedback charts created by Google Forms.

Annex 8 lists the institutions involved in the Final Demonstration.

Annex 9 provides the translation tables of given answers to a standardized nomenclature.

Annex 10 contains example slides used as templates for all solution providers training material.

Annexes 11 to 15 contain (weblinks to) the training material used in the individual Trials and in the Final Demonstration.

2. General training approach and objectives of the trainings

A precondition for the adoption of any innovative solution for Crisis Management is that the practitioners who are intended to use the concerned solution perceive that this solution would help them to achieve their operational goals. To achieve this objective, several steps are necessary. First, the added value of any new solution for Crisis Management must be clearly visible. The handling of the solution must be as simple as possible, e.g. providing inputs required by the solution must be possible in an efficient and practical way under normal operational conditions. The operation of the solution to achieve the desired outputs should be manageable by people that received a simple appropriate training, without forcing them to invest too much time or other efforts. Long user manuals should be avoided as it turned out that the most practitioners only had a limited time for attending Dry Run 2 and the Trial execution. Finally, the output of the solutions should be understood and trusted the practitioners.

Many of these aspects – which potentially may lead to the acceptance or rejection of the concerned solution as a whole – will depend on the detailed design and implementation of this solution. Appropriate training will also play a major role to maximize the acceptance of this solution.

The main objectives of the solution-oriented trainings were:

- To provide a general understanding of the involved solutions to all participants of the Trial.
- To transfer sufficient knowledge about all solutions involved in the Trial to the practitioners in order to enable them to successfully apply and assess the concerned solution in the Trial scenarios.
- To acquire knowledge how this general understanding of the solutions knowledge-transfers can best be achieved. This knowledge shall improve the training with each consecutive Trial.

2.1 Target groups of the trainings

Different aspects of a solution must be addressed to different levels of hierarchy: the added value of a new solution for Crisis Management should be understood by all levels involved in the Trials, whereas the detailed know-how required for operating the solution has to be addressed mainly to the people operating the solutions. Therefore, the solution trainings consisted of two parts:

- Solution introduction training.
- Detailed “hands-on” training for each new solution.

The target audience for the introductory training were all levels of hierarchy of Crisis Management, whereas the target audience for the detailed “hands-on” solution-related trainings were only those practitioners who were selected to operate the concerned solution in the Trial. One focus of the solution training coordinator was to make sure that the training content is adapted to the different audiences.

In Trials 1, 2 and 4 the practitioners were mainly directly operating the involved new IT solutions during the Trial execution. Thus, it was of highest importance that practitioners got an adequate training regarding the capabilities of each solution and the detailed methods for using this solution. As the selected solutions became more complex, and as a lesson learned from previous trials, it was decided that for Trial 3 and the Final Demonstration a trained operator – and not the practitioner himself – should handle the IT solutions. This allowed the practitioners to focus more on the scenario instead of spending additional time for learning the IT solution handling details.

2.2 Structure of the trainings

For each Trial, two training sessions were planned to take place: one during the Dry Run 2, the second one at the Trial Event, before the Trial rehearsal and Trial execution, respectively.

As in these two events the Trial scenarios are meant to be played, training sessions on the involved solutions must take place before it, to make sure that the practitioners know how to operate the new solutions and also to allow the observers to take qualitative notes regarding the usage of new solutions by the practitioners.

Due to the specifics and requirements of each solution, the training details might differ between solutions. Most of the solution providers which already have commercialized their solutions have already prepared their training materials.

Aiming at homogenising the training sessions for different solutions, an advanced guideline was communicated to the solution providers (see Annex 10). They were given sufficient time to customize their training materials, adapt content to the specific solution's features in the target Scenario.

The solution introduction trainings were mainly conducted in form of PowerPoint presentations, whereas the "hands-on" parts were mainly conducted using the solution in "live" operation. Some solution providers also created PowerPoint slides as supporting material for the hands-on part, for some solutions additional printed hand-out material was created to summarize the information which should always be at hand like the web address of the solution, usernames, passwords, etc. All training material can be found in Annexes 11 to 15.

2.3 The training method - active learning

The methodology of active learning which was used for the solution trainings is described in detail in **D913.51** ***Report on the Training Sessions for societal impact assessment in the Consortium*** (1). This method of Active Learning (2) has become one of the key concepts in the preparation and execution of the Trial related solution trainings as it is considered as very effective and efficient for the purpose of Trial preparation. The Active Learning Method is central in the way that it tries to move away from the traditional teacher-student lecturing model towards a horizontal model where students learn during active problem solving. Especially the selection and use of explanatory use cases has been identified as an important factor in increasing the students' final understanding of the material. While there are many strategies surrounding the use of cases, the success of training is determined by five attributes (see Figure 2.1)

Figure 2.1: Five attributes of a successful training according to Active Learning Method

In DRIVER+, these five attributes – requirements – are addressed in the following way:

1. Relevant: the learning examples and the methods for their assessment are derived directly from the functions of the CM solutions the trainees are working with.
2. Realistic: the examples derived from the functions of CM solutions resemble real-world situations.
3. Engaging: the participant may- but is not obliged to use the Active Learning Method (leading to the combination of team-based learning and problem-based learning).
4. Challenging: the selected example used in the training for solving a specific problem still has certain inherent difficulty, the solution is not obvious, in many cases leading to the discussion how to optimally apply the solution.
5. Instructional: the training components are based on a knowledge gathered by the participants prior to the training, trainees can do a self-assessment – and provide feedback – by applying their knowledge in the exercises during the training.

2.4 The roles of the solution providers and the training coordinator

The main task of the solution training coordinator was the organization of solution trainings for practitioners to assure that they acquire the knowledge to use the solutions in the Trial.

In order to prepare the solution training according to the Active Learning Method, an important part of the training coordination was to perform a review of all training materials, see Figure 2.2.

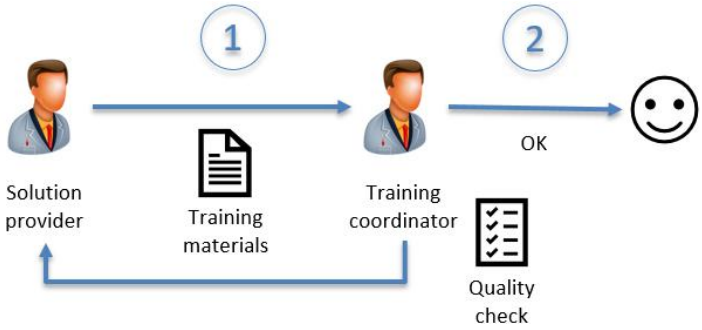

Figure 2.2: Quality check of the training materials

All participating solution providers were requested to provide their training materials (step 1 in Figure 2.2) 4-6 weeks prior to the trainings. The training coordinator (as sub-role of the technical coordinator, see details in **D922.42** ***Handbook for systematic designing of Trials*** (3), section 2) carried out a quality check (step 2) and provided feedback to the solution providers, often with proposals for improvement. The solution training material was approved for usage in the solution trainings only after a successful quality check.

All solution training materials were stored on the **DRIVER+ SharePoint site** (4) (in the respective directory under SP94 – Trial); additionally the training material was added to the **DRIVER+ Portfolio of Solutions** (5) (in the respective solutions sections in section "Documentation/Training Material"), thus became available to all Trial participants. The solution training materials are also attached to this document in Annexes 11 to 15.

As the solution trainings were conducted twice, in Dry Run 2 and additionally just prior to the Trial, the timespan in between these events was also used by the solution training coordinator to get in contact with the solution providers to discuss potential improvements of their presentation styles, lengths of the presentations, necessity to use microphones during the presentation, etc.

The solution training coordinator elaborated a questionnaire for each solution training session to collect participants' feedback about the quality of the training. This feedback was used to improve the training between Dry Run 2 and the Trial and is also considered as a valuable input when preparing the solution trainings for future Trials. After Trial 1, all questionnaires were created with **Google Forms tool** (6), which is a free online-tool for questionnaires and provides support for the evaluation after data entry by immediately creating an electronic summary of all answers given for each question. The questionnaires were anonymously filled by the participants of the trainings.

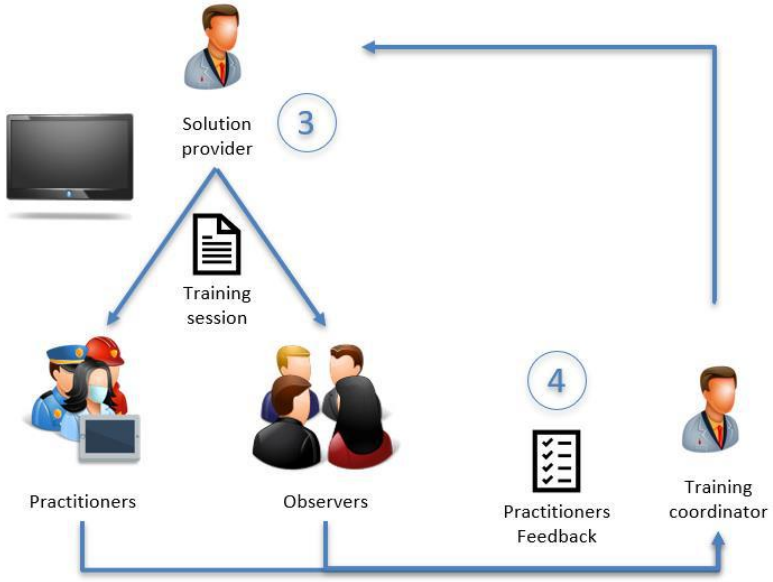

Figure 2.3: Process for training sessions and feedback

Figure 2.3 shows how a particular training session takes place (step 3) with a training session presented by the solution provider to practitioners and observers. Observers were mainly participating in the solution introduction sessions only as they were not focussing on familiarizing themselves with the handling of the solutions. In parallel to the hands-on solution training sessions for practitioners, observers had to perform their observer-trainings which were mainly related to the handling of the Observer Support Tool (OST). All observer related tasks and tools are described in **D94x.12** ***Report on Trial Evaluation*** (7), (8), (9), (10), and (11). Immediately after each solution training, the training coordinator requested the training participants to fill the aforementioned feedback questionnaire (step 4).

2.5 Collection of feedback to solution trainings

After the hands-on solution training the training coordinator always requested a prompt filling of the questionnaire (an online questionnaire created with Google Forms) in order to obtain a fresh and accurate feedback. Worth mentioning is also that Google Forms offers the option to fill the questionnaire via Smartphones which supports the request to fill the questionnaire without delay as a smartphone is usually faster at hand than a laptop.

Google Forms automatically creates quick summaries of all answers with bar charts (for each respondent individually or as summary of all respondents) and in addition allows to create CSV exports to save feedback data in table formats for post processing with Excel. The summary of the condensed feedbacks to all solution trainings collected for the Trials and the Final Demonstration can be found in the respective sections for each Trial. Annex 7 provides an example for the charts as they are created automatically by Google Forms. Compared to the automatically created charts, the condensed charts enable an easier comparison of feedback and helped to save space in this document.

The questions answered via online feedback form as used in Trial 2-4 (Trial 1 used a reduced set of questions) and the Final Demonstration were:

SOLUTION related questions:

- How clear is it for you what the solution offers?
- How clear is for you the added value of this solution for Crisis Management?
- How clear is for you how to exploit the possibilities of this solution in the Trial?

TRAINING CONTENT related questions:

- Do you think the content of the training was sufficient?
- Was the content of the training well structured?
- Do you find it practically relevant for the Trial?

FREE TEXT question 1:

- How were the facilities of the training?

TRAINER related questions:

- How competent was the trainer with regards to the solution?
- How open to questions was the trainer?

Training-effect related question:

- How confident do you feel to use this solution in the Trial?

FREE TEXT question 2:

- Do you have any remarks?

Answers to the questions could be provided in form of multiple-choice fields (5 different grades) except for 2 questions which required free text entries. It was mandatory for the participant to answer all questions in order to finish the questionnaire.

Information about the simplification/alignment of the ratings:

The questionnaires used different answer categories for each question. To allow a more compressed presentation of the participants' feedback these response options have been translated to a single

scale/nomenclature. The following five ratings are therefore used for all answer categories (based on school grades):

- Very good.
- Good.
- Satisfactory.
- Sufficient.
- Poor.

Annex 9 provides the mapping tables used to translate the actually given answers into these homogenized categories.

3. Trial 1

Trial 1 was conducted as a table-top and field Trial at SGSP premises in Warsaw/Poland from 21/05/2018 to 25/05/2018.

The Trial 1 scenario consisted of a massive release of liquid toxic substances because of a maintenance failure in a reservoir which collects chemical wastes. More details of the full Trial set-up can be found in **D943.11** ***Report on Trial Action Plan - Trial 1*** (12) and in **D943.12** ***Report on Trial Evaluation - Trial 1*** (7).

3.1 Solutions involved in Trial 1

Table 3.1 shows the name and main utilisation of the innovative solutions applied in Trial 1.

Table 3.1: Trial 1 innovative solutions

Solution	Solution Provider	Stage	Short description	Utilization in Trial
3Di	Nelen Schurmanns	Market Growth	Simulation for flood forecasting	Interactive water simulation model which enables flood forecasting and exploring various future scenarios in a very short time frame (minutes).
Drone Rapid Mapping (DRM)	Hexagon	Early Adoption/ Distribution	Orthophoto maps based on aerial imagery	Enables a fast generation of orthophoto maps based on imagery acquired by a remotely piloted aircraft system which is available to Crisis Management actors.
SOCRATES OC	GMV	Early Adoption/ Distribution	Common Operational Picture – situation map	Web-based tool for generating a COP in Crisis Management; it enables the exchange of information amongst nodes as well as doing tasking and resource management.

Details about these solutions can be accessed via the **DRIVER+ Portfolio of Solutions website** (5).

It shall be mentioned that 3Di and Drone Rapid Mapping are provided by organisations which are not part of the DRIVER+ consortium, called external solution providers. For details about the purpose and application of these solutions in the Final Demonstration and information about the solution providers please see **D942.21** ***Report on the application of the solutions in Trial 1*** (13).

3.2 Trial 1 venue and schedule

In total, about 4 hours were reserved for the solution trainings, the duration of each solution training was aligned according to the complexity of each solution. Table 3.2 shows the schedule for the solution trainings performed on 22/05/2018. Due to the high number of training participants (15-17 per solution training) it was challenging to keep the timeframe for the solution trainings as many course participants had questions which needed to be addressed directly in the training, see Figure 3.1.

Table 3.2: Schedule for solution trainings

Time	Presenter	Solution Training
11:50 – 12:00	FRQ	Solution Training Introduction
12:00 – 13:00	Hexagon	Drone Rapid Mapping
13:00 – 14:00		LUNCH
14:00 – 15:30	GMV	SOCRATES OC
15:30 – 16:30	Nelen Schurmanns	3Di

Figure 3.1: Questions during solution training "SOCRATES OC"

3.3 Trial 1 training materials

The solution training coordinator contacted all solution providers 4 weeks prior to the Trial in order to start the preparation for the training materials, related templates were provided. The training material was received 1 week prior to the Trial and reviewed by the training coordinator. The training materials used in the solution trainings of Trial 1 can be found in Annex 11.

3.4 Organisation of Trial 1 event

Online-questionnaires were used for each solution training session in order to collect training participants' feedback about the quality of the trainings. Immediately after each training the training coordinator requested the training participants to fill the feedback questionnaire by sending a Google Forms link by e-mail to the training participants.

The participants of Trials 1 have mainly directly operated the involved IT solutions during Trial execution. Thus, it was of highest importance that these participants get a profound knowledge about the general capabilities of each involved solution and to learn to operate the solution in detail.

While most of the solution providers showed their solutions in “live operation” during the trainings, some solution providers also created PowerPoint slides as supporting material for the hands-on part. The problems to be solved in the solution trainings were related to the Trial scenario in order to make sure that the trainings focus on the Trial relevant features of the solutions.

Personal computers were provided to the participants of the trainings, allowing them to directly verify each step of the “hands-on” training. This approach allowed for immediate clarification of questions about the concerned solution raised by the participant. Instead of comprehensive manuals, a brief tutorial was provided separately for each solution, with focus on its functionality relevant for the Trial.

3.5 Feedback from Trial 1 event

Compared to all other Trials and the Final Demonstration, Trial 1 used a reduced set of questions for the feedback collection, the questions were:

SOLUTION related questions:

- How clear is it for you what the solution offers?
- How clear is for you the added value of this solution for Crisis Management?
- How clear is for you how to exploit the possibilities of this solution in the Trial?

TRAINER (and CONTENT) related questions:

- Competence of the trainer with regards to the solution?
- Was the training interactive?

Additional question:

- How confident do you feel to use this solution in the Trial?

All questions were multiple choice questions. The feedback received from the training participants is summarized in the following sections.

3.5.1 Feedback 3Di

Feedback has been received from 18 participants.

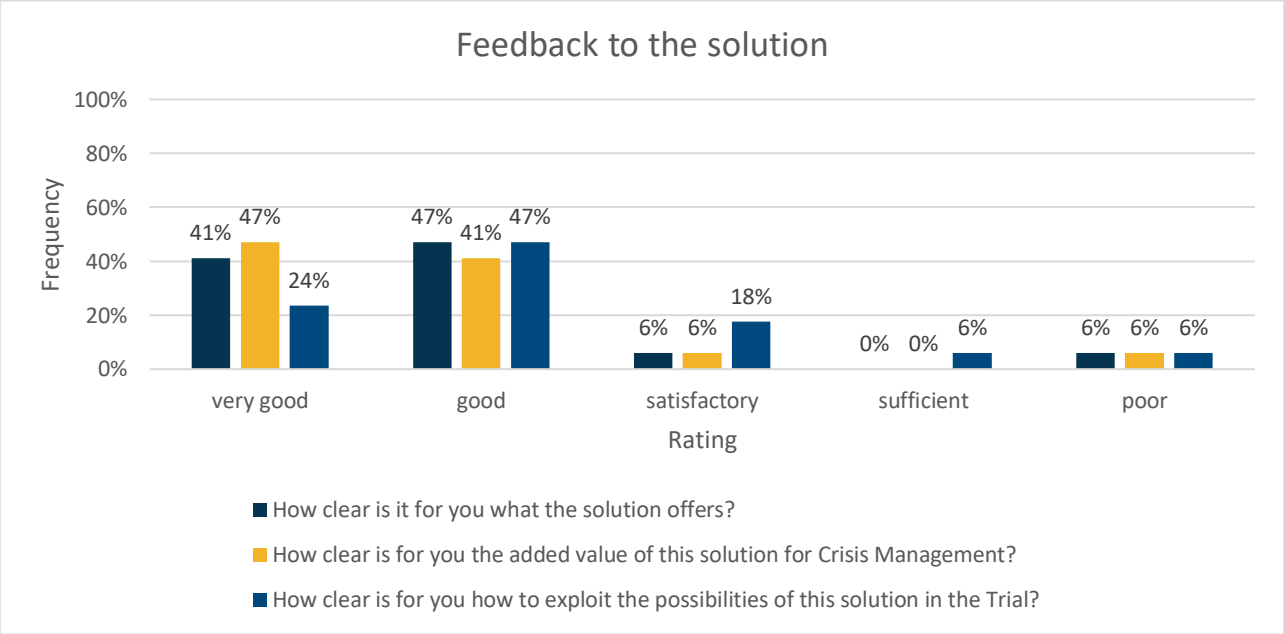

Figure 3.2: 3Di – Feedback to the solution

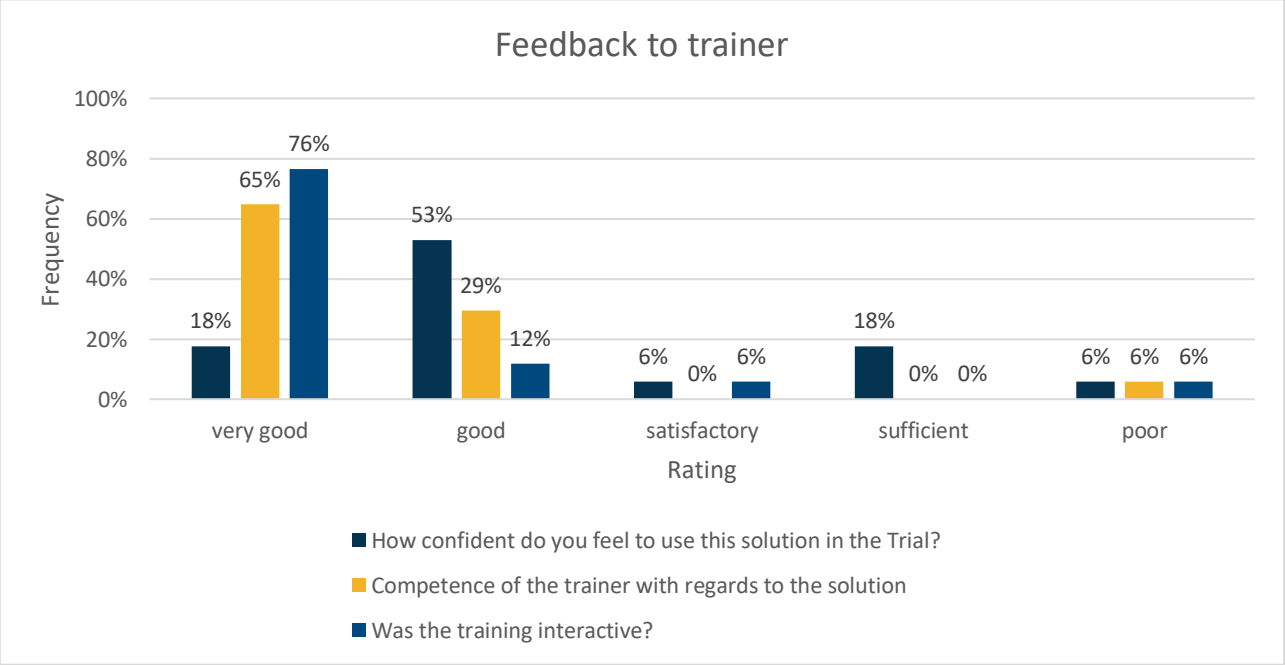

Figure 3.3: 3Di – Feedback to trainer

3.5.2 Feedback DRM

Feedback has been received from 14 participants.

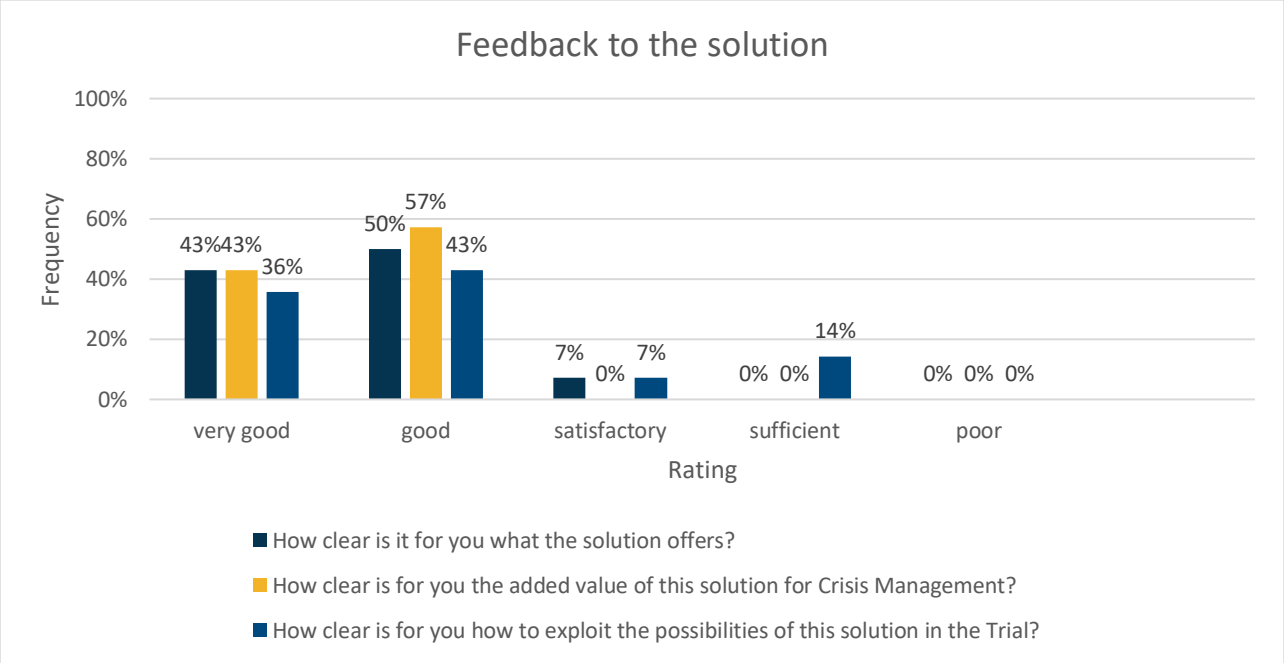

Figure 3.4: DRM solution – Feedback to the solution

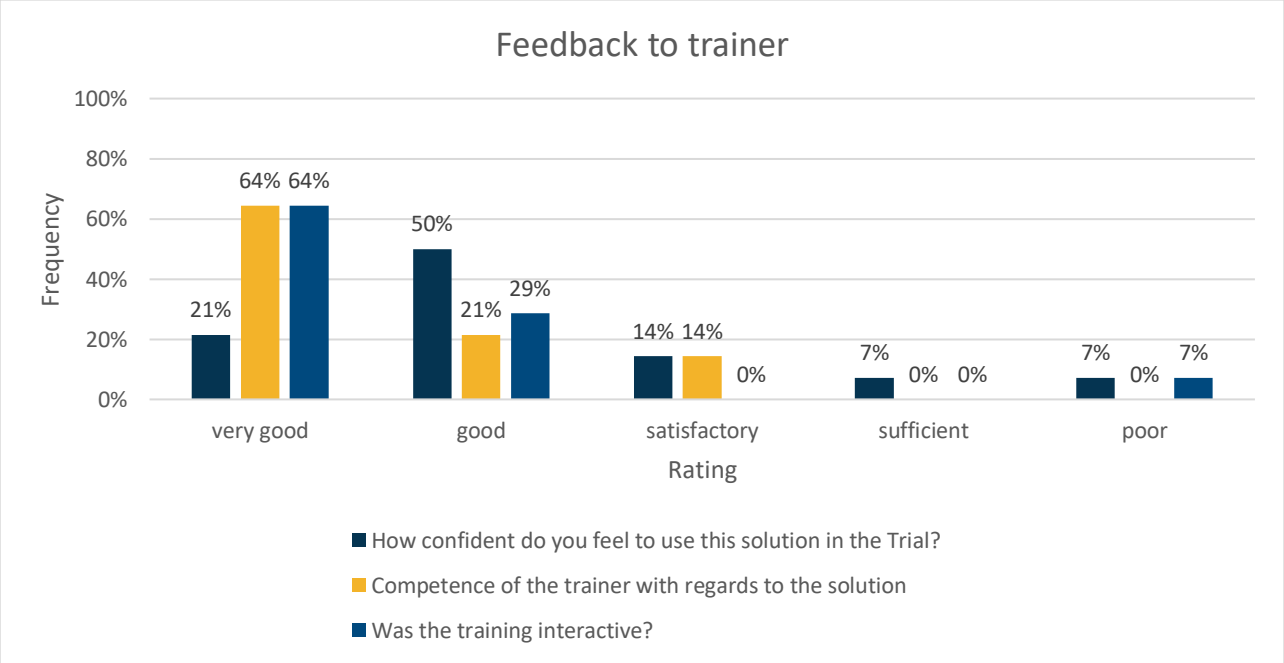

Figure 3.5: DRM solution – Feedback to trainer

3.5.3 Feedback SOCRATES OC

Feedback has been received from 15 participants.

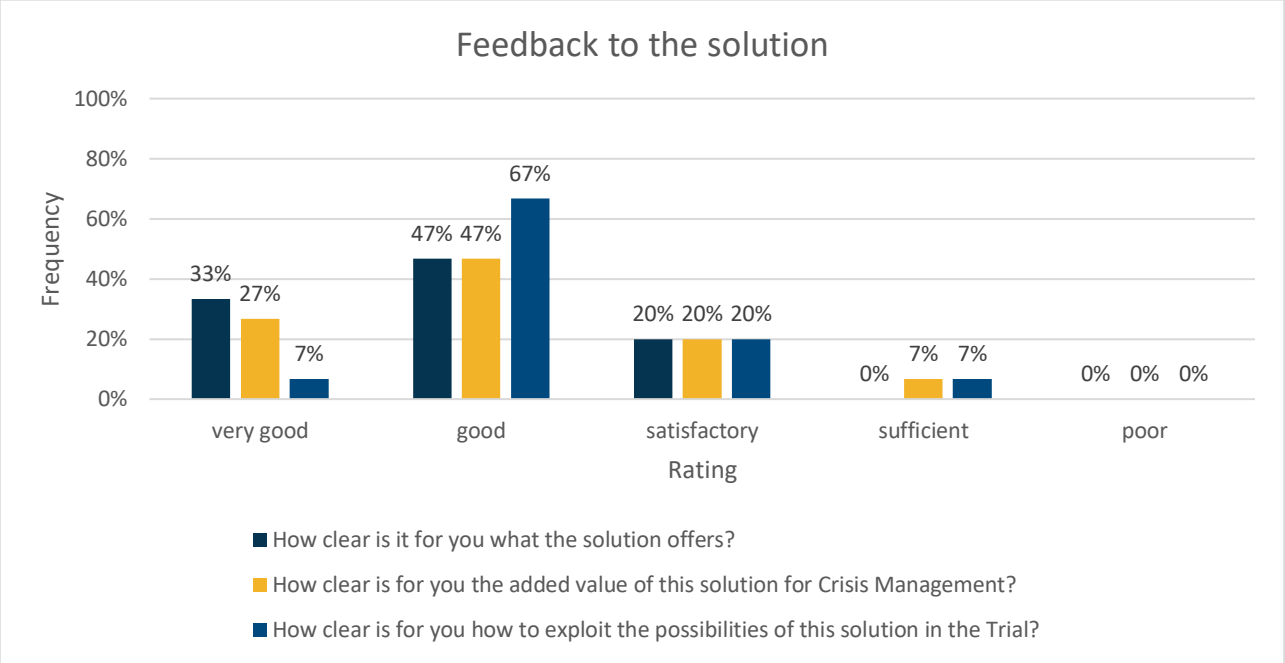

Figure 3.6: SOCRATES OC – Feedback to the solution

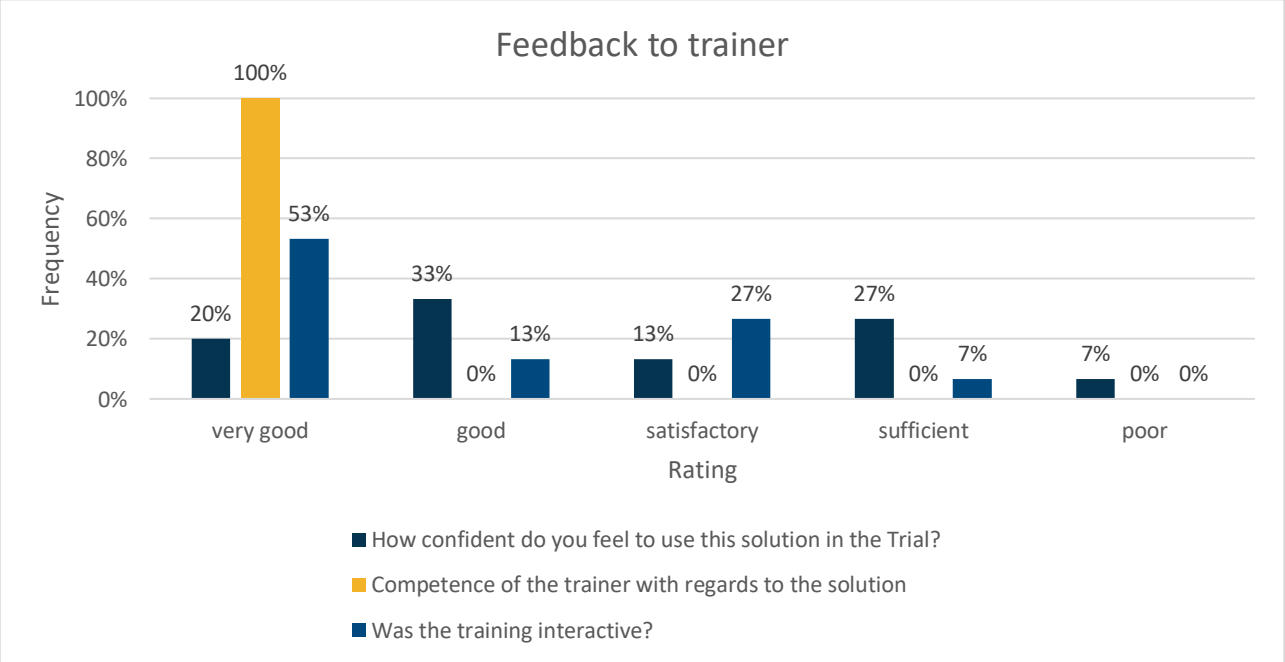

Figure 3.7: SOCRATES OC solution – Feedback to trainer

3.6 Trial 1 conclusions and lessons learnt

The general feedback to the solution trainings from the training participants indicated that the participants considered the trainings to be at a good to medium level. Both, clarity of the offered solution as well as competence of the trainers, were rated at a medium to very good level. However, the confidence of the training participants to operationally use the offered solutions in the Trial was rated lower, despite a high level of interactivity observed in the trainings. As the feedback questionnaire was multiple choice without any free text fields, the feedback about which parts of the training would need improvements was given verbally by the training participants. One lesson learned was that the exercises performed during the solution trainings shall have a closer relation to the Trial scenario and the features which will be needed later in the Trial.

During the Trial 1 execution, participants got support from solution providers on explicit request only, in particular when they felt that they could not execute their assigned tasks by using the new solutions alone. This support was considered necessary and thus planned also for the next Trials. General perception of the training participants was that the time for the solution trainings was not sufficient to understand the solutions capabilities in full detail.

In order to collect more feedback and have written inputs for improvements it was decided by the solution training coordinator to amend the feedback questionnaire by additional questions which shall have free text answer fields. Those free text answer fields would be set as mandatory fields in Google Forms in order to force training participants to provide their inputs beyond the multiple-choice answers.

4. Trial 2

Trial 2 was conducted as a table top Trial in Valabre in France from 22/10/2018 to 25/10/2018.

The Trial 2 scenario included multiple incidents with cross-border dimension occurring on several sites. The main event was a large forest fire, threatening wildland urban interfaces, a campsite with tourists, as well as an industrial site in a Mediterranean environment. More details of the full Trial set-up can be found in **D944.11** ***Report on Trial Action Plan - Trial 2*** (14) and in **D944.12** ***Report on Trial Evaluation - Trial 2*** (8)**.**

4.1 Solutions involved in Trial 2

Table 4.1 shows the name and main utilisation of the innovative solutions applied in Trial 2.

Table 4.1: Trial 2 innovative solutions

Solution	Solution Provider	Stage	Short description	Utilization in Trial2
CrisisSuite	Merlin	Market Growth	Logbook, Information Sharing, Map & Reporting tool	Hosts CM plans documents. Supports the Logbook(s) for sharing of vertical and horizontal information. Supports the resource pooling information. Helps generating Situation Reports and other standard forms.
MDA C2	MDA	Market Growth	Command and Control Tool	Allows for an efficient, real time response to tasks on the field (e.g. people in need for medical assistance), by allocating the site, allocating the resources needed, tasking the resources and following up the accomplishment. Also used at the alerting stage to get additional information (precise geo-location, pictures, etc.) from the caller.
SMAP	Thales	Development/ Prototype	Social Media Analysis Platform	Aims at supporting crisis managers in the processing of social media for situation assessment purposes.
LifeX COP	Frequentis	Early Adoption/ Distribution	Common Operational Picture – situation map	Map-based web-application that aims to fulfil the need of having overall situation awareness during a crisis.

Details about these solutions can be accessed via the **DRIVER+ Portfolio of Solutions website** (5).

Unfortunately, because of operational constraints, it could not be confirmed that the participants would be the same between Dry Run 2 and the Trial execution, thus only 2 practitioners attended the solution trainings at Dry Run2 as “training testers”, having similar profiles to the ones of the actual practitioners involved in the Trial execution. In order to check the training quality and get feedback from more than 2 persons also internal participants from SGSP and Edisoft attended the solution trainings.

Practitioners were made aware in the introduction presentations to solution trainings that evaluating the potential of a solution is more important than solving the actual crisis in each of the Trials, i.e. the solutions are evaluated, not the people using them.

It shall be mentioned that the solution CrisisSuite was provided by an organisation which is not part of the DRIVER+ consortium, called an external solution provider. For details about the purpose and application of these solutions in the Final Demonstration and information about the solution providers please see **D942.22** ***Report on the application of solutions in Trial 2*** (15).

4.2 Trial 2 venue and schedule

The facilities of Valabre offered excellent training facilities and the training was split into 2 parts:

- Solution overview presentations were performed in the Amphitheatre with all Trial participants attending. This session enabled not only the practitioners using the solutions, but also the observers to get more familiar with the solutions functionalities.
- Detailed hands-on solution trainings were performed for the practitioners who would use the solutions in the Trial.

The facilities of Valabre offer individual rooms and boxes (smaller rooms with better acoustic insulation from other rooms) for each action centre played in the Trial. The rooms and boxes were equipped with large screens and/or touch screens and, where needed, with radio communication equipment, see Figure 4.1.

For the hands-on trainings, all solutions except MDA C2 were trained in a training room which was equipped with 16 PCs each equipped with 1 large screen and a large projection screen for the presenter. MDA C2 is a solution which requires multiple screens for operation, the training for MDA C2 had to be performed in the “Boxes” which were used later on in the Trial and which were equipped with multiple screens per PC.

In total, about 4.5 hours were reserved for the solution trainings, the duration of each solution training was aligned according to the complexity of each solution. It should be noted that the practitioners using the solutions were split in small groups to facilitate interactions during the training sessions. Table 4.2 shows the schedule for the solution trainings performed on 23/10/2018.

Table 4.2: Schedule for solution trainings

Time	Solution Provider	Solution Overview Training in Amphitheater	Solution Hands-on Training at Trial PCs
13:20	Frequentis (Training Coordinator)	Solution Training Introduction	
13:30	Merlin	CrisisSuite	
13:40	MDA	MDA C2	
13:50	Thales	SMAP	
14:00	Frequentis	LifeX COP	
14:15	Merlin		CrisisSuite
15:00	MDA		MDA C2
16:00	Thales		SMAP
17:00	Frequentis		LifeX COP

Figure 4.1: Individual room for a Trial action centre (field command post in this case) equipped with a large screen

4.3 Trial 2 training materials

The solution training coordinator contacted all solution providers 4 weeks prior to Dry Run 2 in order to start the preparation for the training materials. A split of the training content into the introduction and the hands-on part was needed with focus on the different audience for each of these presentations. With the learning from Trial 1 the need for printed handouts was discussed with each of the solution providers individually. The training material was received 2 weeks prior to Dry Run 2 and reviewed by the training coordinator. Overall quality of the training material was at a good level, improvements were mainly related to special terms which had to be introduced and explained in more detail. The training materials used in the solution trainings of the Trial 2 can be found in Annex 12.

4.4 Feedback from Trial 2, Dry Run 2

One lesson learned from Trial 1 was that more detailed feedback should be collected from all training participants. In order to achieve this, the online-questionnaires were amended and were used for both solution training sessions (in Dry Run 2 and in the Trial week). The feedback from Dry Run 2 can be found in Annex 2, the feedback from the training performed in the week of the Trial is summarized hereafter. Please note that a head-to-head comparison of the feedbacks from Dry Run 2 and the Trial is not really possible because of different participants in both events. The number of training participants in Dry Run 2 ("training testers") was significantly lower compared to the number of training participants to the Trial.

4.5 Learnings from Trial 2, Dry Run 2

With the feedback from Dry Run 2 the following improvements have been prepared for the Trial 2 event:

- In Dry Run 2 only a few PCs were prepared for the hands-on training, some practitioners had to share one PC. 16 PCs have been prepared for the hands-on sessions for the Trial 2 event in order to enable each participant to practice on his/her own PC.
- Paper tutorials have been implemented in the hands-on training materials for the functions used in the Trial and printed for all solution training participants.

- Keyboards with QWERTY layout have been organized for the non-French (mainly Italian) practitioners in Trial 2 (QWERTY is the keyboard layout used in Italy while AZERTY is used in France) in order to provide them with an IT environment they are used to. This helped them to enter texts faster to the online questionnaires and during the Trial execution.
- Legends to explain the meaning of icons and colours have been implemented in LifeX COP and printed in the training material.
- Support persons from solution provider side have been allocated for the Trial 2 event and positioned in each box where the solution was deployed, in order to help practitioners during the operation of the solutions.

4.6 Feedback from Trial 2 Event

The number of training participants in the week of the Trial 2 event was significantly higher compared to Dry Run 2. The feedback received from the training participants is summarized in the following.

4.6.1 Feedback to Merlin CrisisSuite

Feedback has been received from 13 participants.

Figure 4.2 shows the cumulated feedback for the solution Merlin CrisisSuite.

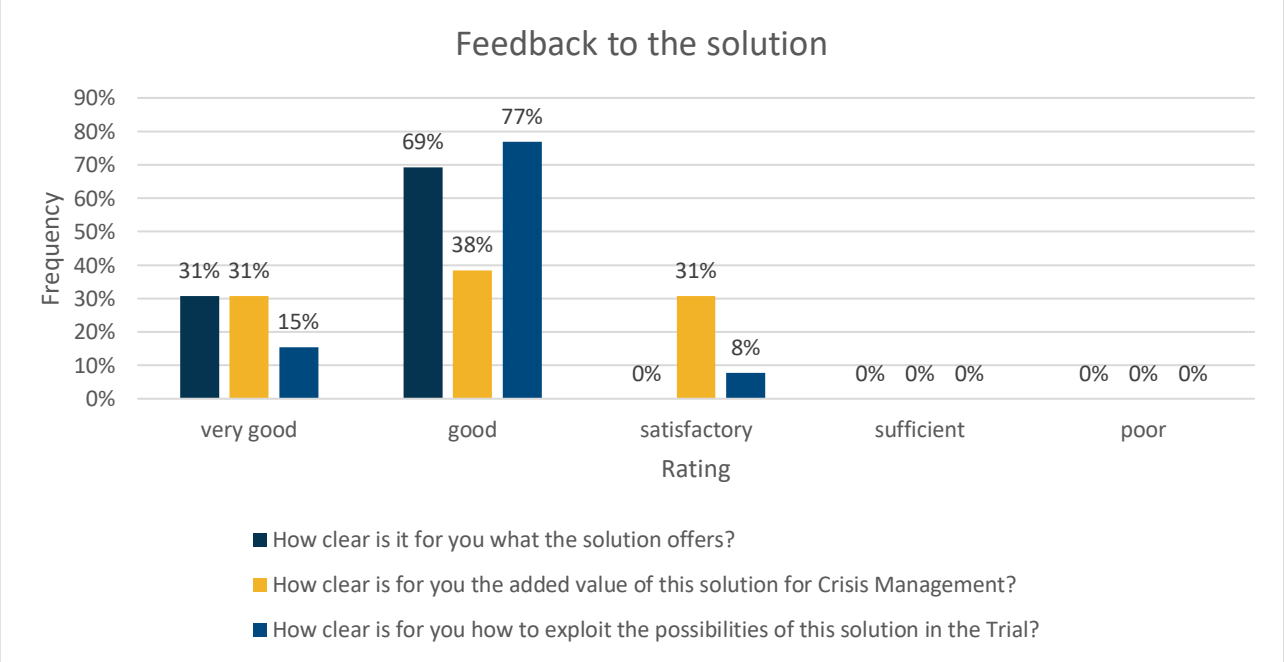

Figure 4.2: Merlin CrisisSuite – Feedback to the solution

Figure 4.3 shows the cumulated feedback for the solution Merlin CrisisSuite regarding the training content.

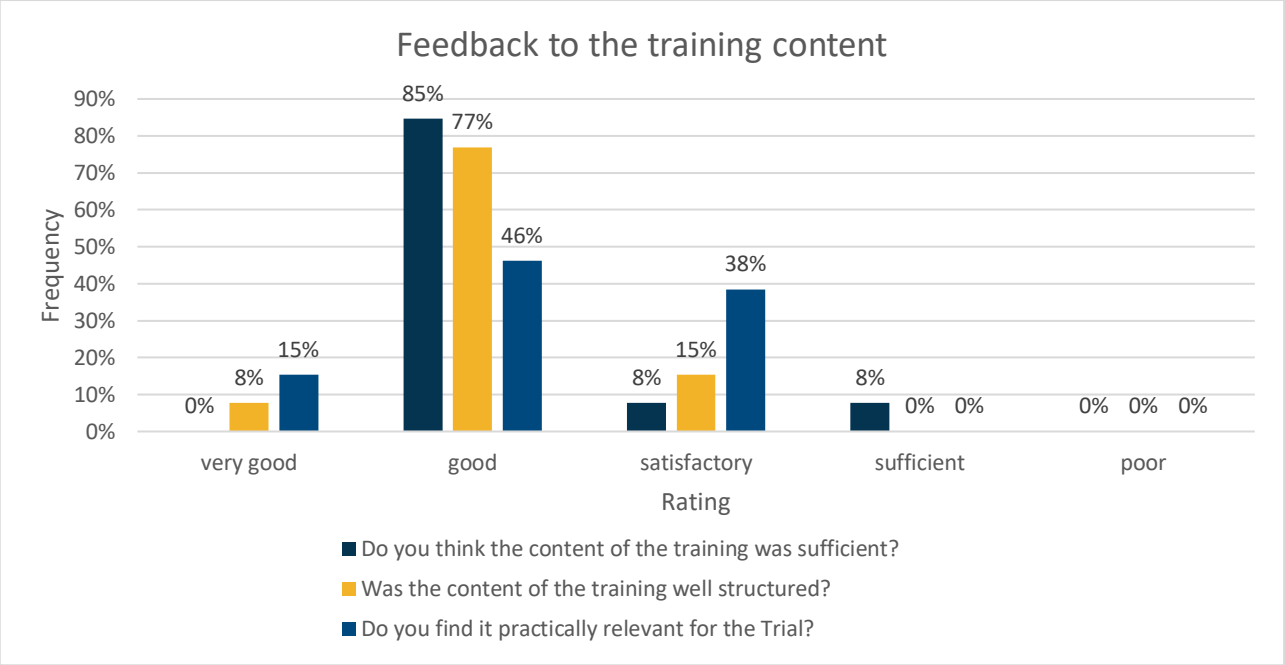

Figure 4.3: Merlin CrisisSuite – Feedback to the training content

Question: How were the facilities of the training?

- 39% of the participants stated that the facilities were “very good”, “great” or “very good and clear”.
- 23% of the participants think the facilities were “good”.
- 15% of the participants answered that the training facilities were “okay” or “simple”.
- 8% of the participants mentioned that the “framework wasn't work for a moment”.
- 15% of the answers were not filled in (correctly).

Figure 4.4 shows the cumulated feedback for the solution Merlin CrisisSuite regarding the trainer.

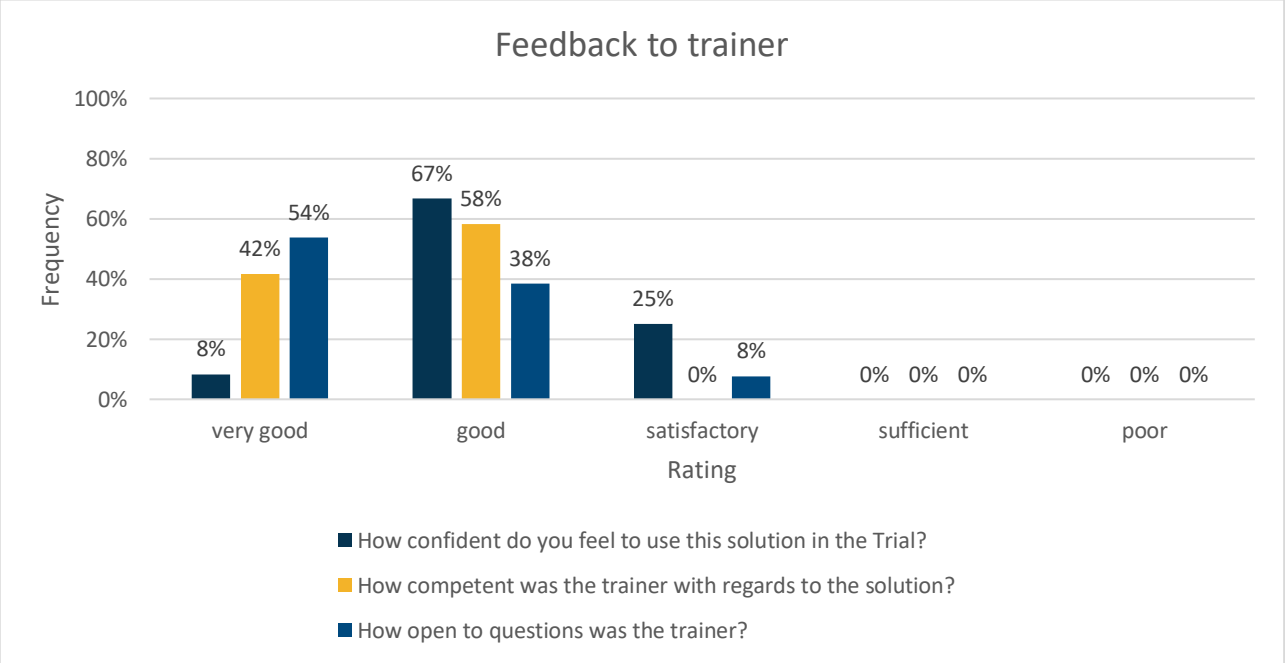

Figure 4.4: Merlin CrisisSuite – Feedback to trainer

Question: Do you have any remarks?

- 54% of the participants had no additional comments.
- Other comments are shown in the following Figure 4.5.

Figure 4.5: Merlin CrisisSuite – Remarks to the training

4.6.2 Feedback to Thales SMAP

Feedback has been received from 4 participants.

Figure 4.6 shows the cumulated feedback for the solution Thales SMAP.

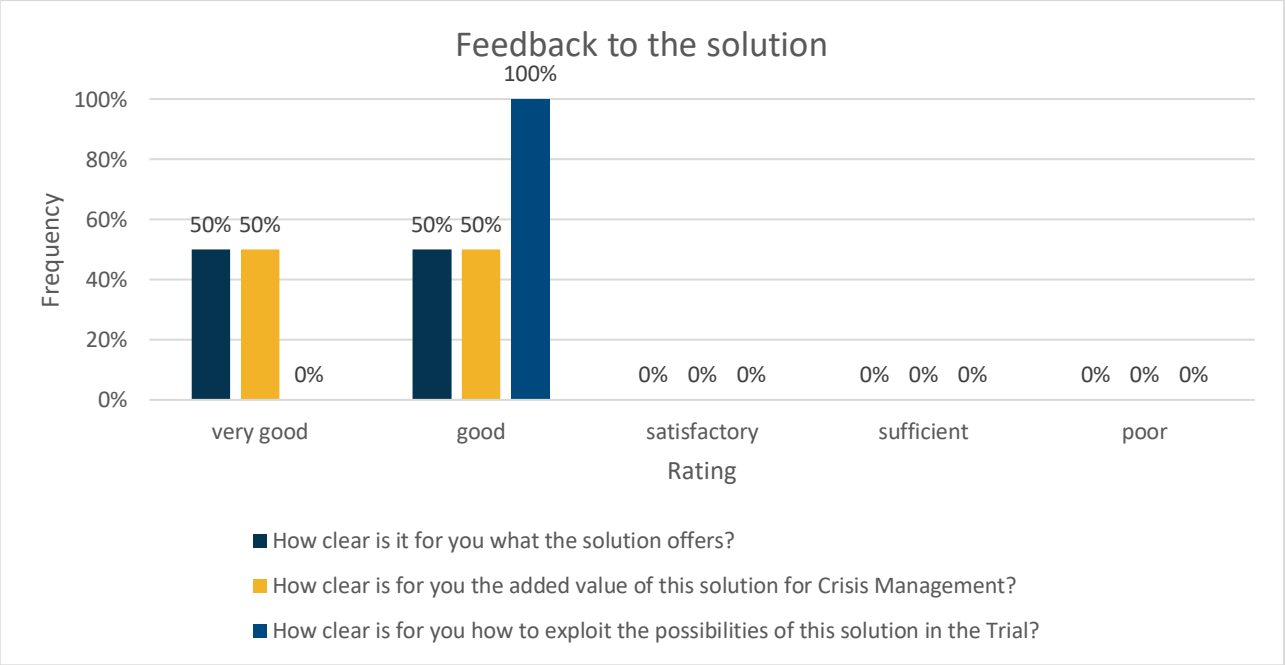

Figure 4.6: Thales SMAP – Feedback to the solution

Figure 4.7 shows the cumulated feedback for the solution Thales SMAP regarding the training content.

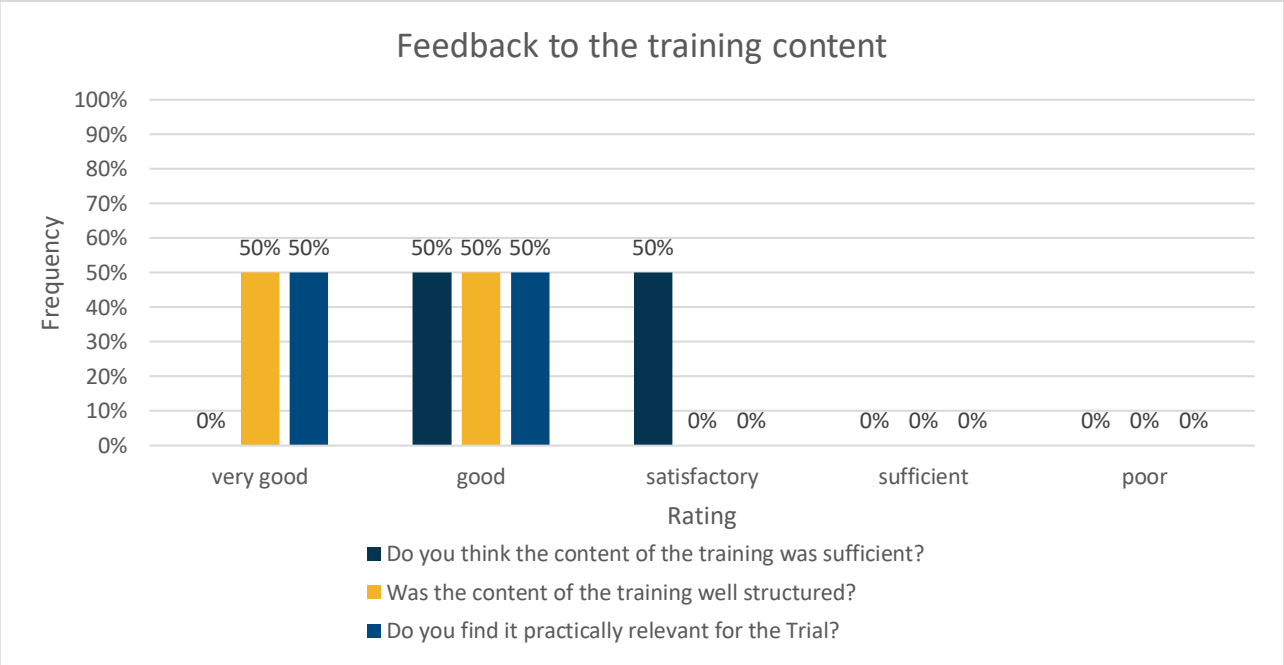

Figure 4.7: Thales SMAP – Feedback to the training content

Question: How were the facilities of the training?

- 50% of the participants stated that the facilities were “very good”, “great” or “very good and clear”.
- 50% of the participants think the facilities were “good”.

Figure 4.8 shows the cumulated feedback for the solution Thales SMAP regarding the trainer.

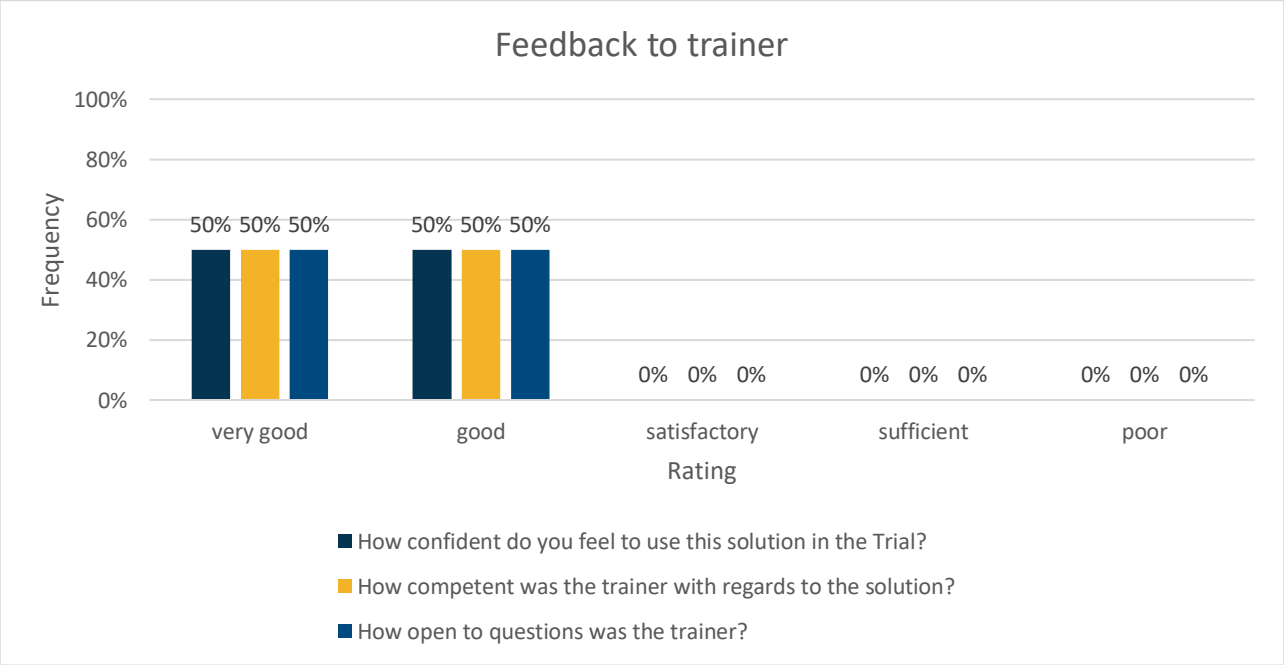

Figure 4.8: Thales SMAP – Feedback to trainer

Question: Do you have any remarks?

- 100% of the participants had no remarks.

4.6.3 Feedback to MDA C2

Feedback has been received from 3 participants.

Figure 4.9 shows the cumulated feedback for the solution MDA C2.

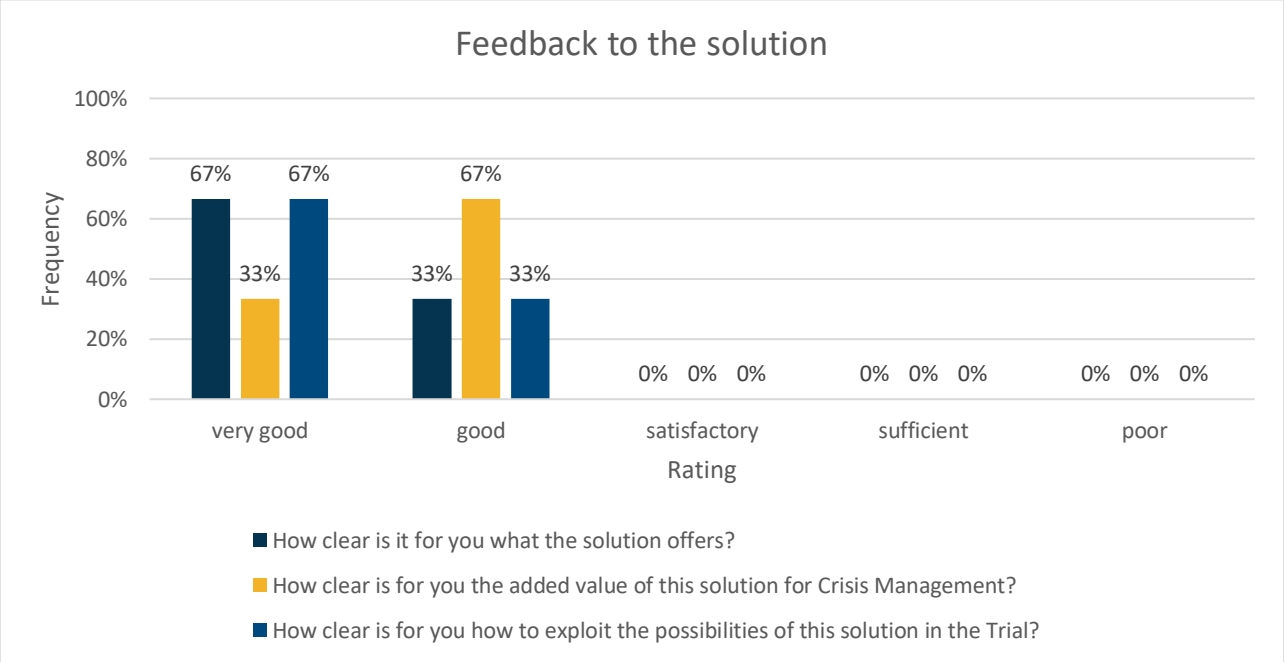

Figure 4.9: MDA C2 – Feedback to the solution

Figure 4.10 shows the cumulated feedback for the solution MDA C2 regarding the training content.

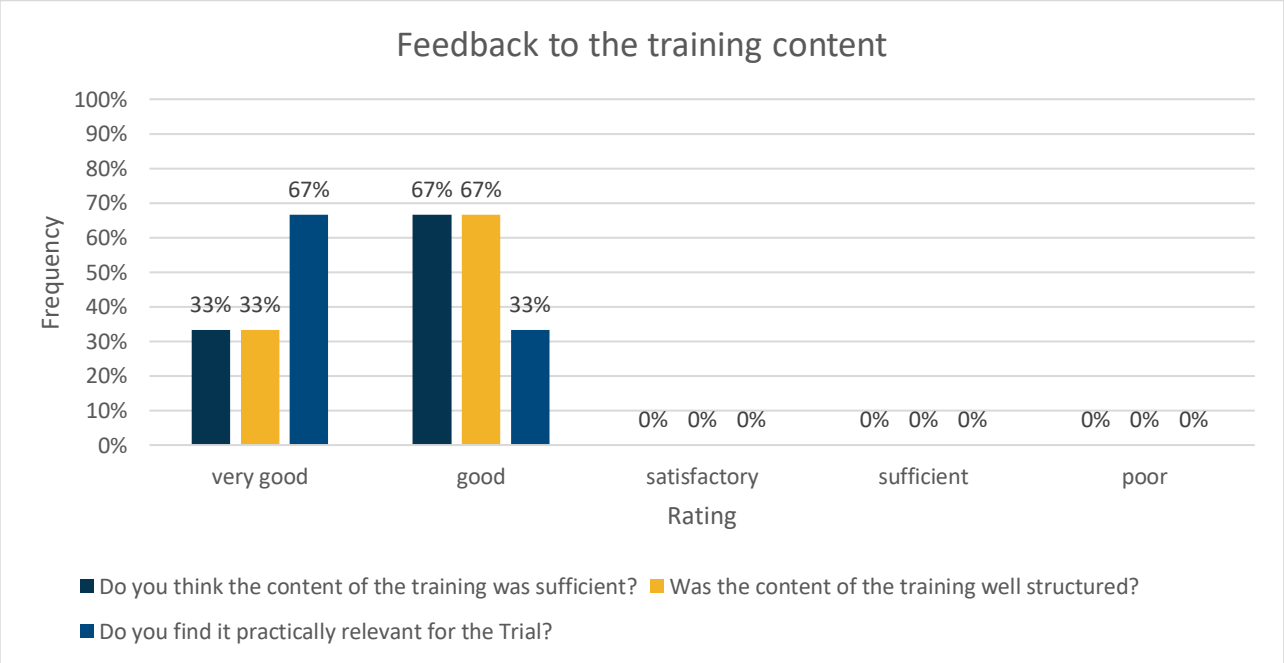

Figure 4.10: MDA C2 – Feedback to the training content

Question: How were the facilities of the training?

- 33% of the participants stated that the facilities were “very good”, “great” or “very good and clear”.
- 33% of the participants said, “I will say it after the Trial!”
- 33% of the answers were not filled in (correctly).

Figure 4.11 shows the cumulated feedback for the solution MDA C2 regarding the trainer.

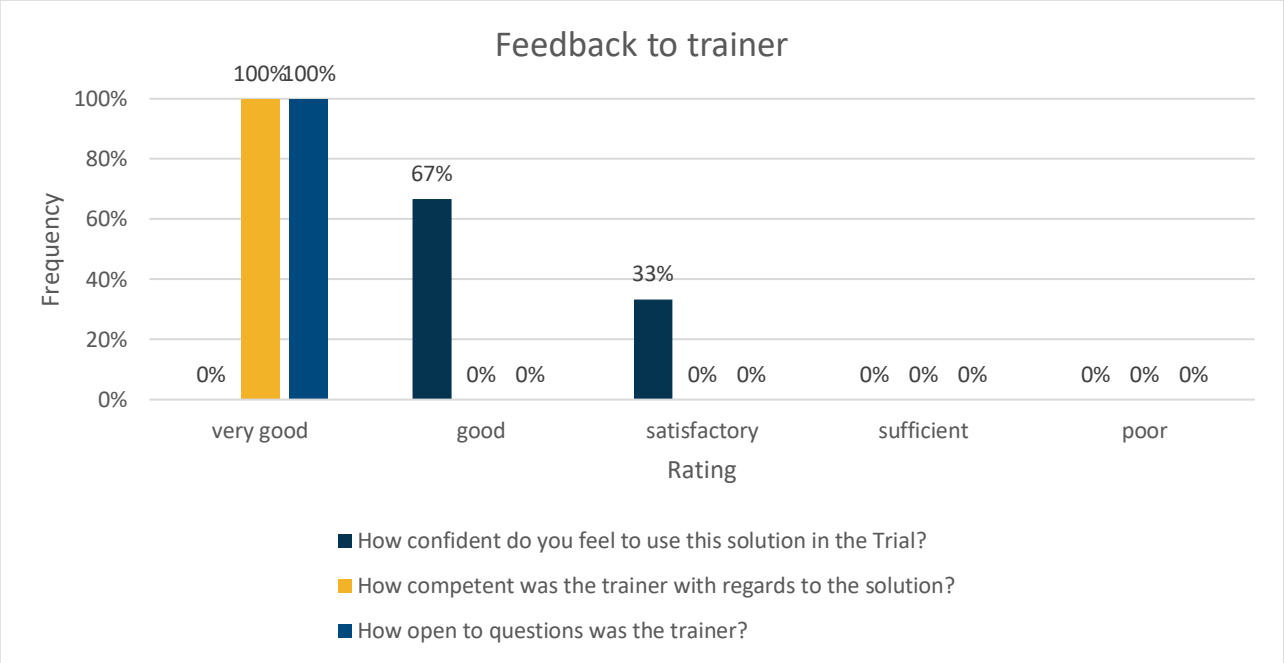

Figure 4.11: MDA C2 – Feedback to the trainer

Question: Do you have any remarks?

- 33% of the participants had no remarks.
- 33% said it was “interesting”.
- 33% said it is “too early to answer”.

4.6.4 Feedback to Frequentis LifeX COP

Feedback has been received from 11 participants.

Figure 4.12 shows the cumulated feedback for the solution LifeX COP of Trial 2.

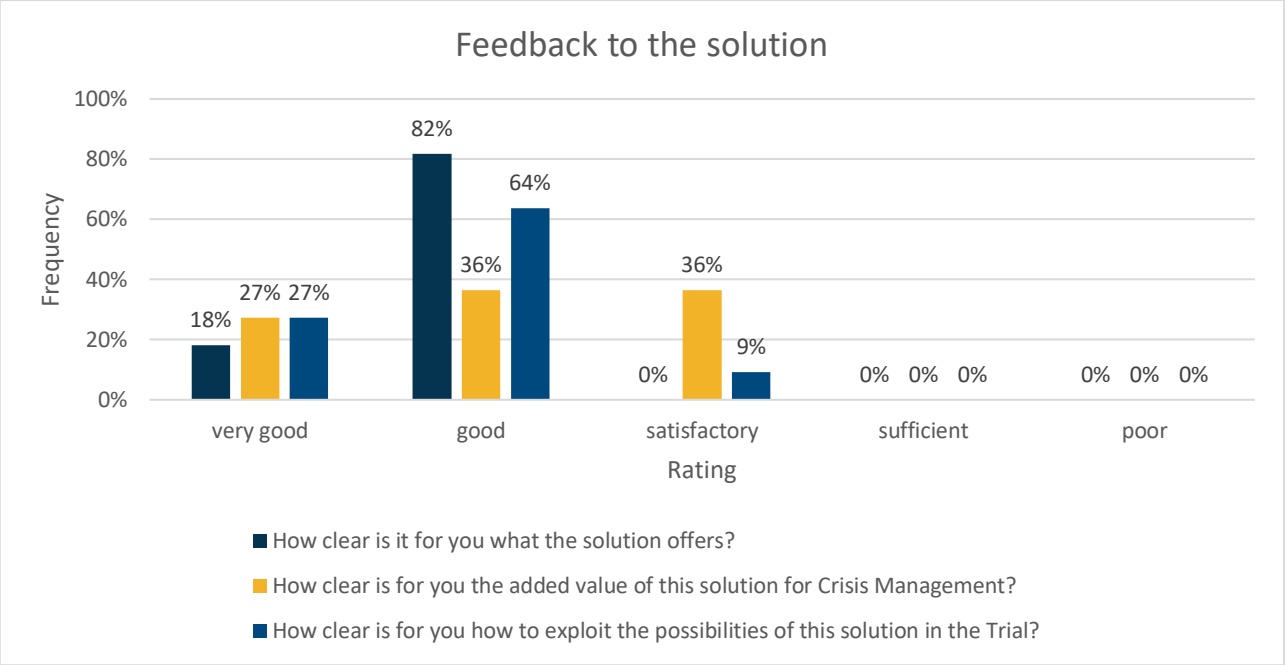

Figure 4.12: Frequentis LifeX COP – Feedback to the solution

Figure 4.13 shows the cumulated feedback for the solution LifeX COP regarding the training content.

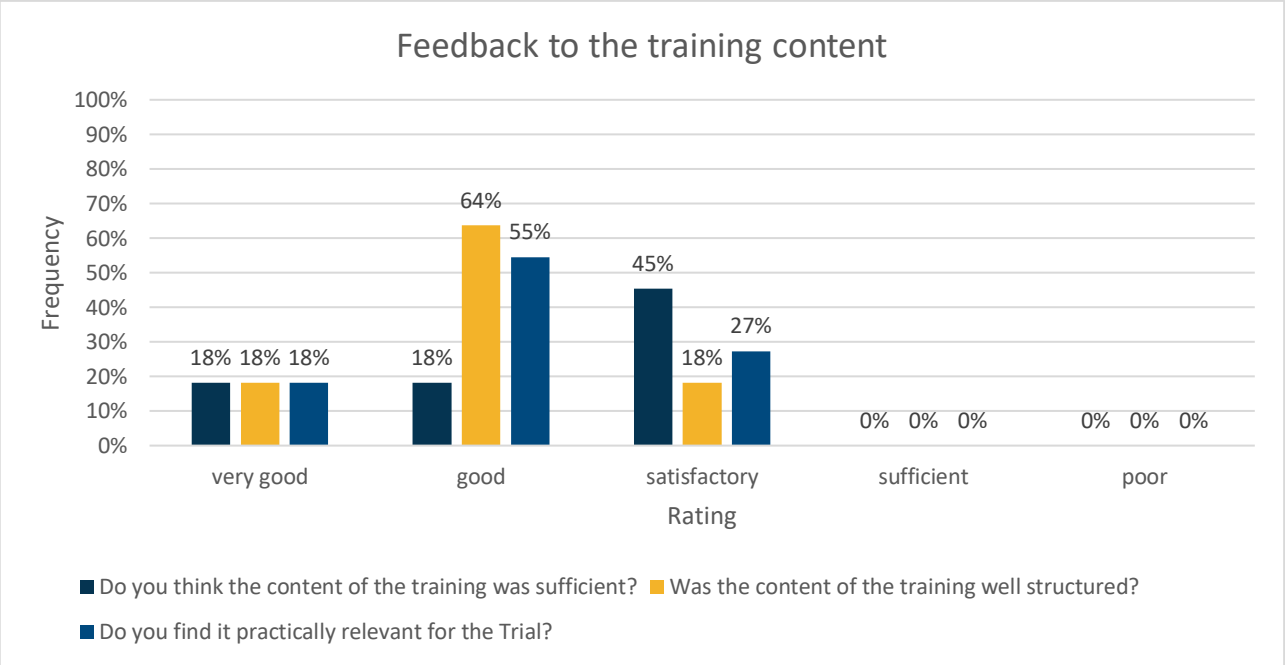

Figure 4.13: Frequentis LifeX COP – Feedback to the training content

Question: How were the facilities of the training?

- 45% of the participants stated that the facilities were “very good” or “perfect”.
- 27% of the participants think the facilities were “good”.
- 18% of the participants answered that the training facilities were “okay” or “simple”.
- The rest were incomplete answers.

Figure 4.14 shows the cumulated feedback for the solution LifeX COP regarding the trainer.

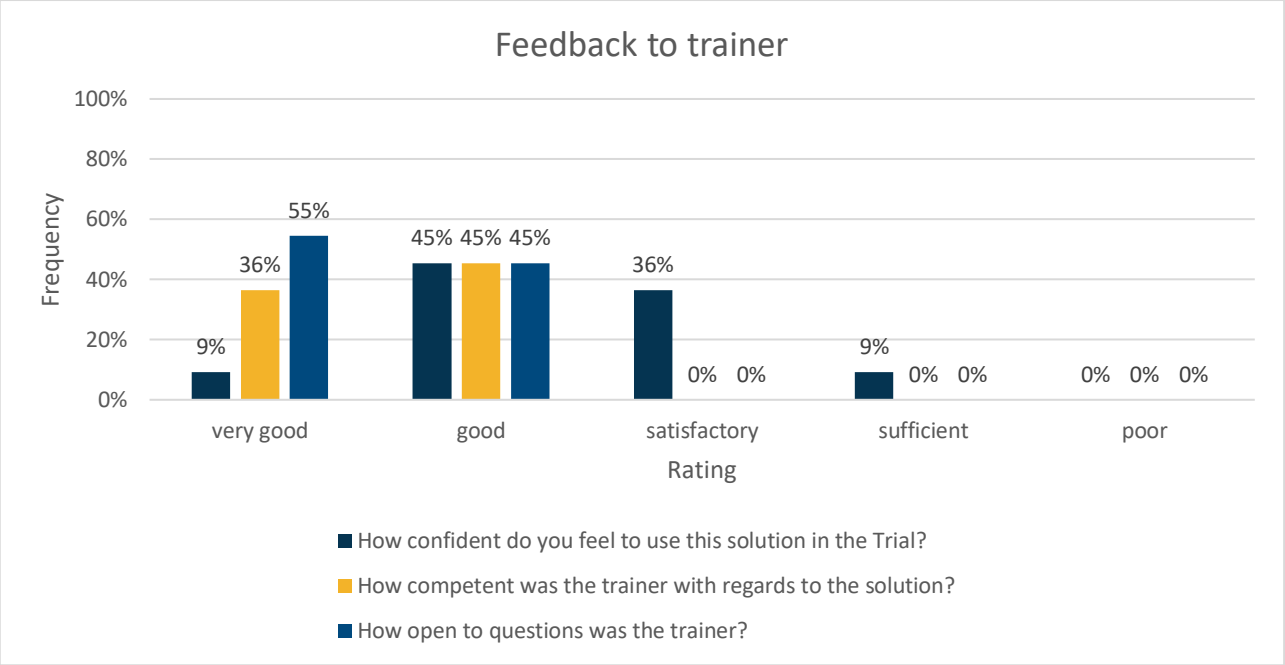

Figure 4.14: Frequentis LifeX COP – Feedback to trainer

Question: Do you have any remarks?

- 18% of the participants had no additional comments.
- Other comments are shown in Figure 4.15.

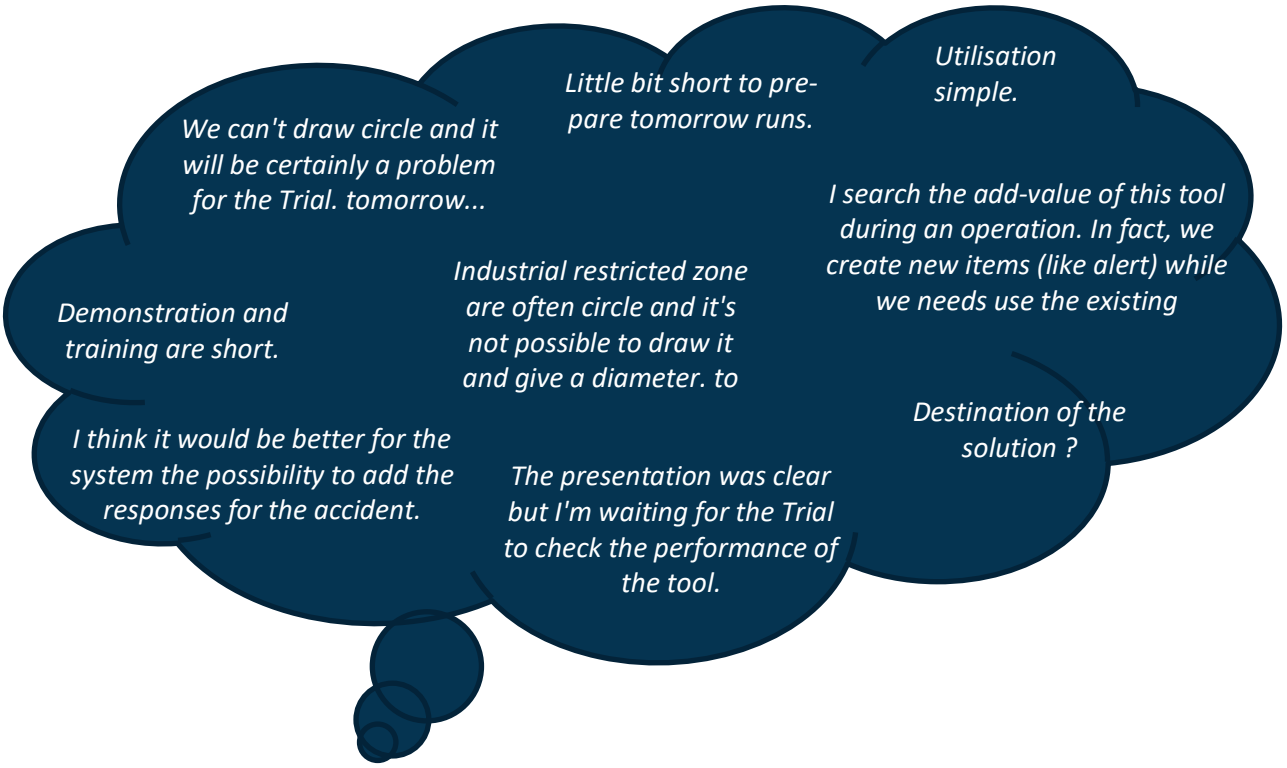

Figure 4.15: Frequentis LifeX COP – Remarks on the training

4.7 Trial 2 conclusions and lessons learnt

The feedback received by the online-questionnaires from Dry Run 2 was used to improve the training for the second execution in the week of the Trial e.g. the issue with the different keyboard layouts used for Italian and French practitioners only became apparent having the practitioners from these countries already present in Dry Run 2. This fact shows the importance of having the same practitioners already attending the trainings in Dry Run 2.

General feedback to the solution trainings was, that – although it was offered to practitioners that operators (mainly the solution providers themselves) will support the handling of the solutions – most practitioners wanted to familiarize themselves with all details of the handling of the solutions. This fact, along with the restricted time for the trainings, repeatedly led to the perception that the time for the solution trainings was not sufficient. It also turned out that paper tutorials are needed for the part of the functionality of each solution which is needed in the Trial. A separate PC for each participant has enabled the best hands-on experience.

Another lesson learned was that LifeX COP as a central solution (collecting and displaying information provided by other solutions) should have been explained on overview level prior to any other solution because other solution trainings refer to the COP as a central instance. On the other hand, details of the COP such as how to display results of other solutions needed to be explained at the end of the solution trainings once participants have understood which outputs other solutions create.

For more complex solutions a support person was available during the Trial execution in cases when the trained practitioners are not sure how to operate with the solutions by themselves. The relatively low number of such requests for help during the Trial indicated that in most cases participants were able to autonomously operate the new solutions. Support requests were mainly about how to start the solutions on the PCs (as the training was performed on different PCs) and about new features which practitioners wanted to try (but were not demonstrated in the trainings due to time limitations). It can be concluded that the solution trainings for Trial 2 were successfully performed for individual solutions; however, one learning of Trial 2 was that practitioners were not fully aware of the integration of solutions and the benefits related to this integration.

5. Trial 3

The Trial was organized by Austrian Red Cross (ÖRK) in combination with Austrian Institute of Technology (AIT) and was conducted in Eisenerz, Styria as a combined field and table-top Trial from 12/09/2019 to 15/09/2019.

Scenario of Trial 3 was a heavy earthquake and subsequent heavy rains causing collapsed buildings, missing persons, casualties, and blocked roads. More details of the full Trial set-up can be found in **D945.11** ***Report on Trial Action Plan - Trial 3*** (16) and in **D945.12** ***Report on Trial Evaluation - Trial 3*** (9)**.**

5.1 Solutions involved in Trial 3

Table 5.1 shows the name and main utilisation of the innovative solutions applied in Trial 3.

Table 5.1: Trial 3 innovative solutions

Solution	Solution Provider	Stage	Short description	Utilization in Trial
vieWTerra Evolution	VWORLD	Early Adoption/ Distribution	4D Earth Viewer as well as a data & assets integration	vieWTerra Evolution is used by civil responders to build a virtual 4D representation (3D synthetic environment + Time dimension) of a potential Crisis area to provide a Common Operational Picture.
CrowdTasker	AIT	Early Adoption/ Distribution	CrowdTasker addresses non-institutional volunteers for CM tasks	CrowdTasker is used by Crisis Managers to instruct large numbers of non-institutional volunteers with customizable tasks, contextual information, warnings and alerts, as well as to crowdsource information from them.
PFA – Psychological First Aid (Psychosocial support)	DRC	Early Adoption/ Distribution	PFA is a method to help people in distress in Crisis Situations	Psychological First Aid (PFA) was trained in the Trial as a method of helping people in distress so they feel calm and supported in coping with their challenges.
Airborne and Terrestrial Situational Awareness (ATSA)	DLR	Early Adoption/ Distribution	The solution provides aerial images as input to a COP.	The Airborne and Terrestrial Situational Awareness solution, integrated into a research aircraft, operated as a remotely piloted vehicle (RPV) during the Trial and provided inputs for situational awareness.
ASIGN	AnsuR	Early Adoption/ Distribution	ASIGN is a disaster assessment software tool.	ASIGN was used in the Trial for the collection, communication and management of operationally relevant information.

Details about these solutions can be accessed via the **DRIVER+ Portfolio of Solutions website** (5).

It must be emphasized that Trial 3 also included a non-technical solution, the Psychological First Aid solution by DRC. Obviously, this solution had to be treated very differently compared to the involved IT-solutions as the training in the field of psychological first aid **is the solution** and cannot be compared to the training of the IT solutions as it does not serve the purpose to familiarize with a new software. For the same reason also the training feedback collection process was different compared to the feedback process for the IT solutions as the PFA training directly contains a feedback collection. For details about the purpose and application of the solutions in Trial 3 and information about the solution providers please see **D942.24** ***Report on the application of solutions in Trial 3*** (17).

5.2 Trial 3 venue and schedule

In total, about 4 hours were reserved for the solution trainings, the duration of each solution training was aligned according to the complexity of each solution. Table 5.2 shows the schedule for the solution trainings performed.

Table 5.2: Schedule for solution trainings

Time	Solution Provider	Solution Overview Training	Solution Hands-on Training
12:30	Frequentis (Training Coordinator)	Solution Training Introduction	
12:40	DLR	Airborne and Terrestrial Situational Awareness	
12:50	AnsuR	ASIGN	
13:00	AIT	CrowdTasker	
13:10	DRC	PFA – Psychological First Aid (Psychosocial support)	
13:20	VWORLD	vieWTerra Evolution	
13:30	DLR		Airborne and Terrestrial Situational Awareness
14:15	AnsuR		ASIGN
15:45	AIT		CrowdTasker
16:15	VWORLD		vieWTerra Evolution

5.3 Trial 3 training materials

The solution training coordinator contacted all solution providers 4 weeks prior to Dry Run 2 in order to start the preparation for the training materials. A split of the training content into the introduction and the hands-on part was requested and related templates were provided. The need for printed handouts was discussed with each of the solution providers individually. The training material was received 2 weeks prior to Dry Run 2 and reviewed by the training coordinator FRQ and EASS. EASS supported FRQ in the solution training coordination with the goal to further improve the quality management in the solution trainings. Adaptations to the training materials were mainly related to focus more on the functionality of the solutions relevant for the Final Demonstration. Naturally, some solution providers tended to do a full feature presentation of their solution. The training materials used in the solution trainings of Trial 3 can be found in Annex 13.

5.4 Feedback from Trial 3, Dry Run 2

In order to collect training participants' feedback about the quality of the trainings, online-questionnaires were used for each solution training session. Immediately after each training the training coordinator requested the training participants to fill the feedback questionnaire by sending a Google Forms link by e-mail to the training participants. The feedback received from the training participants for Dry Run 2 is summarized Annex 3.

For the solution Psychological First Aid (PFA) only the short solution introduction presentation was given but no hands-on training as the solution is a non-technical solution and consists of a person-to-person training how to provide Psychological First Aid to people in need in the Crisis Management process. The detailed training (which basically forms already the solution) was given only during the Trial execution.

Overall, the feedback for all solutions in Dry Run 2 was generally quite positive with 1 exception – the solution vieWTerra Evolution was perceived as being too complex to be trained in the given timeframe. This results in a low confidence to use the solution in the Trial. To mitigate this fact, it was decided

- To focus the repetition of the training in the week of the Trial only on those features needed in the Trial execution.
- To support practitioners for this solution more intensively during the Trial execution.

5.5 Feedback from Trial 3 Event

Figure 5.1 shows the execution of the hands-on solution training for CrowdTasker. The practitioners (all from the Austrian Red Cross) showed very high interest in applying the solution. After the training they came up with several recommendations for improvements of the solution, which proves their high motivation to fully exploit the possibilities of this solution.

Figure 5.1: Picture of solution overview training for CrowdTasker

The feedback received from the training participants is summarized in the following.

5.5.1 Feedback to AIT CrowdTasker

Feedback has been received from 3 participants.

Figure 5.2 shows the cumulated feedback for the solution CrowdTasker.

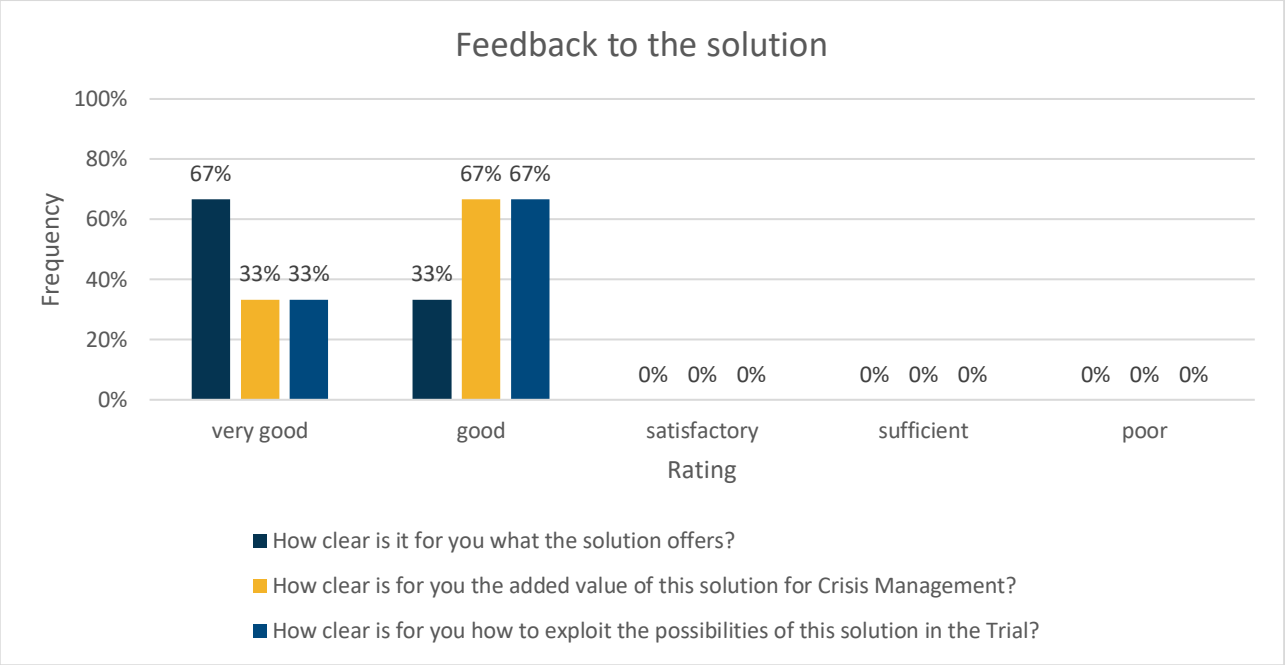

Figure 5.2: AIT CrowdTasker – Feedback to the solution

Figure 5.3 shows the cumulated feedback for the solution CrowdTasker regarding the training content.

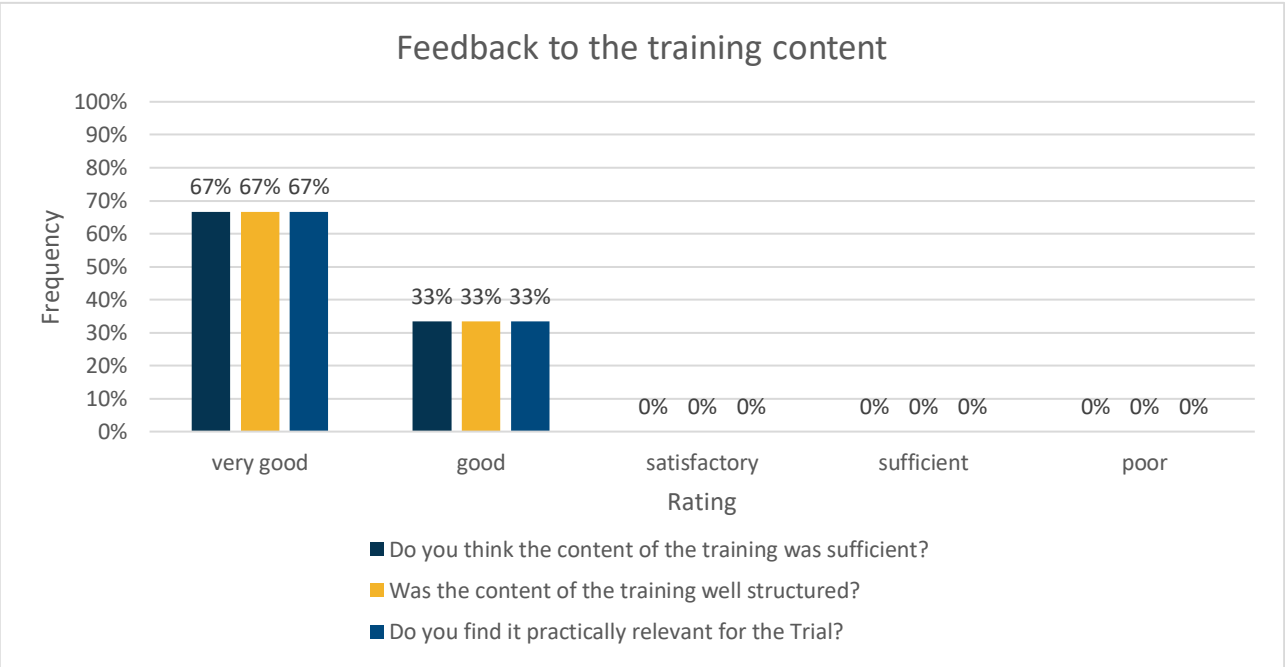

Figure 5.3: AIT CrowdTasker – Feedback to training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure 5.4 shows the cumulated feedback for the solution CrowdTasker regarding the trainer.

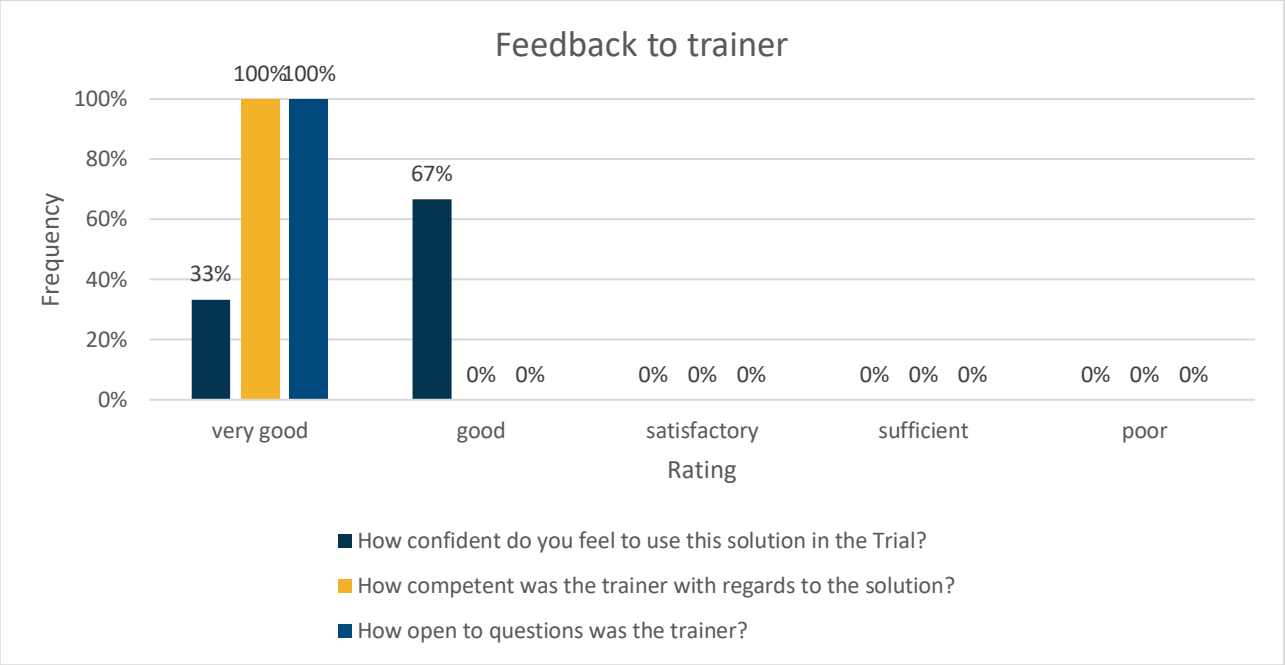

Figure 5.4: CrowdTasker – Feedback to trainer

Question: Do you have any remarks?

- The remarks of the participants are summarized in Figure 5.5.

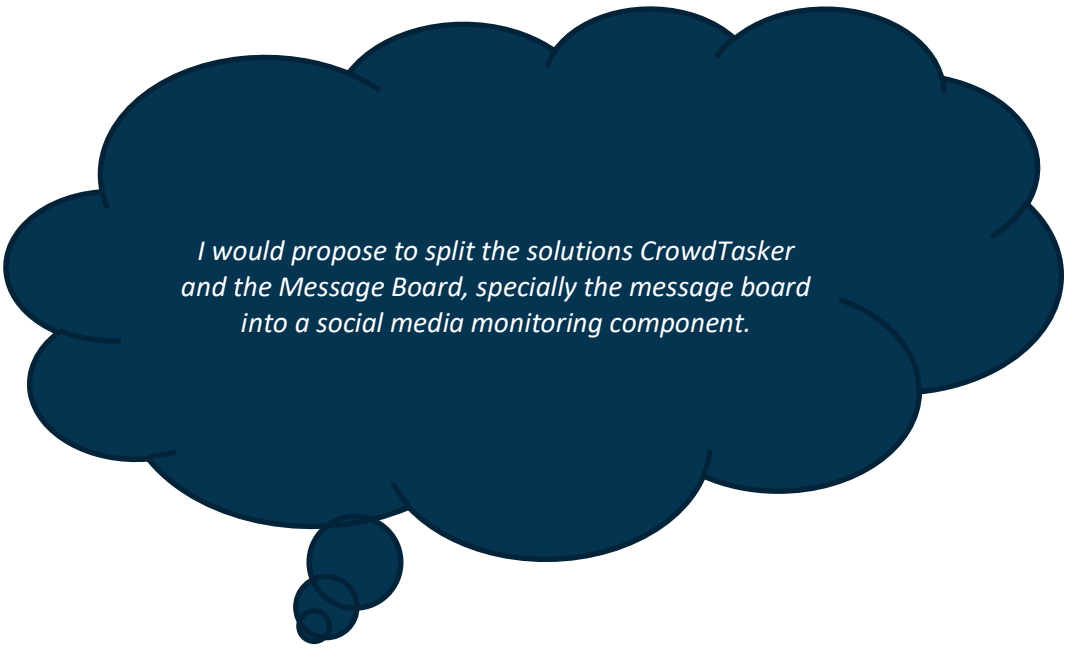

Figure 5.5: AIT CrowdTasker – Remarks on the training

5.5.2 Feedback to AnsuR - ASIGN

Feedback has been received from 4 participants.

Figure 5.6 shows the cumulated feedback for the solution ASIGN.

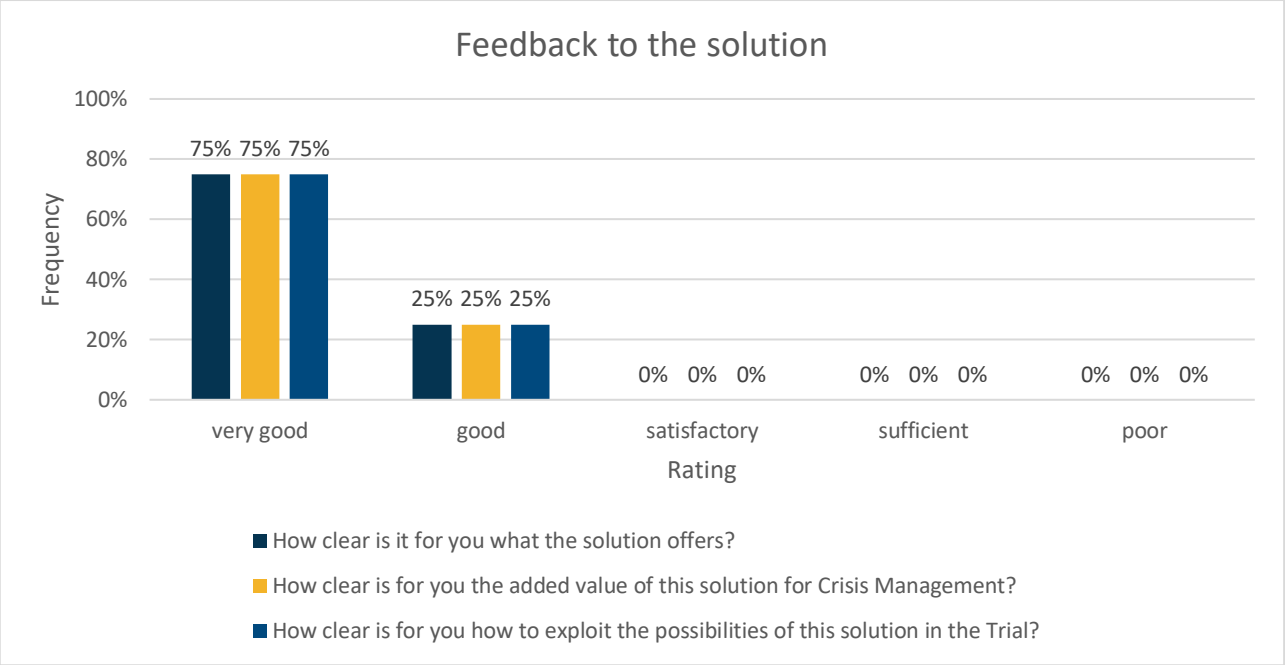

Figure 5.6: AnsuR ASIGN– Feedback to the solution

Figure 5.7 shows the cumulated feedback for the solution ASIGN regarding the training content.

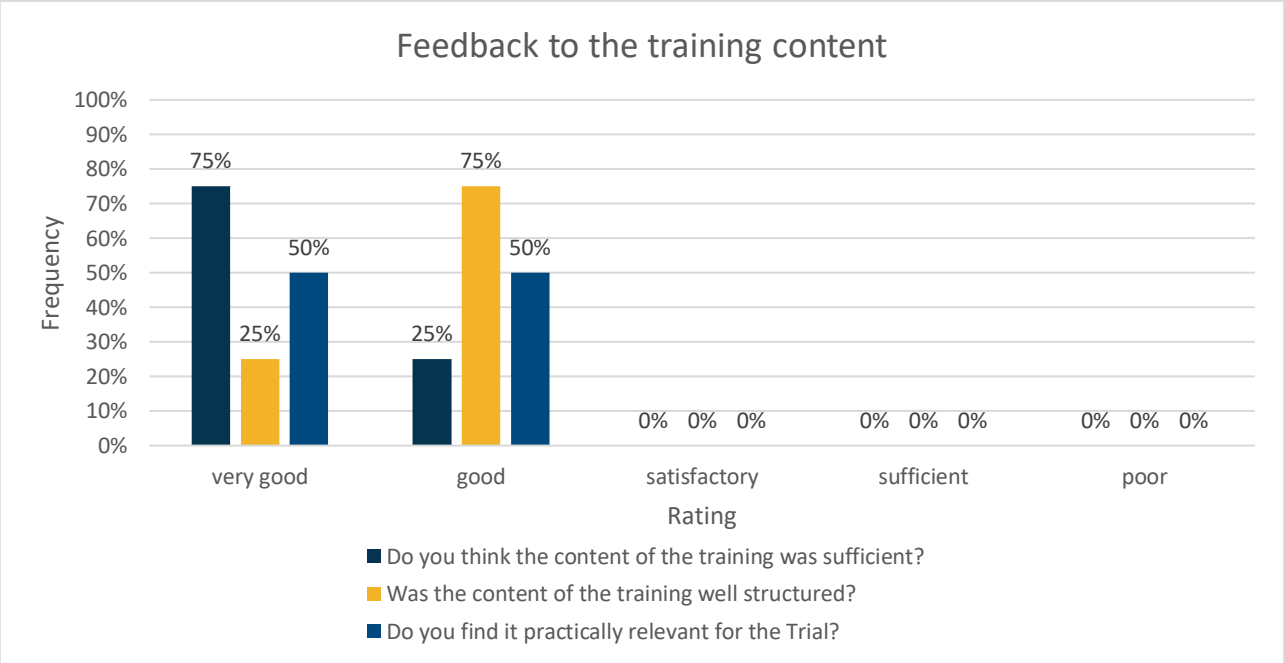

Figure 5.7: AnsuR ASIGN – Feedback to training content

How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure 5.8 shows the cumulated feedback for the solution ASIGN regarding the trainer.

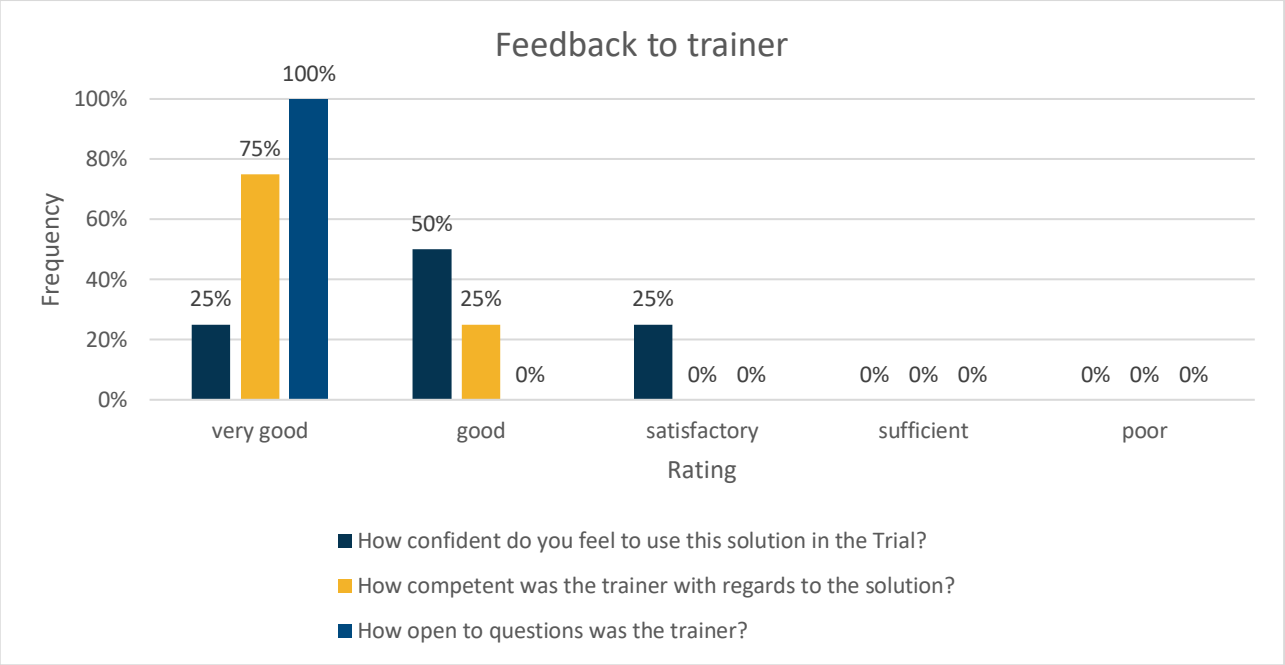

Figure 5.8: AnsuR ASIGN – Feedback to trainer

Question: Do you have any remarks?

- The remarks are summarized in Figure 5.9.

Figure 5.9: AnsuR ASIGN – Remarks on the training

5.5.3 Feedback to DLR – Airborne and Terrestrial Situational Awareness solution

Feedback has been received from 3 participants.

Figure 5.10 shows the cumulated feedback for the Airborne and Terrestrial Situation Awareness (ATSA) solution.

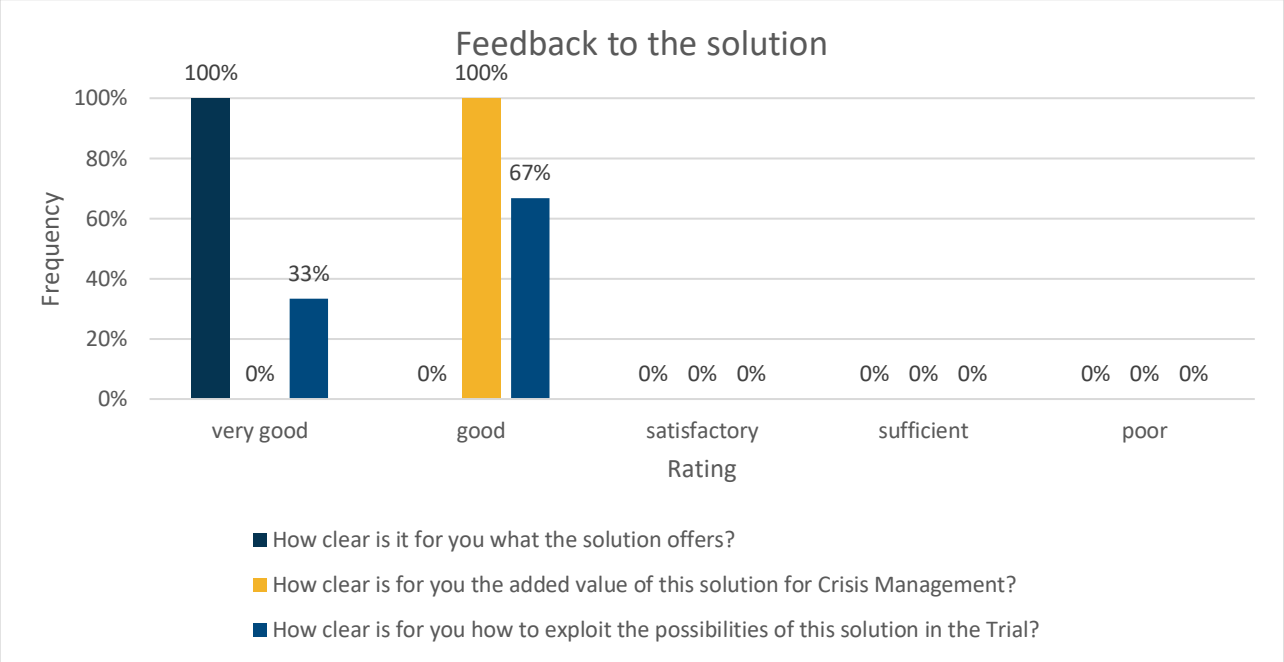

Figure 5.10: DLR ATSA solution – Feedback to the solution

Figure 5.11 shows the cumulated feedback for the ATSA solution regarding the training content.

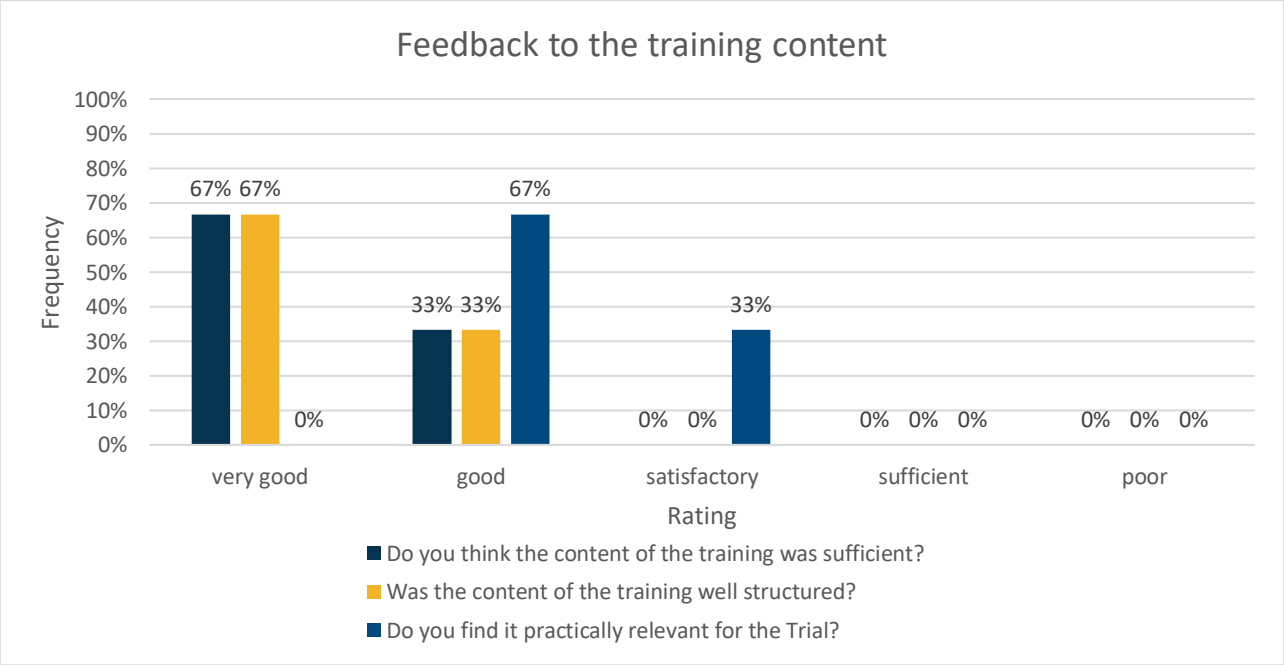

Figure 5.11: DLR ATSA solution – Feedback to training content

How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure 5.12 shows the cumulated feedback for the ATSA solution regarding the trainer.

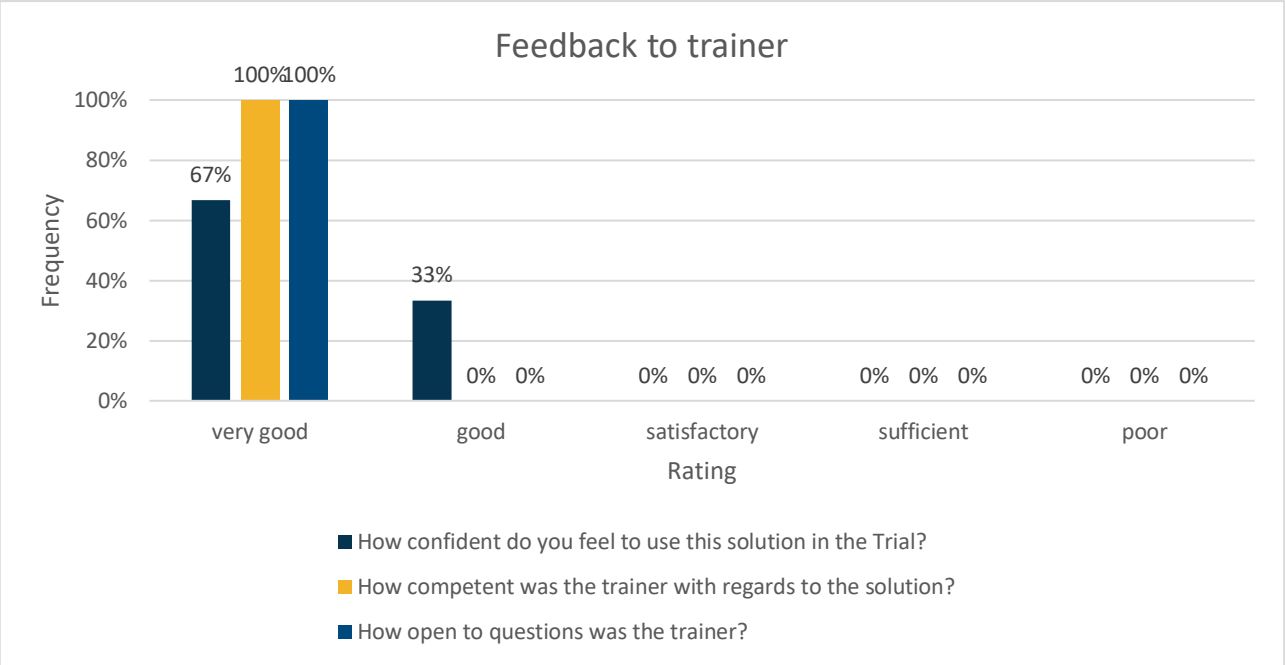

Figure 5.12: DLR ATSA solution – Feedback to trainer

Question: Do you have any remarks?

- The remarks are summarized in Figure 5.13.

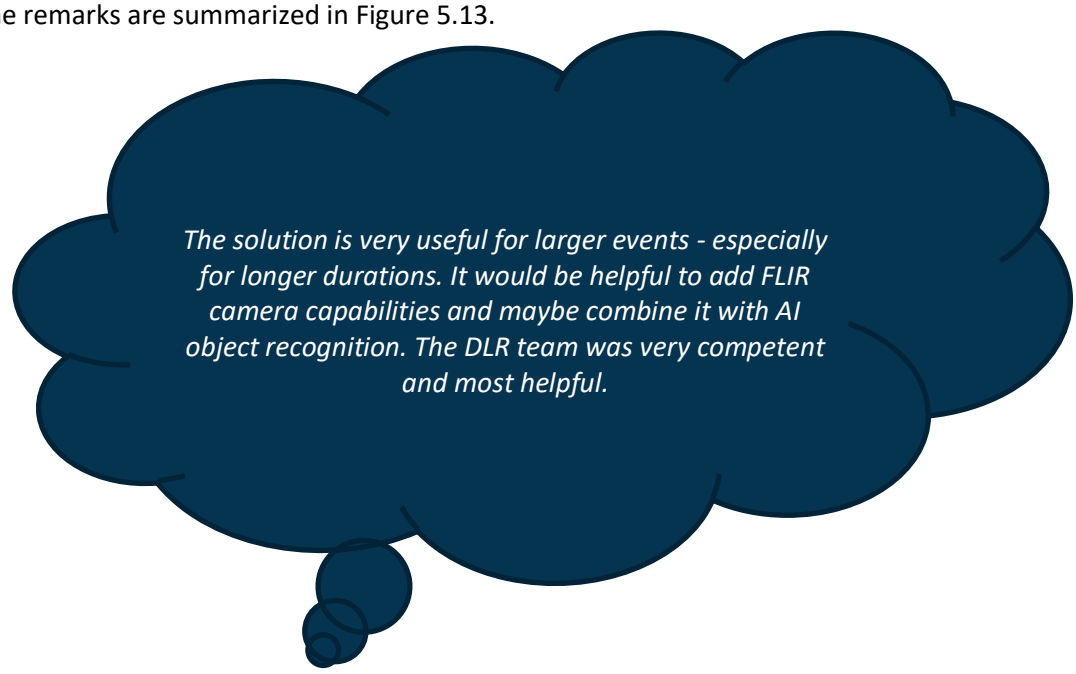

Figure 5.13: DLR ATSA solution – Remarks on the training

5.5.4 Feedback to VWORLD – vieWTerra Evolution

Feedback has been received from 3 participants.

Figure 5.14 shows the cumulated feedback for the solution vieWTerra Evolution.

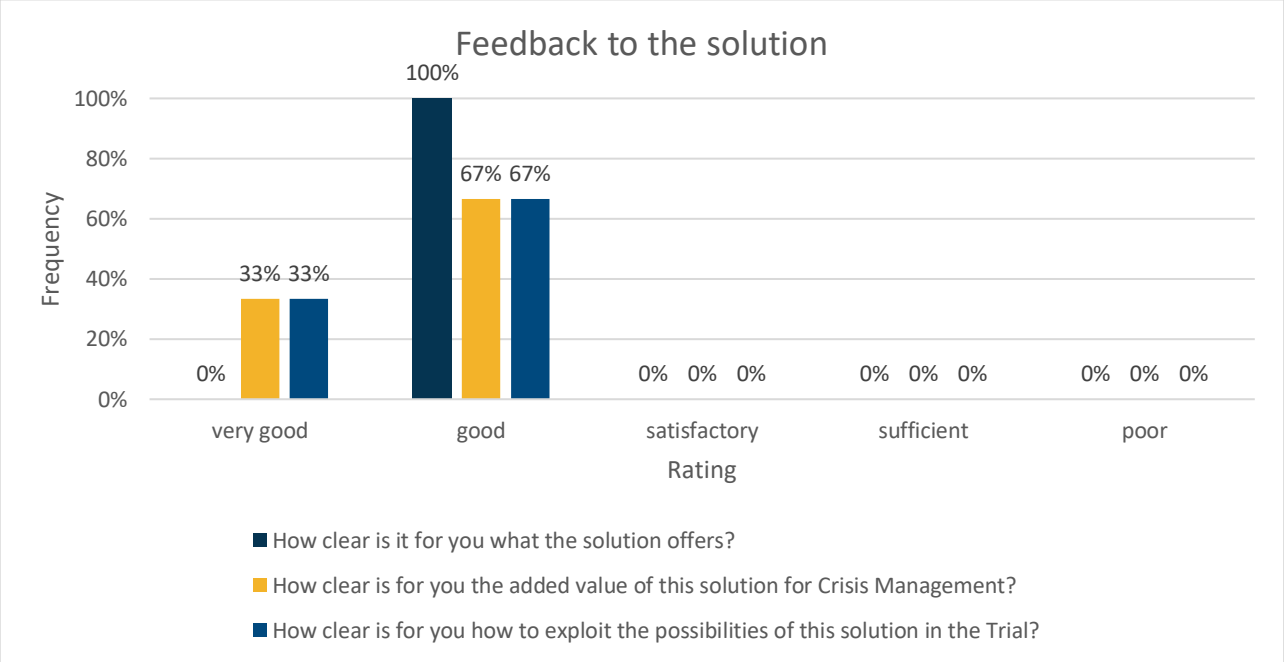

Figure 5.14: VWORLD vieWTerra Evolution – Feedback to the solution

Figure 5.15 shows the cumulated feedback for the solution vieWTerra Evolution regarding the training content.

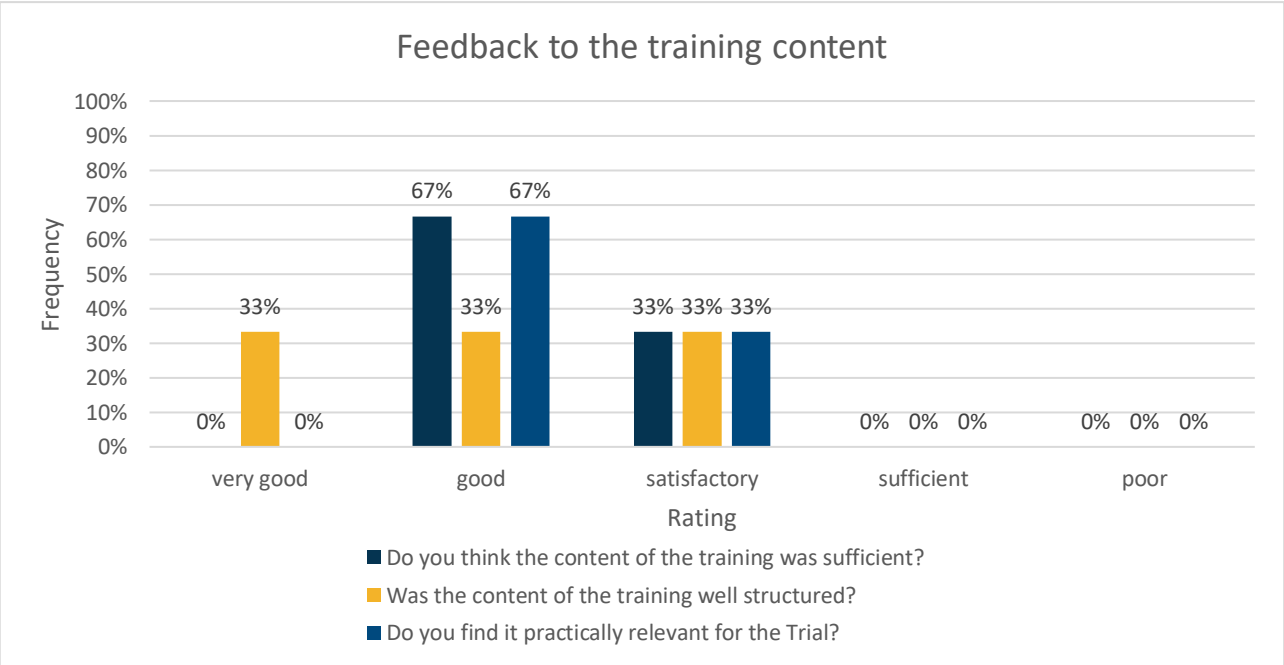

Figure 5.15: VWORLD vieWTerra Evolution – Feedback to training content

How were the facilities of the training?

- 80% of the participants stated that the facilities were “ok”, “sufficient” or “quite adequate”.
- 20% of the participants stated that the facilities were “poor”.

Figure 5.16 shows the cumulated feedback for the solution vieWTerra Evolution regarding the trainer.

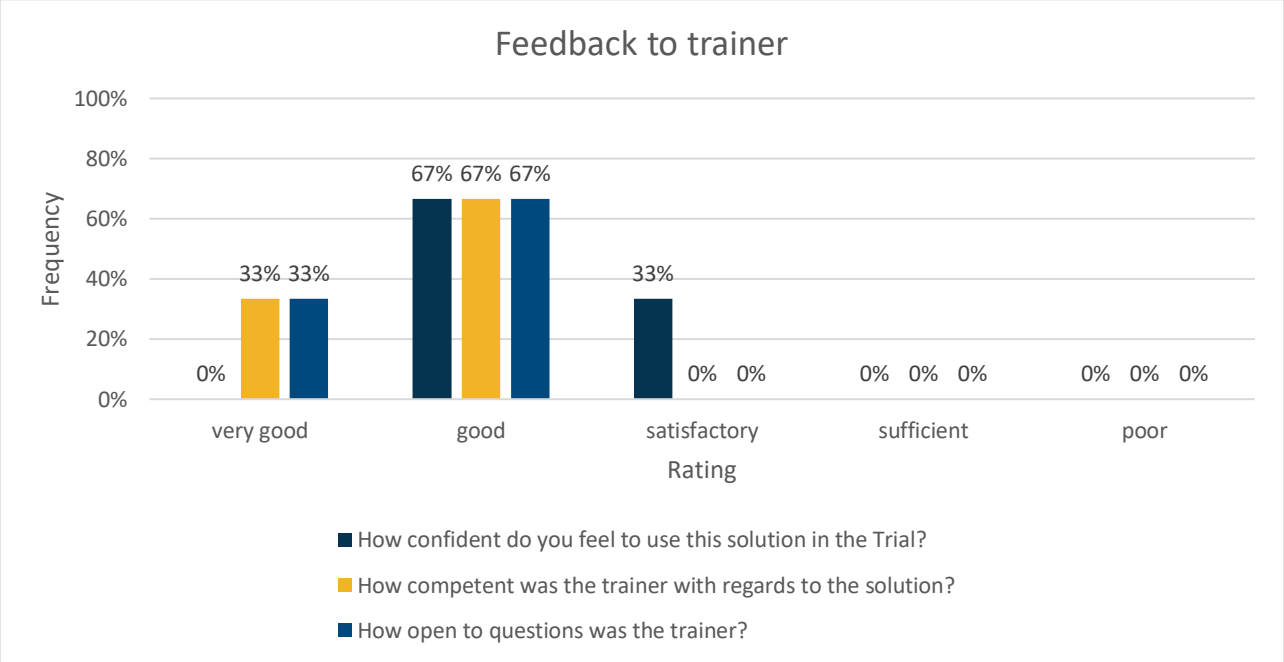

Figure 5.16: VWORLD vieWTerra Evolution – Feedback to trainer

Question: Do you have any remarks?

- The remarks of the participants are summarized in Figure 5.17.

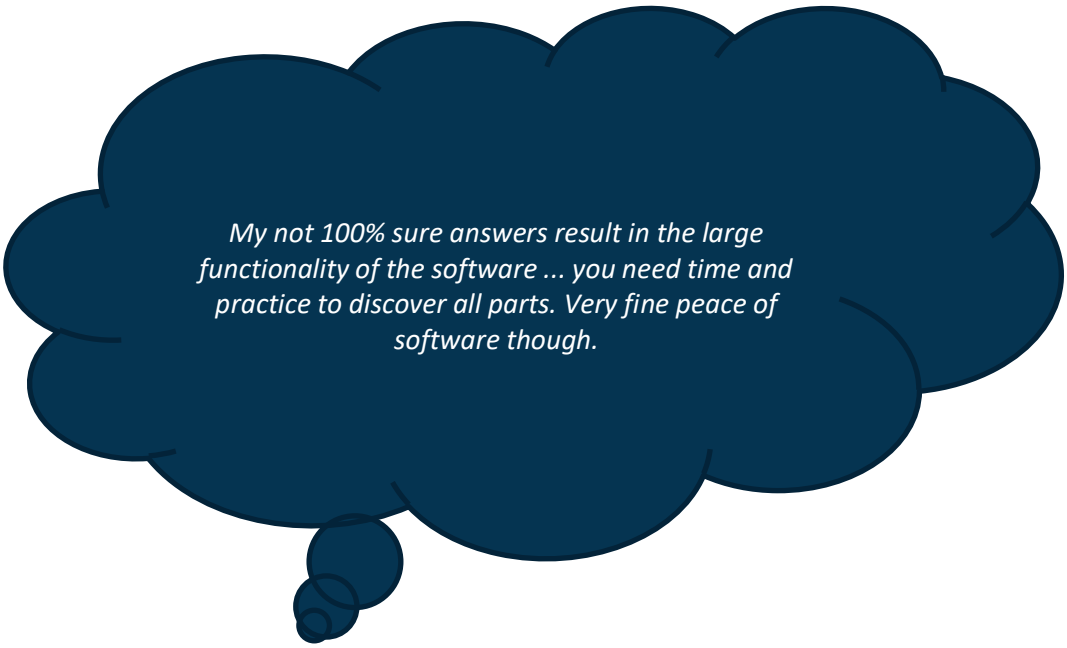

Figure 5.17: VWORLD vieWTerra Evolution – Remarks on the training

5.5.5 Psychological First Aid (PFA)

The detailed PFA training (which forms the solution) was given only during the Trial execution, not during Dry Run 2. This training was arranged by the DRC with the students and teachers (as spontaneous volunteers) at the Young Business School Eisenerz (Bundeshandelsakademie). The Psychological First Aid (PFA) for emergent groups training was held as a one-day training where the students learnt and got to practice the main skills needed to give good PFA in a crisis situation. They learnt the internationally recognised principles of Look Listen Link, developed by the World Health Organisation. The training included sessions on these three principles as well as role plays, discussion sessions, sharing knowledge and experience between participants.

Also, Virtual Reality was used as part of the training.

Overall the training had eight components:

1. Introduction.
2. What is PFA?
3. Crisis events and stress reactions.
4. Learning and practicing the LOOK principle.
    - How to first ensure one's own and others safety, to assess who needs help, to check for physical injuries and emotional reactions, and then start to find more information on what has happened and assess immediate basic and practical needs.
5. Learning and practicing the LISTEN principle.
    - How to introduce yourselves, how to calm down a person in distress and how to practice active listening and asking useful questions.
6. Learning and practicing the LINK principle.
    - How to tackle the identified practical needs and link the affected people to relevant support, information and services.
7. Bringing it all together.
    - How to use all three principles in combination.
8. Wrap-up and evaluation.

Feedback of the training participants: they rated all the abilities they were asked about as having improved on the day of training. As PFA skills are soft skills and to some extent integral to human nature, the positive changes should not be contributed 100% to the training. However, the fact that all participants reported positive change and especially when combined with the good levels of knowledge and positive evaluation of the training also reported, it can be inferred that the training was of high quality and contributed positively to the participants' skill for PFA and/or their own level of confidence in these skills.

Detailed results of the PFA training are provided in **D945.12** ***Report on Trial Evaluation – Trial 3*** (9).

5.6 Trial 3 conclusions and lessons learnt

Solution training sessions were executed during Dry Run 2 and repeated on the day before the Trial execution. The feedback received by online-questionnaires was collected in both events and was used to improve the training between Dry Run 2 and the Trial. The training feedback for the solution vieWTerra Evolution (see Annex 3) was not at the same level as for the other solutions, as the solution was perceived to be very complex by the practitioners and some practitioners experienced an information overload during the solution trainings.

Also, the scope of the hands-on training was perceived to be too wide, especially for vieWTerra Evolution. The training was adapted in the time between Dry Run 2 and the Trial in order to focus only on those features relevant for the Trial. The feedback for vieWTerra Evolution given during DR2 was taken into

account by VWORLD for the hands-on training performed in the week of the Trial. The feedback received at the Trial showed improvements compared to the feedback received after Dry Run 2.

Practitioners showed very high interest in all solutions and provided their ideas and recommendations for improvements of solutions. An example for improvement ideas for the solution CrowdTasker, stated by the Red Cross, is summarized in Annex 6. The very high interest of the Red Cross in all involved solutions of Trial 3 can be considered as a positive feedback to the solution selection for this Trial and shows the high level of motivation of practitioners in the solution trainings.

6. Trial 4

The Trial was hosted by the Safety Region Haaglanden (SRH) and organized in close collaboration with the German Aerospace Centre (DLR). It was conducted as a table-top Trial at the premises SRH (The Hague/ Netherlands) from 20/05/2019 to 24/05/2019.

Scenario of Trial 4 was a flooding caused by a dyke breach with more than 500.000 people threatened. The scenario required decisions about the necessity for evacuation of inhabitants. More details of the full Trial set-up can be found in **D946.11** ***Report on Trial Action Plan - Trial 4*** (18) and in **D946.12** ***Report on Trial Evaluation - Trial 4*** (10).

6.1 Solutions involved in Trial 4

Table 6.1 shows the name and main utilisation of the innovative solutions applied in the Trial 4.

Table 6.1: Trial 4 innovative solutions

Solution	Solution Provider	Stage	Short description	Utilization in Trial
Airborne and Terrestrial Situational Awareness (ATSA, consisting of the modules ZKI and KeepOperational)	DLR	Early Adoption/ Distribution	Creation of information layers based on aerial images that can be applied in traffic analysis and route planning	The solution is used to provide flood masks and flood maps using aerial imagery of the flooded area as well as for the calculation of traffic routes under consideration this flood information and road blockages.
HumLogSim	WWU	Early Adoption/ Distribution	Performance assessment platform for logistics processes in Crisis Management	The solution is used for the calculation of evacuation strategies and the calculation of personnel and logistics.
3Di	Nelen Schurmanns	Market Growth	Simulation for flood forecasting	The solution is used as interactive water simulation model which enables flood forecasting and exploring various future scenarios in a very short time frame.
SIM-CI	SIM-CI	Market Growth	Visualization of cascading effects on vital infrastructures	The solution is used for the calculation of cascading effects of flooding on transportation or supply networks
CrisisSuite	Merlin	Market Growth	Logbook, Information Sharing, Map & Reporting tool	The solution is used to host CM plans and the Logbook(s) for sharing of vertical and horizontal information. It supports the resource pooling information (related with CECIS) and displays the Situation map. Further, it

				helps generating Situation Reports.

Details about these solutions can be accessed via the **DRIVER+ Portfolio of Solutions website** (5).

It shall be mentioned that 3Di, SIM-CI and CrisisSuite solutions are provided by organisations which are not part of the DRIVER+ consortium, called external solution providers. For details about the purpose and application of these solutions in Trial 4 and information about the solution providers please see **D942.23** ***Report on the application of solutions in Trial 4*** (19).

6.2 Trial 4 venue and schedule

In total, about 4.5 hours were reserved for the solution trainings, the duration of each solution training was aligned according to the complexity of each solution. Table 6.2 shows the schedule for the solution trainings performed on 21/05/2019.

Table 6.2: Schedule for solution trainings

Time	Solution Provider	Solution Overview Training	Solution Hands-on Training
12:30 – 12:40	Frequentis (Training Coordinator)	Solution Training Introduction	
12:40 – 12:50	SIM-CI	SIM-CI	
12:50 – 13:00	DLR	Airborne and Terrestrial Situational Awareness (overview of both modules)	
13:00 – 13:10	LCMS	(Legacy system LCMS)	
13:10 – 13:20	Merlin	CrisisSuite	
13:20 – 13:30	Nelen Schurmanns	3Di	
13:30 – 13:40	WWU	HumLogSim	
14:00 – 15:00	DLR		ATSA module ZKI
15:30 – 16:00	SIM-CI		SIM-CI
16:00 – 16:30	LCMS		(legacy system LCMS)
16:30 – 17:15	DLR		ATSA module Keep Operational
16:30 - 17:15	WWU		HumLogSim

The solution trainings have been split into two parts: a general solution overview training where all participants of the Trial were invited and a “hands-on” solution training only for the players (practitioners) of Trial 4 with live operation of the solutions and PCs for each participant to operate the solutions during the training. The solution overview trainings were conducted in a large meeting room on 11th floor of the SRH building, the hands-on trainings were conducted on the 10th floor using the same technical facilities which were used later in the Trial. Figure 6.1 shows a picture of the solution overview training for CrisisSuite.

Figure 6.1: Picture of solution overview training for CrisisSuite

The solution overview trainings were followed by the hands-on trainings where each solution was presented in detail and practitioners could gain hands-on experience with the solutions, an example for a hands-on training for the solution HumLogSim is presented in Figure 6.2.

Figure 6.2: Picture of hands-on training for HumLogSim

6.3 Trial 4 training materials

The solution training coordinator contacted all solution providers four weeks prior to Dry Run 2 in order to start the preparation for the training materials. A split of the training content into the introduction and the hands-on part was requested and related templates were provided. The need for printed handouts for the hands-on training was discussed with each of the solution providers individually. The training material was received two weeks prior to Dry Run 2 and reviewed by the training coordinator FRQ and EASS. The training material was at a good level of quality, improvements of the training material were mainly related to the amount of information which had to be aligned to the training schedule. The training materials used in the solution trainings of Trial 4 can be found in Annex 14.

6.4 Feedback from Trial 4, Dry Run 2

In order to collect training participants' feedback about the quality of the trainings, online-questionnaires were used for each solution training session. Immediately after each hands-on training the training coordinator requested the training participants to fill the feedback questionnaire by sending a Google Forms link by e-mail to the training participants.

The feedback to the trainings collected in Dry Run 2 is generally very good to medium for all solutions with a few exceptions/remarks:

- For some solutions the underlying assumptions were questioned.
- Some practitioners questioned the relevance of the solutions functionalities for the challenges of the Trial.
- The confidence to use the solution in the Trial was sometimes rated low.

The condensed feedback from Dry Run 2 to all solutions received from the training participants is summarized in Annex 4.

6.5 Feedback from Trial 4 Event

One big advantage compared to Trial 2 was that in Trial 4 the majority of the same practitioners already participated in Dry Run 2. It also turned out to be advantageous that the solution overview presentations (10 minutes per solution) were given to the big audience to achieve an overall understanding of the solutions. Also, the repetition of this overview session in the week of the Trial was useful as there were new Trial participants who were not present in Dry Run 2. On the other hand, many practitioners who received the hands-on solution trainings already during Dry Run 2 stated that they would not need a repetition of the hands-on solution training the day before the Trial. Thus, the hands-on trainings were given only to new practitioners who had not participated in Dry Run 2. In the following the feedback to the hands-on solution trainings is summarized.

6.5.1 Feedback to Merlin CrisisSuite

All practitioners who work with CrisisSuite already received this solution training during Dry Run 2. They stated that they would not need a repetition of this solution training. Thus, no feedback could be collected in the week of the Trial. Only feedback available is from Dry Run 2, please see Annex 4.

6.5.2 Feedback to HumLogSim

Feedback has been received from 3 participants.

Figure 6.3 shows the cumulated feedback for the solution HumLogSim.

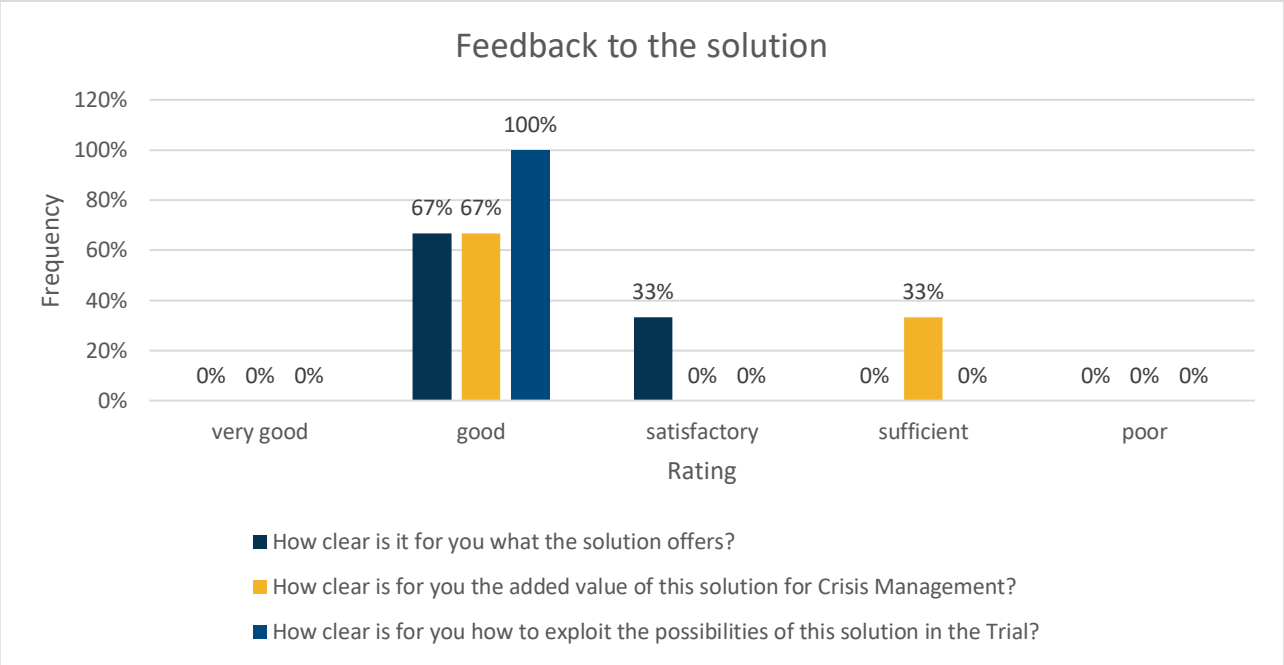

Figure 6.3: HumLogSim – Feedback to the solution

Figure 6.4 shows the cumulated feedback for the solution HumLogSim regarding the training content.

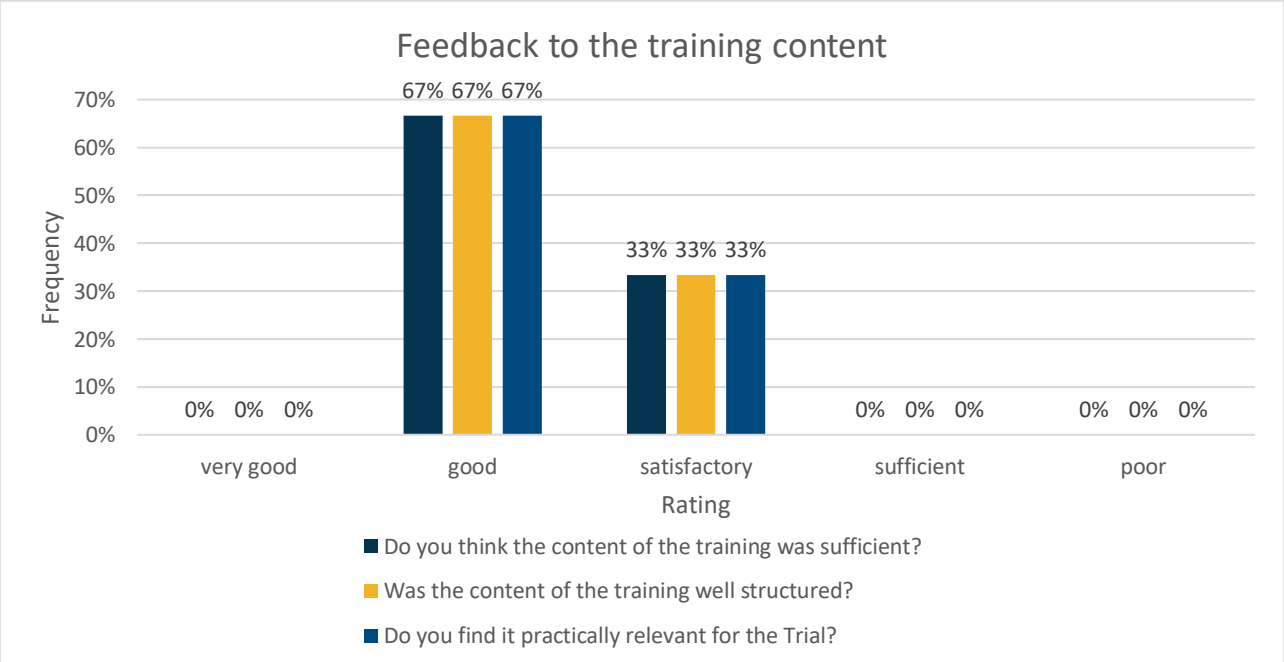

Figure 6.4: HumLogSim – Feedback to the training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure 6.5 shows the cumulated feedback for the solution HumLogSim regarding the trainer.

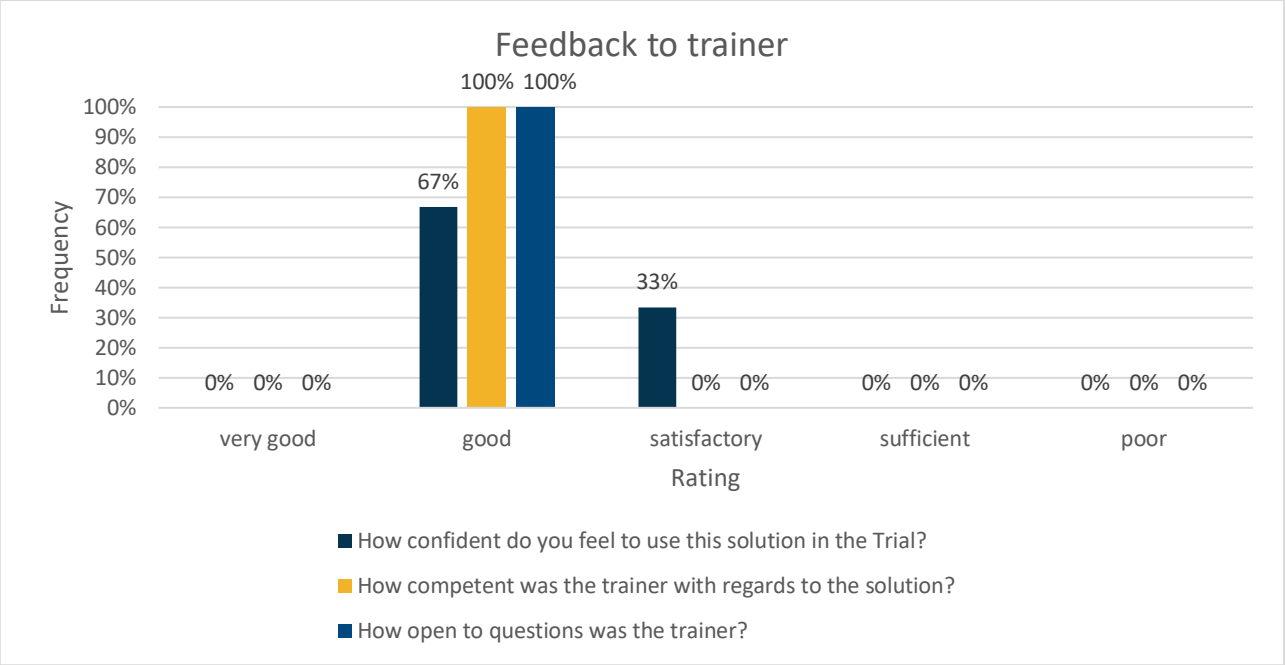

Figure 6.5: HumLogSim – Feedback to the trainer

Question: Do you have any remarks? Figure 6.6 shows the cumulated remarks for the solution HumLogSim.

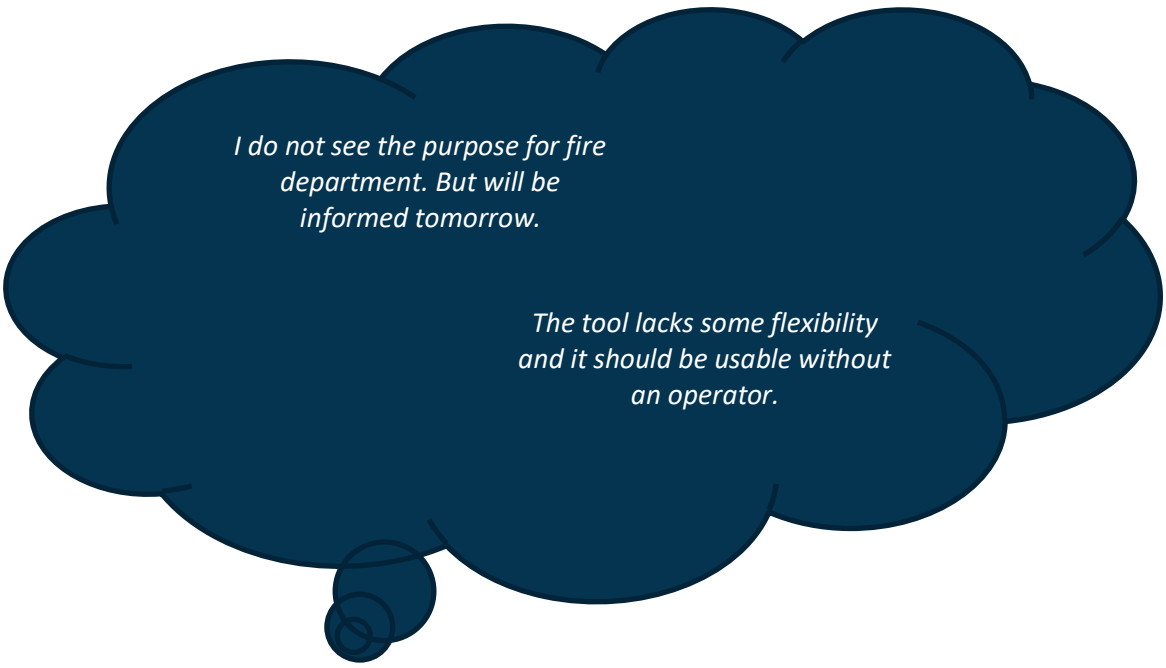

Figure 6.6: HumLogSim – Remarks on the training

6.5.3 Feedback to KeepOperational module of ATSA solution

Feedback has been received from 2 participants.

Figure 6.7 shows the cumulated feedback for the ATSA solution, KeepOperational module.

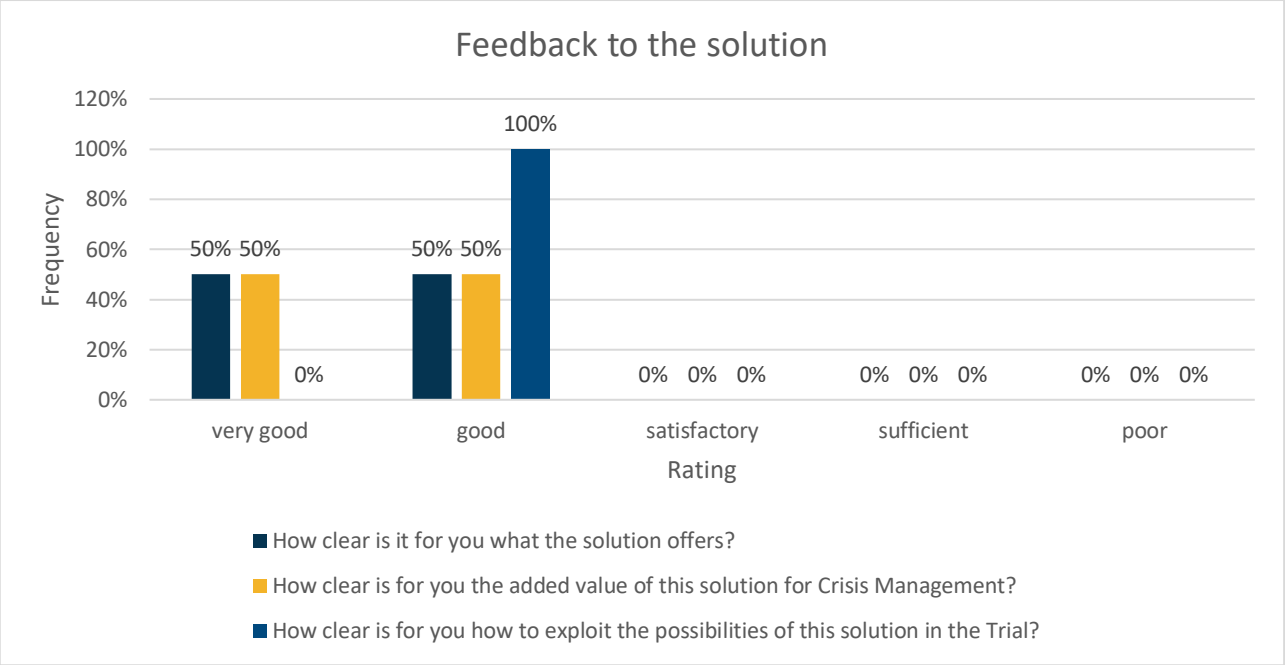

Figure 6.7: KeepOperational module of ATSA solution – Feedback to the solution

Figure 6.8 shows the cumulated feedback for the ATSA solution, KeepOperational module regarding the training content.

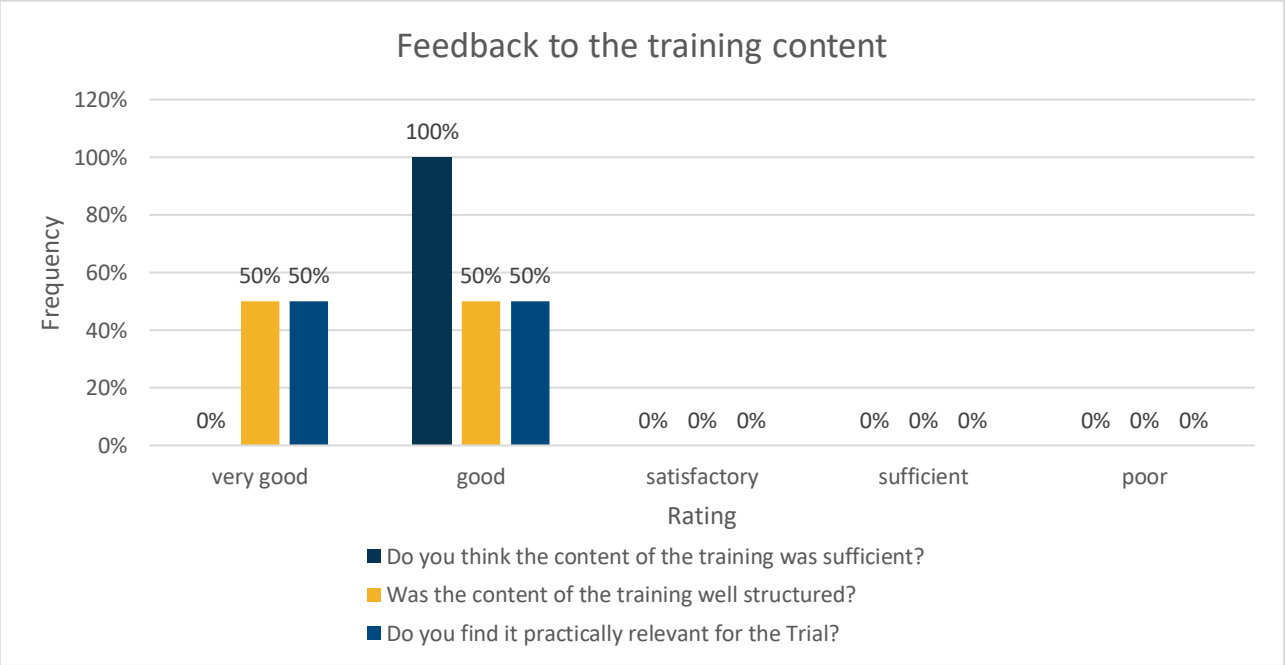

Figure 6.8: KeepOperational module of ATSA solution – Feedback to the training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure 6.9 shows the cumulated feedback for the ATSA solution, KeepOperational module regarding the trainer.

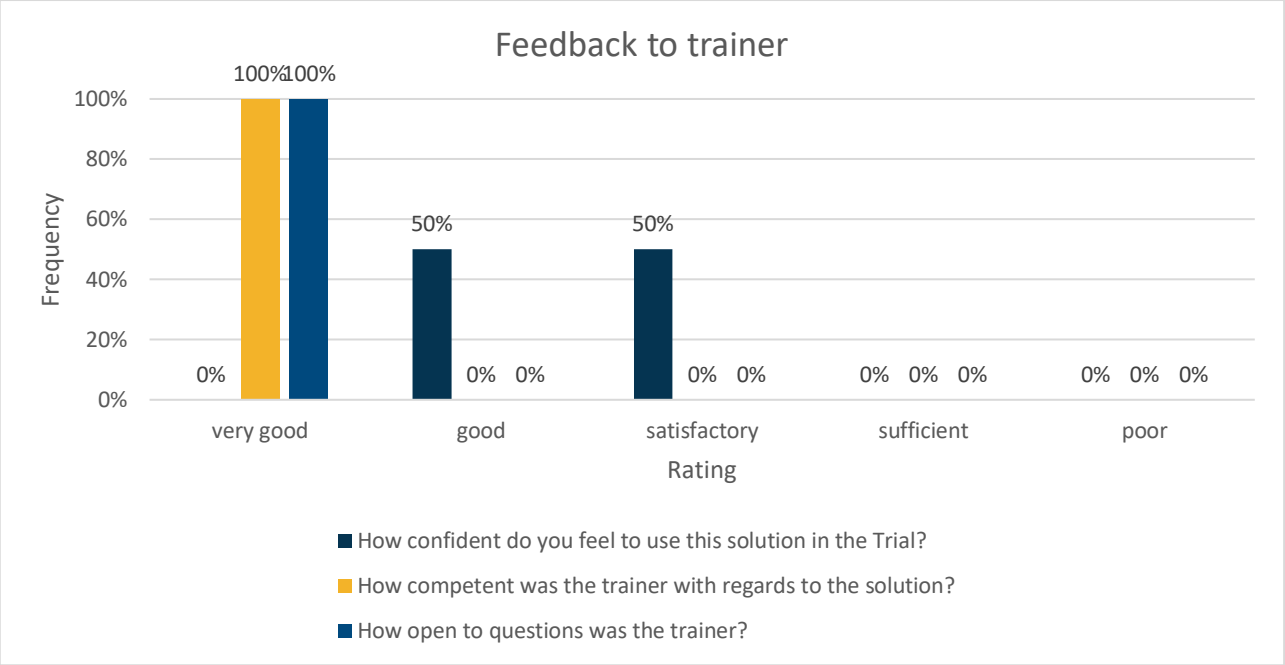

Figure 6.9: KeepOperational module of ATSA solution – Feedback to the trainer

Question: Do you have any remarks?

- 100% of the participants had no remarks.

6.5.4 Feedback to ZKI module of ATSA solution

Feedback has been received from 9 participants.

Figure 6.10 shows the cumulated feedback for the ATSA solution ZKI module.

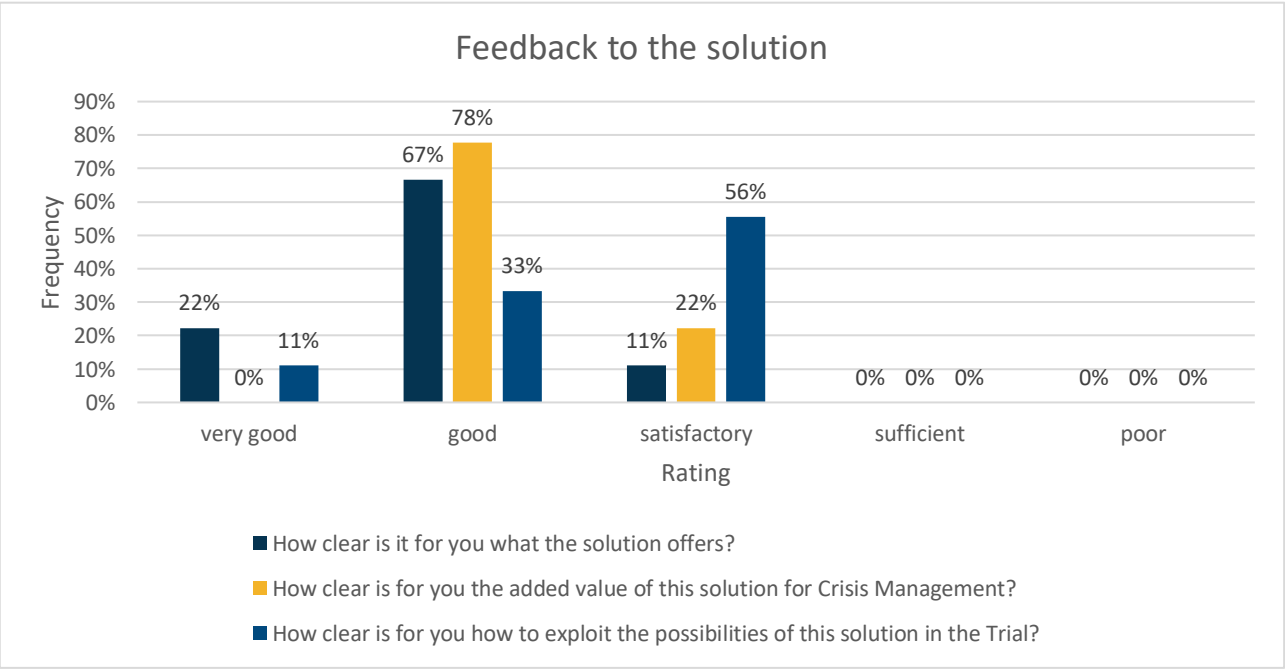

Figure 6.10: ZKI module of ATSA solution – Feedback to the solution

Figure 6.11 shows the cumulated feedback for the ATSA solution, ZKI module to the training content.

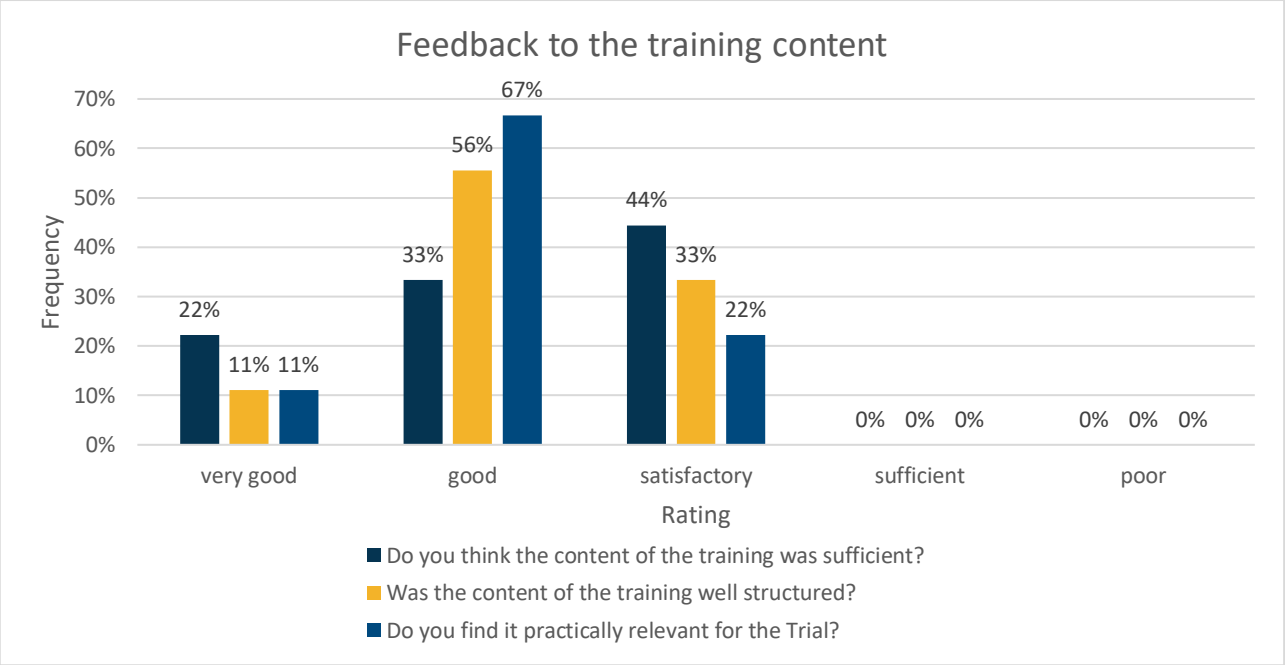

Figure 6.11: ZKI module of ATSA solution – Feedback to the training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure 6.12 shows the cumulated feedback for the ATSA solution, ZKI module to the trainer.

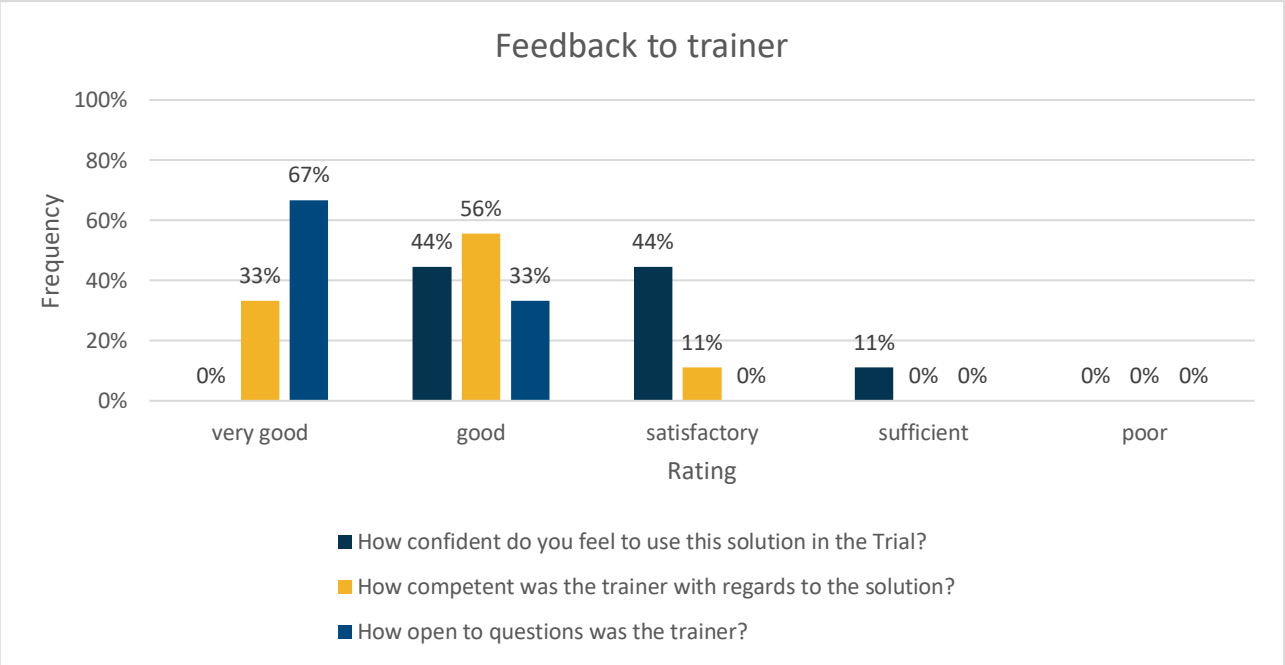

Figure 6.12: ZKI module of ATSA solution – Feedback to the trainer

Figure 6.13 shows the feedback for the ATSA solution ZKI module of Trial 4 to the question: Do you have any remarks?

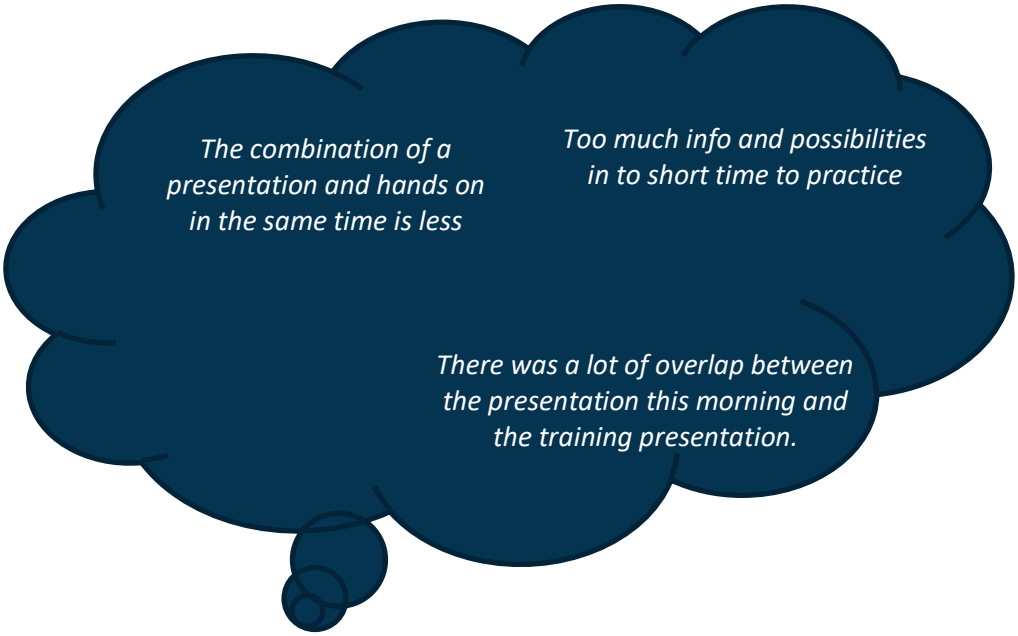

Figure 6.13: ZKI module of ATSA solution – Remarks on the training

6.5.5 Feedback to SIM-CI

Feedback has been received from 6 participants.

Figure 6.14 shows the cumulated feedback for the solution SIM-CI.

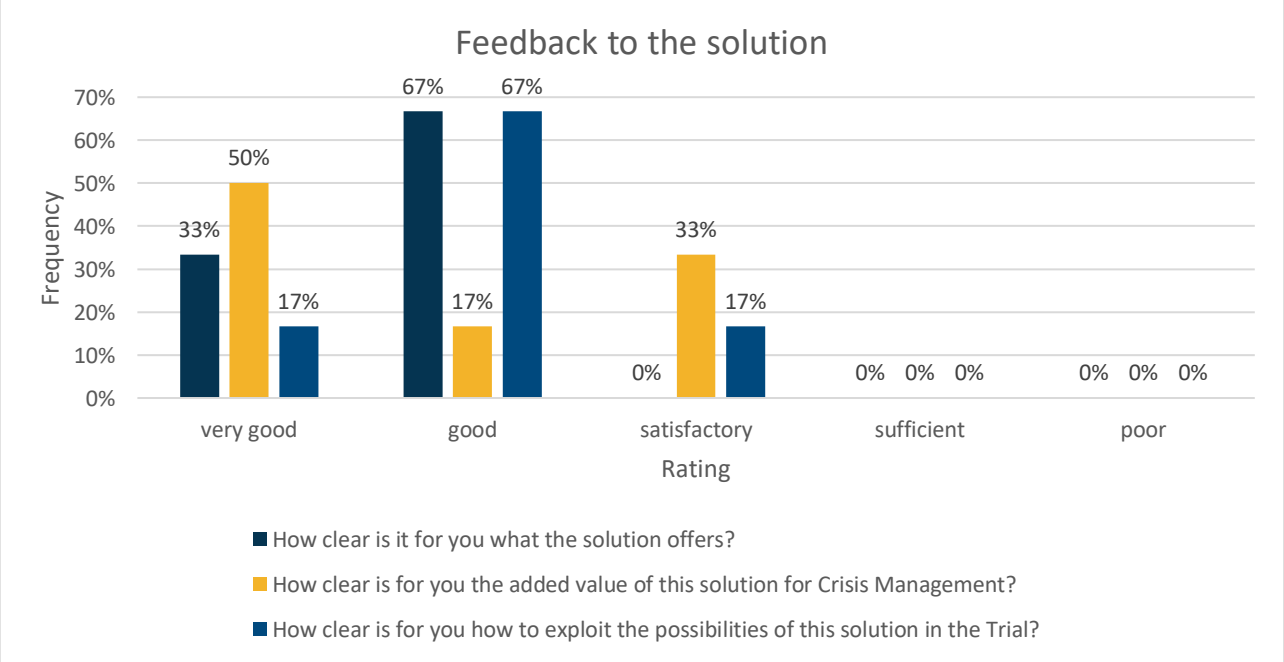

Figure 6.14: SIM-CI – Feedback to the solution

Figure 6.15 shows the cumulated feedback for the solution SIM-CI to the training content.

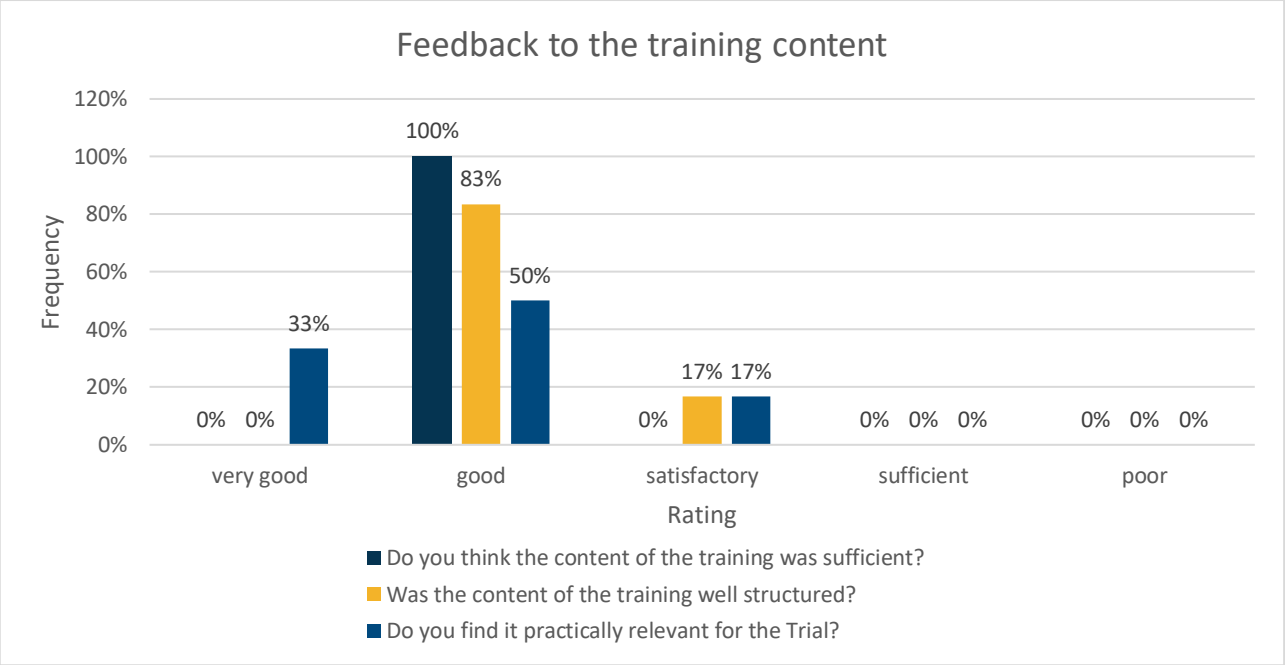

Figure 6.15: SIM-CI – Feedback to the training content

Question: How were the facilities of the training?

- 90% of the participants stated that the facilities were “ok” or “quite adequate”.
- 10% of the participants did not have any remarks.

Figure 6.16 shows the cumulated feedback for the solution SIM-CI to the trainer.

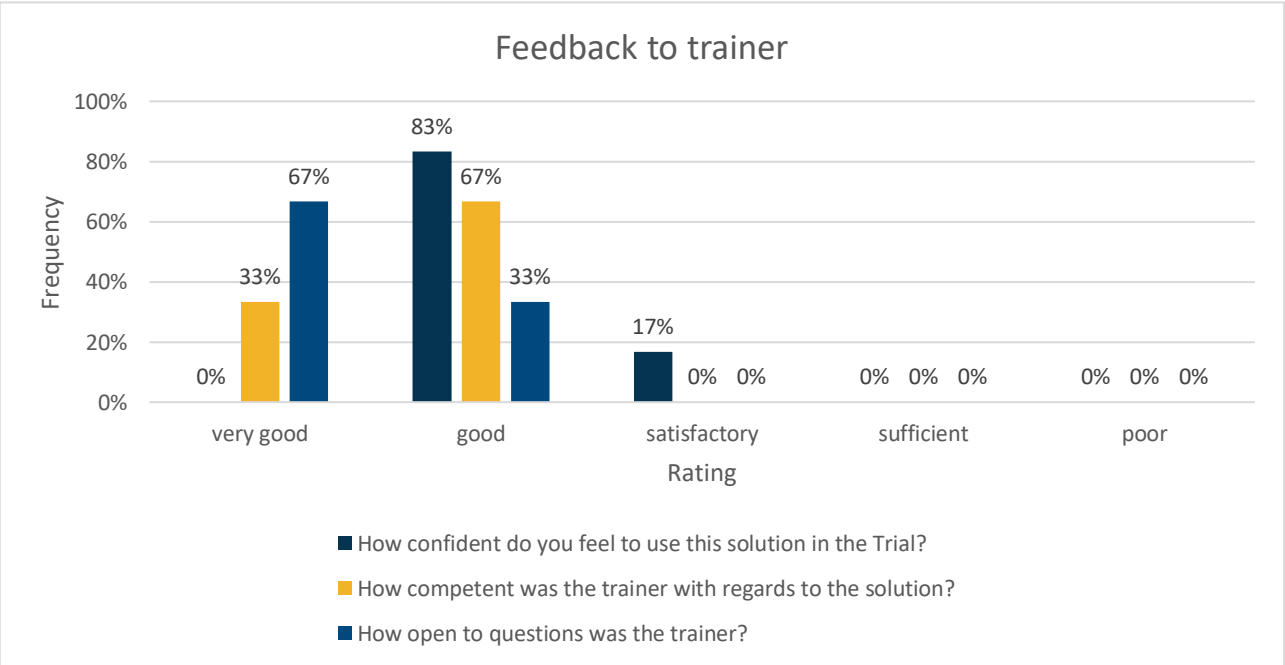

Figure 6.16: SIM-CI – Feedback to the trainer

Question: Do you have any remarks?

- 100% of the participants did not have any remarks.

6.6 Trial 4 conclusions and lessons learnt

The collected feedback to the trainings for Trial 4 is generally very good to medium for all solutions with a few exceptions/remarks:

- Some practitioners criticized the overlapping information in the solution overview trainings and hands-on trainings.
- Some practitioners stated that some solutions offer a wide variety of features and that the time available for the hands-on trainings is considered to be too short.
- Some practitioners questioned the purpose of the solution for the Trial scenario and the flexibility the solution offers.
- Some practitioners did not feel very comfortable after the training to use certain solutions in the Trial as they missed sufficient active usage of solutions in the training.

It could be observed during the trainings that the paper handouts were well received and helpful. It was also perceived as advantage by the training participants that the same technical equipment was used in the hands-on trainings as later in the Trial. Due to the complexity of some solutions, a learning is that a support person from each solution provider could be needed in cases when the trained practitioners are not sure how to operate the solutions by themselves.

In Trial 4 the majority of practitioners already participated in Dry Run 2. At first glance this fact was considered as advantage by the Trial organization and the solution training coordinator. However, the offer of a repetitive hands-on training was denied by most practitioners due to time constraints. Thus, a repetition of the hands-on trainings was given only to a few practitioners and to new practitioners who had not participated in Dry Run 2. This led to the fact that the practitioners not attending the trainings before the Trial but only the Dry Run 2 training missed the improvements that have been made to the training content by the solution providers from the feedback collected in Dry Run 2. One lesson learned is that a clearer communication of the advantages of a repetitive training is needed to convince practitioners to take full advantage of this opportunity. A learning to deal adequately with the time constraints is that it is never possible to provide an overall picture of all functions of the solutions during hands-on sessions, but the trainings shall fully focus on the primary functions foreseen to be used in the Trial.

7. Final Demonstration

The general purpose of the Final Demonstration was twofold - after 4 DRIVER+ Trials have been conducted successfully, the first aim of the Final Demonstration was to demonstrate the trialling process, but the Final Demonstration was more than a demonstration, it was a Trial itself, and one of the most complex in terms of the scenario. The main focus of the Final Demonstration was the exchange at the highest level of coordination, between ERCC (Emergency Response Coordination Centre) and EUCPT (EU Civil Protection Team) during a crisis in a country located outside of EU where the EUCP Mechanism is activated and civil protection modules from several member states are deployed. The multinational aspect was one of the key aspects of the Final Demonstration which involved players located in Poland and The Netherlands.

The Final Demonstration scenario covered a forest fire with cascading effects (discovery of an unknown refugee camp in the forest). The scenario was focused on international information exchange among the EUCP Modules, EUCPT and NDMA as well as situation reporting to ERCC.

The Final Demonstration was organized by SRC and SGSP and was conducted at the premises of SGSP (Warsaw), SRC (Warsaw) and SRH (The Hague). The Final Demonstration was conducted as a table top Trial from 25/11/2019 to 29/11/2019.

More details of the full Trial set-up can be found in **D947.12** ***Report on Trial Evaluation – Final Demo*** (11).

7.1 Solutions involved in Final Demonstration

Table 7.1 shows the name and main utilisation of the innovative solutions applied in the Final Demonstration.

Table 7.1: Final Demonstration innovative solutions

Solution	Solution Provider	Stage	Short description	Utilization in Final Demo
CrisisSuite	Merlin Software	Market Growth	Logbook, Information Sharing, Map & Reporting tool	Hosts CM plans documents. Supports the Logbook(s) for sharing of vertical and horizontal information. Supports the resource pooling information (related with CECIS) Displays the Situation map. Helps generating Situation Reports and other standard forms.
SOCRATES OC	GMV	Early Adoption/ Distribution	Common Operational Picture – situation map	COP tool with geographical focus. Enables Map based situation management related to hazards, infrastructures and resources. Shares its COP with other tools (CrisisSuite and vieWTerra Evolution).
Drone Rapid Mapping	CreoTech	Early Adoption/ Distribution	Generation of orthophoto maps and photogrammetry from drone images	Processes Drone data for generation of orthophoto maps and generation of 3D terrain models (photogrammetry).
Field Reporting Tool	JRC	Early Adoption/ Distribution	Sends pictures and text reports from the field	Send geo-located pictures and text reports from the field.
vieWTerra	VWORLD	Early Adoption/	3D visualisation of	Display 3D model of the crisis area;

Evolution		Distribution	the situation and terrain analysis functionalities;	display Socrates map situation in the 3D view and enable terrain analysis.

Details about these solutions can be accessed via the **DRIVER+ Portfolio of Solutions website** (5).

It shall be mentioned that CrisisSuite, vieWTerra Evolution and Drone Rapid mapping are provided by organisations which are not part of the DRIVER+ consortium, called external solution providers. For details about the purpose and application of these solutions in the Final Demonstration and information about the solution providers please see **D942.25** ***Report on the application of solutions in Final Demo*** (20).

7.2 Final Demonstration venue and schedule

In total, almost 5 hours were reserved for the solution trainings, the duration of each solution training was aligned according to the complexity of each solution. In the Final Demonstration, the solution overview trainings and the hands-on trainings were combined as the largest available room was also the room equipped with the PCs required for the hands-on trainings. Table 7.2 shows the schedule for the solution trainings performed on 26/11/2019.

Table 7.2: Schedule for solution trainings

Time	Presenter	Solution Training (overview + hands-on session)
10:15 – 10:30	FRQ	solution Training Introduction
10:30 – 11:30	Merlin	CrisisSuite
11:30 – 12:30	GMV	SOCRATES OC
12:30 – 13:15		LUNCH
13:15 – 14:00	VWORLD	vieWTerra Evolution
14:00 – 14:40	Creotech	Drone Rapid Mapping
14:40 – 15:00	JRC	Field Reporting Tool

7.3 Final Demonstration training materials

The solution training coordinator contacted all solution providers 5 weeks prior to Dry Run 2 in order to start the preparation for the training materials. A split of the training content into the introduction and the hands-on part was requested and related templates were provided. The need for printed handouts was discussed with each of the solution providers individually. The training material was received 2 weeks prior to Dry Run 2 and reviewed by the training coordinator FRQ and EASS. Adaptations to the training materials were mainly related to focus more on the functionality of the solutions relevant for the Final Demonstration. Naturally, some solution providers tended to do a full feature presentation of their solution. The training materials used in the solution trainings of the Final Demonstration can be found in Annex 15.

7.4 Feedback from Final Demonstration, Dry Run 2

In order to collect training participants' feedback about the quality of the trainings, online-questionnaires were used for each solution training session. Immediately after each training the training coordinator requested the training participants to fill the feedback questionnaire by sending a Google Forms link by e-

mail to the training participants. The feedback received from the training participants in Dry Run 2 is summarized in Annex 5.

Figure 7.1: Training participants providing feedback

7.5 Feedback from Final Demonstration Event

All practitioners showed high interest in the solution trainings, their feedback to the trainings is summarized in the following sections.

7.5.1 Feedback to Merlin - CrisisSuite

Feedback has been received from 14 participants.

Figure 7.2 shows the cumulated feedback for the solution Merlin CrisisSuite of the Final Demonstration.

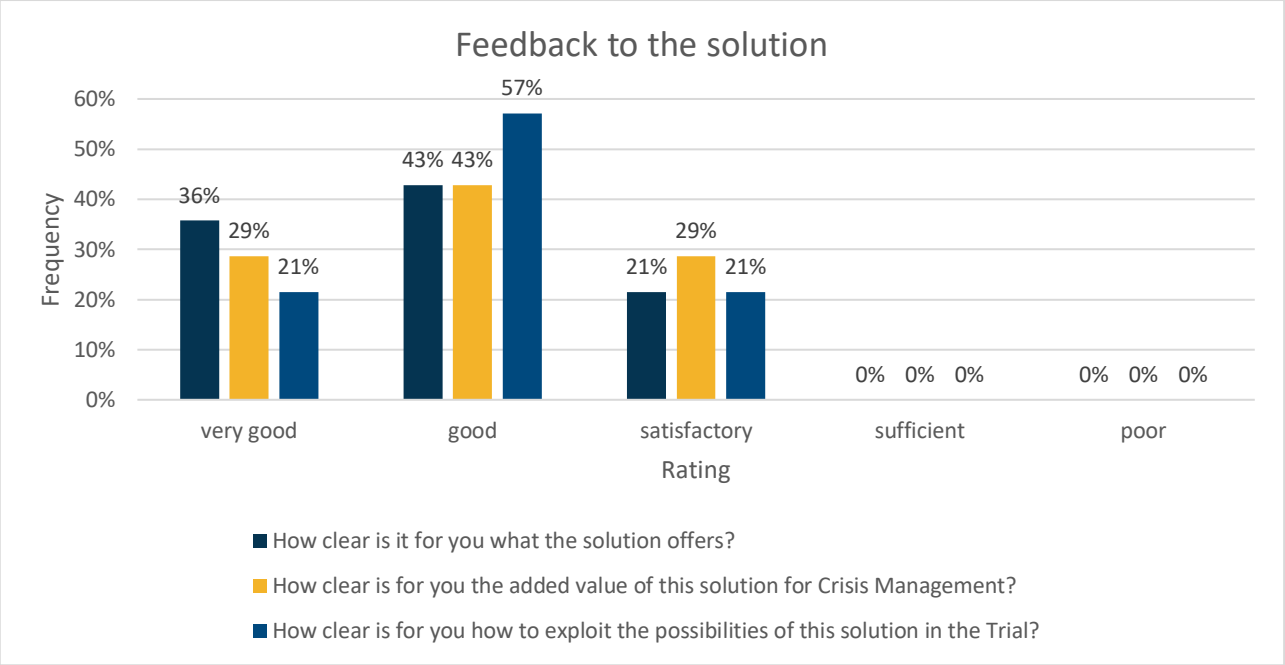

Figure 7.2: Merlin CrisisSuite – Feedback to the solution

Figure 7.3 shows the cumulated feedback for the solution Merlin CrisisSuite of the Final Demonstration.

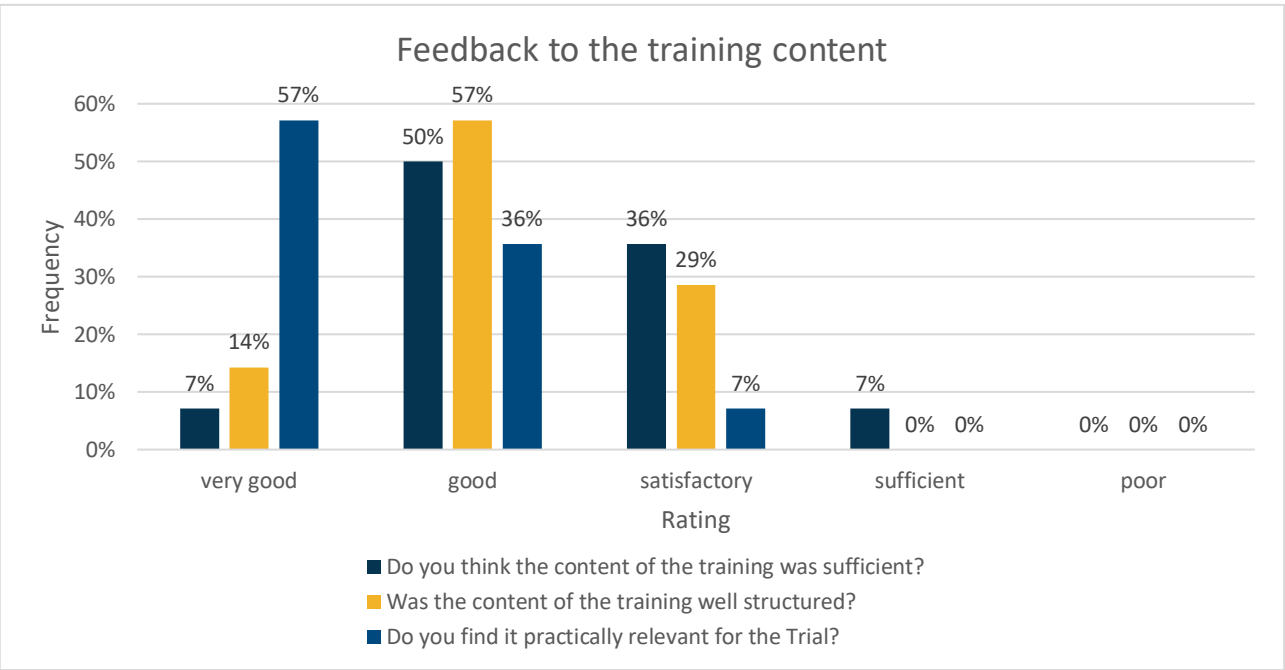

Figure 7.3: Merlin CrisisSuite – Feedback to the training content

Question: How were the facilities of the training?

- 50% of the participants stated that the facilities were “ok” or “quite adequate”.
- 14% of the participants stated that the “IT Equipment’s were inefficient” (less Computers, slow Internet).
- 14% of the participants stated that the “coaching time and 3 people learning from 1 desktop were inefficient“.

Figure 7.4 shows the cumulated feedback for the solution Merlin CrisisSuite of the Final Demonstration.

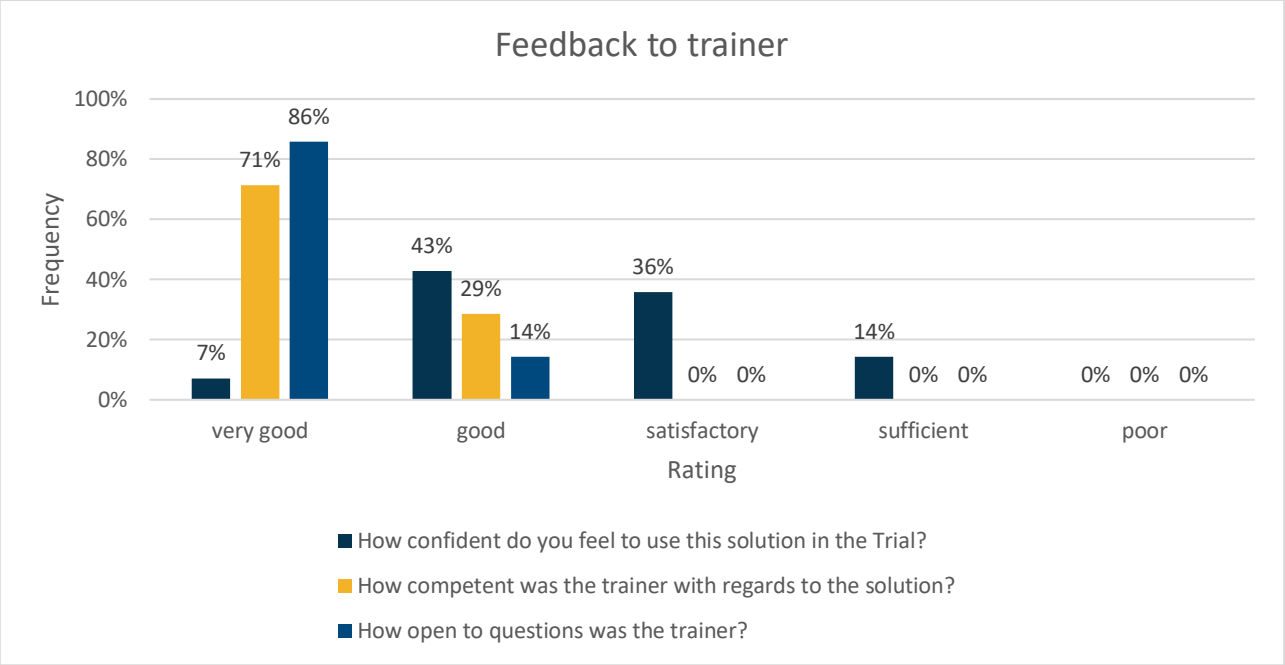

Figure 7.4: Merlin CrisisSuite – Feedback to the trainer

Figure 7.5 shows the feedback for the solution Merlin CrisisSuite of Final Demonstration to the question: Do you have any remarks?

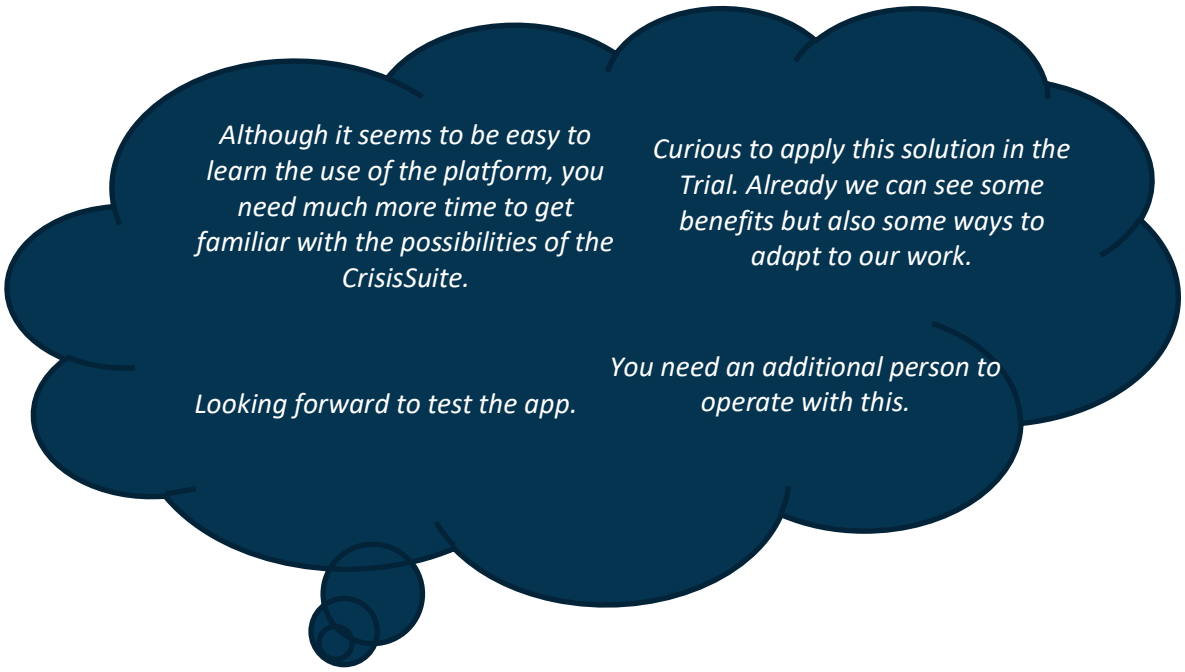

Figure 7.5: Merlin CrisisSuite – Remarks on the training

7.5.2 Feedback to GMV SOCRATES OC

Feedback has been received from 12 participants.

Figure 7.6 shows the cumulated feedback for the solution GMV SOCRATES OC of the Final Demonstration.

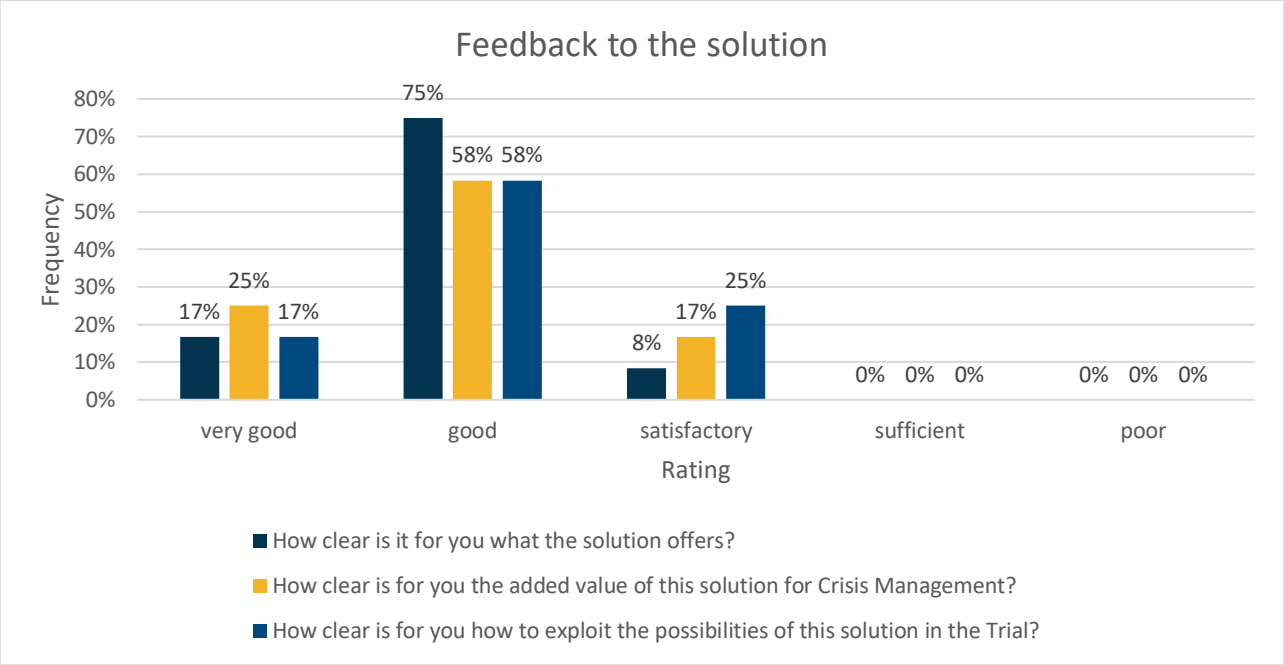

Figure 7.6: Merlin CrisisSuite – Feedback to the solution

Figure 7.7 shows the cumulated feedback for the solution GMV SOCRATES OC of the Final Demonstration.

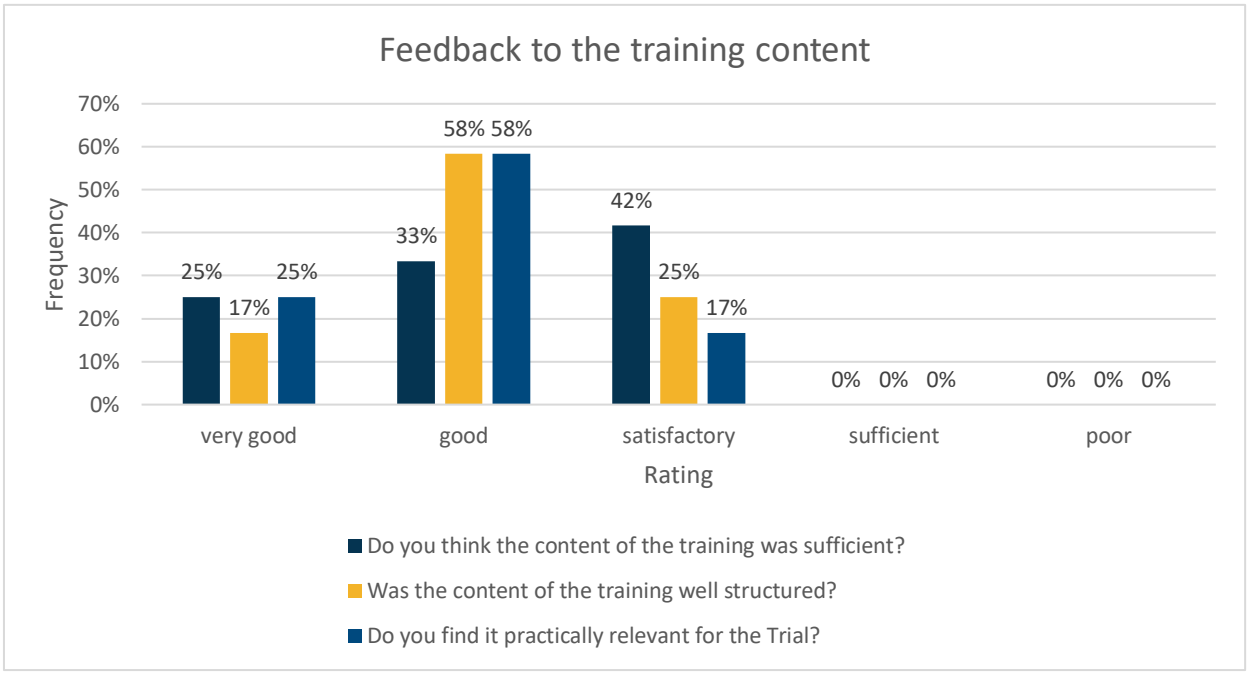

Figure 7.7: GMV SOCRATES OC – Feedback to the training content

Question: How were the facilities of the training?

- 75% of the participants stated that the facilities were “ok” or “quite adequate”.
- 17% of the participants stated a “slow internet speed”.
- 8% of the participants stated “more time”.

Figure 7.8 shows the cumulated feedback for the solution GMV SOCRATES OC of the Final Demonstration.

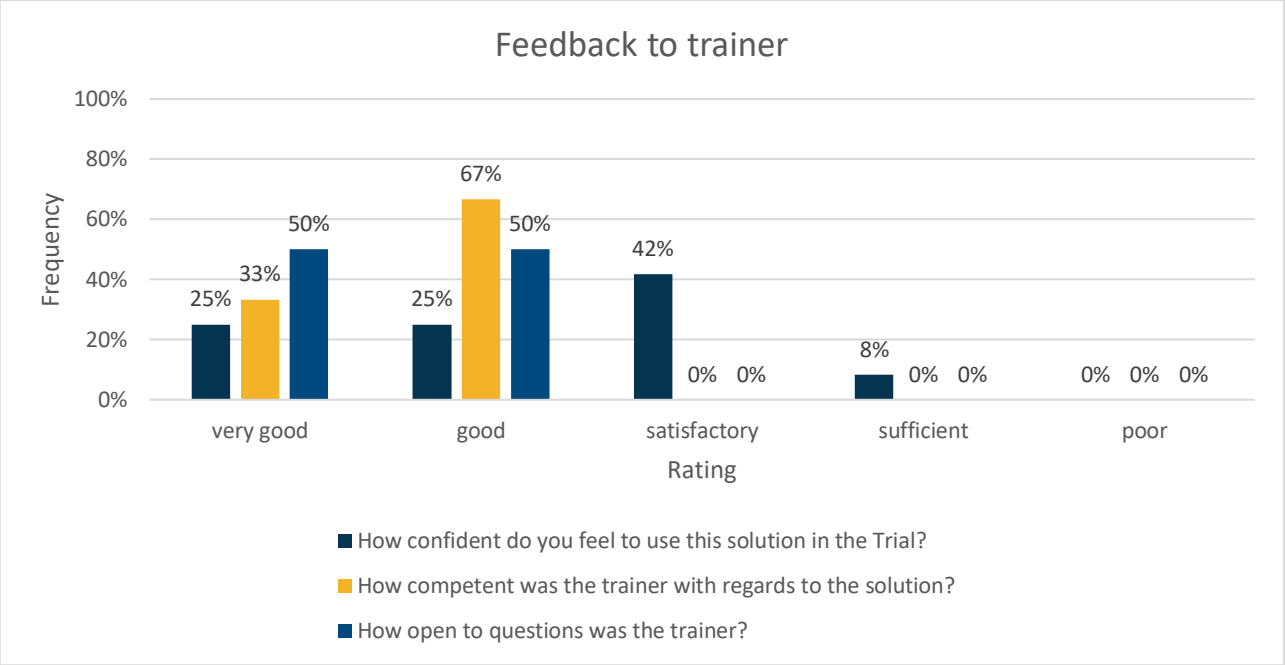

Figure 7.8: GMV SOCRATES OC – Feedback to the trainer

Figure 7.9 shows the feedback for the solution GMV SOCRATES OC of Final Demonstration to the question: Do you have any remarks?

Figure 7.9: GMV SOCRATES OC – Remarks on the training

7.5.3 Feedback to VWORLD - vieWTerra Evolution

Feedback has been received from 8 participants.

Figure 7.10 shows the cumulated feedback for the solution VWORLD vieWTerra Evolution of Final Demonstration.

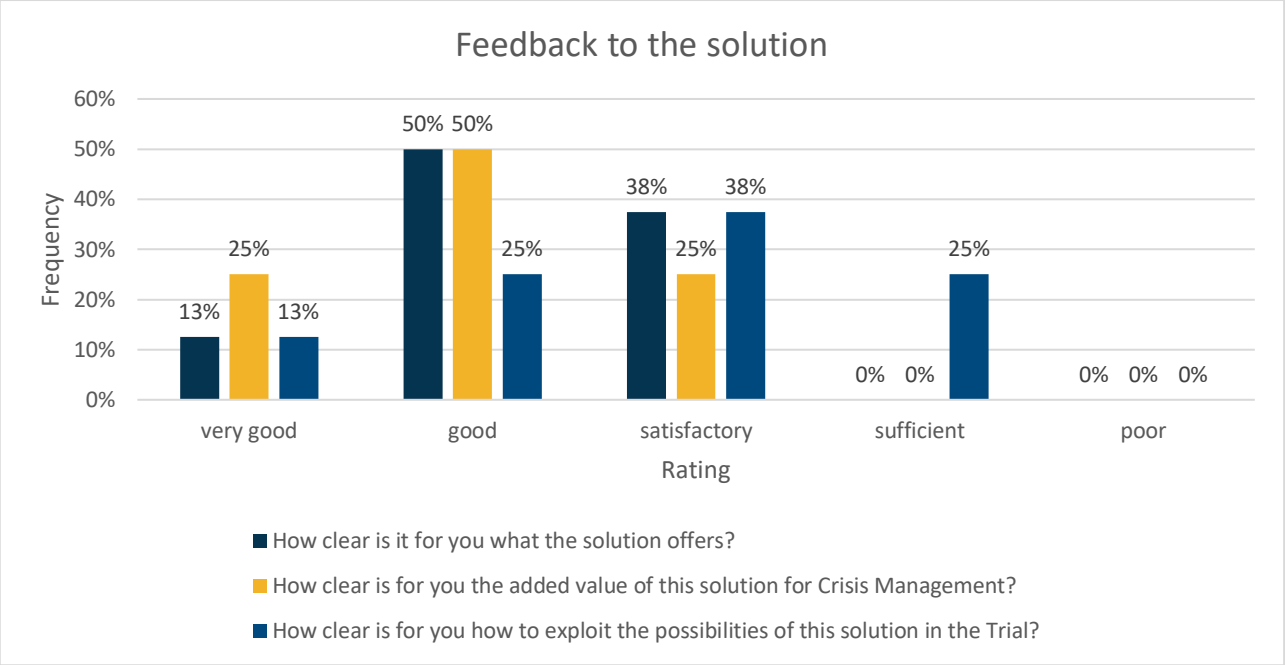

Figure 7.10: VWORLD vieWTerra Evolution – Feedback to the solution

Figure 7.11 shows the cumulated feedback for the solution VWORLD vieWTerra Evolution of Final Demonstration.

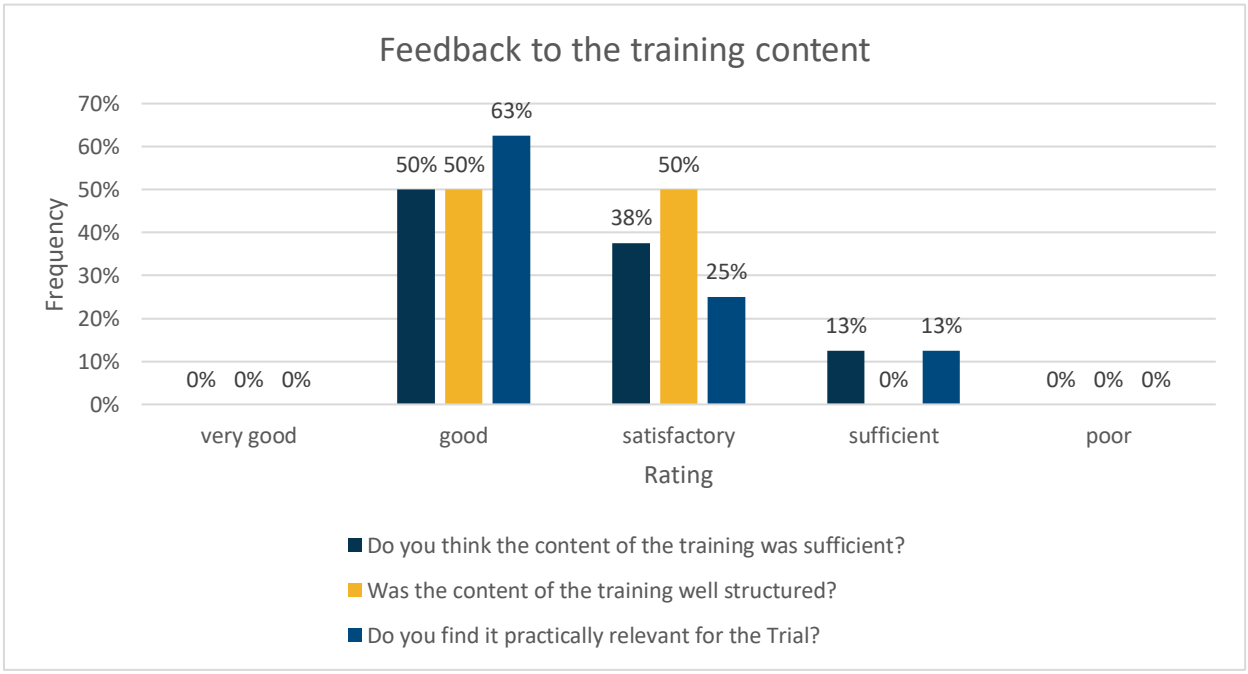

Figure 7.11: VWORLD vieWTerra Evolution – Feedback to the training content

Question: How were the facilities of the training?

- 50% of the participants stated that the facilities were “ok” or “quite adequate”.
- 25% of the participants stated that the training was “not clear” and “lot of info without the possibility to practice on it”.
- 25% of the participants stated that the training was “not sufficiently explained”.

Figure 7.12 shows the cumulated feedback for the solution VWORLD vieWTerra Evolution of Final Demonstration.

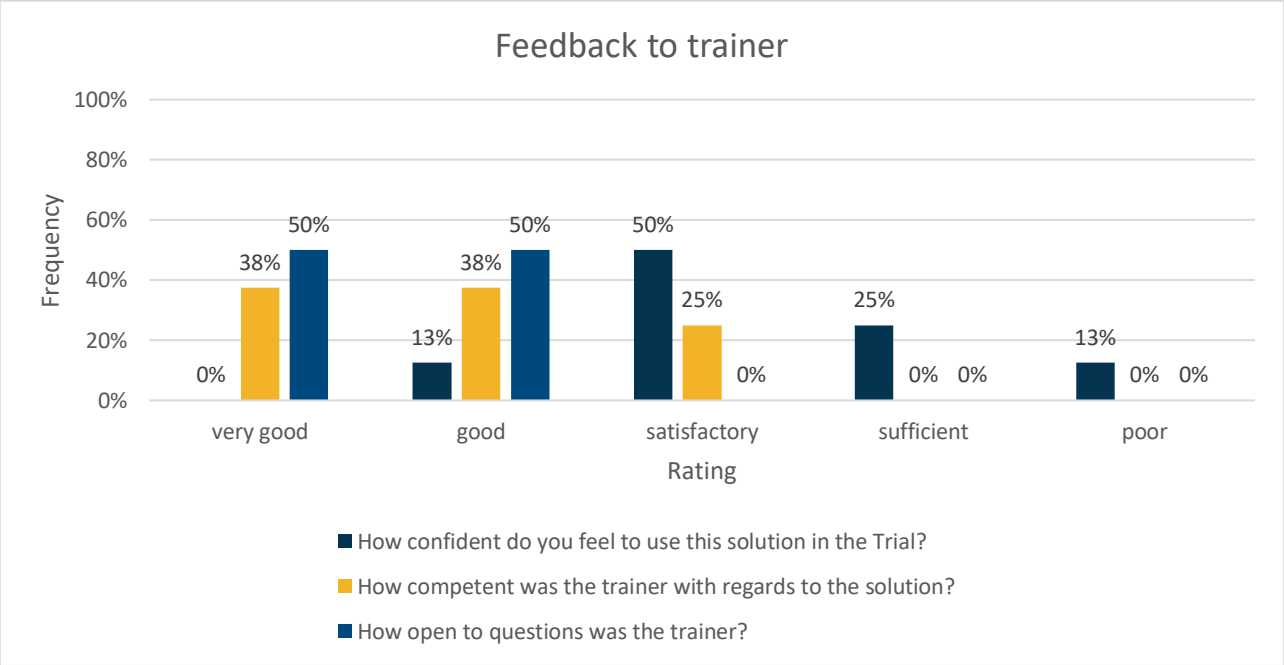

Figure 7.12: VWORLD vieWTerra Evolution – Feedback to the trainer

Figure 7.13 shows the feedback for the solution VWORLD vieWTerra Evolution of Final Demonstration to the question: Do you have any remarks?

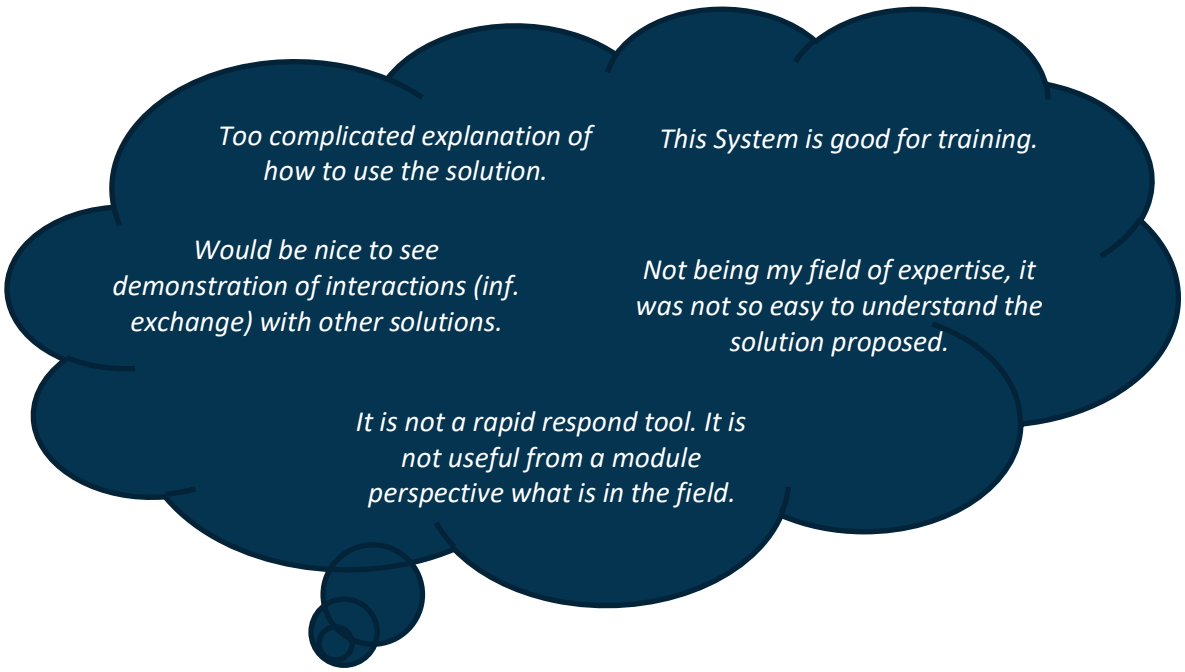

Figure 7.13: VWORLD vieWTerra Evolution – Remarks on the training

7.5.4 Feedback to Creotech - Drone Rapid Mapping

Feedback has been received from 6 participants.

Figure 7.14 shows the cumulated feedback for the solution Creotech Drone Rapid Mapping of Final Demonstration.

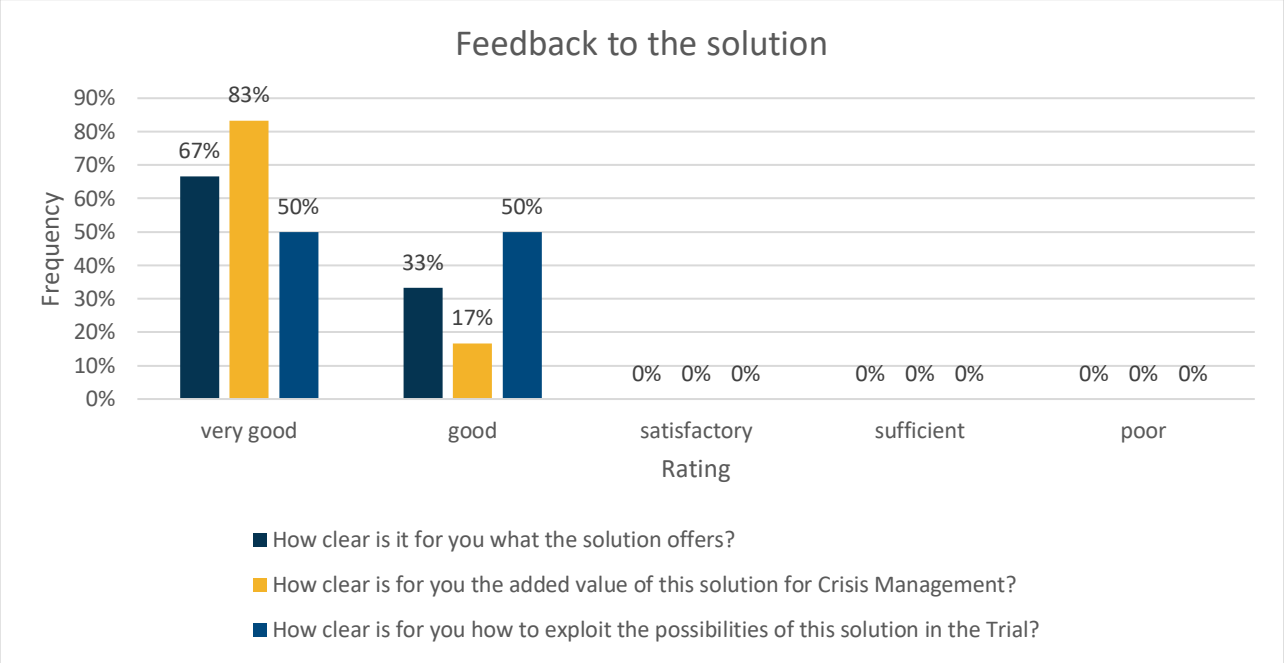

Figure 7.14: Creotech Drone Rapid Mapping – Feedback to the solution

Figure 7.15, shows the cumulated feedback for the solution Creotech Drone Rapid Mapping of Final Demonstration.

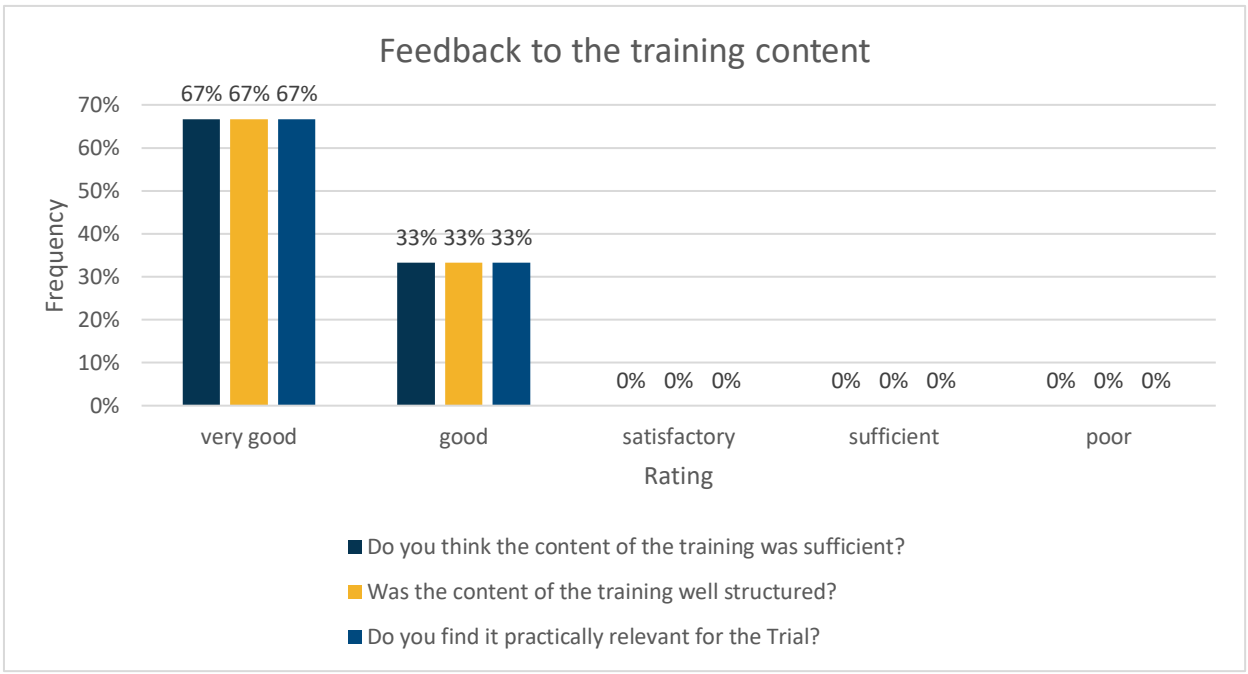

Figure 7.15: Creotech Drone Rapid Mapping – Feedback to the training content

Question: How were the facilities of the training?

- 83% of the participants stated that the facilities were “ok” or “quite adequate”.
- 17% of the participants have an invalid statement.

Figure 7.16 shows the cumulated feedback for the solution Creotech Drone Rapid Mapping of Final Demonstration.

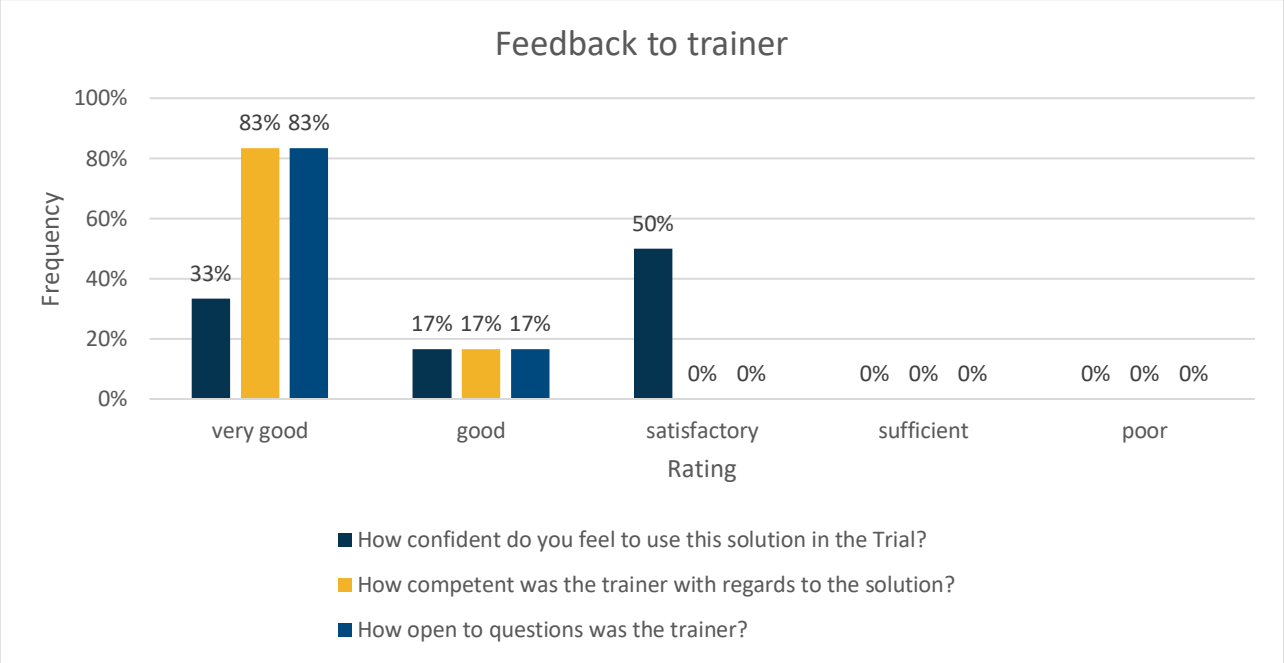

Figure 7.16: Creotech Drone Rapid Mapping – Feedback to the trainer

Figure 7.17 shows the feedback for the solution Creotech Drone Rapid Mapping of Final Demonstration to the question: Do you have any remarks?

Figure 7.17: Creotech Drone Rapid Mapping – Remarks on the training

7.5.5 Feedback to JRC – Field Reporting Tool

Feedback has been received from 8 participants.

Figure 7.18 shows the cumulated feedback for the solution JRC Field Reporting Tool of Final Demonstration.

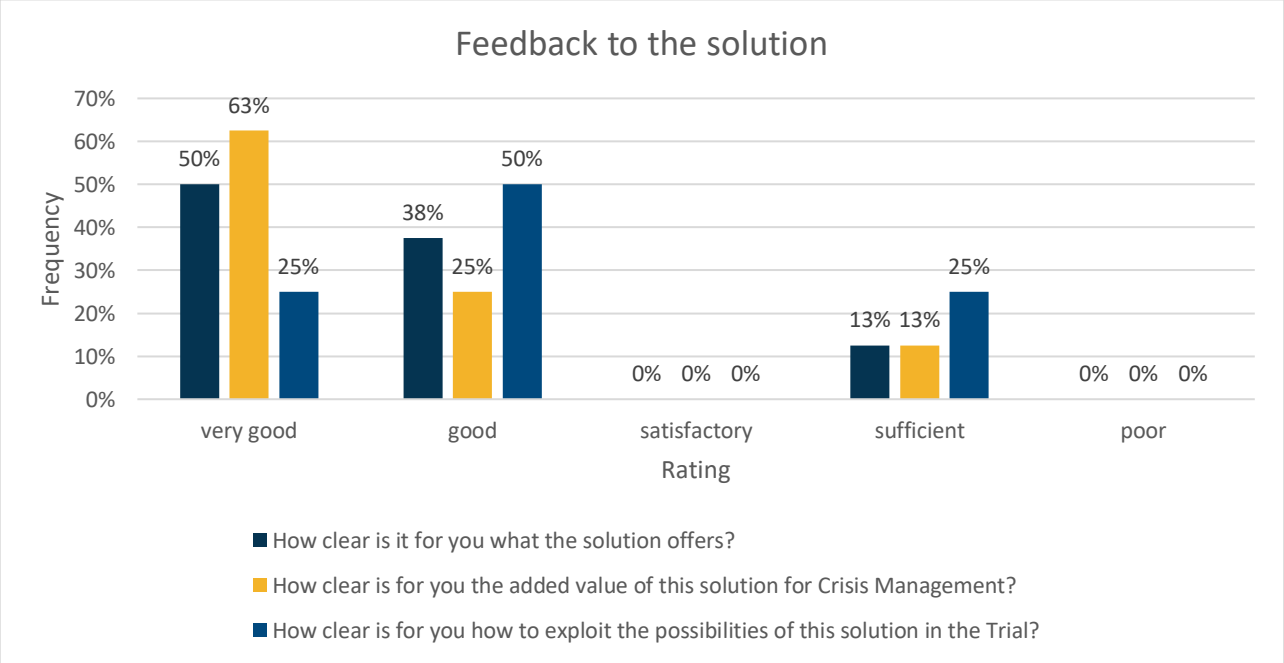

Figure 7.18: JRC Field Reporting Tool – Feedback to the solution

Figure 7.19 shows the cumulated feedback for the solution JRC Field Reporting Tool of Final Demonstration.

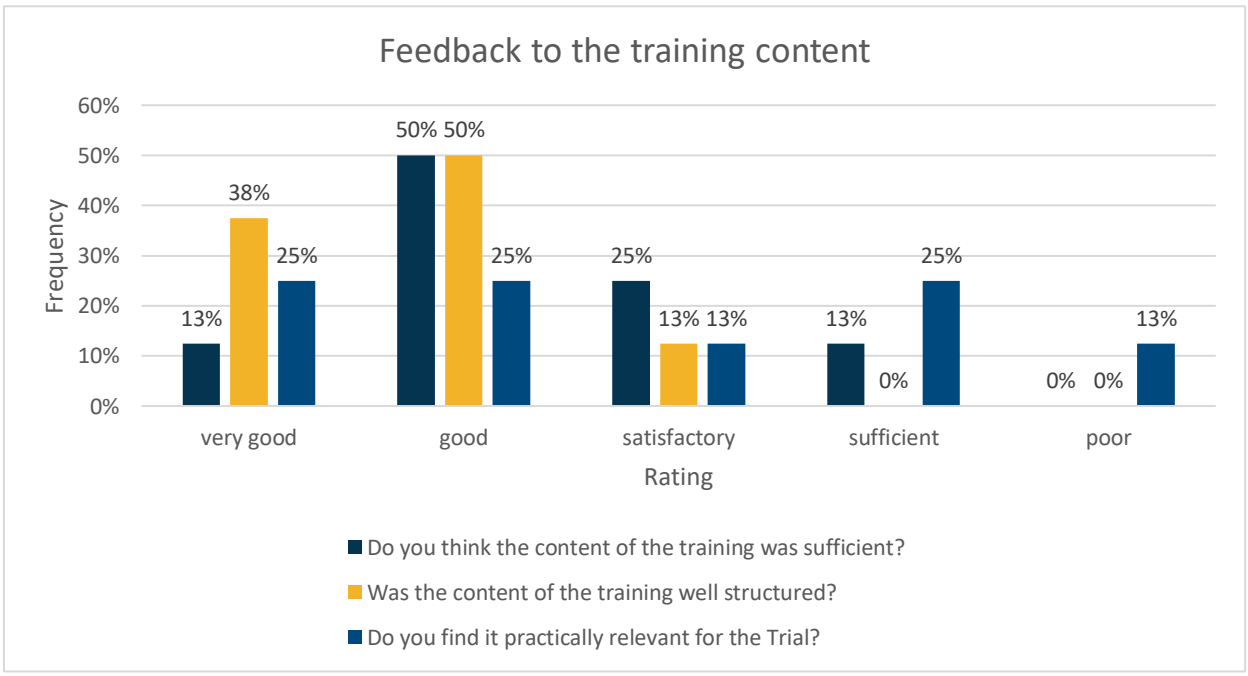

Figure 7.19: JRC Field Reporting Tool – Feedback to the training content

Question: How were the facilities of the training?

- 62.5% of the participants stated that the facilities were “ok” or “quite adequate”.
- 12.5% of the participants stated “using application giving links to a training version.
- 12.5% of the participants stated that the facilities were “weak”.
- 12.5% of the participants have an invalid statement.

Figure 7.20 shows the cumulated feedback for the solution JRC Field Reporting Tool of Final Demonstration.

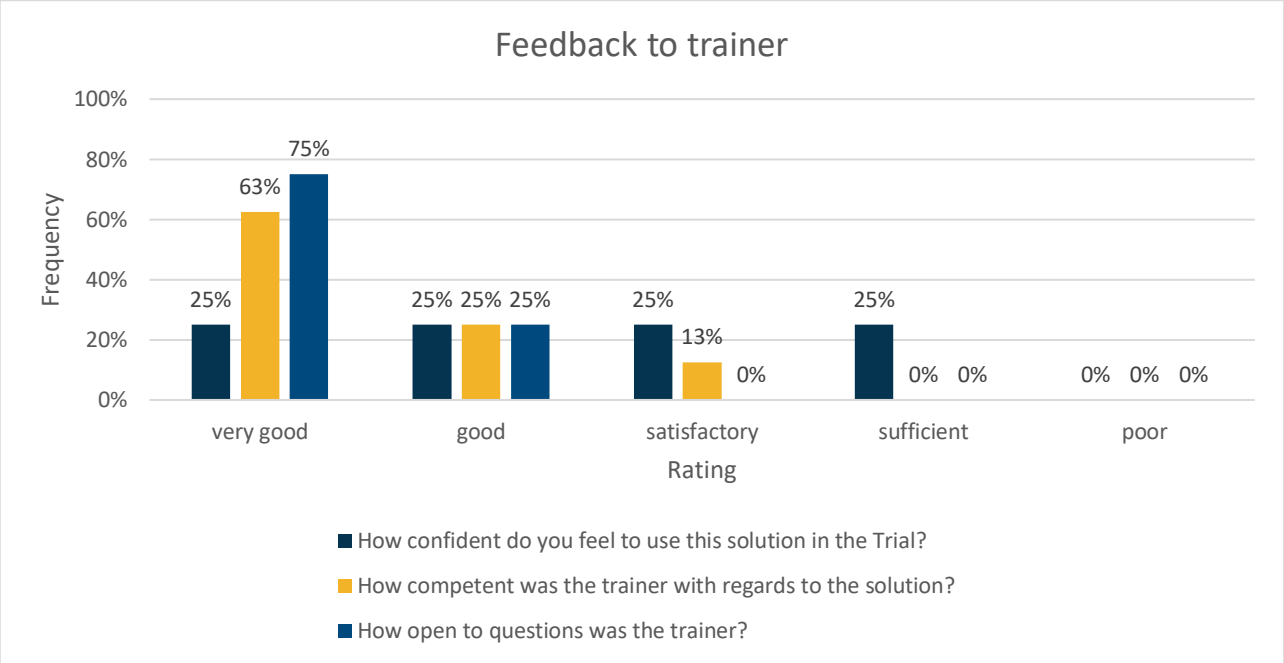

Figure 7.20: JRC Field Reporting Tool – Feedback to the trainer

Figure 7.21 shows the feedback for the solution JRC Field Reporting Tool of Final Demonstration to the question: “Do you have any remarks?”

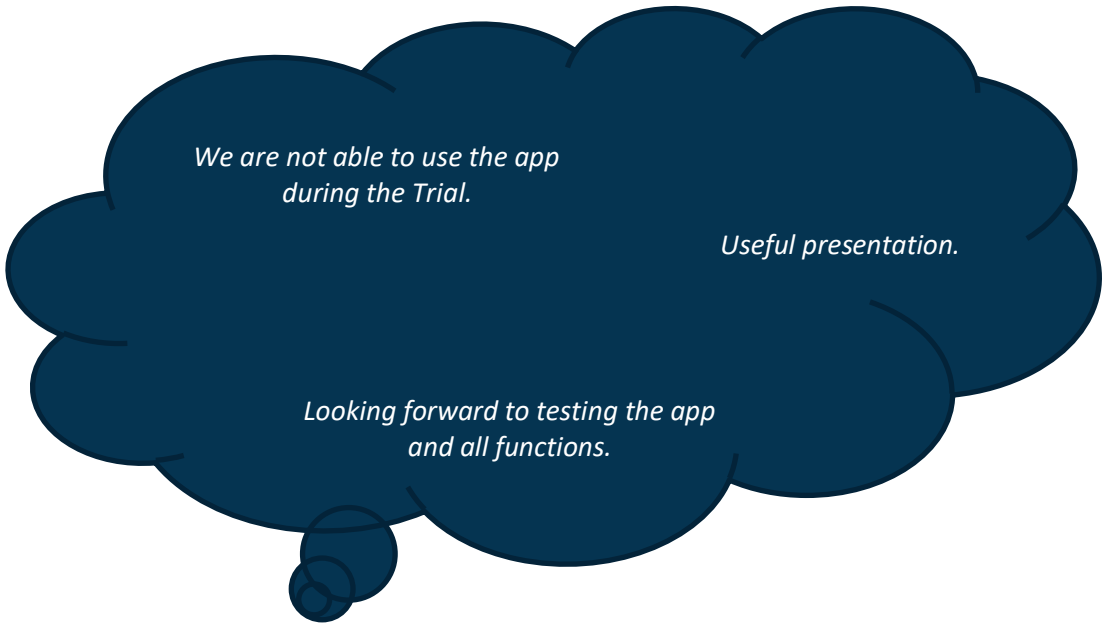

Figure 7.21: JRC Field Reporting Tool – Remarks on the training

7.6 Final Demonstration conclusions and lessons learnt

Solution training sessions for the Final Demonstration were executed during Dry Run 2 and repeated on the day before the Final Demonstration execution. The feedback received by the online-questionnaires was collected in both events and was used to improve the training between Dry Run 2 and the Final Demonstration. One lesson learnt from Dry Run 2 was that the time schedule for the trainings was too tight – 30 to 40 minutes is not enough to understand the principles of a solution and get first hands-on experience and to answer questions. Another learning of Dry Run 2 was that practitioners were not fully aware of the integration of solutions and the benefits related to it. In the solution introduction session on the day before the Final Demonstration, the integration of solutions and related advantages were explained by the training coordinator. This helped practitioners to understand the complexity to prepare a Trial / Final Demonstration and the related benefits for their work.

General feedback to the solution trainings was, that – although it was offered to practitioners that operators (mainly the solution providers themselves) will support the handling of the solutions – most practitioners wanted to familiarize themselves with all details of the handling of the solutions. This fact, along with the restricted time for the trainings, repeatedly led to the perception that the time for the solution trainings was not sufficient. The feedbacks also show a direct relation between the complexity of solutions and the feedback about how confident the practitioners feel to use the solutions in the Final Demonstration. The more complex the solutions are (e.g. SOCRATES OC and especially vieWTerra Evolution were perceived as being complex to operate), the less confident the practitioners felt to use them during the Final Demonstration. The more the practitioners are familiarized with a solution the more comfortable they feel operating it.

8. Conclusion

The main goal of the solution trainings was to train practitioners about how to use the solutions best and apply them in the Trial scenario. The main goal of the Trials was to evaluate solutions regarding their potential added value in Crisis Management operations.

Challenges to perform the solution trainings are manifold: practitioners involved in DRIVER+ Trials came from different fields and most of them were used to work with their legacy solutions. Thus, any new solution trained is automatically compared with their legacy systems. Solutions which have the potential to provide a high added value are often also complex to handle and need intensive practice in order to make use of their full capabilities. The experience of the first Trials showed that the time for solution trainings was often perceived as being too short to get a full understanding of the capabilities of a solution. In general, the Trial coordination is always challenged with the allocation of time spent for the Trial preparation (such as the solution trainings) and the Trial execution (to allocate sufficient time for a scenario which creates the need for the solutions capabilities).

Sometimes, the potential added value of the solution in Crisis Management could be realized by the participants only after having understood the capabilities of a solution to some level of detail. With the time constraints of the practitioners' availability for the DRIVER+ project, the solution trainings were more and more tailored to those features of a solution which would really be needed later in the Trial scenario.

Further, the integration of solutions involved in a Trial turned out to be very important in order to facilitate the work of the practitioners as there was less time needed for practitioners to read data from one solution and entering data manually into another solution with all the associated human errors. A separate session which explains the integration of solutions and related advantages for the work of the practitioners is highly recommended. Such a session helps practitioners to understand the complexity of the technical processes running in the background and gives them insights into the efforts needed to prepare and execute a Trial.

In the feedback of the practitioners to the solution trainings a trend became visible - practitioners who attended already Dry Run 2 had the chance to do all solution trainings twice, especially when the second run of the trainings already was an improved session. In these cases, the feedback was at a better level compared to those practitioners who performed the training only once. The time a practitioner had to familiarize with a solution had a main impact on the perceived usefulness of a solution. It could also be observed that the presence of the solution providers during the Trial execution resulted in a positive attitude of the practitioners to use the innovative solutions to the maximum extent.

Generally, the practitioners' feedback regarding the understanding of the solutions, the training methodology and the trainers' performance mainly indicated medium to very good scores. However, the question whether participants felt comfortable enough to use the solution themselves in the Trial sometimes yielded only a medium score. Main reason for these scores was the limited preparation time (maximum one hour per solution) which made it impossible for all participants to fully familiarize with the new solutions. Received feedback has always been considered very valuable and was used as "lessons learned" in order to improve solution- specific trainings for future Trials. From this point of view this document can also serve anyone preparing trainings for IT related solutions and thus contributes to the sustainability of the results of DRIVER+.

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8. —. *D944.12 - Report on Trial Evaluation - Trial 2.* 2019.

9. —. *D945.12 - Report on Trial Evaluation - Trial 3.* 2020.

10. —. *D946.12 - Report on Trial Evaluation - Trial 4.* 2019.

11. —. *D947.12 - Report on Trial Evaluation - Final Demo.* 2020.

12. —. *D943.11 - Report on Trial Action Plan - Trial 1.* 2018.

13. —. *D942.21 - Report on the application of the solutions in Trial 1.* 2018.

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15. —. *D942.22 - Report on the application of solutions in Trial 2.* 2018.

16. —. *D945.11 - Report on Trial Action Plan - Trial 3.* 2019.

17. —. *D942.24 - Report on the application of solutions in Trial 3.* 2019.

18. —. *D946.11 - Report on Trial Action Plan - Trial 4.* 2019.

19. —. *D942.23 - Report on the application of solutions in Trial 4.* 2019.

20. —. *D942.25 - Report on the application of solutions in Final Demo.* 2020.

Annexes

Annex 1 – DRIVER+ Terminology

In order to have a common understanding within the DRIVER+ project and beyond and to ensure the use of a common language in all project deliverables and communications, a terminology is developed by making reference to main sources, such as ISO standards and UNISDR. This terminology is presented online as part of the Portfolio of Solutions and it will be continuously reviewed and updated[1]. The terminology is applied throughout the documents produced by DRIVER+. Each deliverable includes an annex as provided hereunder, which holds an extract from the comprehensive terminology containing the relevant DRIVER+ terms for this respective document.

Table A1: DRIVER+ Terminology

Terminology	Definition	Source
Crisis Management	Holistic management process that identifies potential impacts that threaten an organization and provides a framework for building resilience, with the capability for an effective response that safeguards the interests of the organization's key interested parties, reputation, brand and value-creating activities, as well as effectively restoring operational capabilities. Note 1 to entry: Crisis Management also involves the management of preparedness, mitigation response, and continuity or recovery in the event of an incident, as well as management of the overall programme through training, rehearsals and reviews to ensure the preparedness, response and continuity plans stay current and up-to-date.	"ISO 22300:2018(en) Security and resilience — Vocabulary."
Crisis Management professional	Person with knowledge, experience or ability needed to effectively and timely respond to crisis in order to minimize damage to society.	Initial DRIVER+ definition
Dry Run 1	First rehearsal of a Trial, focusing on the technical integration of solutions, reference implementation of the Test-bed, and scenario validation; it also serves as a readiness review to approve the maturity of technical solutions.	Initial DRIVER+ definition
Dry Run 2	Full scale rehearsal of a Trial without external practitioner participation, aimed at detection of technical issues and last second fine-tuning; Dry Run 2 is organized as a complete mirror of the Trial.	Initial DRIVER+ definition

[1] Until the Portfolio of Solutions is operational, the terminology is presented in the DRIVER+ Project Handbook and access can be requested by third parties by contacting coordination@projectdriver.eu.

Terminology	Definition	Source
Evaluation	Process of estimating the effectiveness, efficiency, utility and relevance of a service or facility.	"ISO 5127:2017(en) Information and documentation — Foundation and vocabulary, 3.1.3.02."
Practitioner	See: Crisis Management professional.	
Solution	A solution is a means that contributes to a Crisis Management function. A solution is either one or more processes or one or more tools with related procedures.	Initial DRIVER+ definition
Tool	A device, equipment or piece of software used to carry out a particular process or procedure.	Initial DRIVER+ definition
Training	Activities designed to facilitate the learning and development of knowledge, skills, and abilities, and to improve the performance of specific tasks or roles.	"ISO 22300:2018(en) Security and resilience — Vocabulary."
Trial	An event for systematically assessing solutions for current and emerging needs in such a way that practitioners can do this following a pragmatic and systematic approach.	Initial DRIVER+ definition

Annex 2 – Trial 2 – Feedback to trainings from Dry Run 2

Feedback to Merlin CrisisSuite

Feedback has been received from 4 participants.

Figure A2.1 shows the cumulated feedback for the solution Merlin CrisisSuite of Dry Run 2.

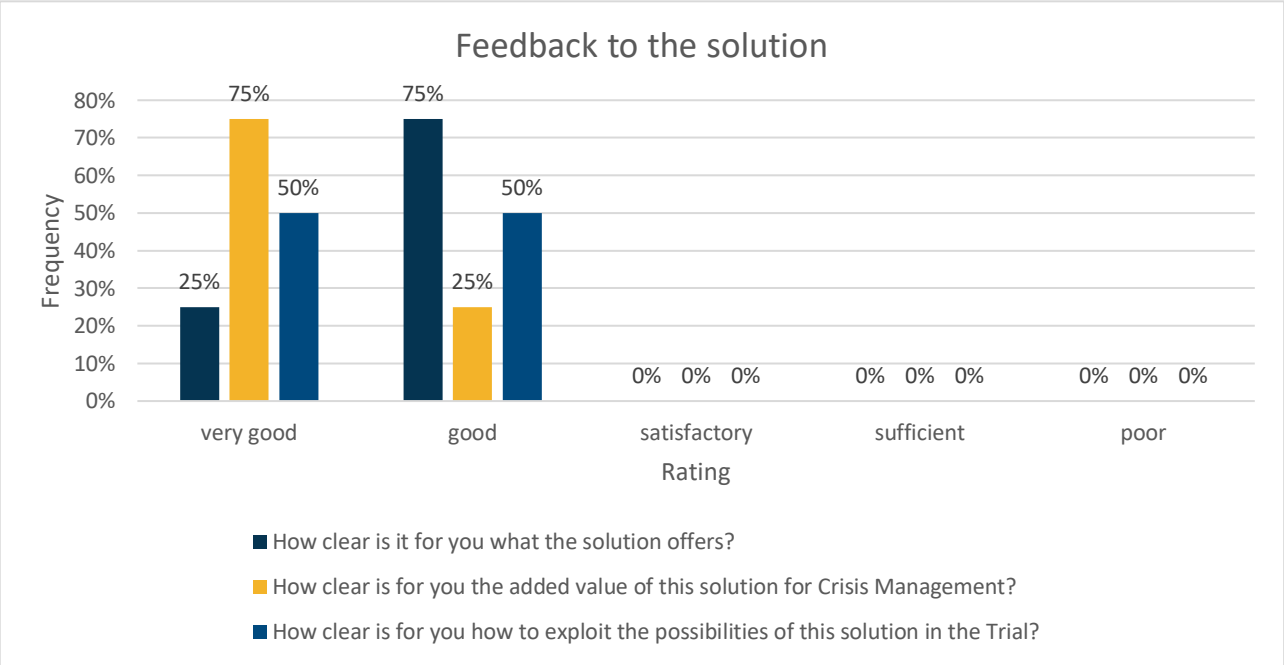


Figure A2.1: Merlin CrisisSuite – Feedback to the solution

Figure A2.2 shows the cumulated feedback for the solution Merlin CrisisSuite regarding the training content.

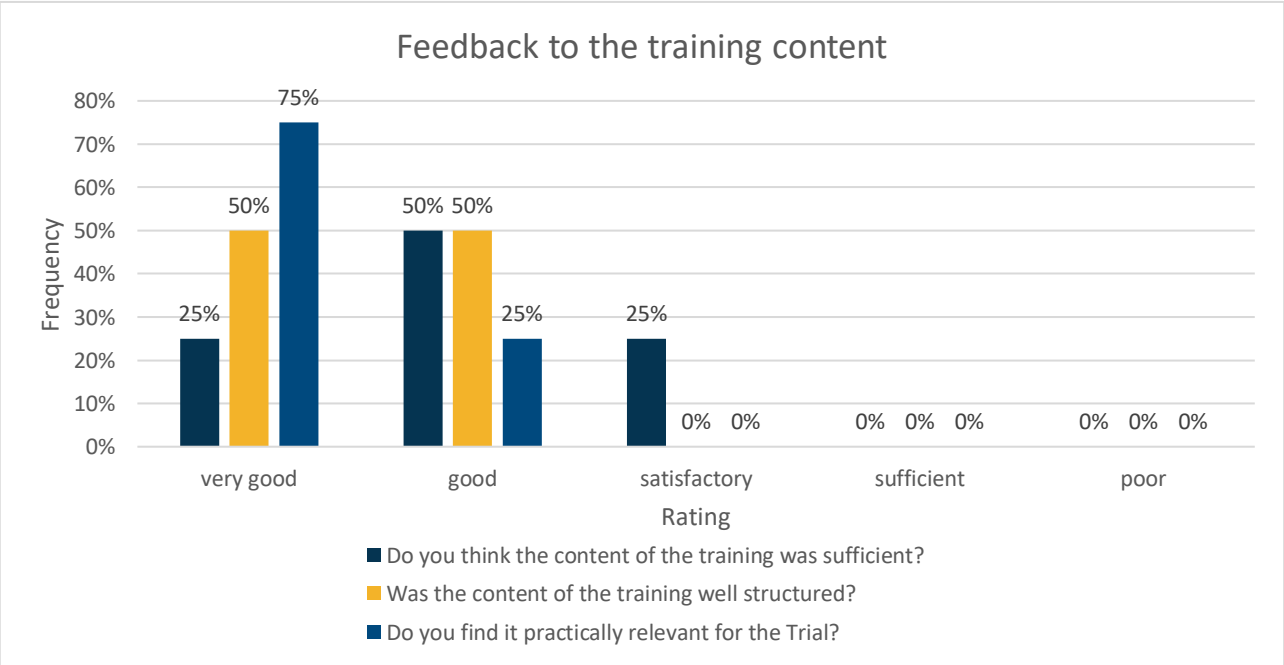


Figure A2.2: Merlin CrisisSuite – Feedback to training content

Question: How were the facilities of the training?

- 50% of the participants stated that the facilities were “totally sufficient” or “very adequate”.
- 50% of the participants think the facilities were “fine” or “ok”.

Figure A2.3 shows the cumulated feedback for the solution Merlin CrisisSuite regarding the trainer.

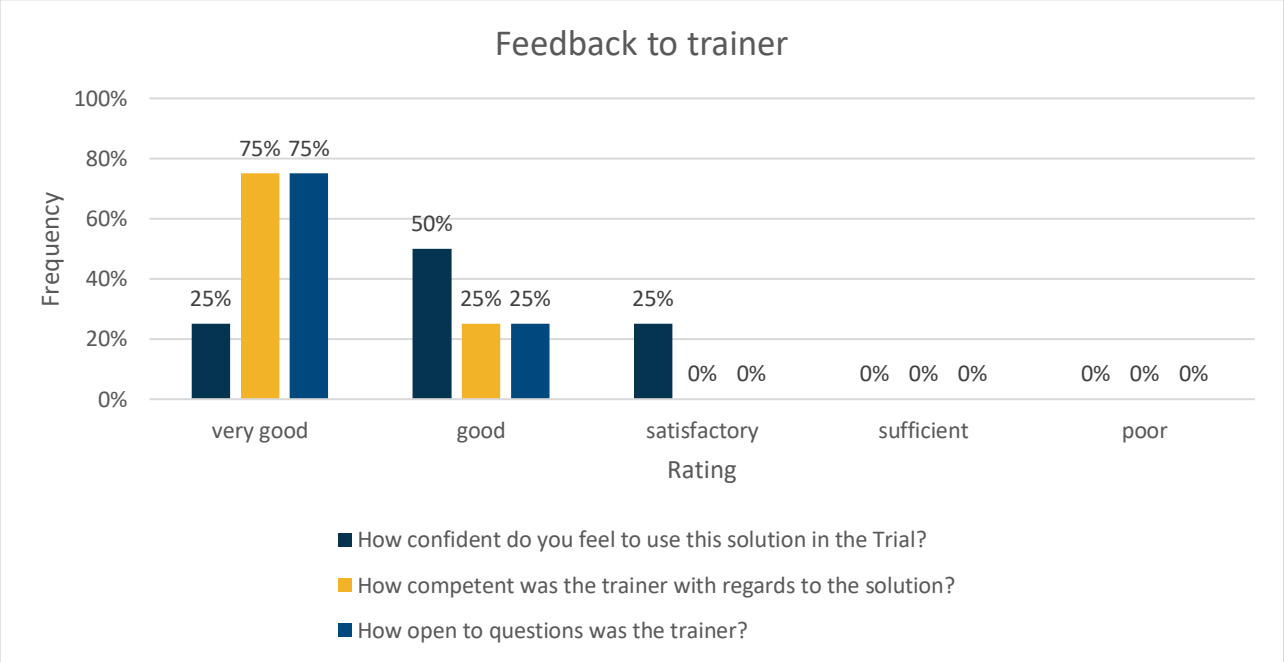


Figure A2.3: Merlin CrisisSuite – Feedback to trainer

Question: Do you have any remarks? Figure A2.4. shows the remarks on the training for Merlin CrisisSuite.

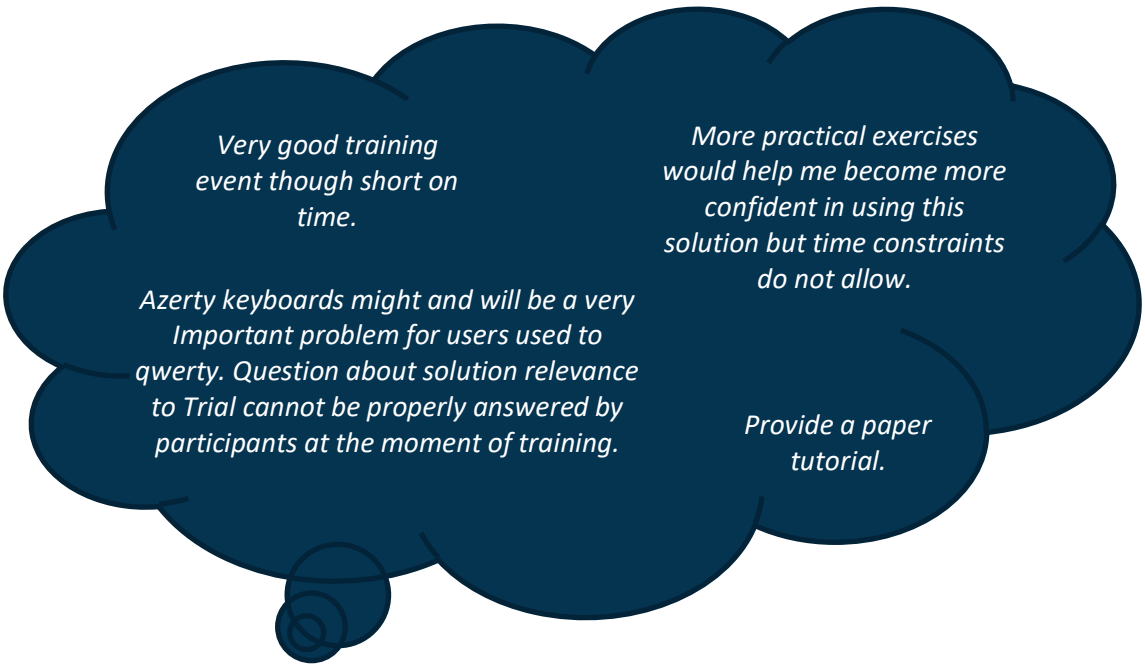


Figure A2.4: Merlin CrisisSuite – Remarks on the training

Feedback to Thales SMAP

Feedback has been received from 3 participants.

Figure A2.5 shows the cumulated feedback for the solution Thales SMAP.

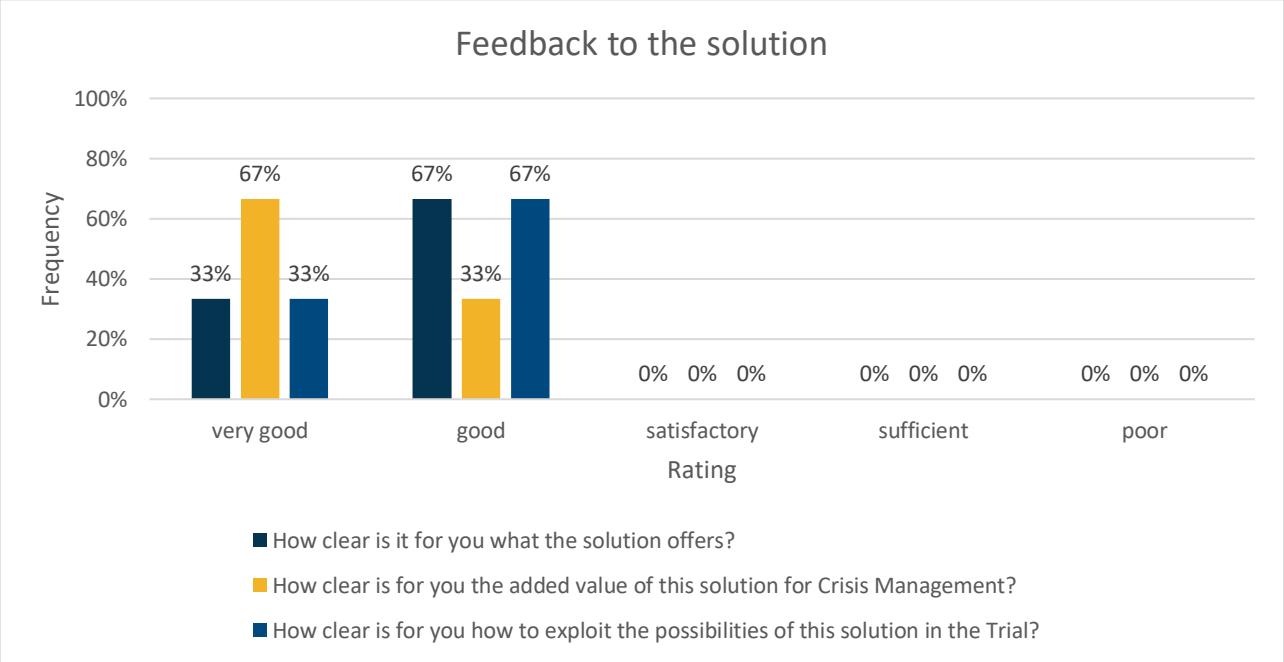


Figure A2.5: Thales SMAP– Feedback to the solution

Figure A2.6 shows the cumulated feedback for the solution Thales SMAP regarding the training content.

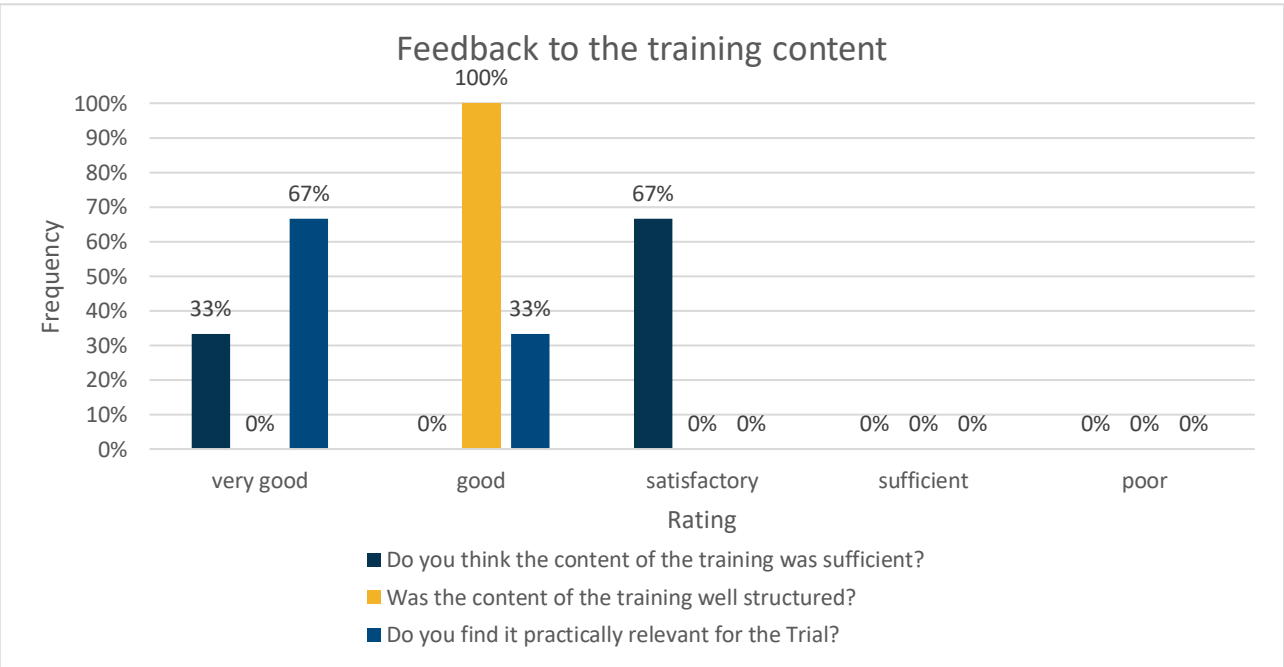


Figure A2.6: Thales SMAP– Feedback to the training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure A2.7 shows the cumulated feedback for the solution Thales SMAP for the trainer.

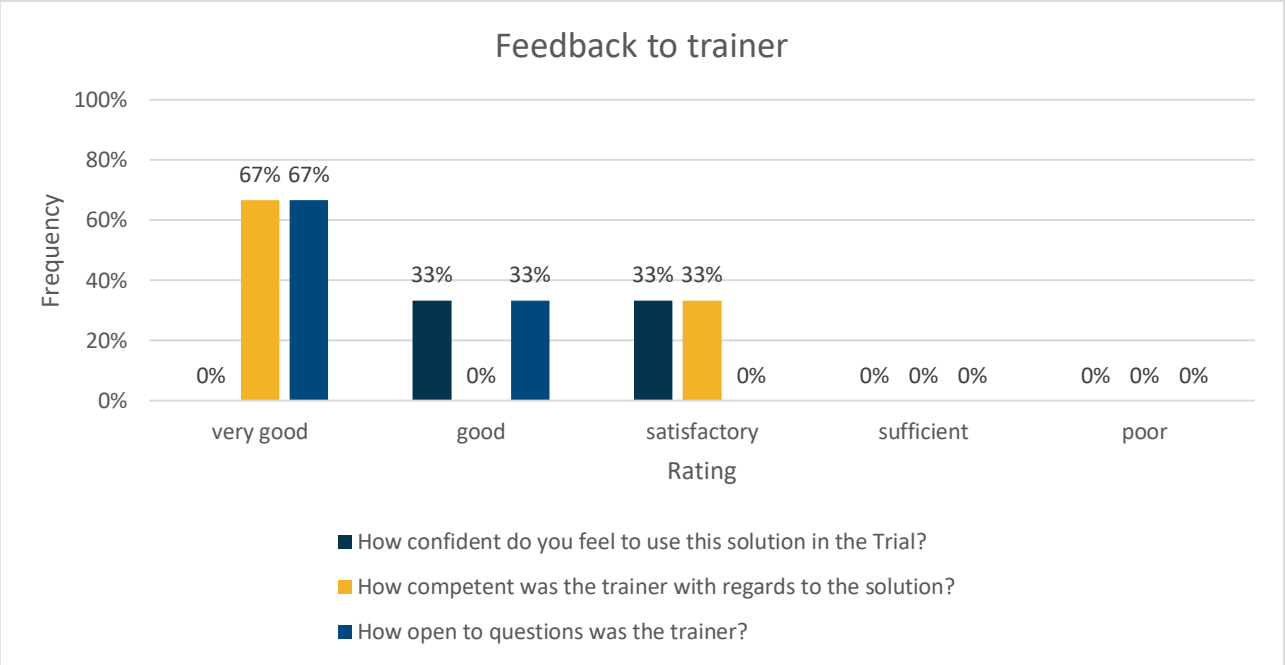


Figure A2.7: Thales SMAP– Feedback to trainer

Question: Do you have any remarks? Figure A2.8 shows the remarks on the training for Thales SMAP.

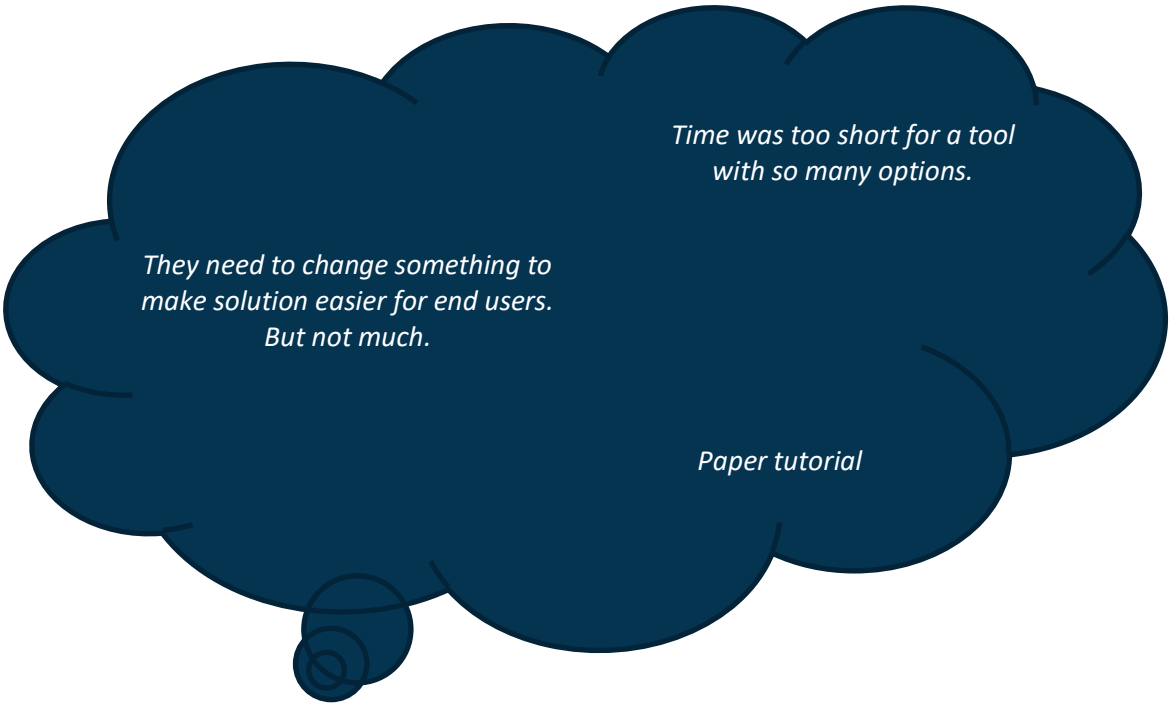


Figure A2.8: Thales SMAP– Remarks on the training

Feedback to Frequentis LifeX COP

Feedback has been received from 3 participants.

Figure A2.9 shows the cumulated feedback for the solution LifeX COP.

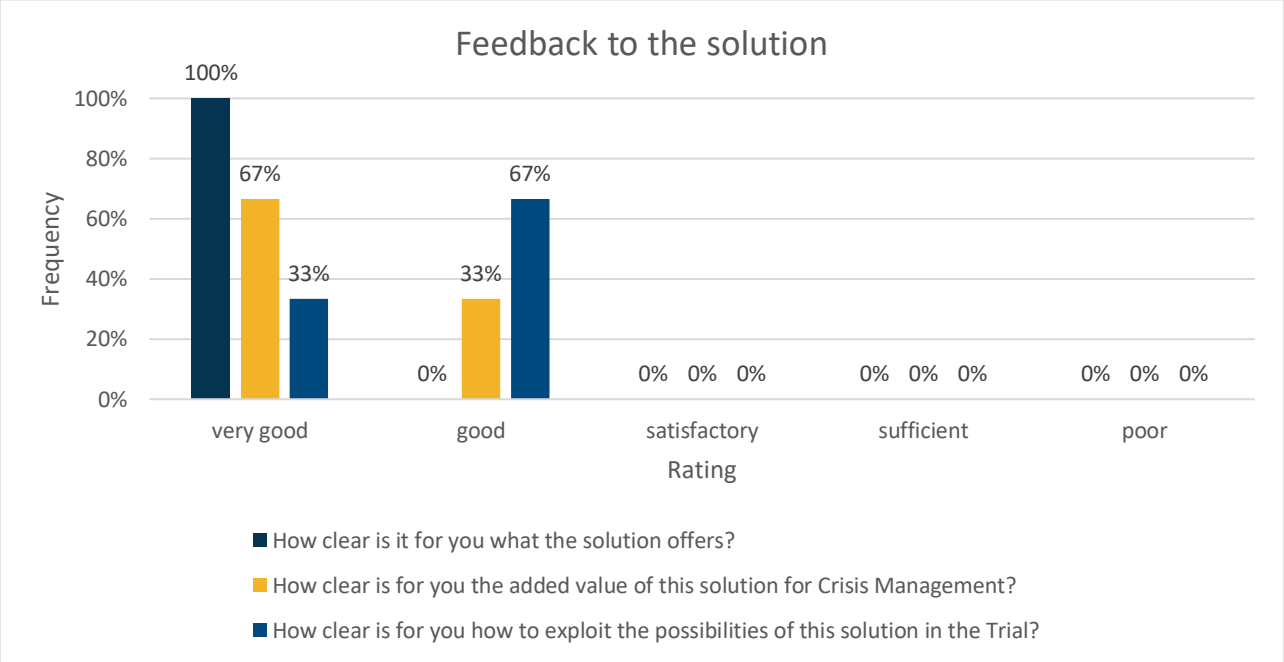


Figure A2.9: Frequentis LifeX COP– Feedback to the solution

Figure A2.10 shows the cumulated feedback for the solution LifeX COP regarding the training content.

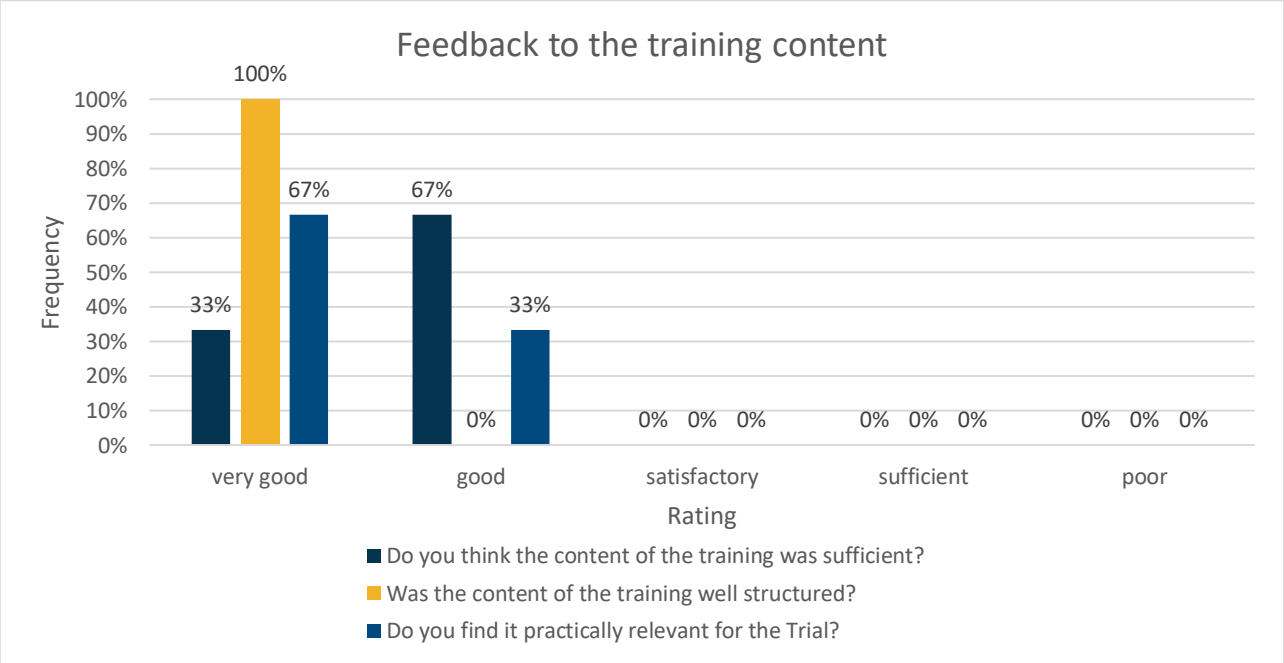


Figure A2.10: Frequentis LifeX COP– Feedback to the training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok”, “sufficient” or “quite adequate”.

Figure A2.11 shows the cumulated feedback for the solution LifeX COP regarding the trainer.

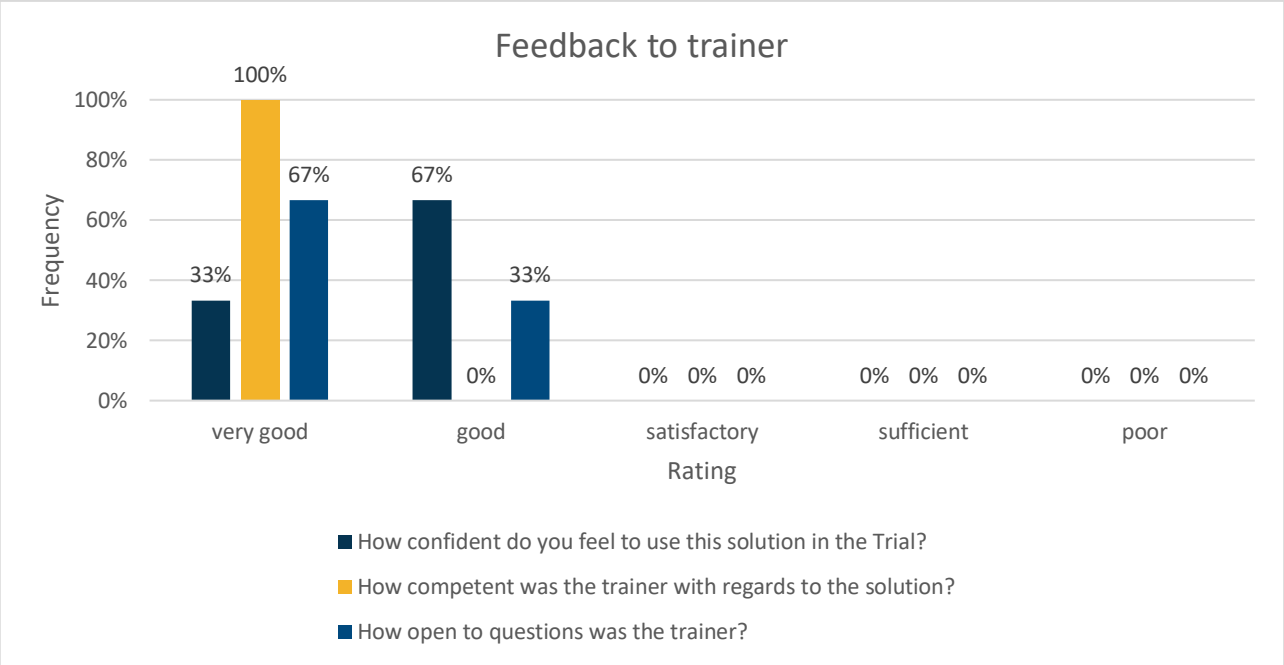


Figure A2.11: Frequentis LifeX COP– Feedback to trainer

Question: Do you have any remarks? Figure A2.12 shows the remarks on the training for LifeX COP.

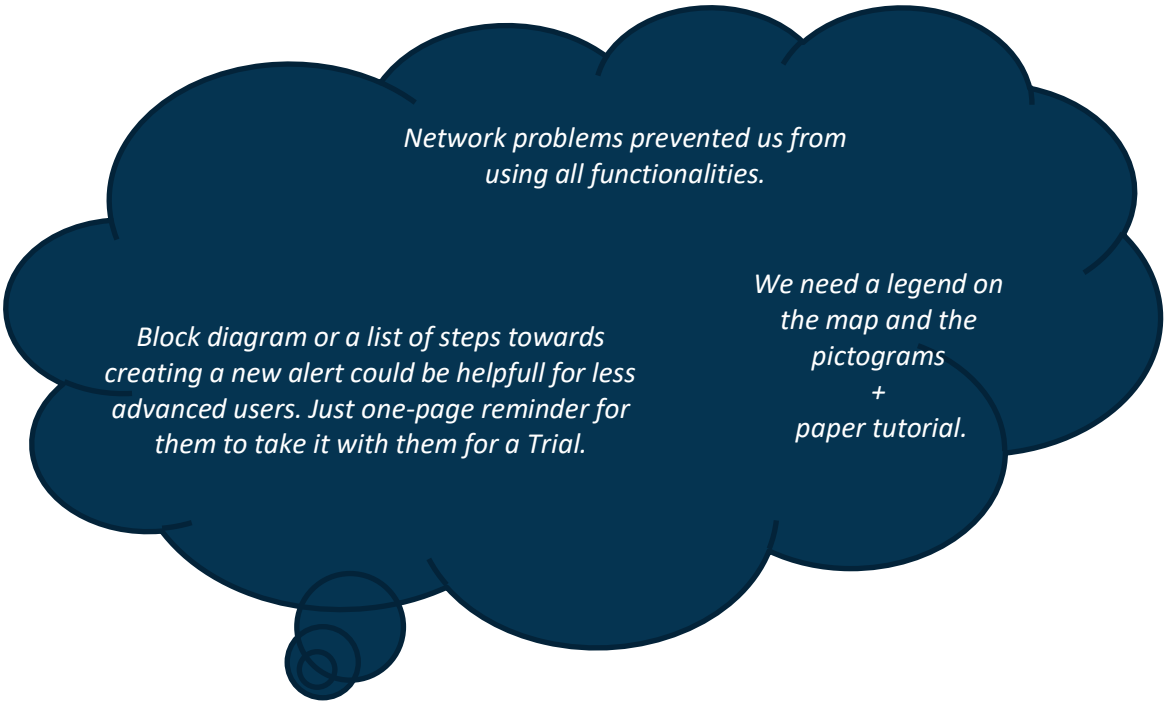


Figure A2.12: Frequentis LifeX COP– Remarks to the training

Feedback to MDA C2

Feedback has been received from 3 participants.

Figure A2.13 shows the cumulated feedback for the solution MDA C2.

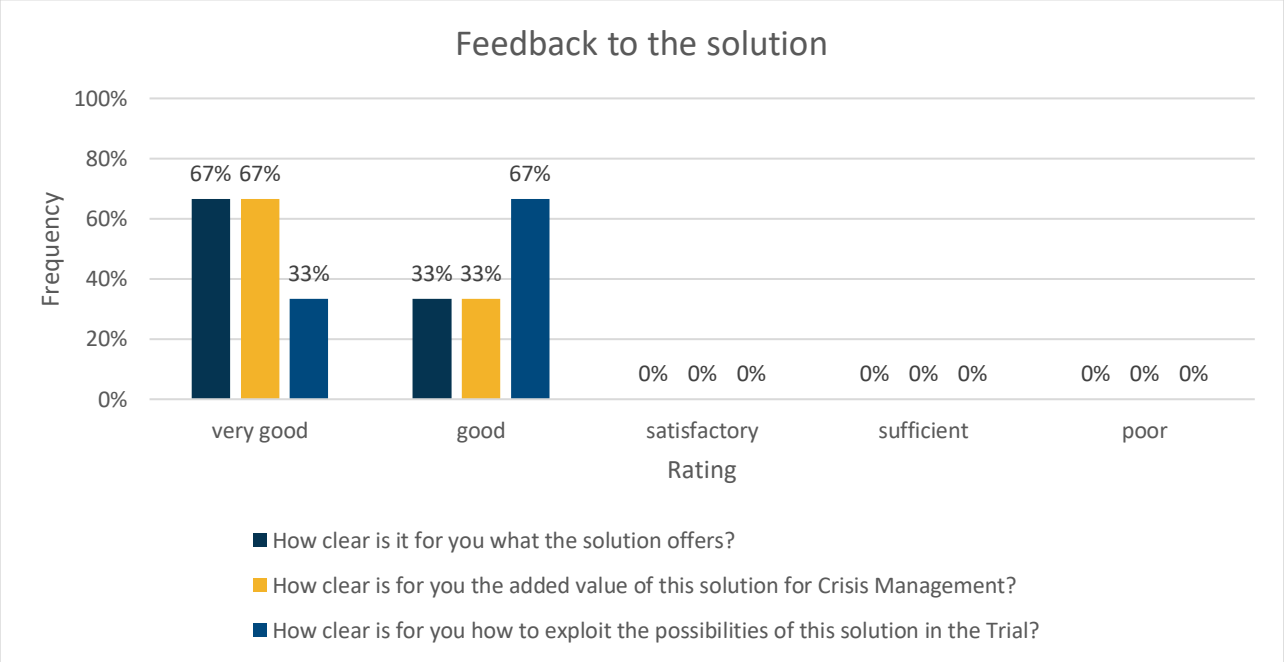


Figure A2.13: MDA C2– Feedback to the solution

Figure A2.14 shows the cumulated feedback for the solution MDA C2.

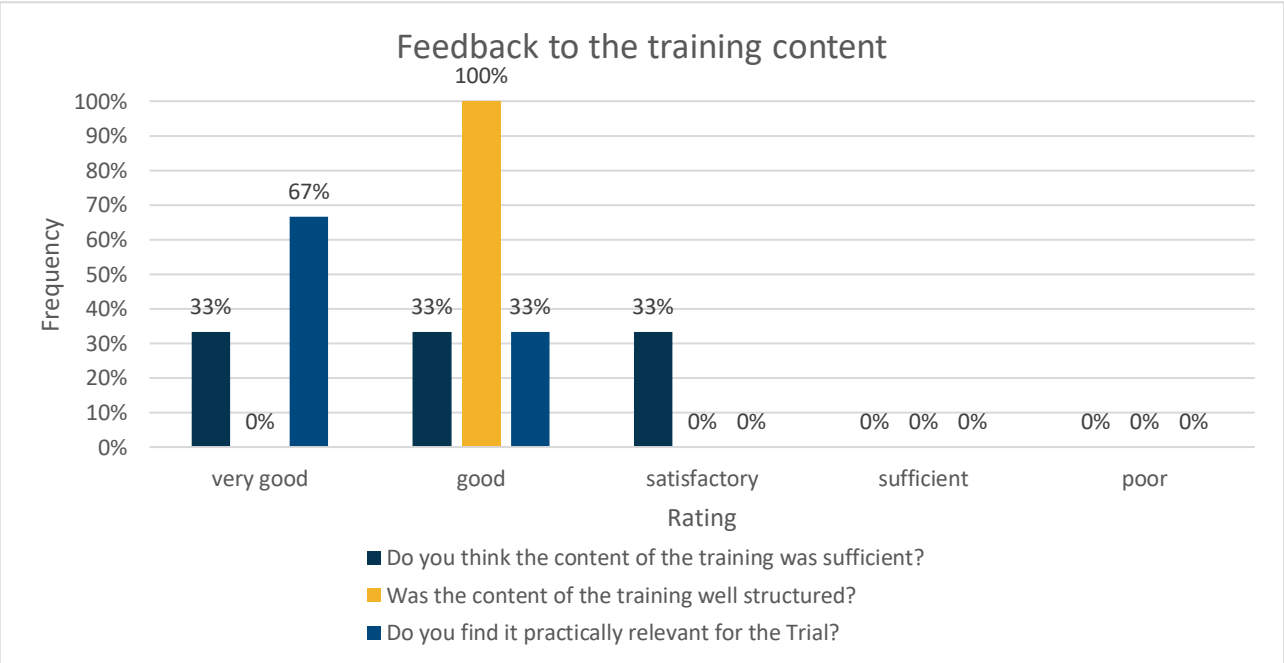


Figure A2.14: MDA C2– Feedback to the training content

Question: How were the facilities of the training?

- Almost all participants stated that the facilities were “ok” or “quite adequate”.

- One participant mentioned “I don't think this question is relevant. Maybe I don't fully understand it but it is good to put examples in "()".”

Figure A2.15 shows the cumulated feedback for the solution MDA C2 regarding the trainer.

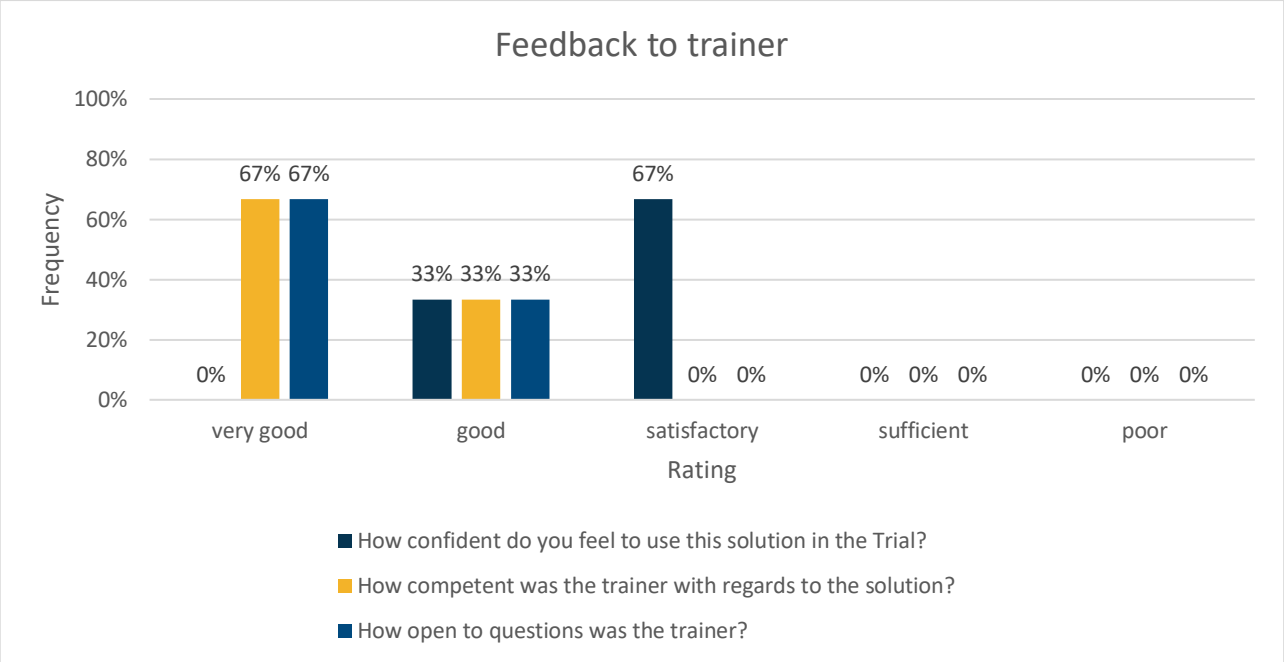


Figure A2.15: MDA C2– Feedback to trainer

Question: Do you have any remarks? Figure A2.16 shows the remarks on the training for MDA C2

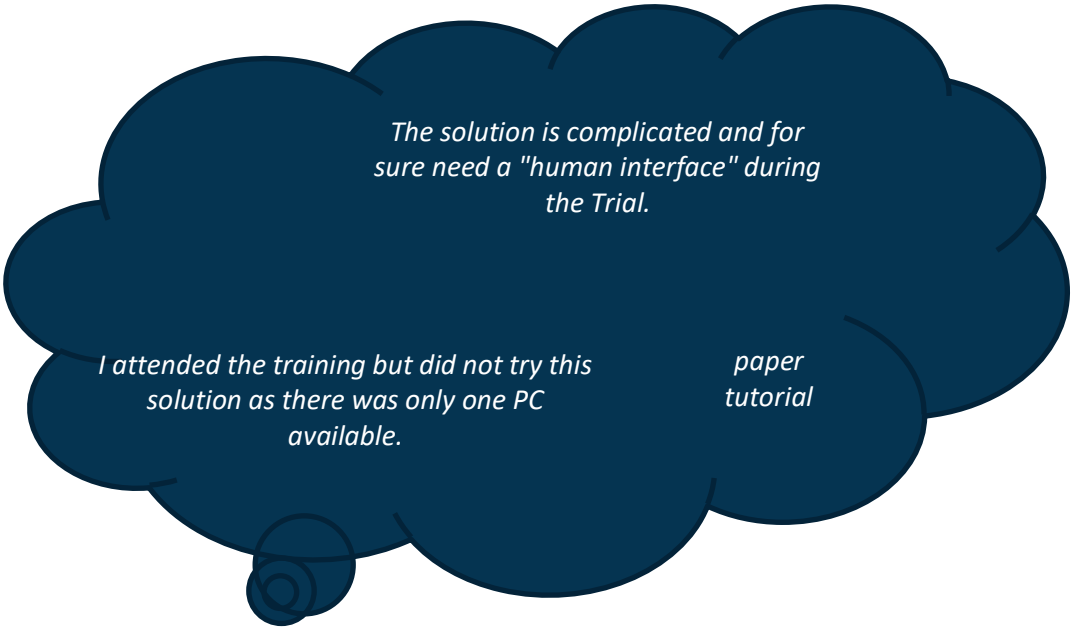


Figure A2.16: MDA C2– Remarks on the training

Annex 3 – Trial 3 – Feedback to trainings from Dry Run 2

Feedback to AIT - CrowdTasker

Feedback has been received from 5 participants.

Figure A3.1 shows the cumulated feedback for the solution CrowdTasker.

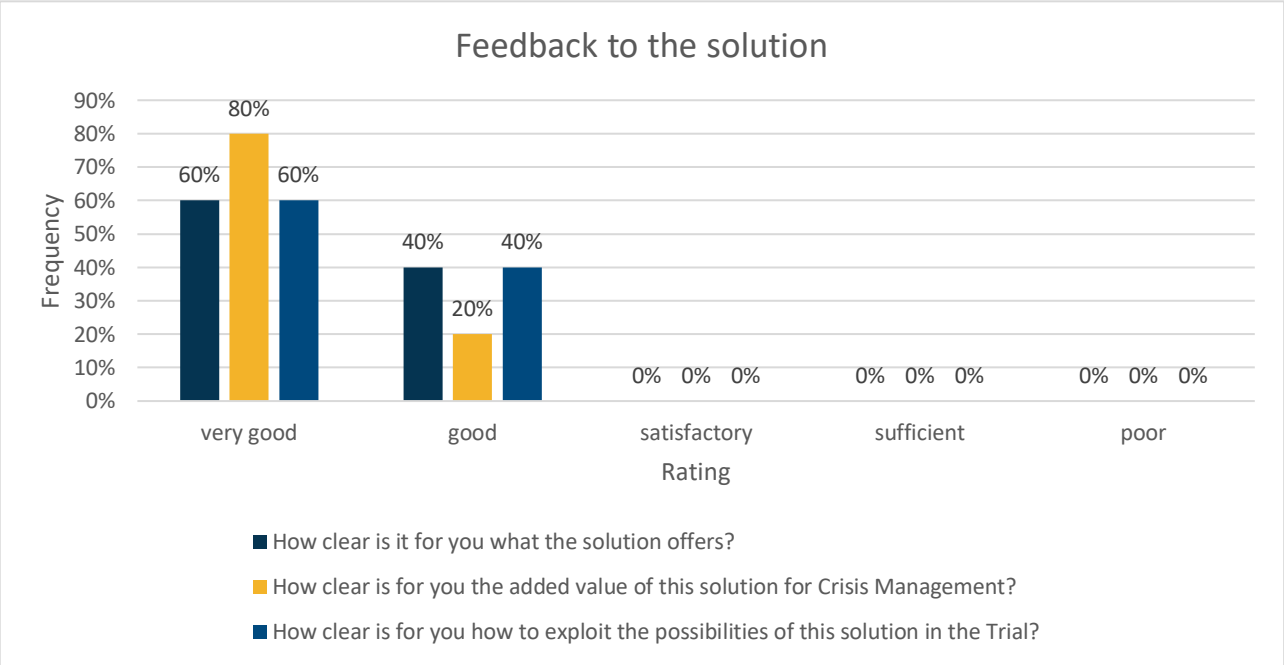


Figure A3.1: AIT CrowdTasker – Feedback to the solution

Figure A3.2 shows the cumulated feedback for the solution CrowdTasker regarding the training content.

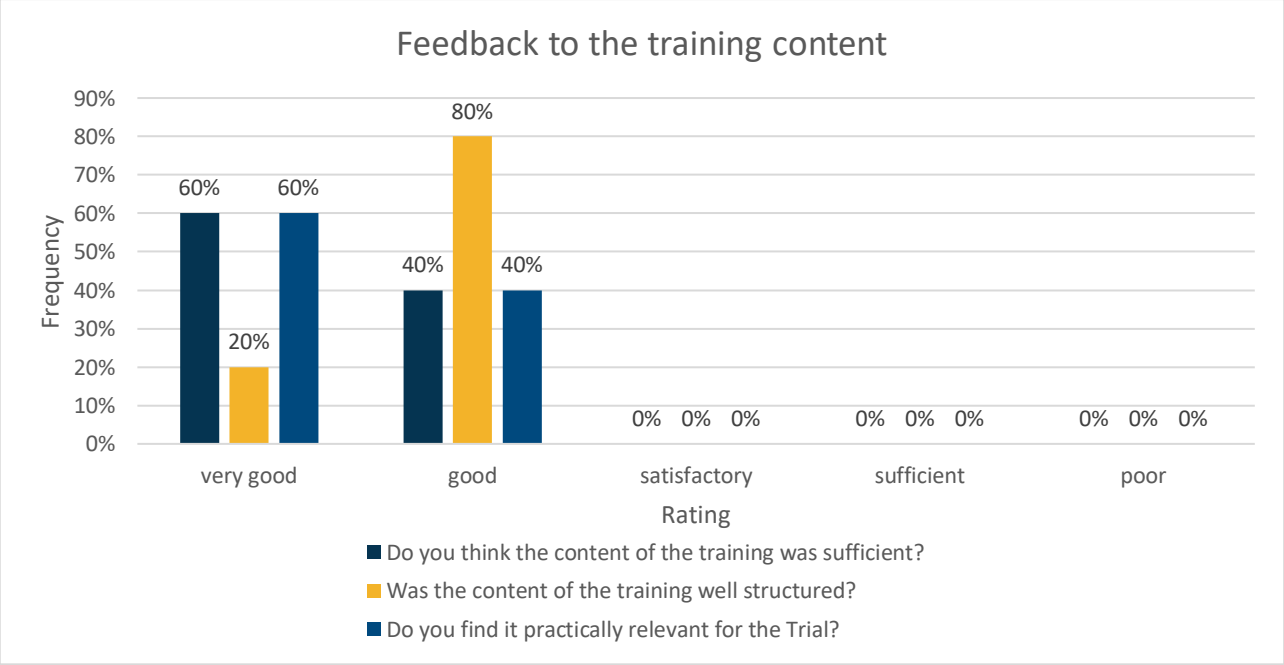


Figure A3.2: AIT CrowdTasker – Feedback to training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure A3.3 shows the cumulated feedback for the solution CrowdTasker regarding the trainer.

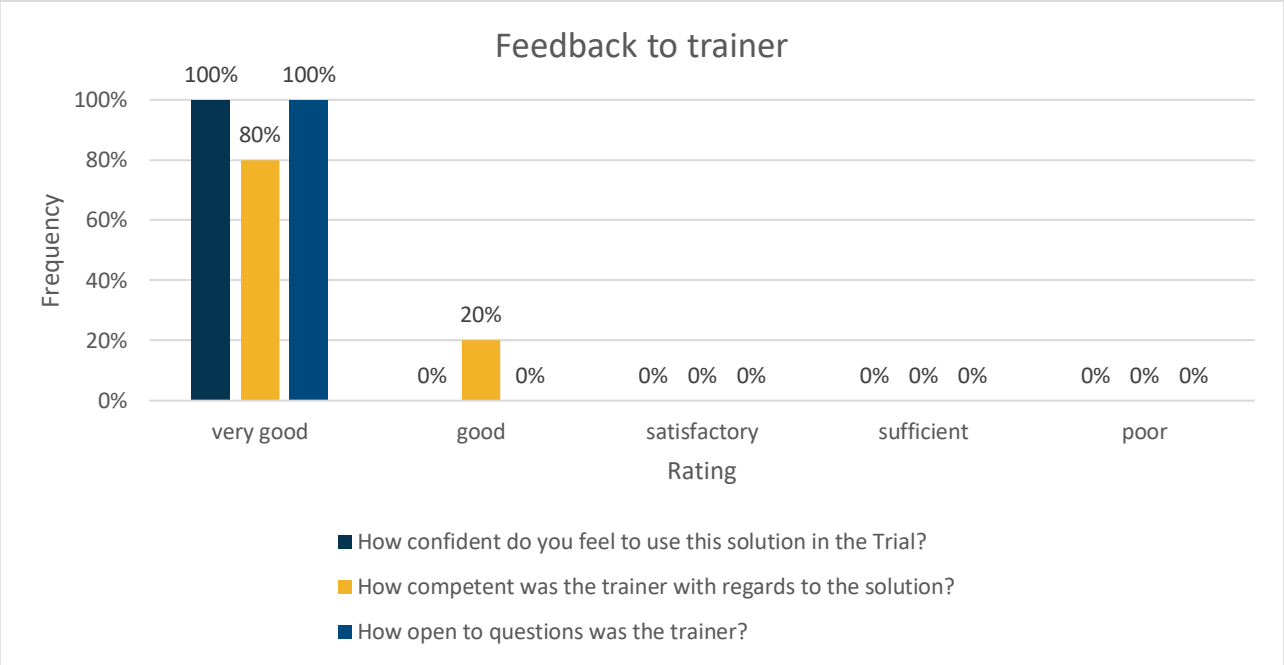


Figure A3.3: AIT CrowdTasker – Feedback to trainer

Question: Do you have any remarks?

- The remarks of the participants are summarized in Figure A3.4.

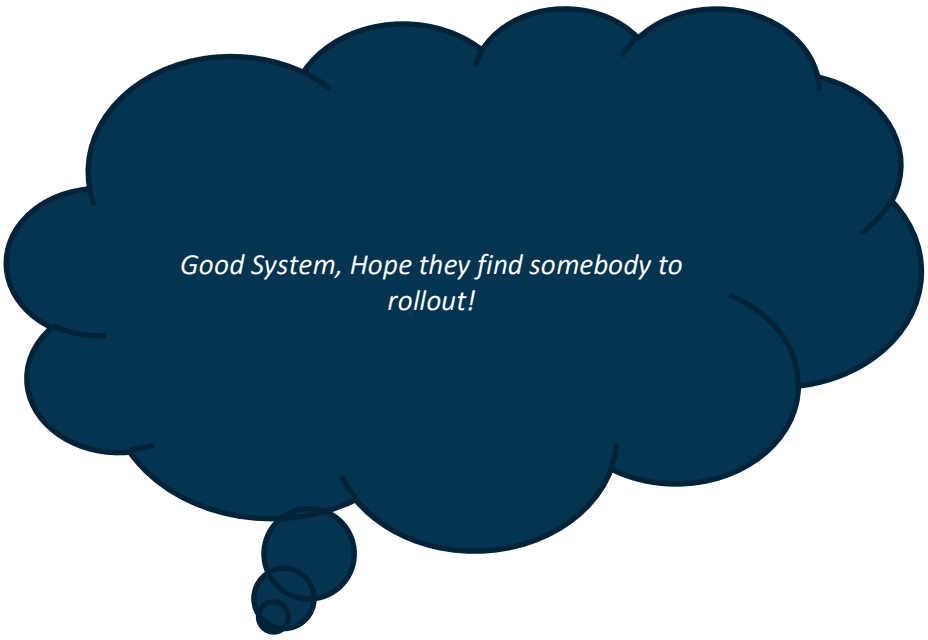


Figure A3.4: AIT CrowdTasker – Remarks on the training

Feedback to AnsuR – ASIGN

Feedback has been received from 5 participants.

Figure A3.5 shows the cumulated feedback for the solution ASIGN.

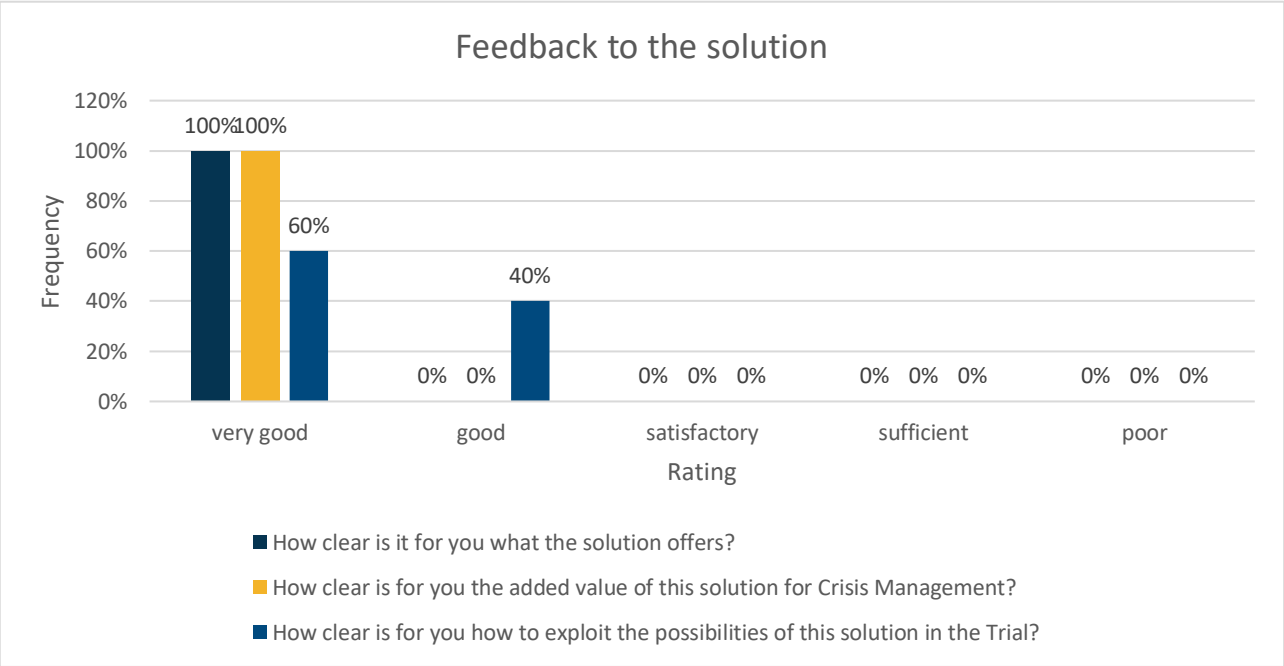


Figure A3.5: AnsuR ASIGN – Feedback to the solution

Figure A3.6 shows the cumulated feedback for the solution ASIGN regarding the training content.

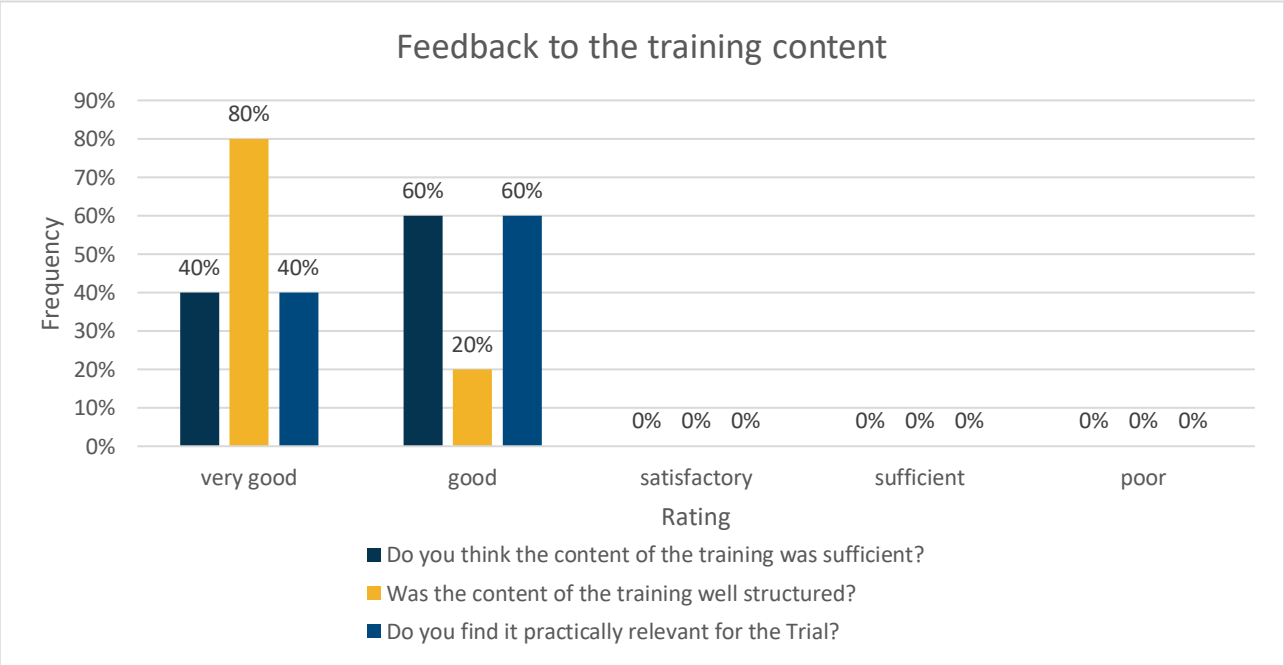


Figure A3.6: AnsuR ASIGN– Feedback to training content

Question: How were the facilities of the training?

- 60% of the participants stated that the facilities were “ok” or “quite adequate”.
- 20% of the participants stated that the facilities were combined with problems within the app.
- 20% of the participants did not have any comments.

Figure A3.7 shows the cumulated feedback for the solution ASIGN regarding the trainer.

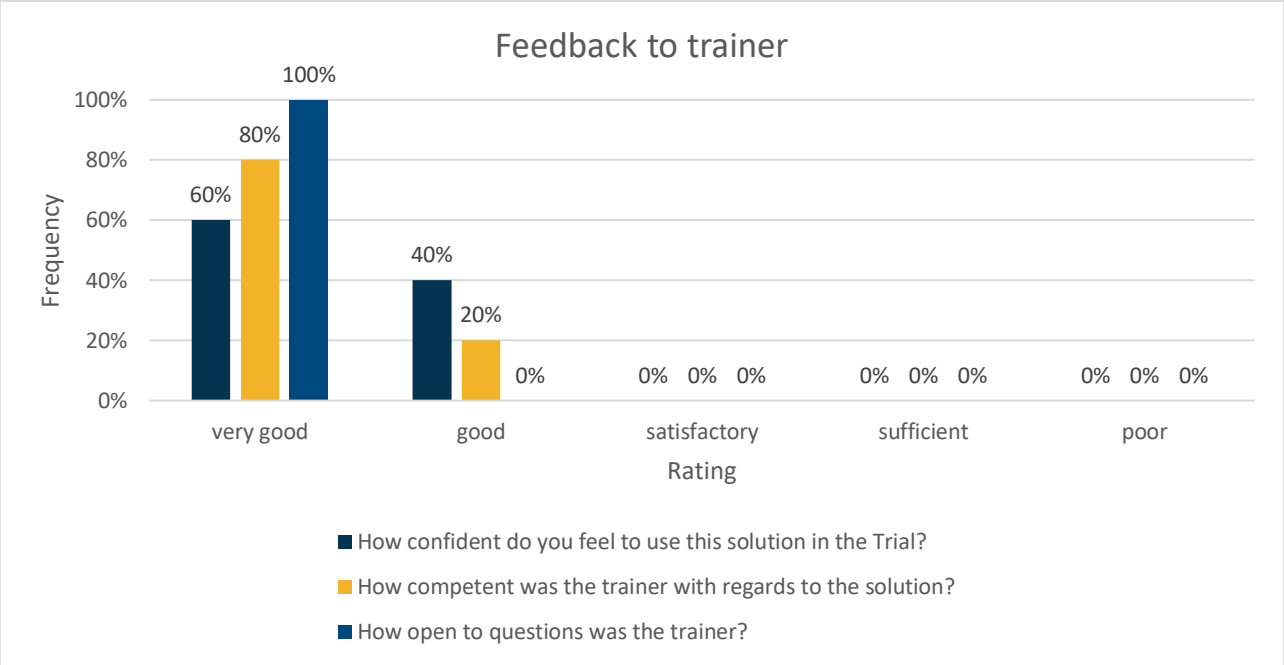


Figure A3.7: AnsuR ASIGN – Feedback to trainer

Question: Do you have any remarks?

- The remarks of the participants are summarized in Figure A3.8.

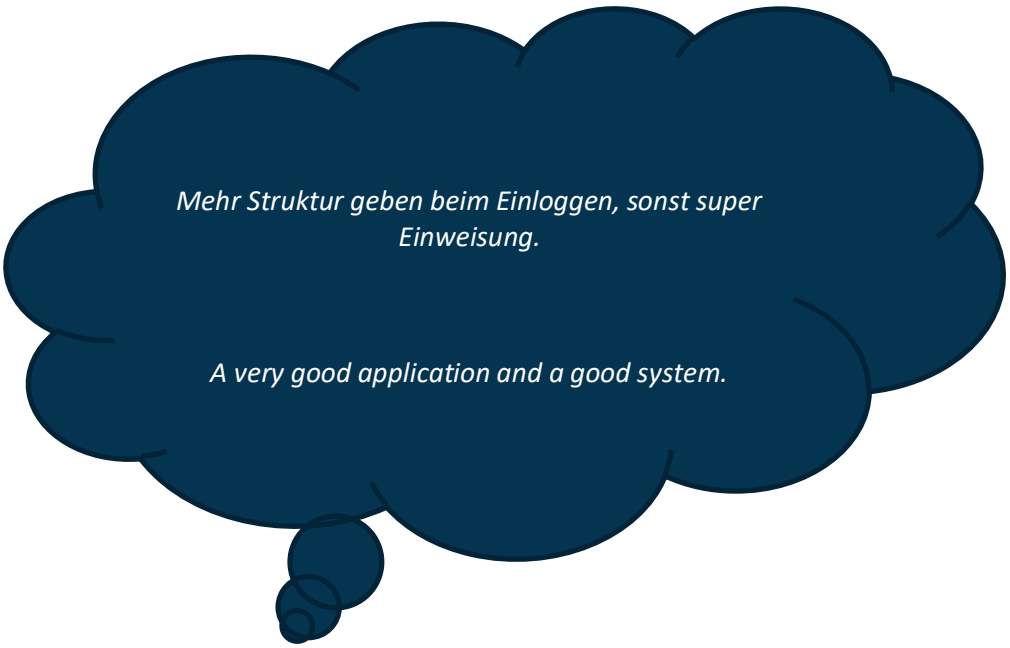


Figure A3.8: AnsuR ASIGN– Remarks on the training

Feedback to DLR – Airborne and Terrestrial Situational Awareness solution

Feedback has been received from 5 participants.

Figure A3.9 shows the cumulated feedback for the solution Airborne and Terrestrial Situational Awareness (ATSA).

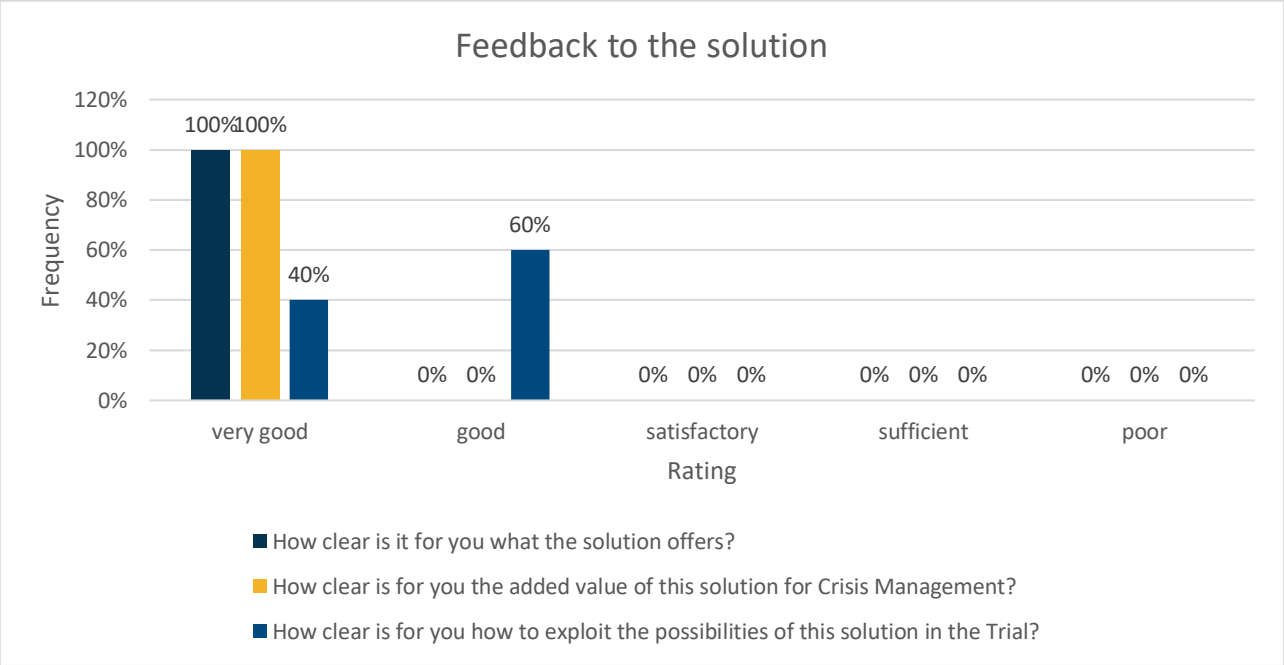


Figure A3.9: DLR ATSA solution – Feedback to the solution

Figure A3.10 shows the cumulated feedback for the solution ATSA regarding the training content.

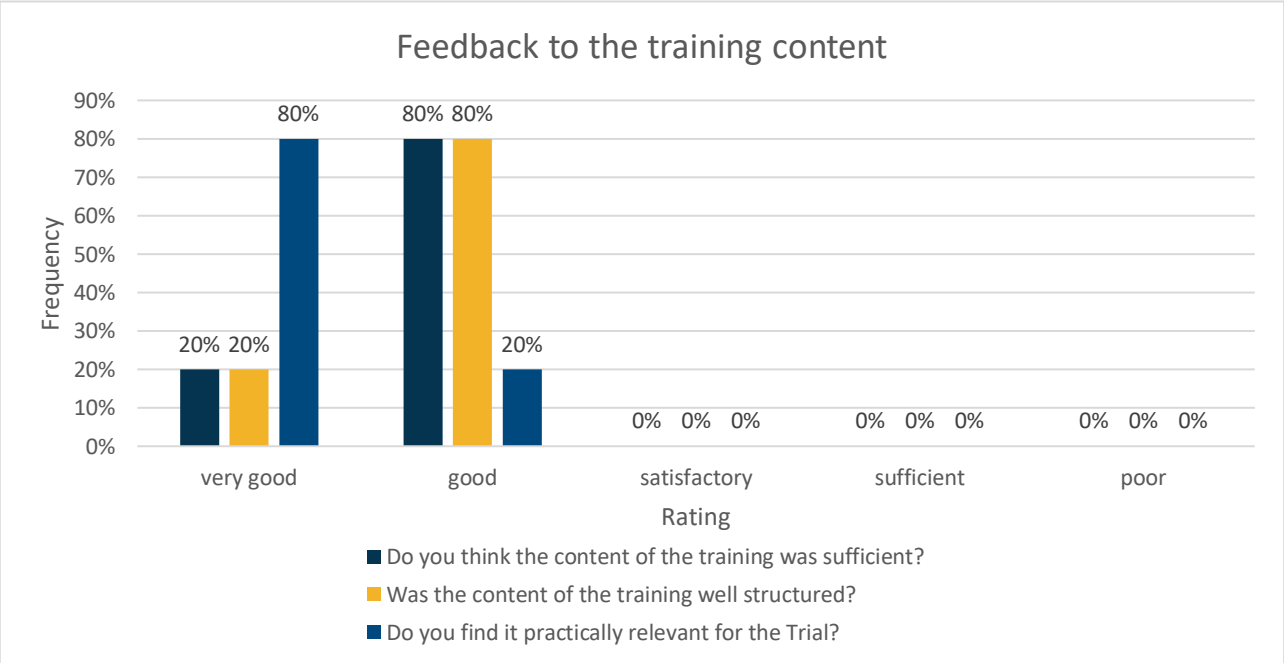


Figure A3.10: DLR ATSA – Feedback to training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure A3.11 shows the cumulated feedback for the solution ATSA regarding the trainer.

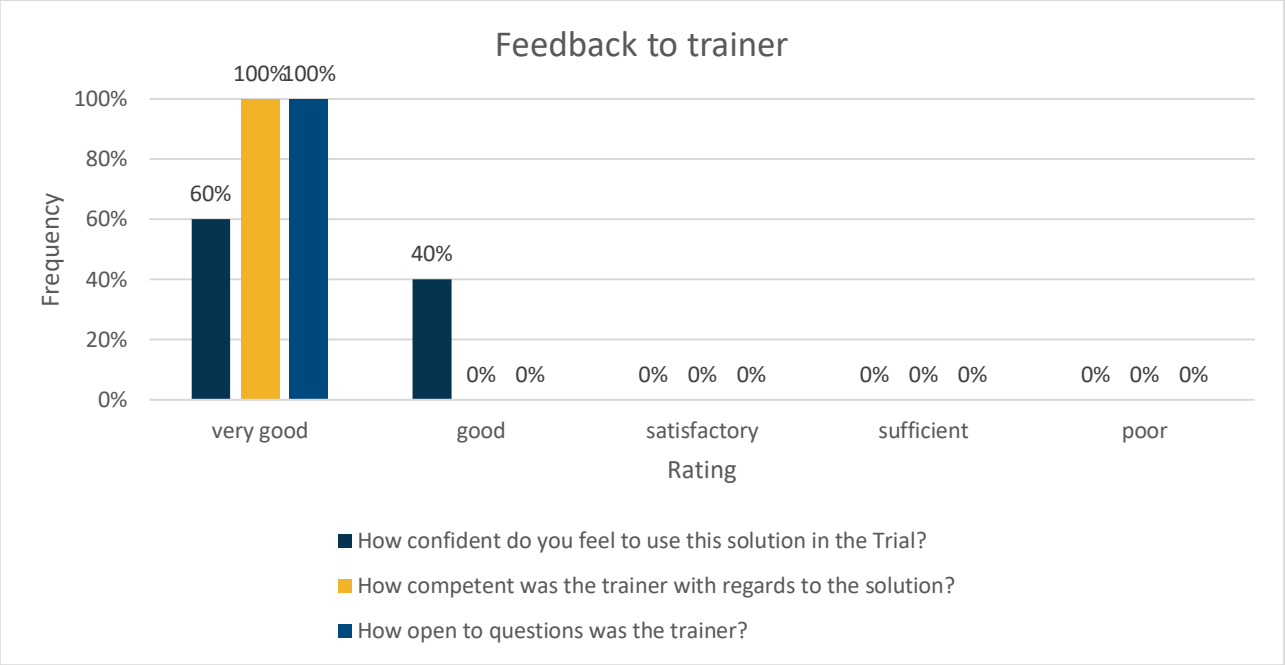


Figure A3.11: DLR ATSA solution – Feedback to trainer

Question: Do you have any remarks?

- The remarks of the participants are summarized in Figure A3.12.

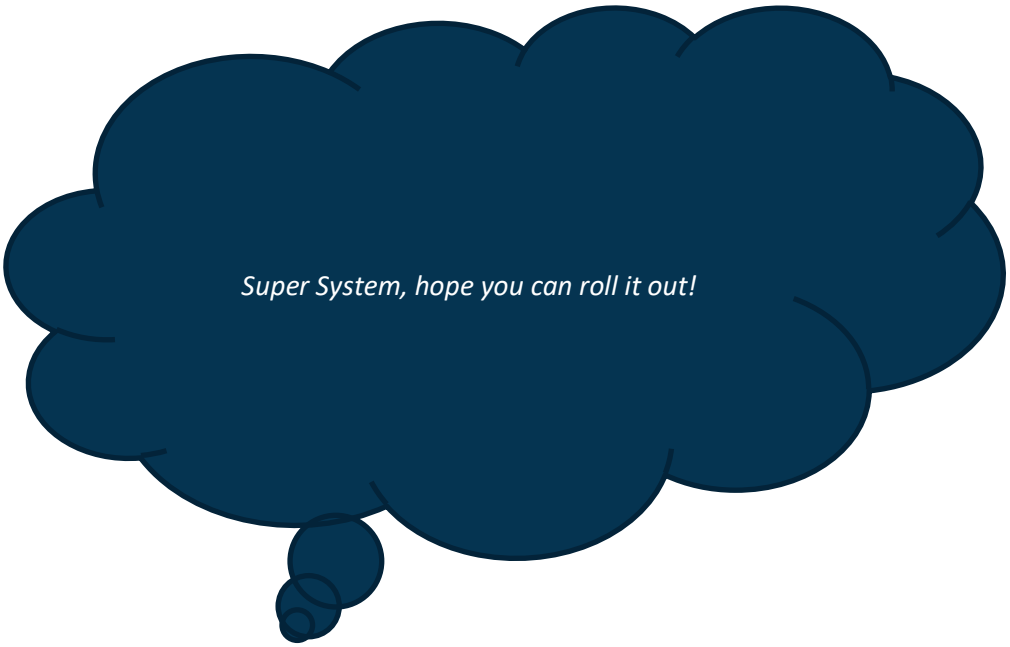


Figure A3.12: DLR ATSA solution – Remarks on the training

Feedback to VWORLD – vieWTerra Evolution

Feedback has been received from 5 participants.

Figure A3.13 shows the cumulated feedback for the solution vieWTerra Evolution.

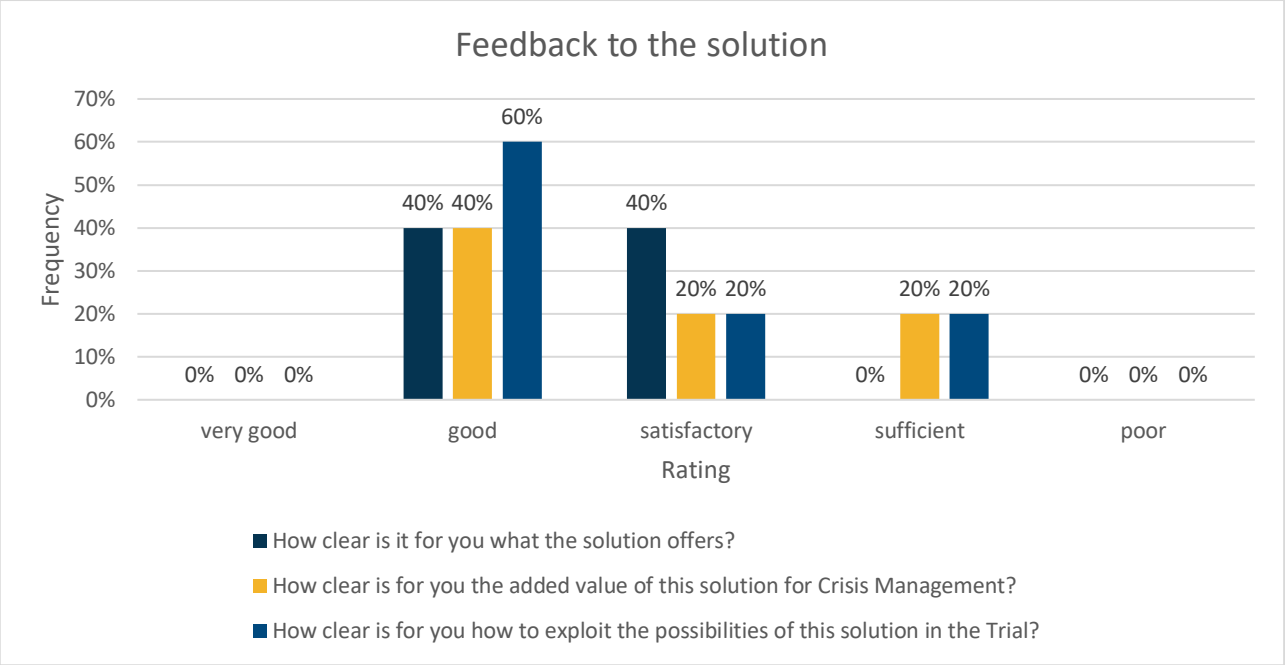


Figure A3.13: VWORLD vieWTerra Evolution – Feedback to the solution

Figure A3.14 shows the cumulated feedback for the solution vieWTerra Evolution regarding the training content.

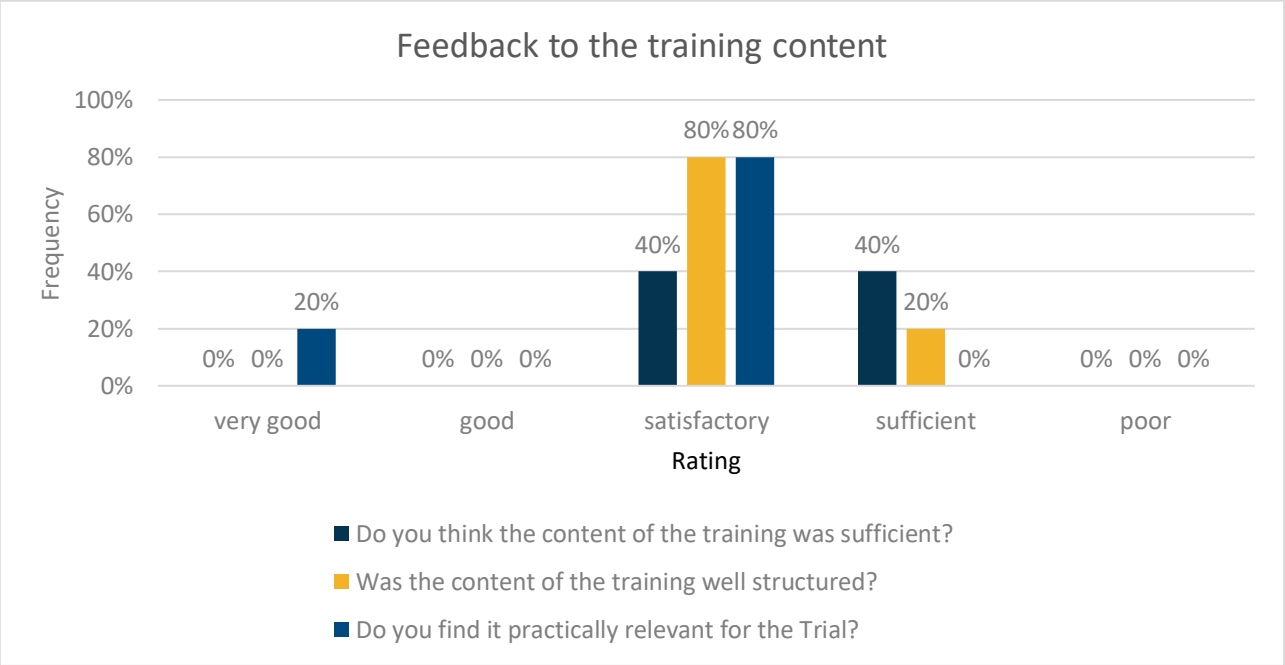


Figure A3.14: VWORLD vieWTerra Evolution – Feedback to training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure A3.15 shows the cumulated feedback for the solution vieWTerra Evolution regarding the trainer.

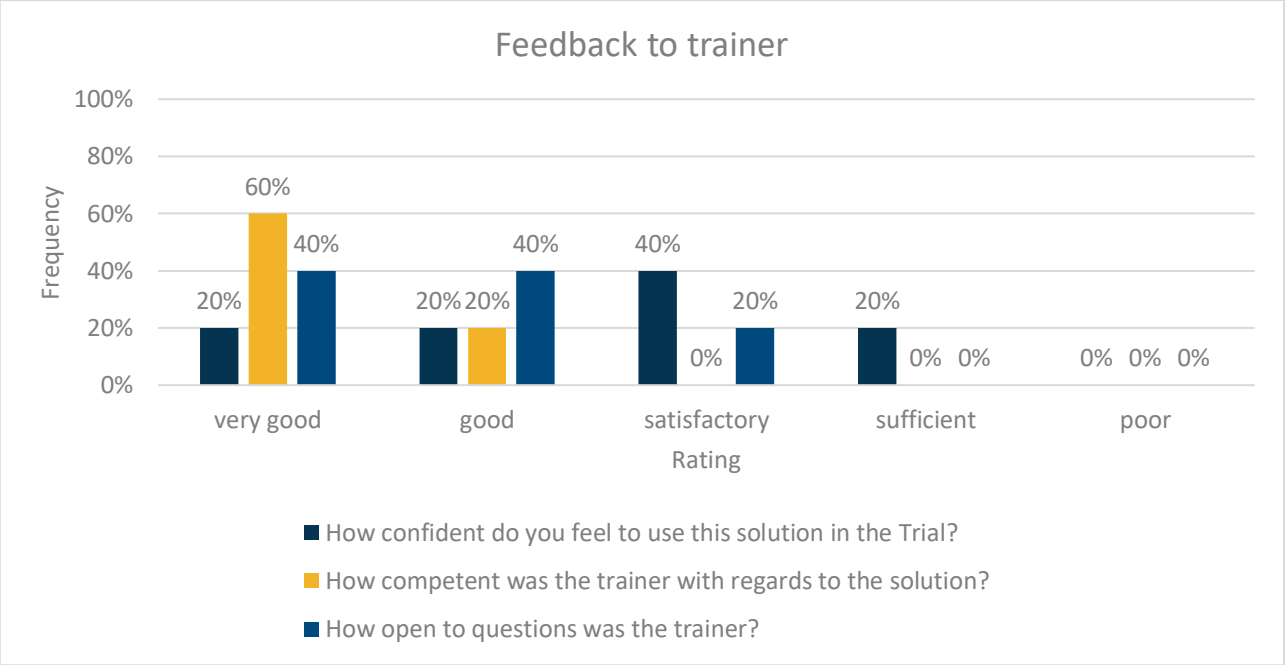


Figure A3.15: VWORLD vieWTerra Evolution – Feedback to trainer

Question: Do you have any remarks?

- The remarks of the participants are summarized in Figure A3.16.

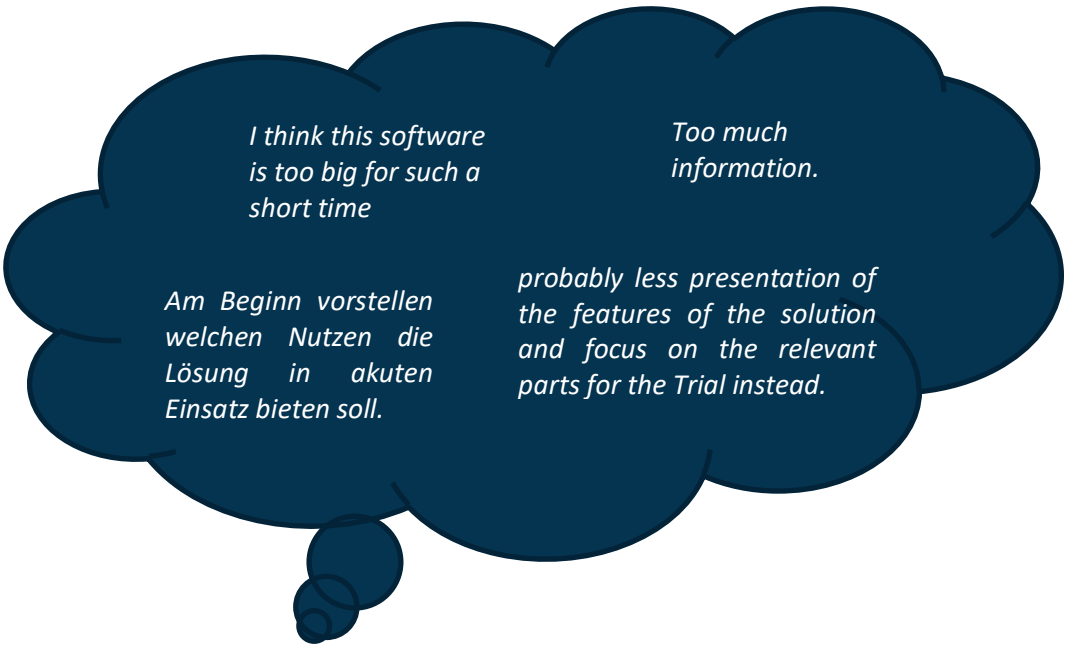


Figure A3.16: VWORLD vieWTerra Evolution – Remarks on the training

Annex 4 – Trial 4 – Feedback to trainings from Dry Run 2

Feedback to Merlin CrisisSuite

Feedback has been received from 4 participants.

Figure A4.1 shows the cumulated feedback for the solution Merlin CrisisSuite.

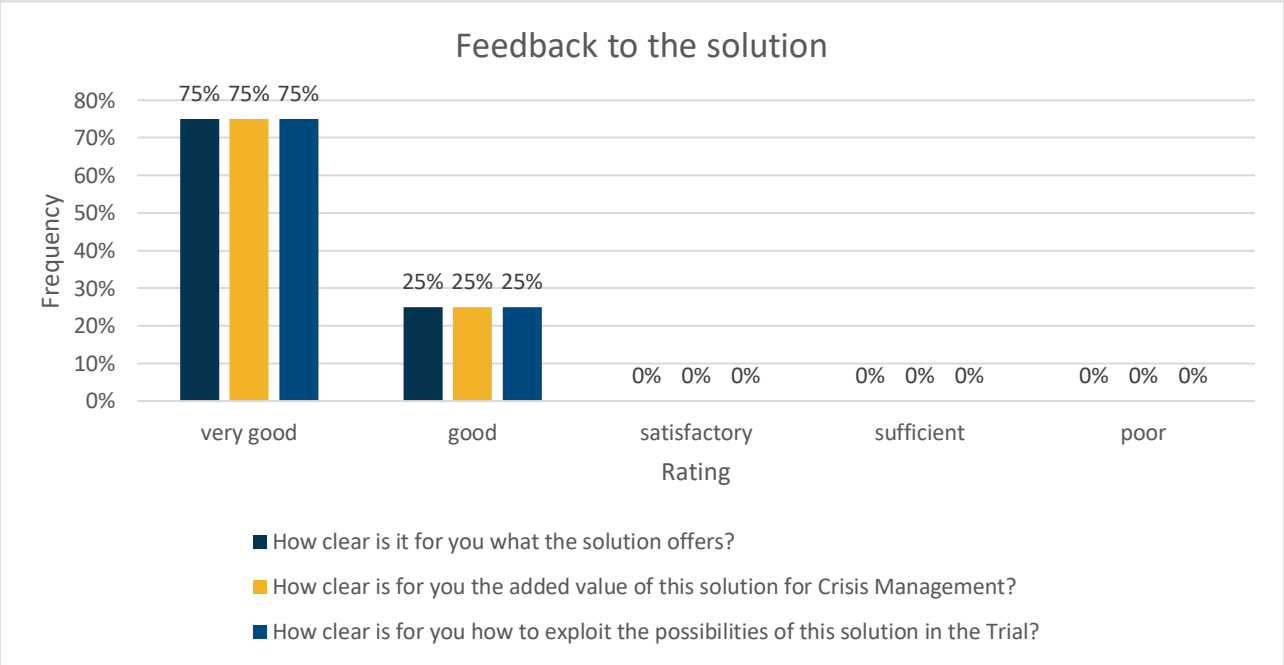


Figure A4.1: Merlin CrisisSuite – Feedback to the solution

Figure A4.2 shows the cumulated feedback for the solution Merlin CrisisSuite on the training content.

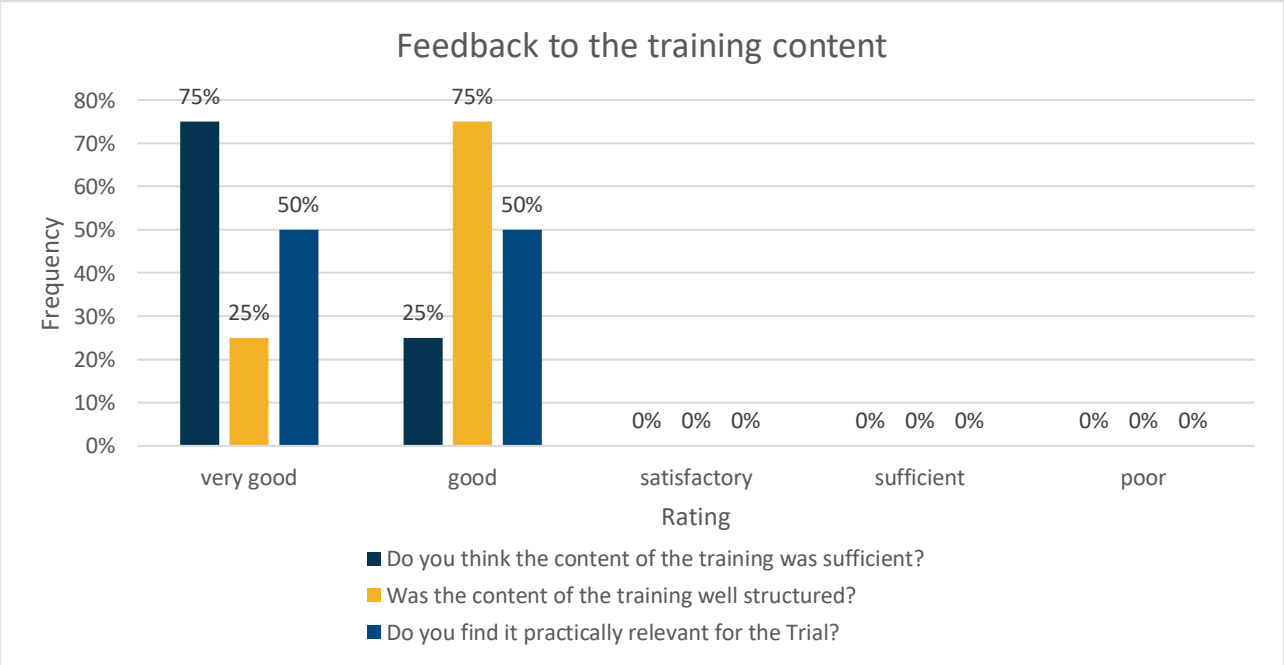


Figure A4.2: Merlin CrisisSuite – Feedback to training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure A4.3 shows the cumulated feedback for the solution Merlin CrisisSuite regarding the trainer.

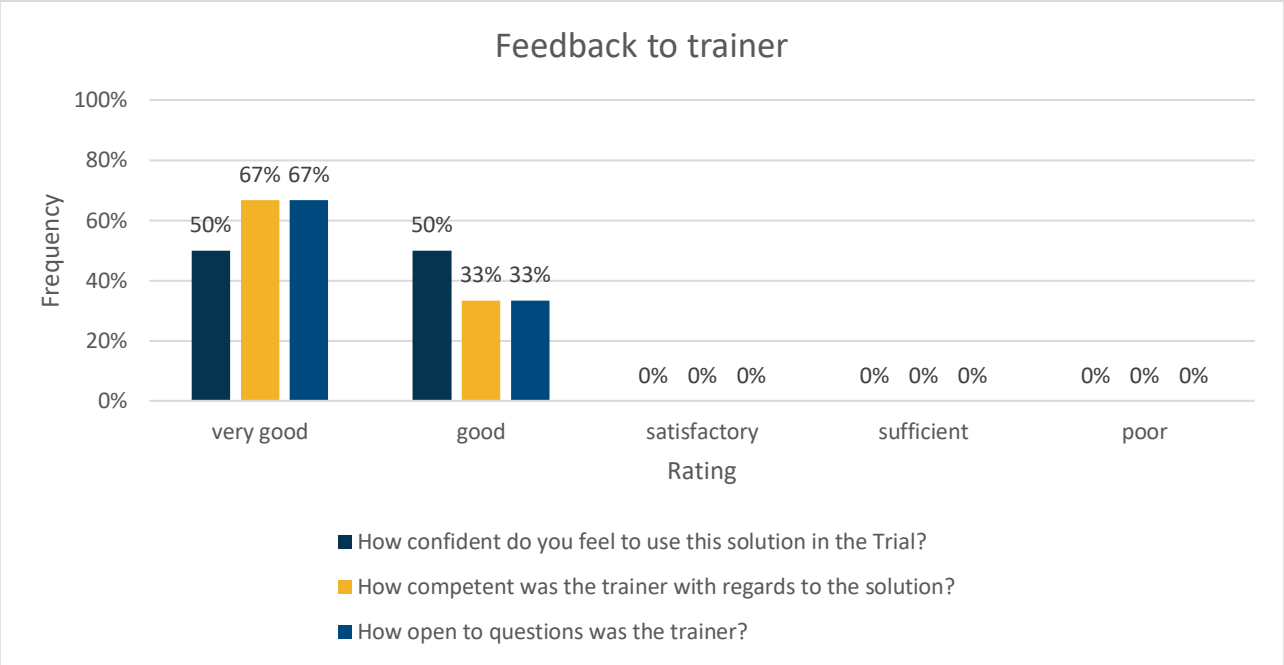


Figure A4.3: Merlin CrisisSuite – Feedback to trainer

Question: Do you have any remarks?

- 100% of the participants had no remarks.

Feedback to HumLogSim

Feedback has been received from 8 participants.

Figure A4.4 shows the cumulated feedback for the solution HumLogSim.

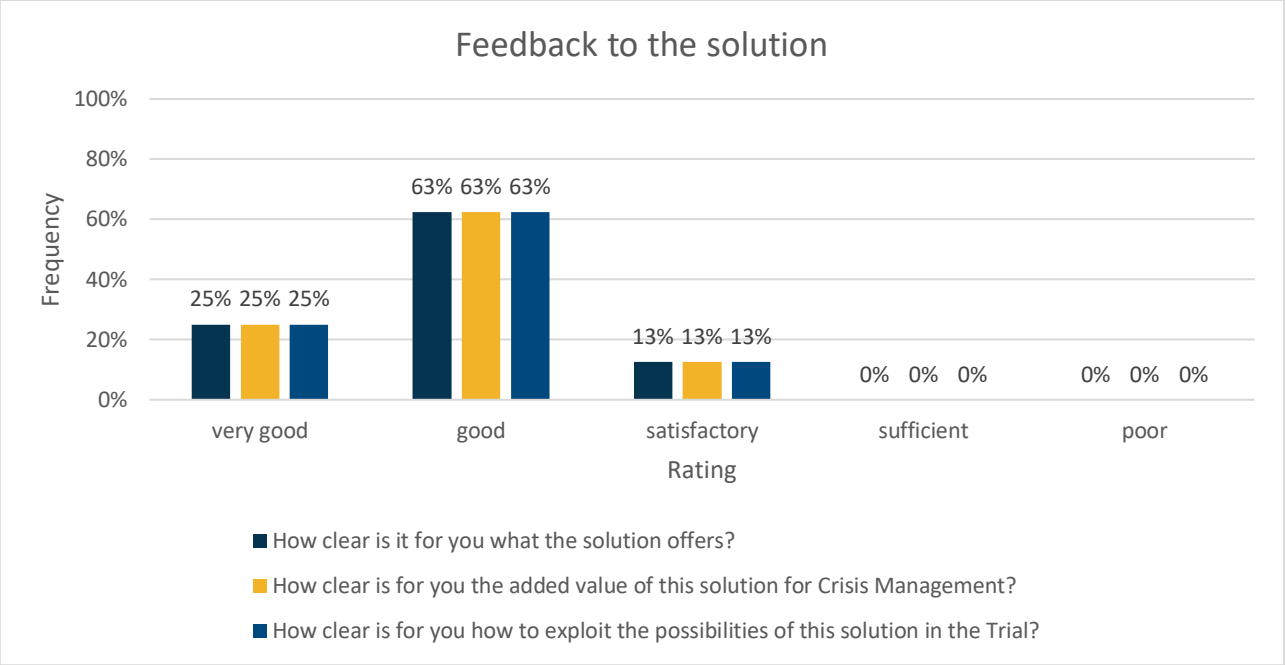


Figure A4.4: HumLogSim – Feedback to the solution

Figure A4.5 shows the cumulated feedback for the solution HumLogSim regarding the training content.

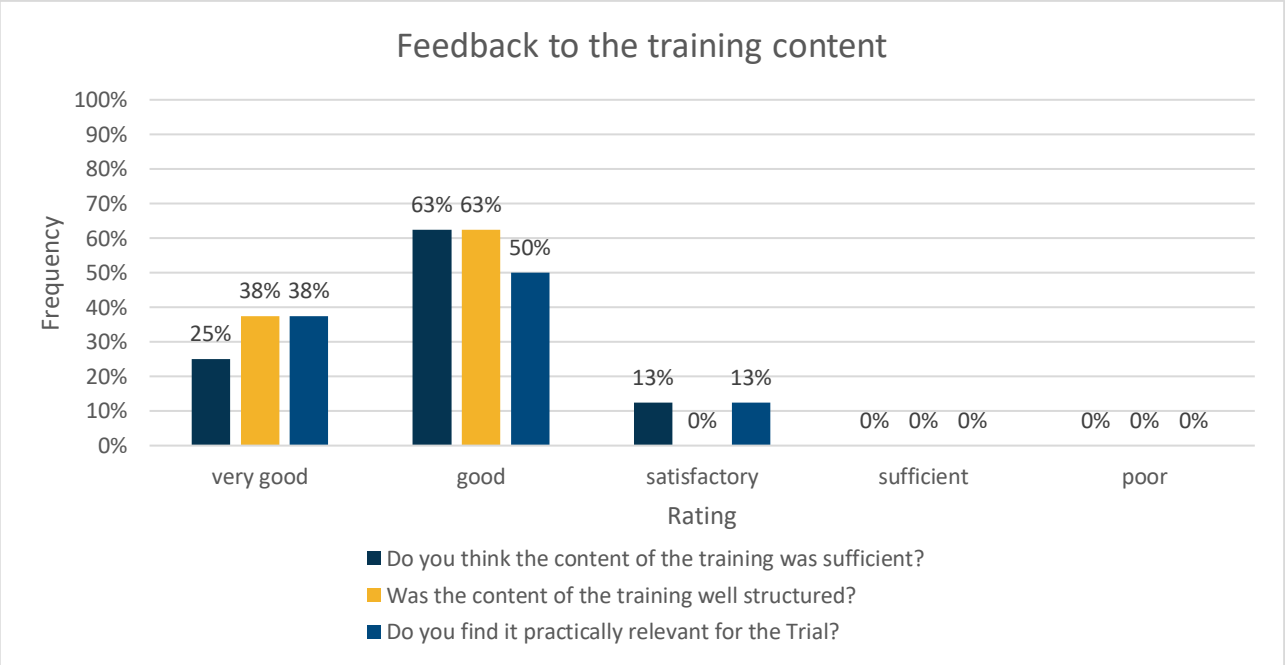


Figure A4.5: HumLogSim – Feedback to the training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure A4.6 shows the cumulated feedback for the solution HumLogSim regarding the trainer.

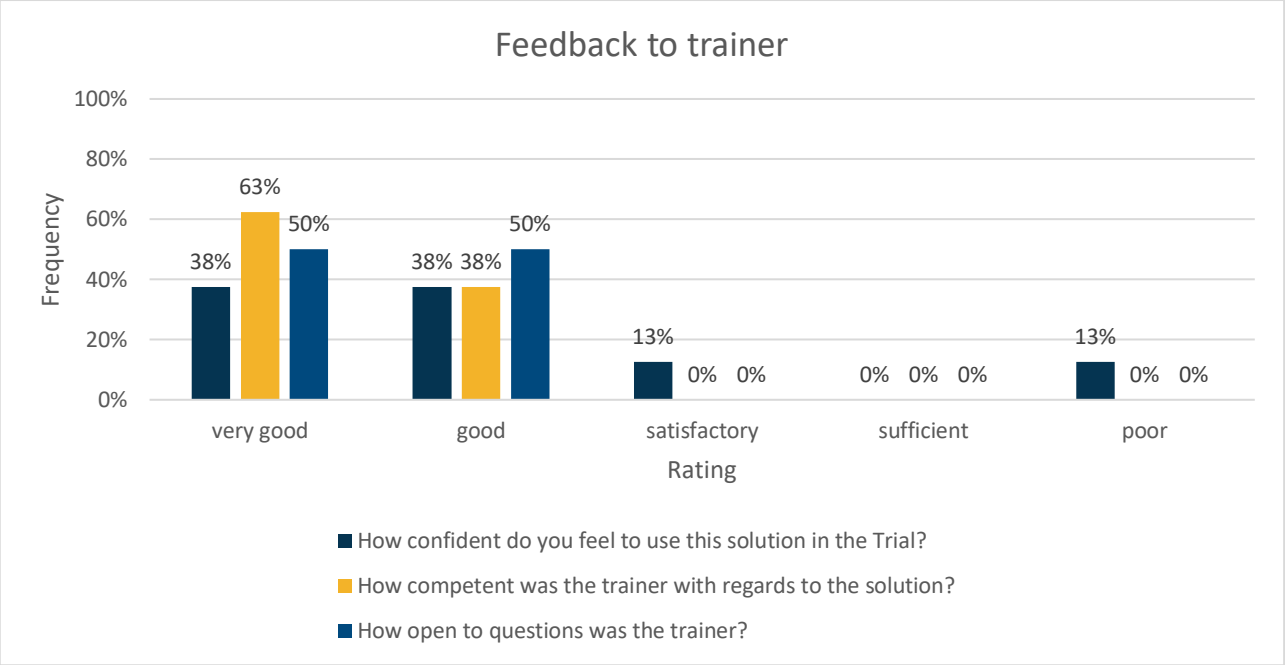


Figure A4.6: HumLogSim– Feedback to trainer

Figure A4.7 shows the feedback for the HumLogSim solution to the question: Do you have any remarks?

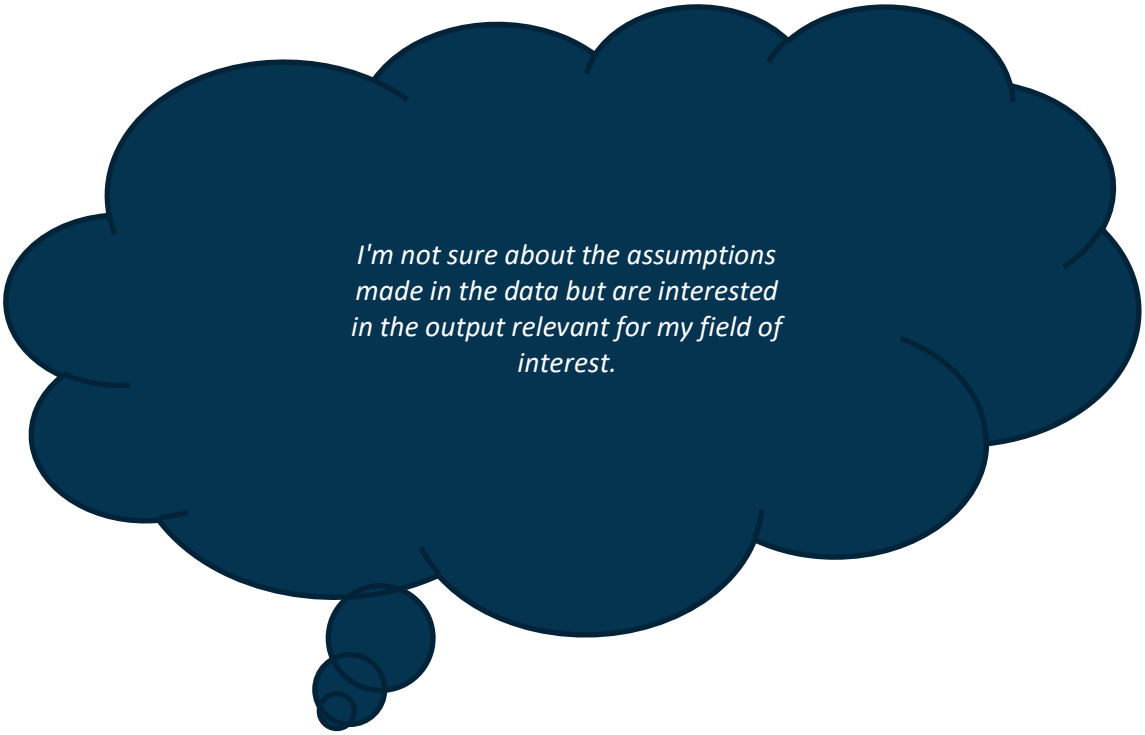


Figure A4.7: HumLogSim – Remarks on the training

Feedback to KeepOperational module of ATSA solution

Feedback has been received from 2 participants.

Figure A4.8 shows the cumulated feedback for the ATSA solution, KeepOperational module.

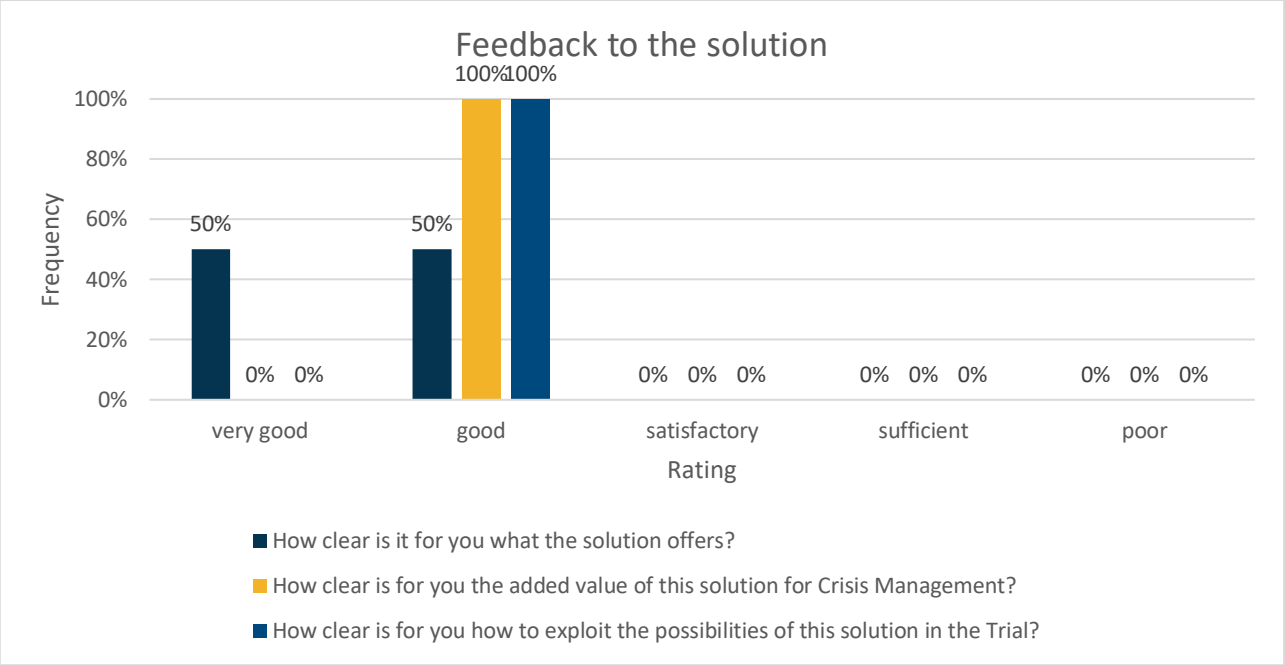


Figure A4.8: KeepOperational module of ATSA solution – Feedback to the solution

Figure A4.9 shows the cumulated feedback for the ATSA solution, KeepOperational module regarding the training content.

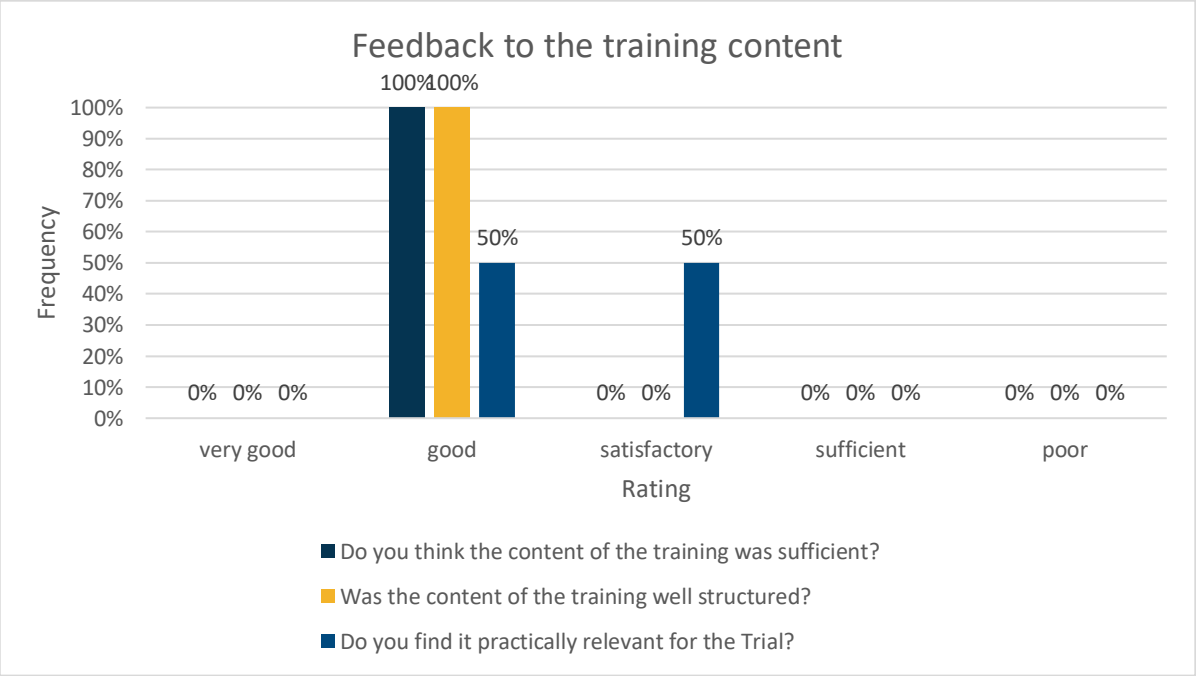


Figure A4.9: KeepOperational module of ATSA solution - Feedback to the training content

Question: How were the facilities of the training?

- 100% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure A4.10 shows the cumulated feedback for the ATSA solution, KeepOperational module, to the trainer.

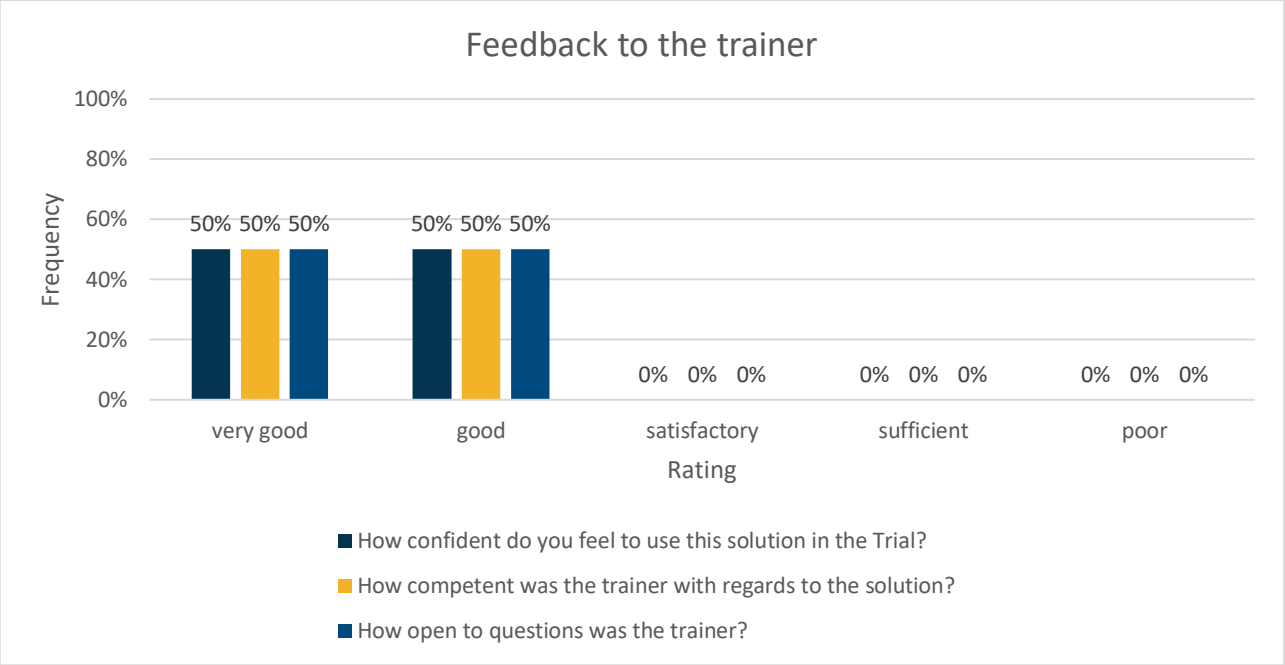


Figure A4.10: KeepOperational module of ATSA solution - Feedback to trainer

Question: Do you have any remarks?

- 100% of the participants had no remarks.

Feedback to ZKI module of ATSA solution

Feedback has been received from 18 participants.

Figure A4.11 shows the cumulated feedback for the ATSA solution, ZKI module.

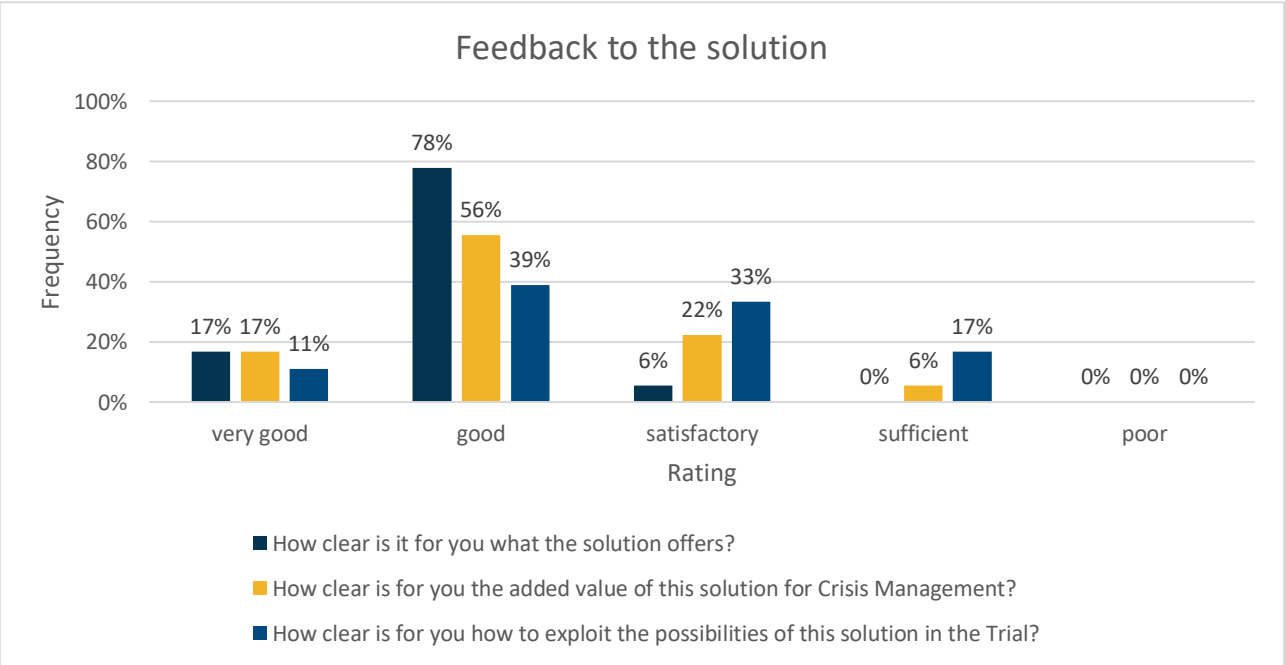


Figure A4.11: ZKI module of ATSA solution – Feedback to the solution

Figure A4.12 shows the cumulated feedback for the ATSA solution, ZKI module on the training content

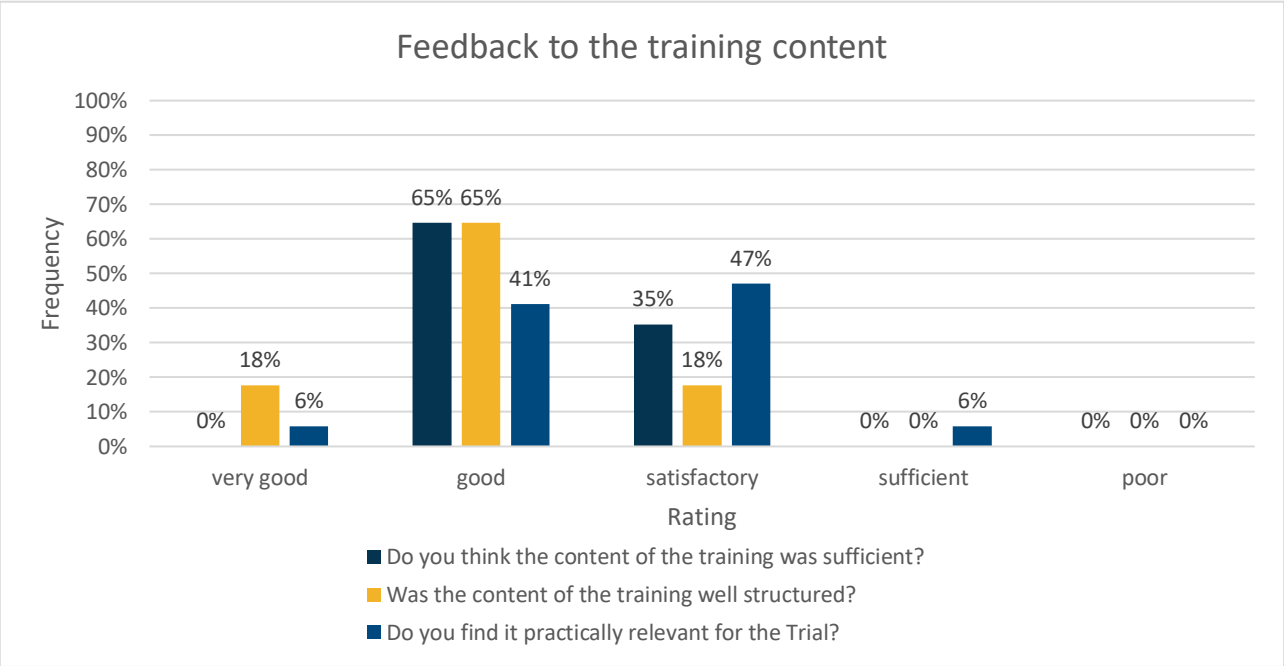


Figure A4.12: ZKI module of ATSA solution – Feedback to training content

Question: How were the facilities of the training?

- 12% of the participants stated that the facilities were not good “You need to know how use Acrobat”.
- 6% of the participants stated that the facilities “The software requirement means I could not use my Chromebook. The available pc worked ok”.
- 6% of the participants had no remarks.
- 76% of the participants stated that the facilities were “ok” or “quite adequate”.

Figure A4.13 shows the cumulated feedback for the ATSA solution, ZKI module, to the trainer.

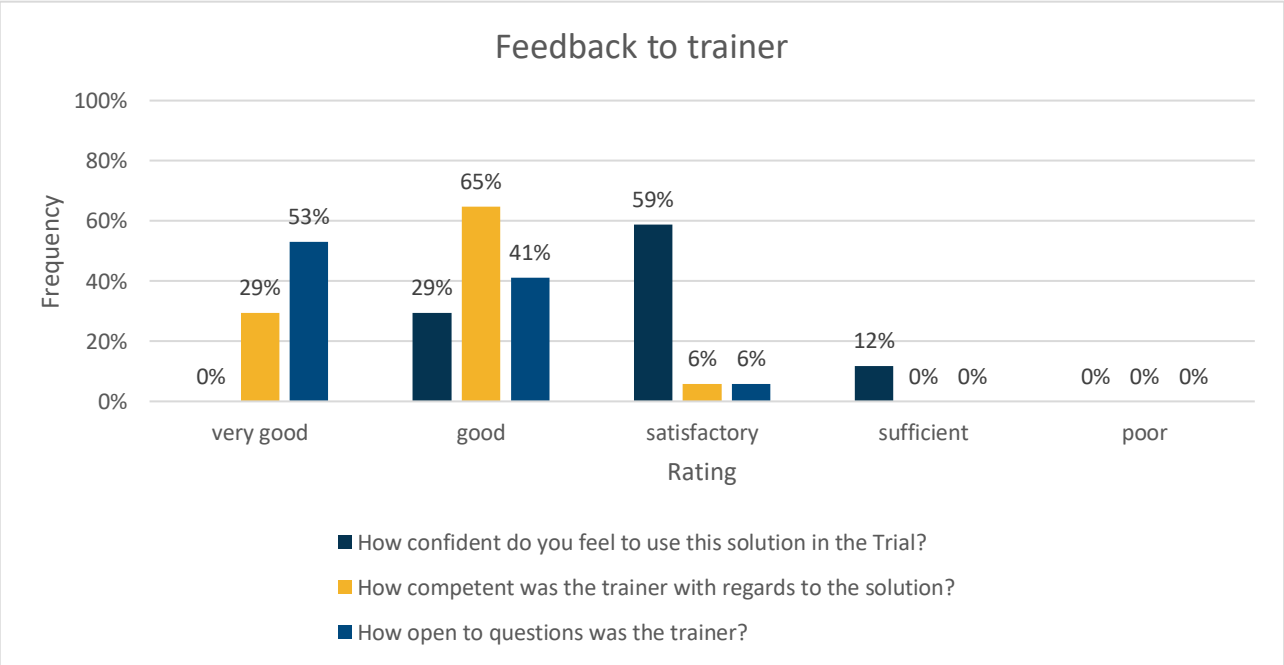


Figure A4.13: ZKI module of ATSA solution – Feedback to trainer

Figure A4.14 shows the feedback for the ATSA solution ZKI module to the question: Do you have any remarks?

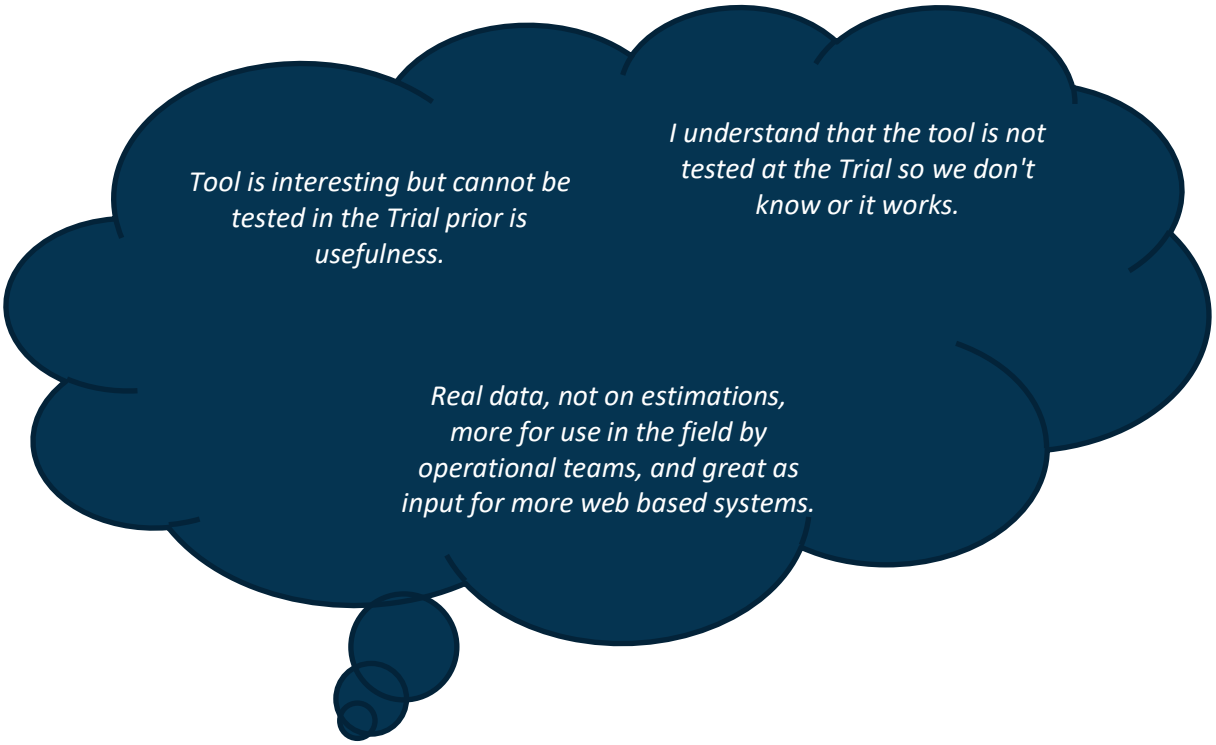


Figure A4.14: ZKI module of ATSA solution – Remarks on the training

Feedback to SIM-CI

Feedback has been received from 18 participants.

Figure A4.15 shows the cumulated feedback for the solution SIM-CI.

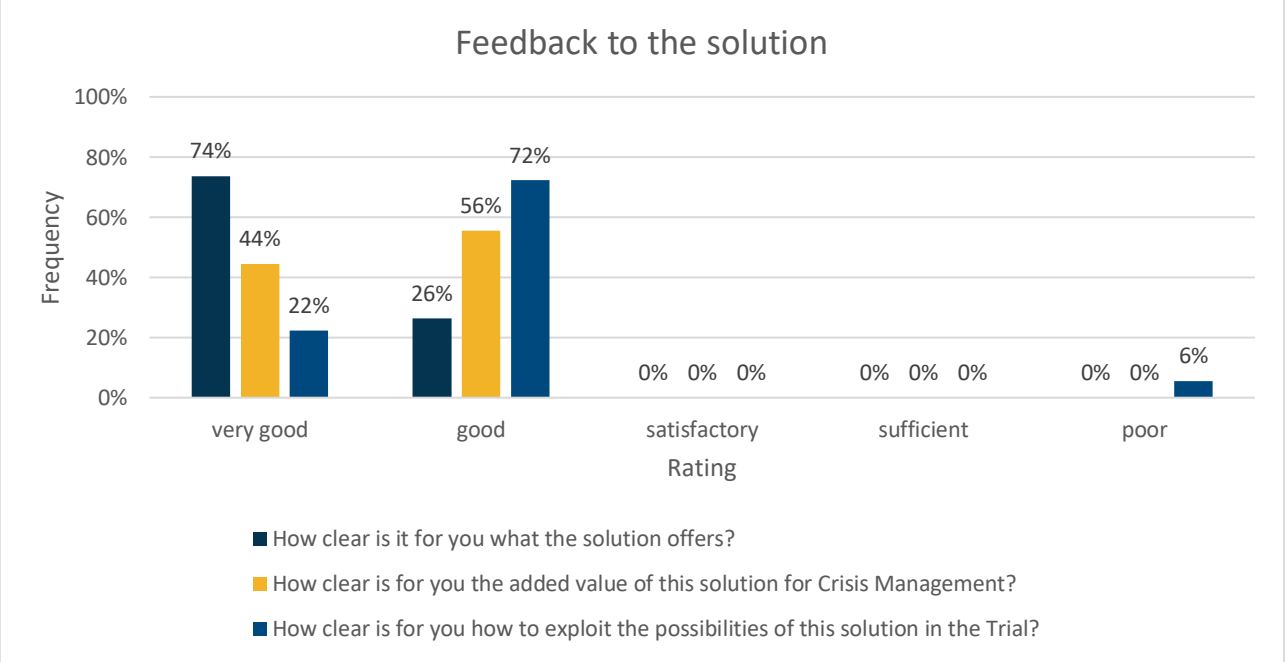


Figure A4.15: SIM-CI – Feedback to the solution

Figure A4.16 shows the cumulated feedback for the solution SIM-CI on the training content.

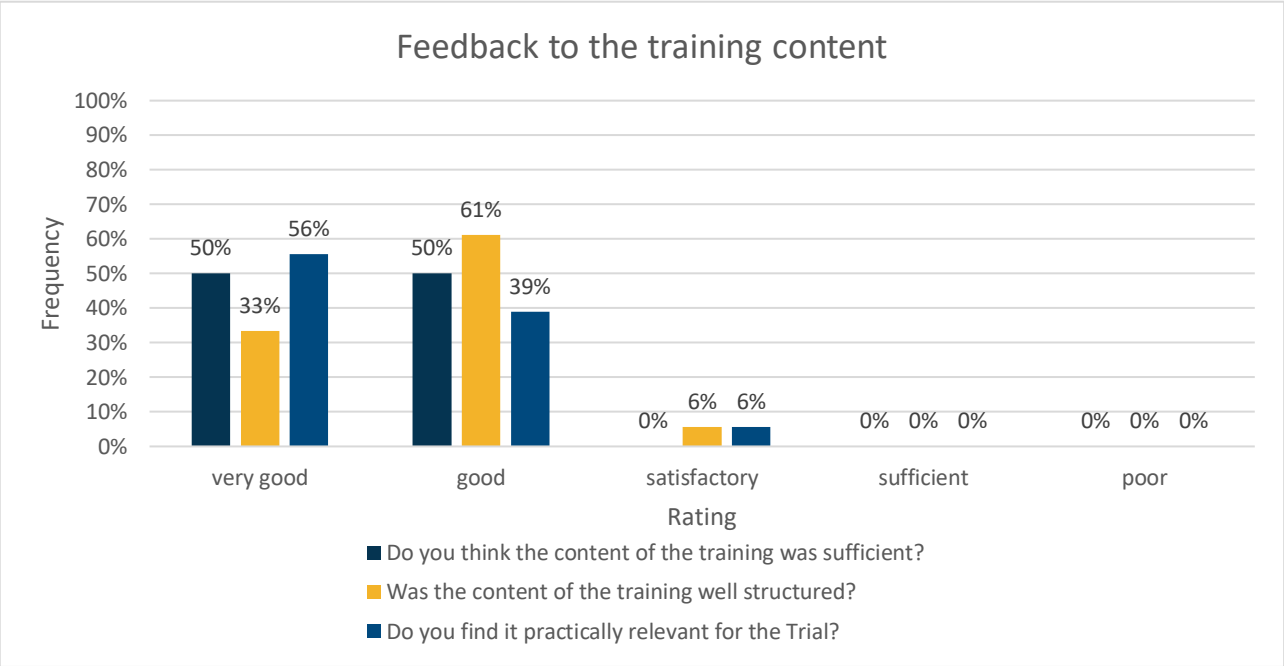


Figure A4.16: SIM-CI – Feedback to the training content

Question: How were the facilities of the training?

- 1 of the participants stated that the facilities "we could not use".
- 17 of the participants stated that the facilities were "ok", "sufficient" or "quite adequate".

Figure A4.17 shows the cumulated feedback for the solution SIM-CI to the trainer.

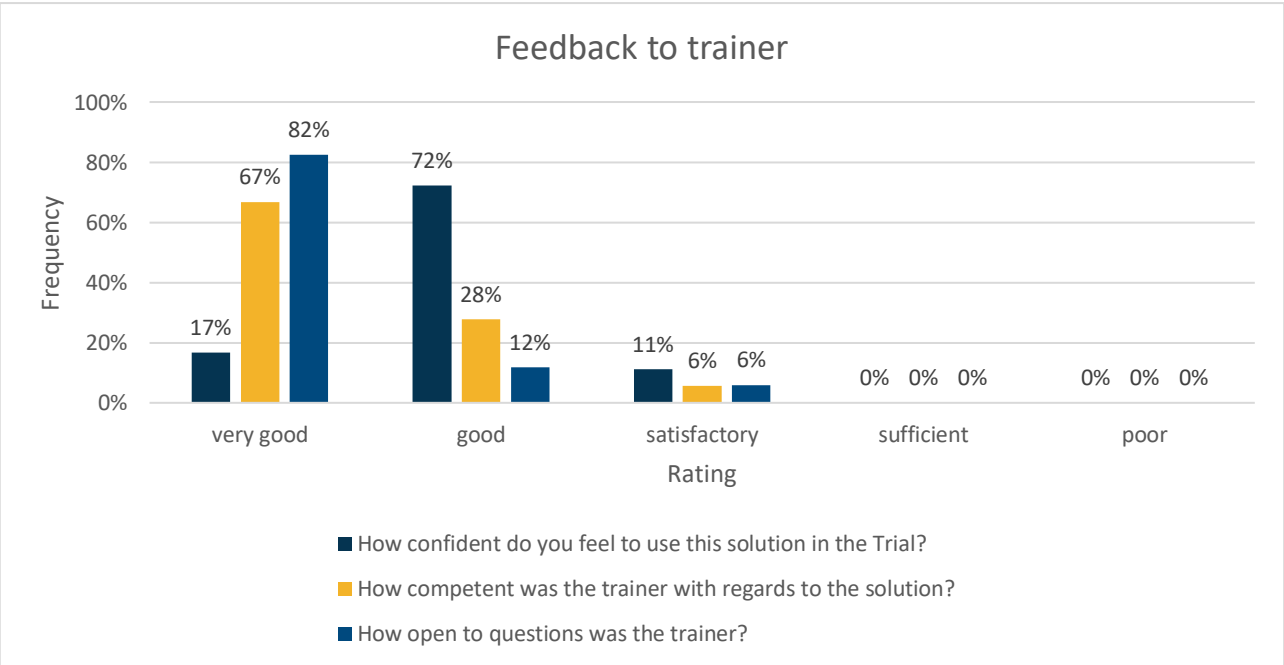


Figure A4.17: SIM-CI – Feedback to trainer

Figure A4.18 shows the feedback for the SIM-CI solution to the question: Do you have any remarks?

Figure A4.18: SIM-CI – Remarks on the training

Annex 5 – Final Demonstration – Feedback to trainings from Dry Run 2

Feedback to Merlin – CrisisSuite

Feedback has been received from 6 participants. Figure A5.1 shows the cumulated feedback for the solution Merlin CrisisSuite of Dry Run 2 of the Final Demonstration.

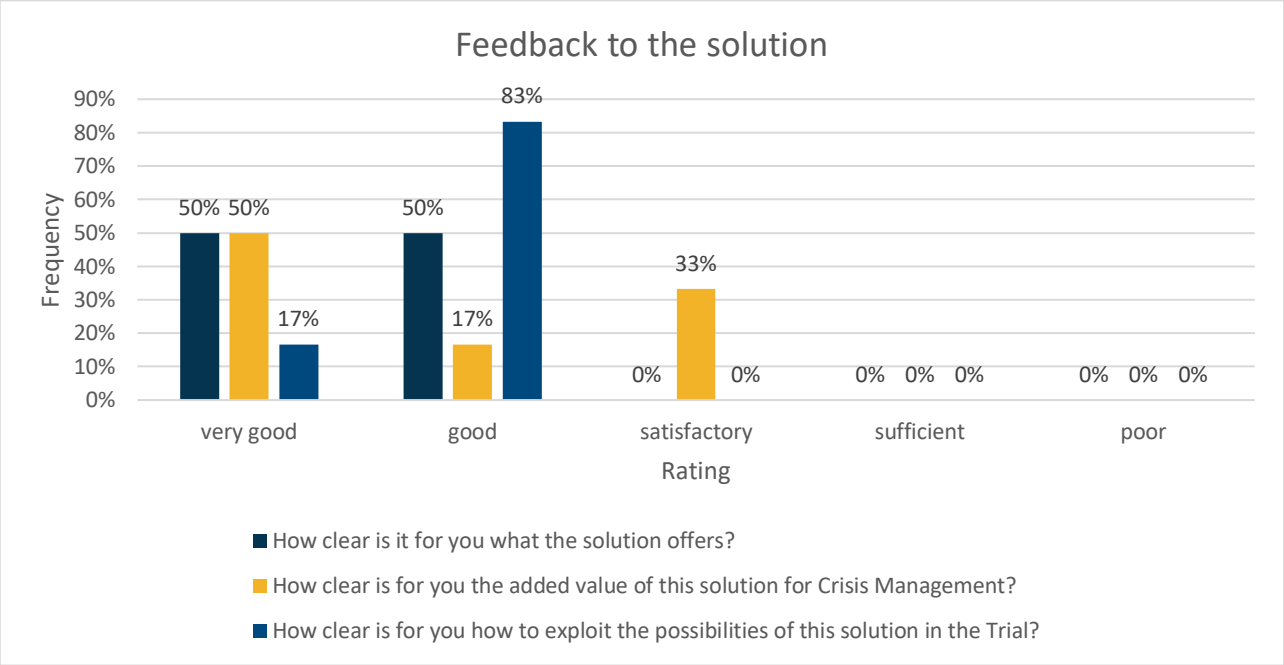


Figure A5.1: Merlin CrisisSuite – Feedback to the solution

Figure A5.2 shows the cumulated feedback for the solution Merlin CrisisSuite of Dry Run 2 of the Final Demonstration.

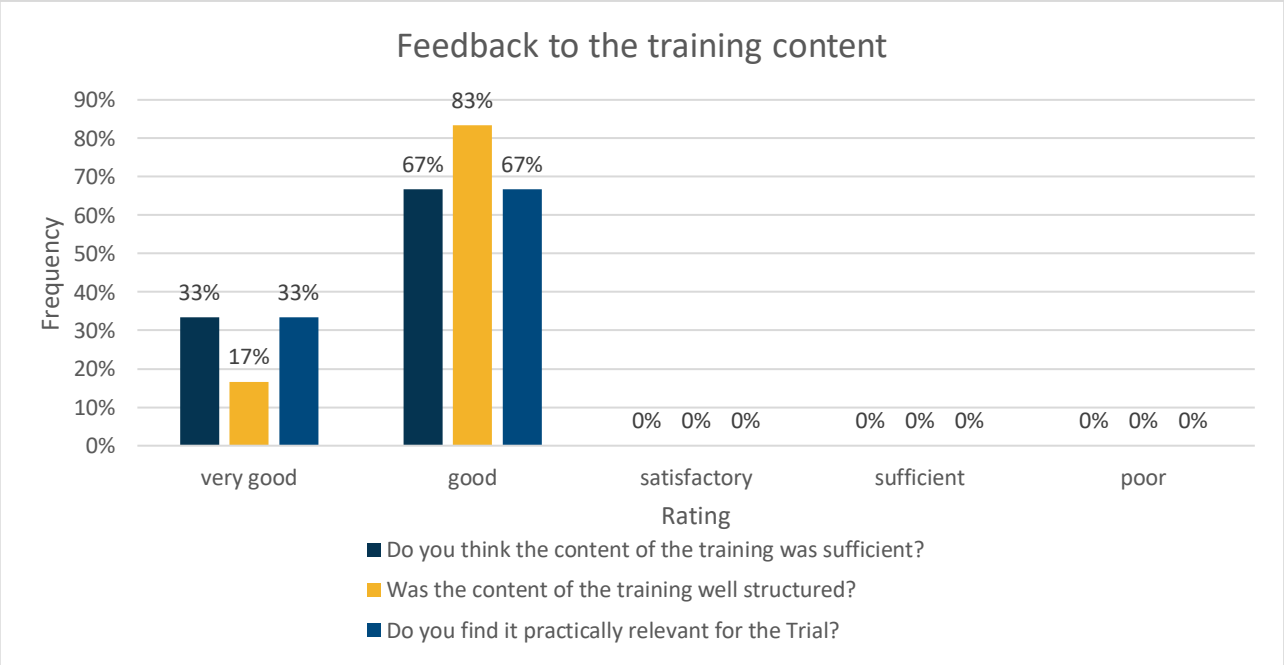


Figure A5.2: Merlin CrisisSuite – Feedback to the training content

Question: How were the facilities of the training?

- 66% of the participants stated that the facilities were “ok” or “quite adequate”.
- 17% of the participants have an invalid statement.
- 17% of the participants stated that the “room of the facilities doesn’t fit the purpose”.

Figure A5.3 shows the cumulated feedback for the solution Merlin CrisisSuite of Dry Run 2 of the Final Demonstration.

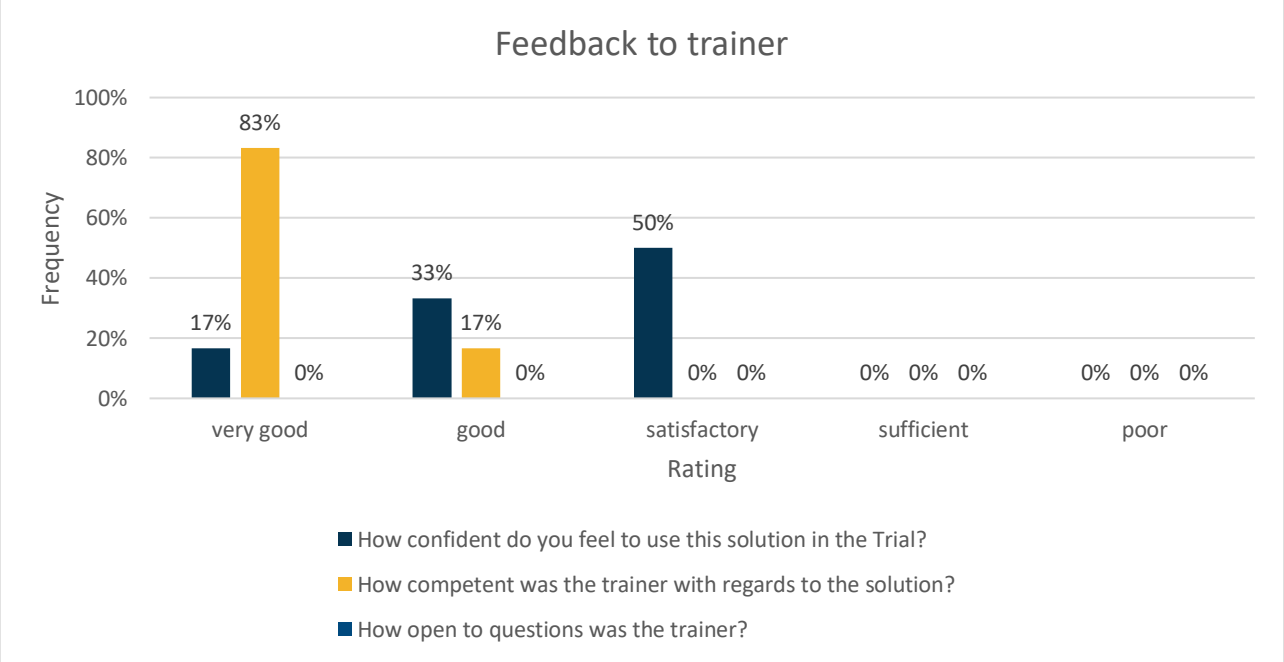


Figure A5.3: Merlin CrisisSuite – Feedback to trainer

Figure A5.4 shows the feedback for the CrisisSuite solution to the question: Do you have any remarks?

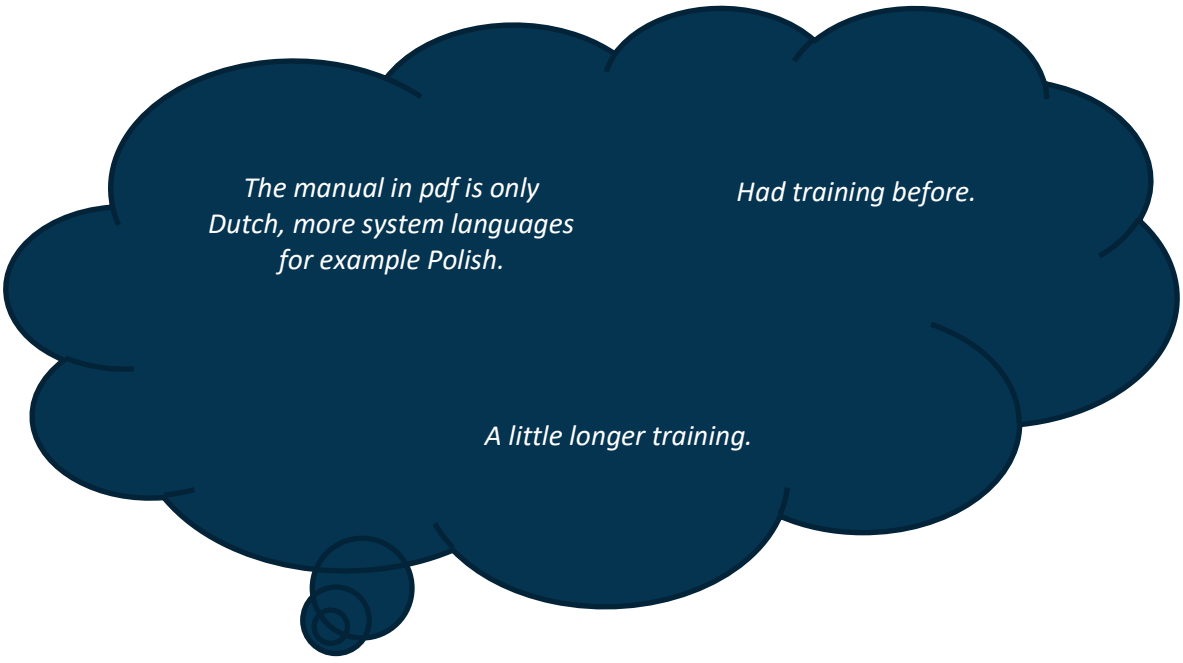


Figure A5.4: Merlin CrisisSuite – Remarks on the training

Feedback to GMV – SOCRATES OC

Feedback has been received from 6 participants.

Figure A5.5 shows the cumulated feedback for the solution GMV SOCRATES OC of Dry Run 2 of the Final Demonstration.

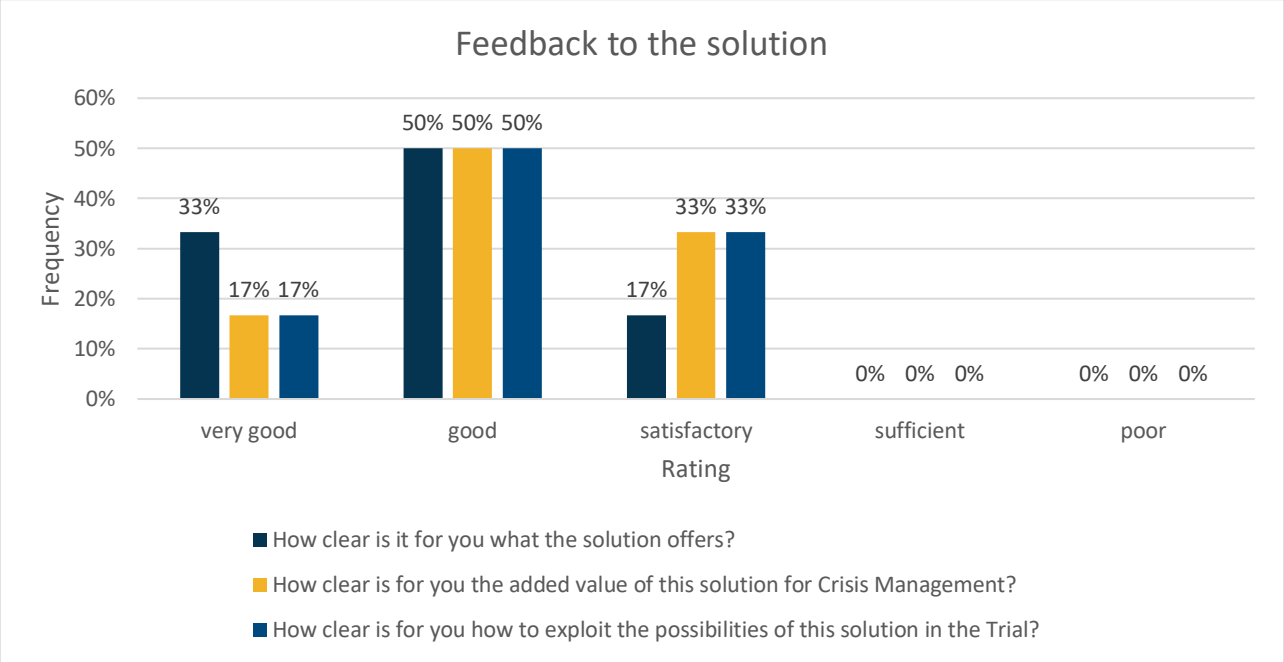


Figure A5.5: GMV SOCRATES OC – Feedback to the solution

Figure A5.6 shows the cumulated feedback for the solution GMV SOCRATES OC of Dry Run 2 of the Final Demonstration.

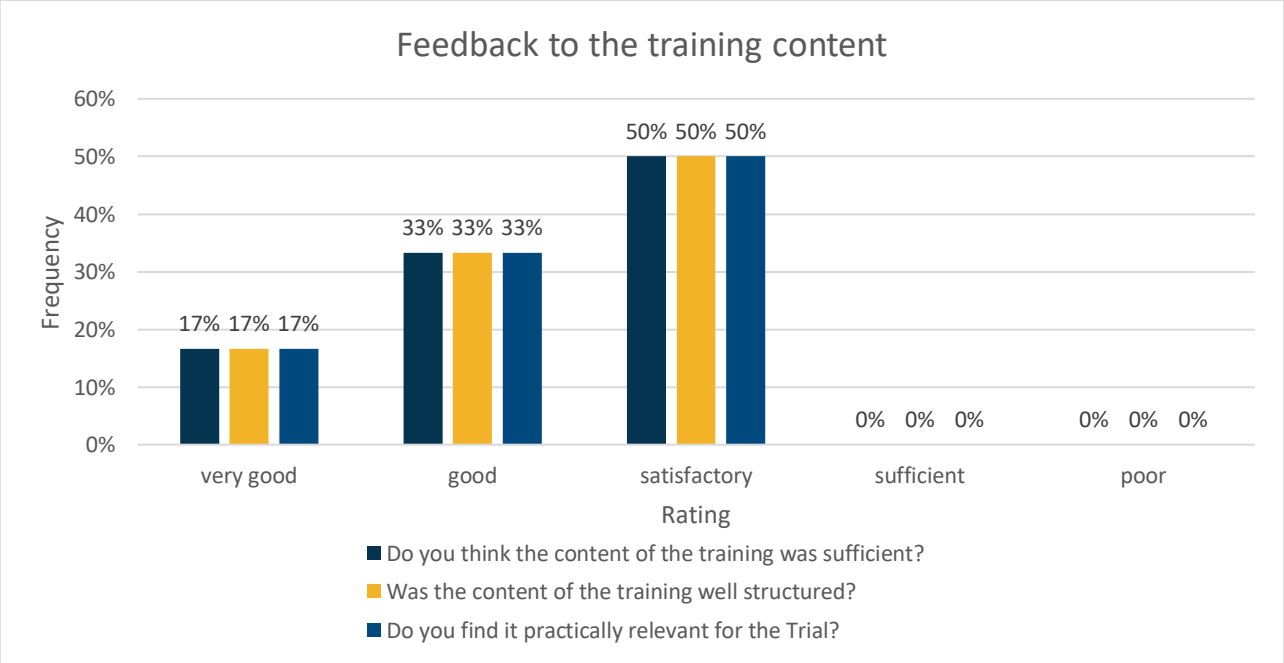


Figure A5.6: GMV SOCRATES OC – Feedback to the training content

Question: How were the facilities of the training?

- 66% of the participants stated that the facilities were “ok” or “quite adequate”.
- 17% of the participants stated that the facilities were “Not too user friendly”.
- 17% of the participants stated that the facilities were “Only oral instruction of trainer”.

Figure A5.7 shows the cumulated feedback for the solution GMV SOCRATES OC of Dry Run 2 of the Final Demonstration.

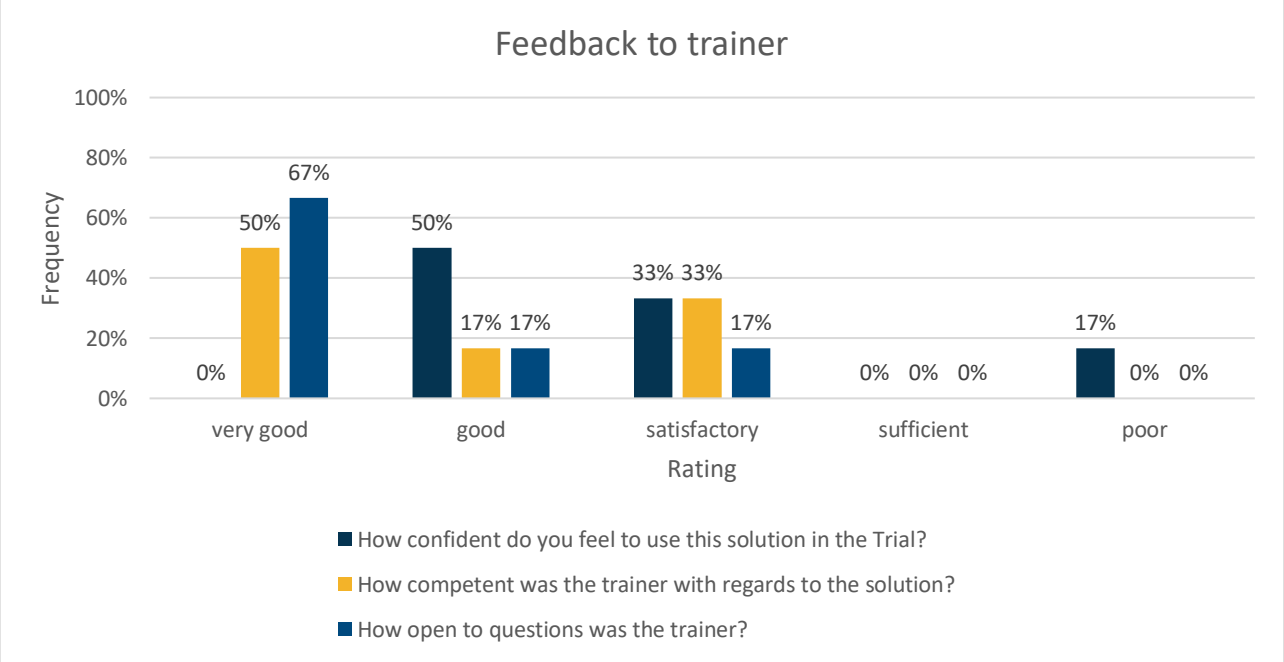


Figure A5.7: GMV SOCRATES OC – Feedback to trainer

Figure A5.8 shows the feedback for the SOCRATES OC solution to the question: Do you have any remarks?

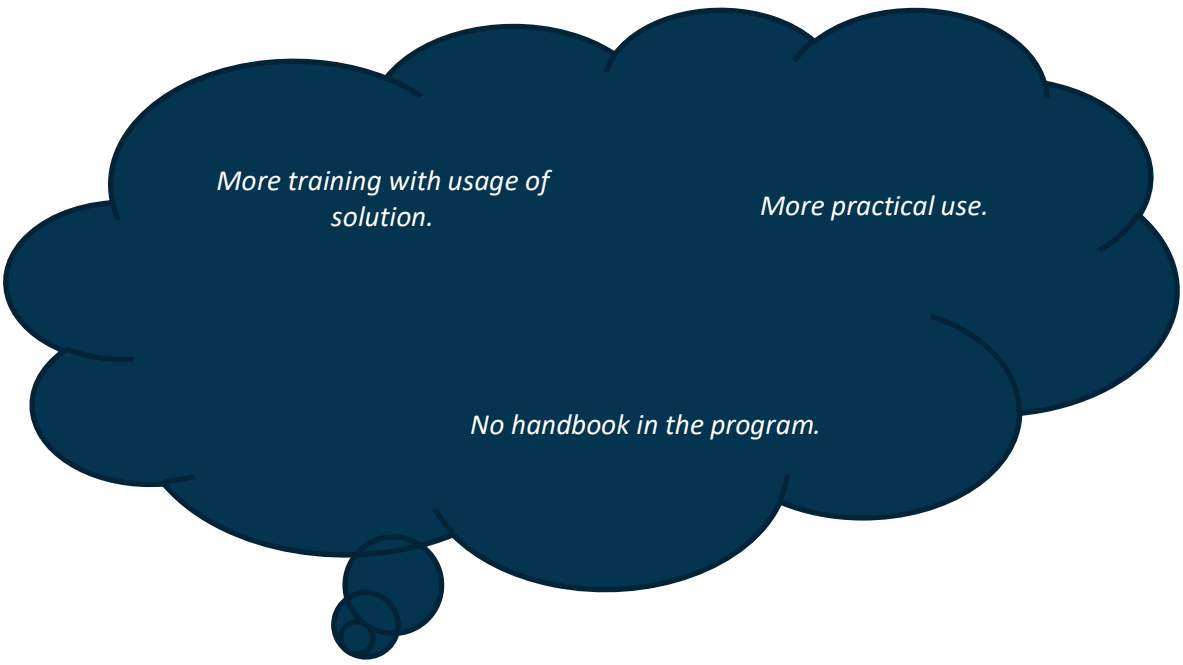


Figure A5.8: GMV SOCRATES OC – Remarks on the training

Feedback to VWORLD - vieWTerra Evolution

Feedback has been received from 5 participants.

Figure A5.9 shows the cumulated feedback for the solution VWORLD vieWTerra Evolution of Dry Run 2 of the Final Demonstration.

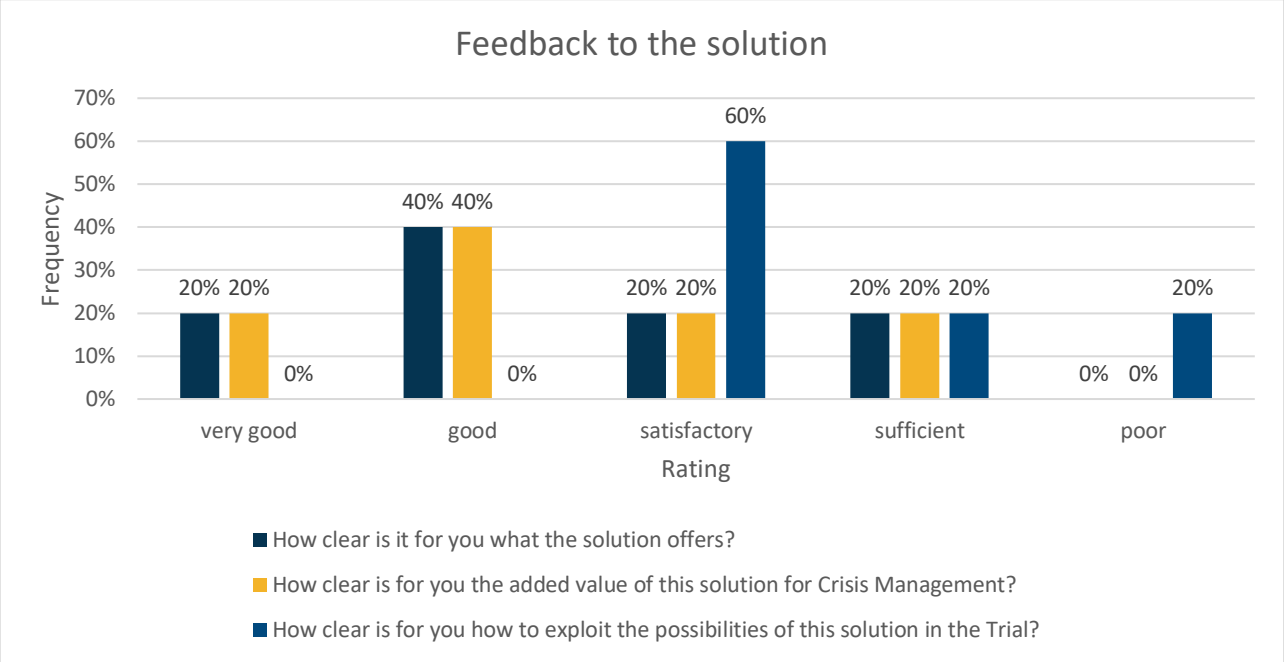


Figure A5.9: VWORLD vieWTerra Evolution – Feedback to the solution

Figure A5.10 shows the cumulated feedback for the solution VWORLD vieWTerra Evolution of Dry Run 2 of the Final Demonstration.

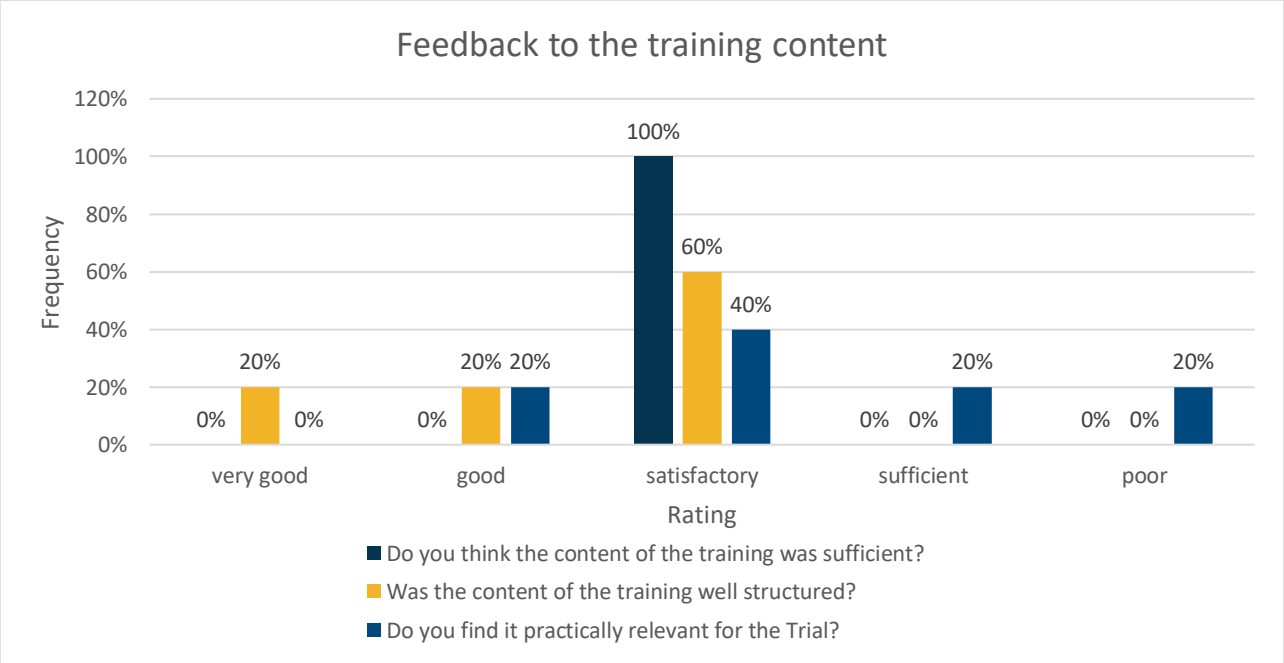


Figure A5.10: VWORLD vieWTerra Evolution – Feedback to the training content

Question: How were the facilities of the training?

- 40% of the participants stated that the facilities were “ok” or “quite adequate”.
- 60% of the participants stated that the facilities were only a “presentation”.

Figure A5.11 shows the cumulated feedback for the solution VWORLD vieWTerra Evolution of Dry Run 2 of the Final Demonstration.

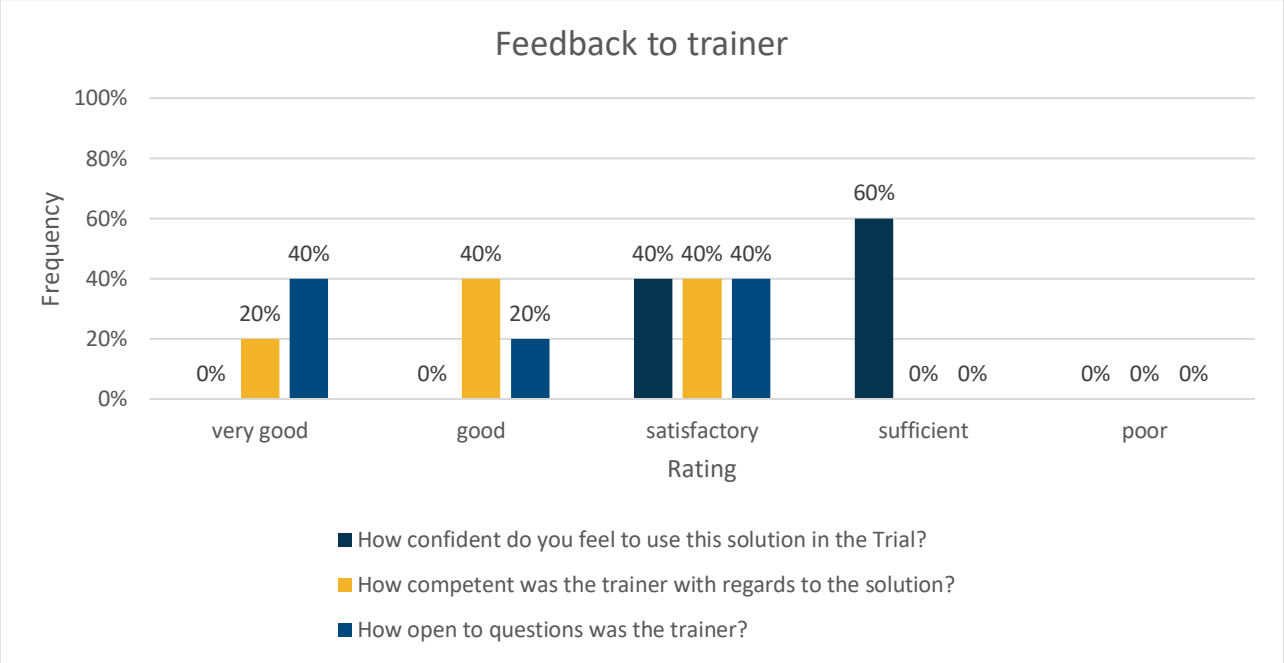


Figure A5.11: VWORLD vieWTerra Evolution – Feedback to trainer

Figure A5.12 shows the feedback for the vieWTerra solution to the question: Do you have any remarks?

Figure A5.12: VWORLD vieWTerra Evolution – Remarks on the training

Feedback to Creotech - Drone Rapid Mapping

Feedback has been received from 5 participants.

Figure A5.13 shows the cumulated feedback for the solution Creotech Drone Rapid Mapping of Dry Run 2 of the Final Demonstration.

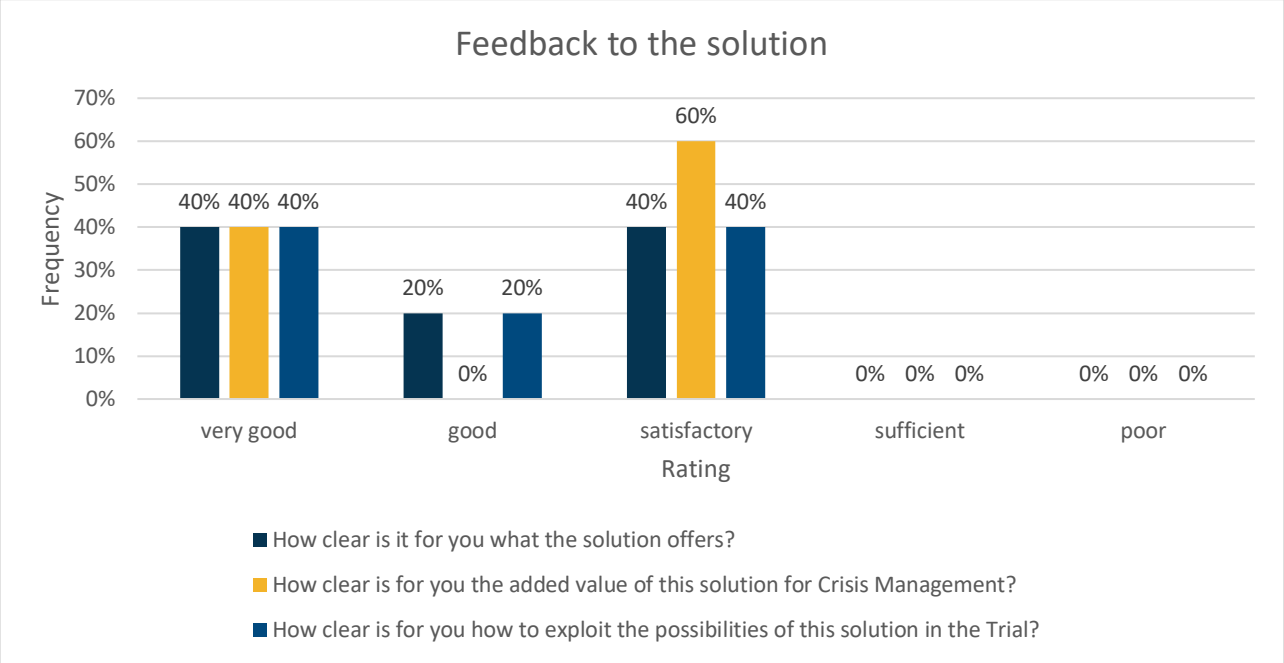


Figure A5.13: Creotech Drone Rapid Mapping – Feedback to the solution

Figure A5.14 shows the cumulated feedback for the solution Creotech Drone Rapid Mapping of Dry Run 2 of the Final Demonstration.

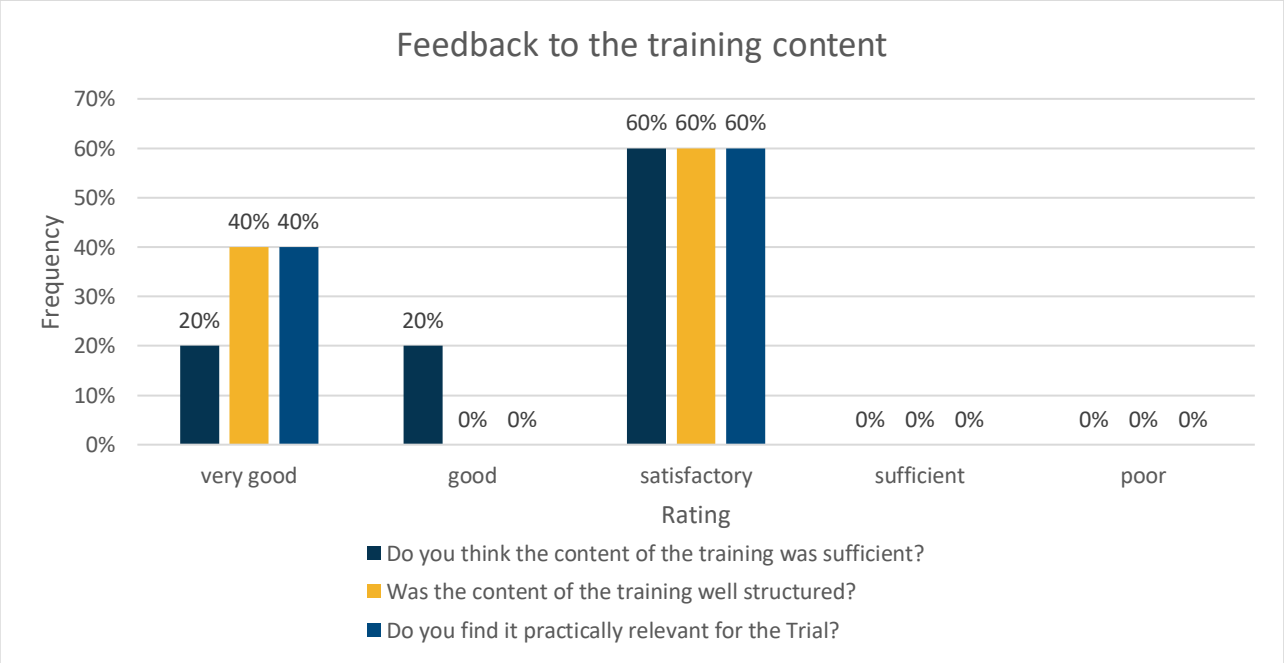


Figure A5.14: Creotech Drone Rapid Mapping – Feedback to the training content

Question: How were the facilities of the training?

- 60% of the participants stated that the facilities were “ok” or “quite adequate”.
- 20% of the participants stated that the facilities were only a “presentation”.
- 20% of the participants stated that the facilities were “inadequate”.

Figure A5.15 shows the cumulated feedback for the solution Creotech Drone Rapid Mapping of Dry Run 2 of the Final Demonstration.

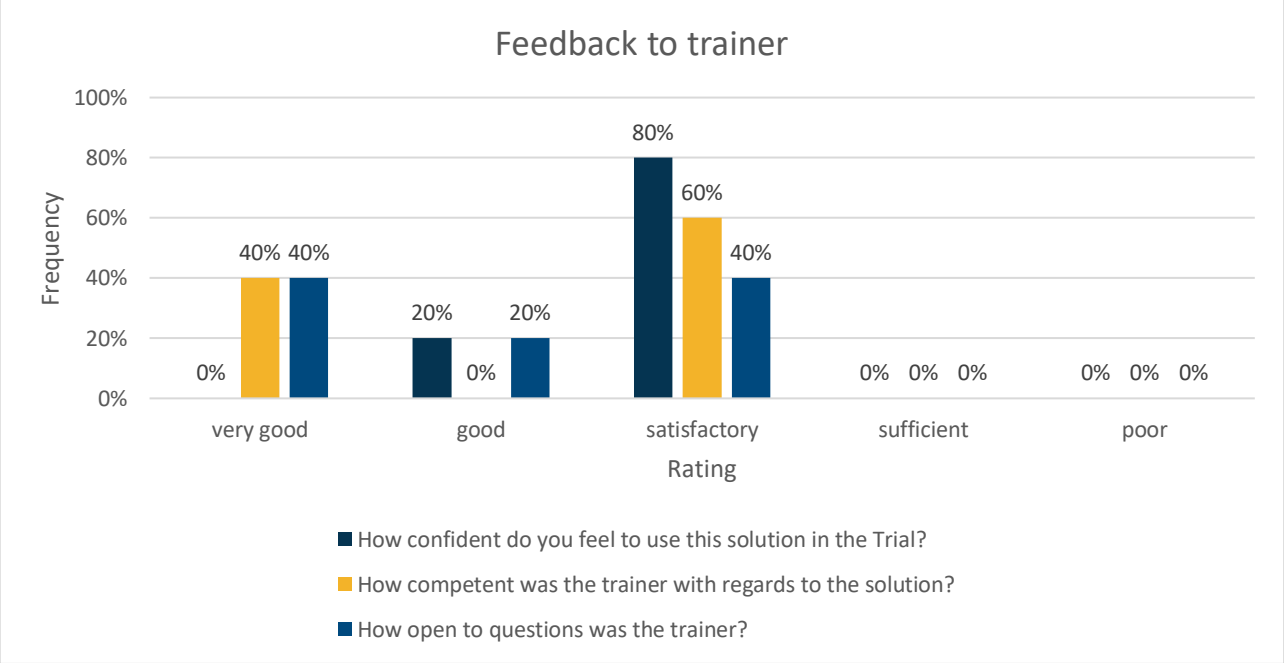


Figure A5.15: Creotech Drone Rapid Mapping – Feedback to trainer

Figure A5.16 shows the feedback for the Drone Rapid Mapping solution to the question: Do you have any remarks?

Figure A5.16: Creotech Drone Rapid Mapping – Remarks on the training

Feedback to JRC – Field Reporting Tool

Feedback has been received from 4 participants.

Figure A5.17 shows the cumulated feedback for the solution JRC Field Reporting Tool of Dry Run 2 of the Final Demonstration.

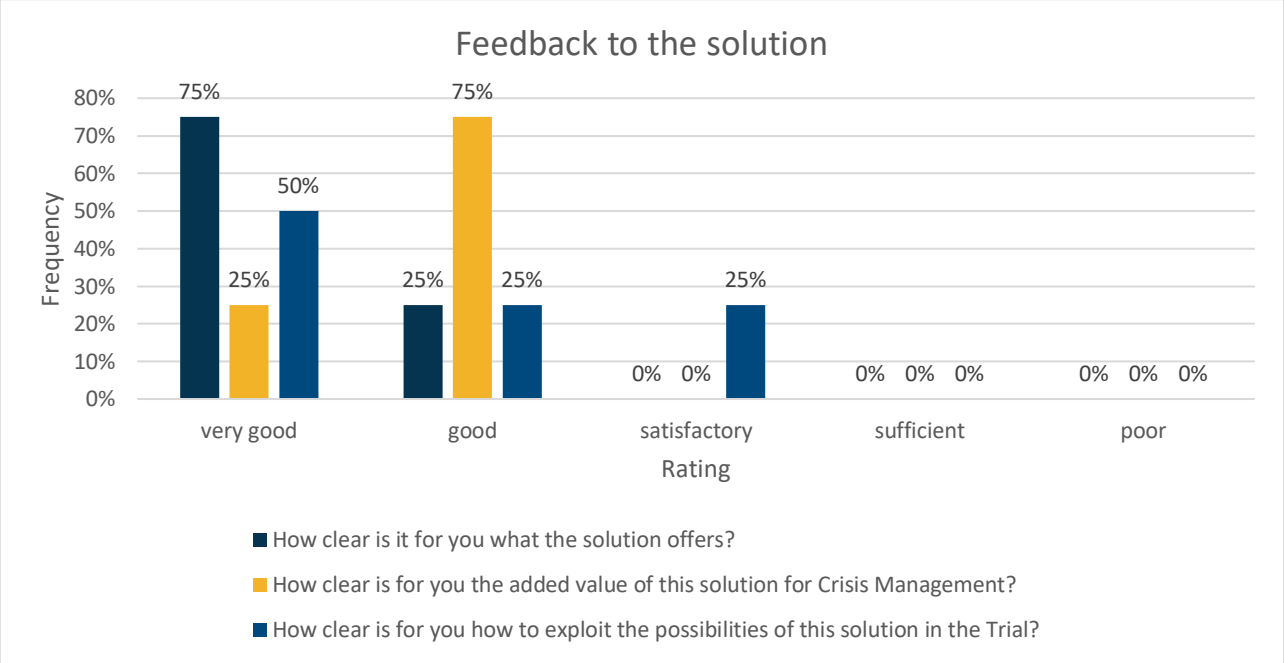


Figure A5.17: JRC Field Reporting Tool – Feedback to the solution

Figure A5.18 shows the cumulated feedback for the solution JRC Field Reporting Tool of Dry Run 2 of the Final Demonstration.

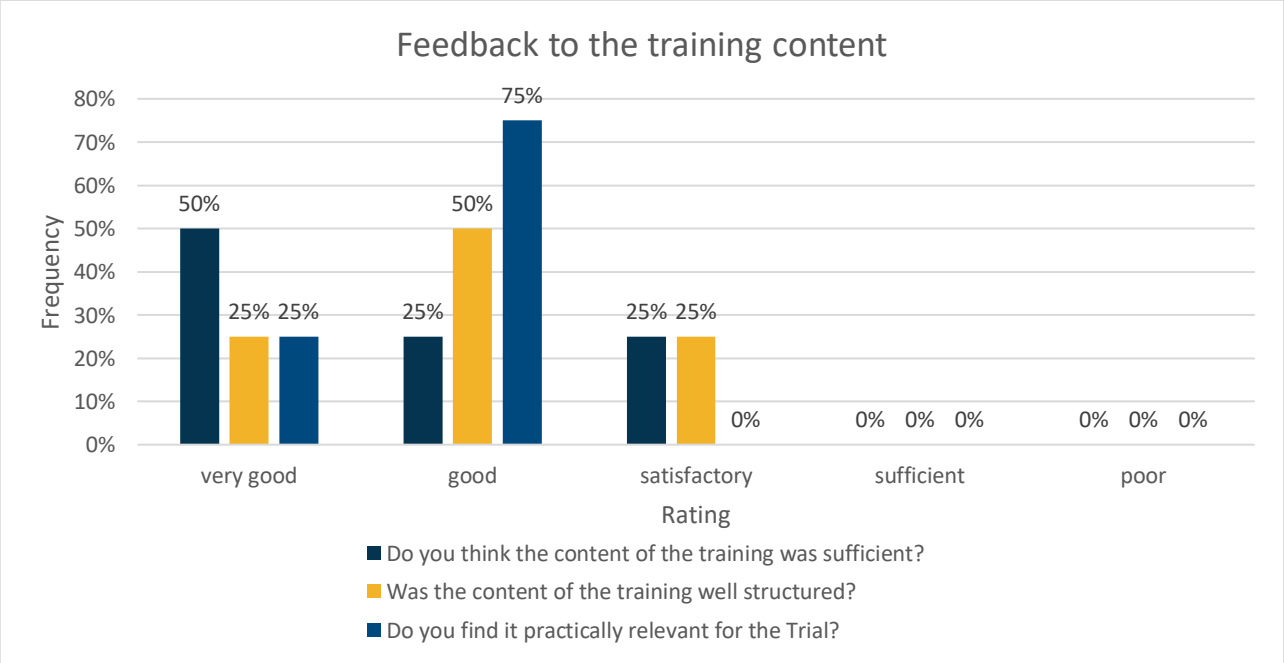


Figure A5.18: JRC Field Reporting Tool – Feedback to the training content

Question: How were the facilities of the training?

- 50% of the participants stated that the facilities were “ok” or “quite adequate”.
- 50% of the participants stated that the facilities were only a “presentation”.

Figure A5.19 shows the cumulated feedback for the solution JRC Field Reporting Tool of Dry Run 2 of the Final Demonstration.

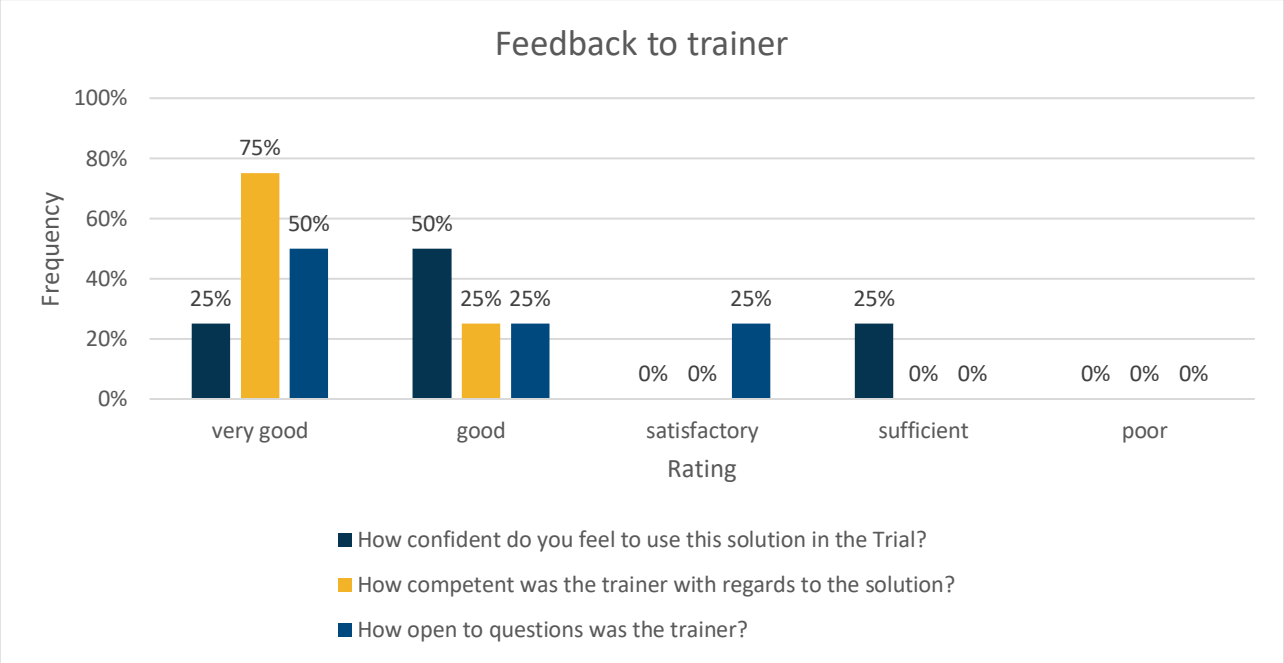


Figure A5.19: JRC Field Reporting Tool – Feedback to trainer

Figure A5.20 shows the feedback for the Field Reporting Tool solution to the question: Do you have any remarks?

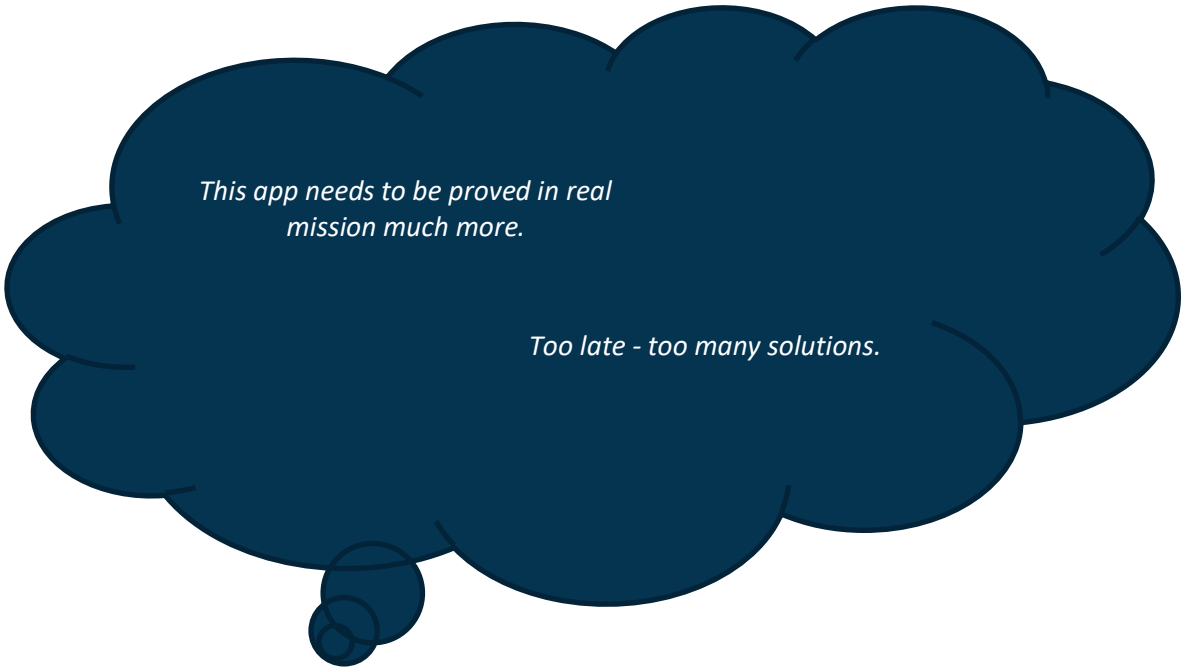


Figure A5.20: JRC Field Reporting Tool – Remarks on the training

Annex 6 – Suggested Improvements for CrowdTasker provided by Red Cross

CrowdTasker - Suggested Improvements:

- Give a feedback option: Persons that use the CrowdTasker application should be asked how they feel after completing a task.
- Mobile application interface: a slider for numeric values should be used for the “numeric” task type.
- Recurring tasks: it should be possible to create tasks in the CrowdTasker administrative frontend that are sent out periodically; e.g., to monitor changes in the situation.
- Analysis features:
    - Select feedback reports in specific time periods.
    - Compare pictures that were taken at similar positions but at a later point in time directly in the CrowdTasker analysis view.
- Message board activity visualization: Provide a graphical indicator of how long ago the last activity in a topic took place.
- Message board clustering and categorizing: provide support for clustering and categorizing communications.

Annex 7 – Example of original Feedback charts created by Google Forms

All feedback questionnaires used for the solution trainings were created and filled in by participants via Google Forms. The following charts were created automatically by Google Forms for Trial 2 for the solution CrisisSuite by solution provider Merlin. These underlying values of these charts were exported from Google Forms as .csv files, post-processed with Microsoft Excel and presented in a condensed form in the main document.

Feedback to Merlin CrisisSuite

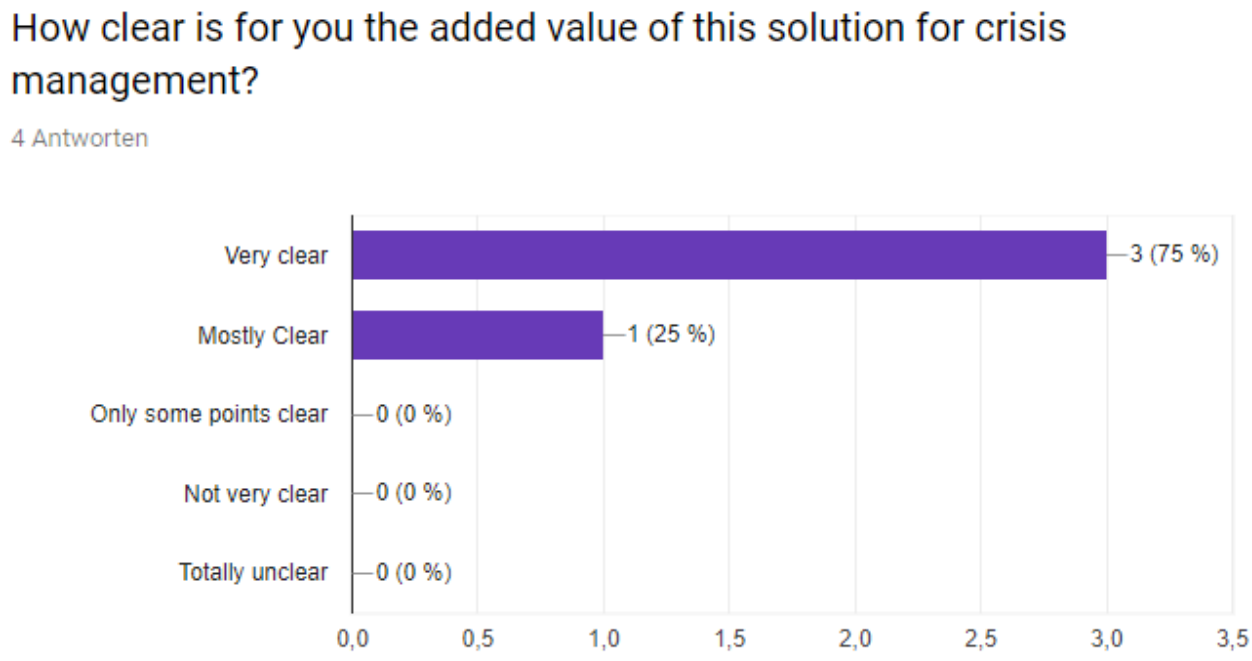


Figure A7.1: Merlin CrisisSuite - How clear is for you the added value of this solution for Crisis Management

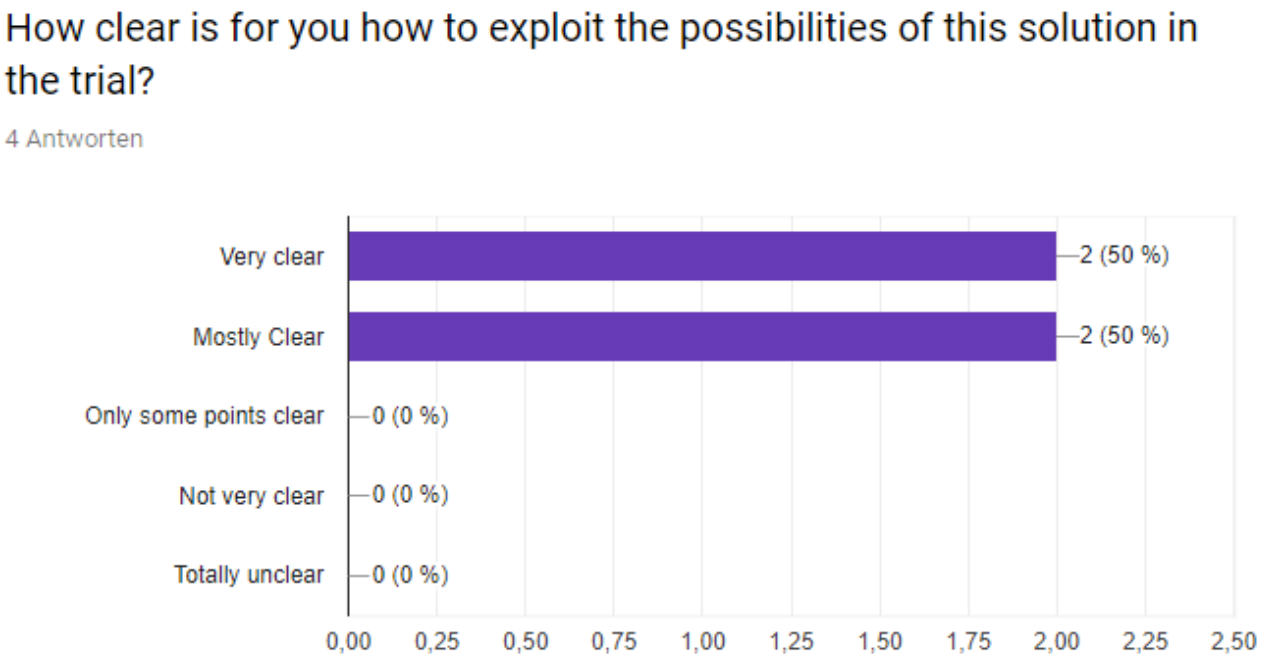


Figure A7.2: Merlin CrisisSuite - How clear is for you how to exploit the possibilities of this solution in the Trial

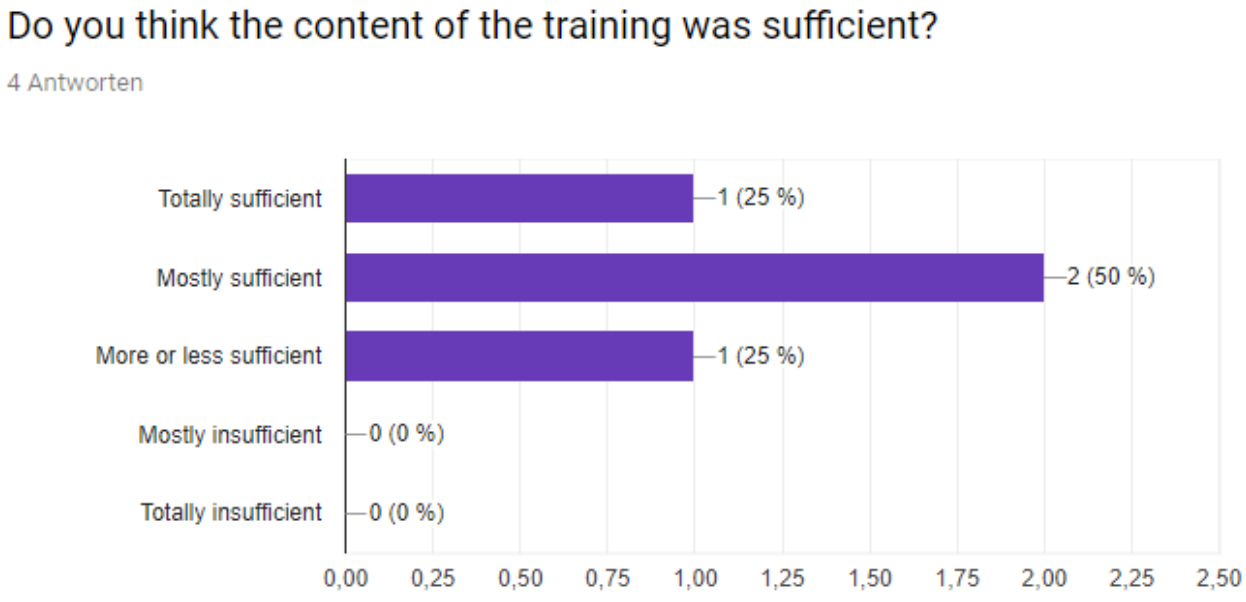


Figure A7.3: Merlin CrisisSuite - Do you think the content of the training was sufficient

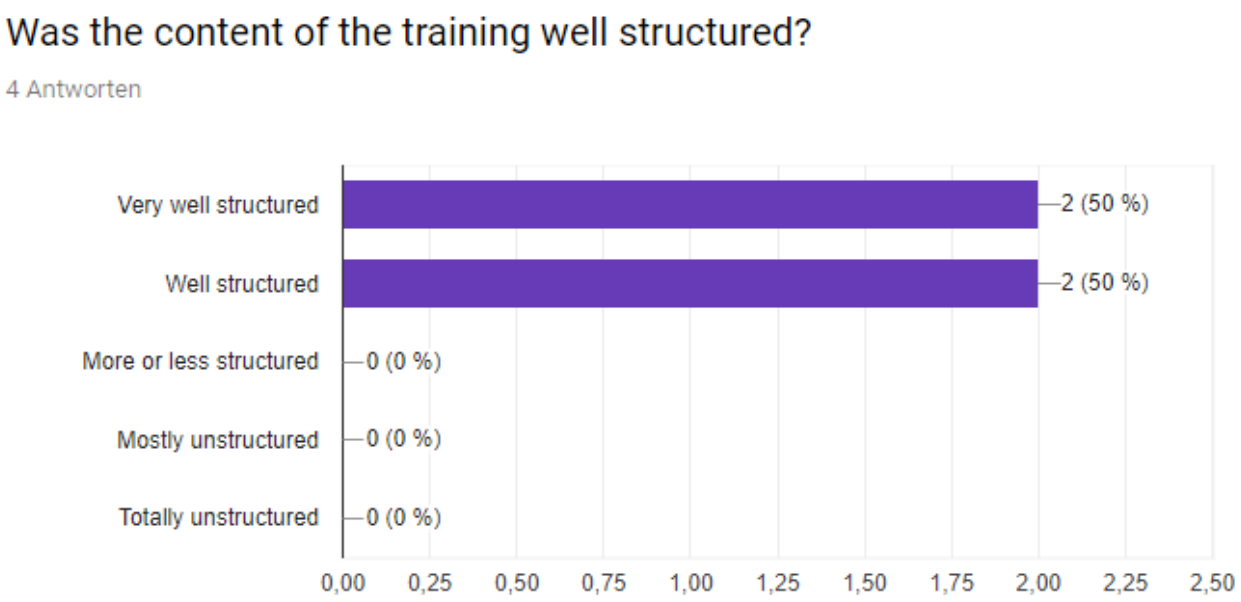


Figure A7.4: Merlin CrisisSuite - Was the content of the training well structured

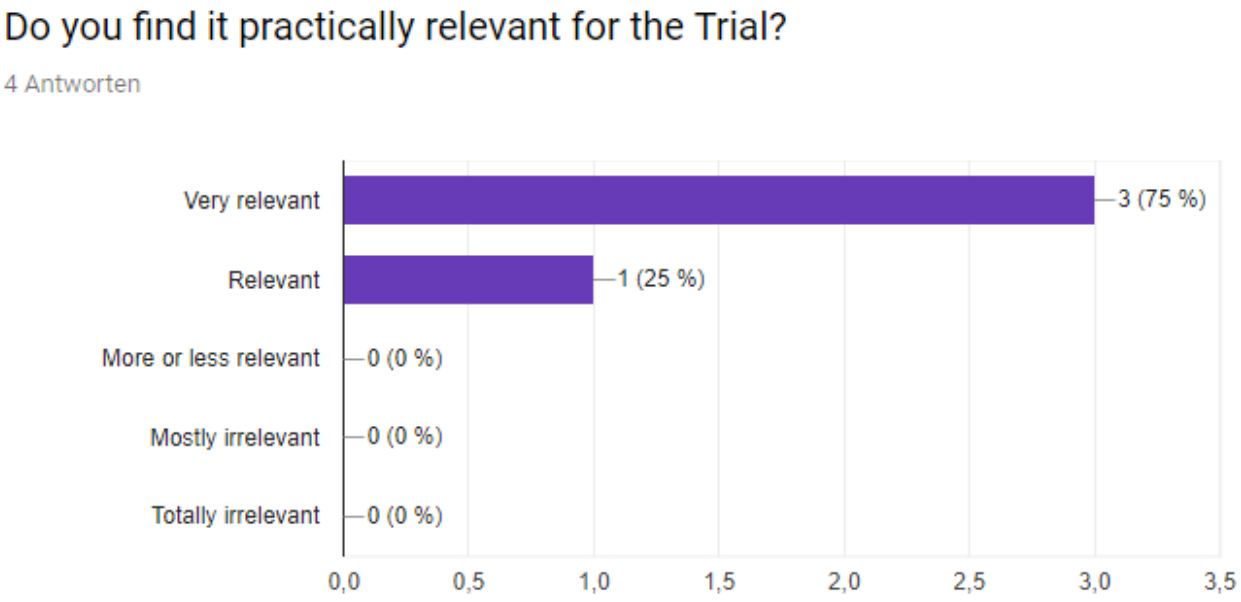


Figure A7.5: Merlin CrisisSuite - Do you find it practically relevant for the Trial

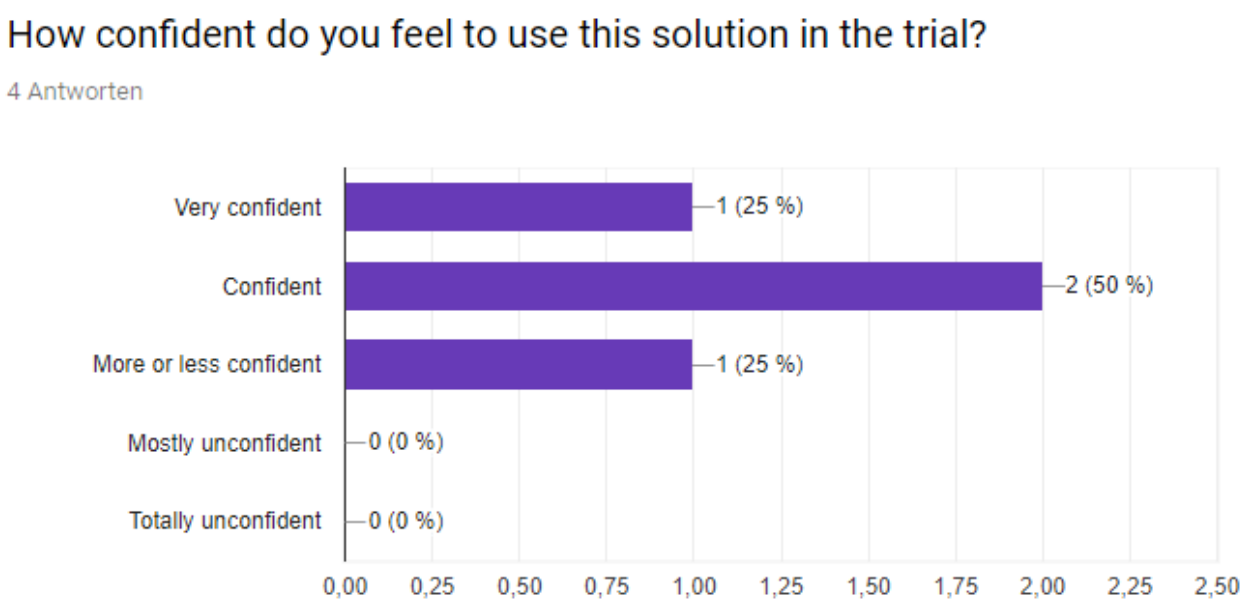


Figure A7.6: Merlin CrisisSuite - How confident do you feel to use this solution in the Trial

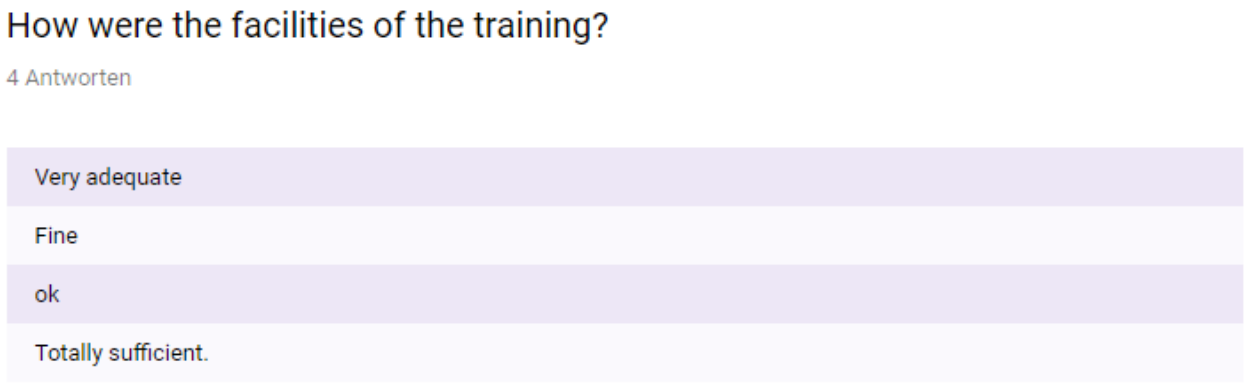


Figure A7.7: Merlin CrisisSuite - How were the facilities of the training

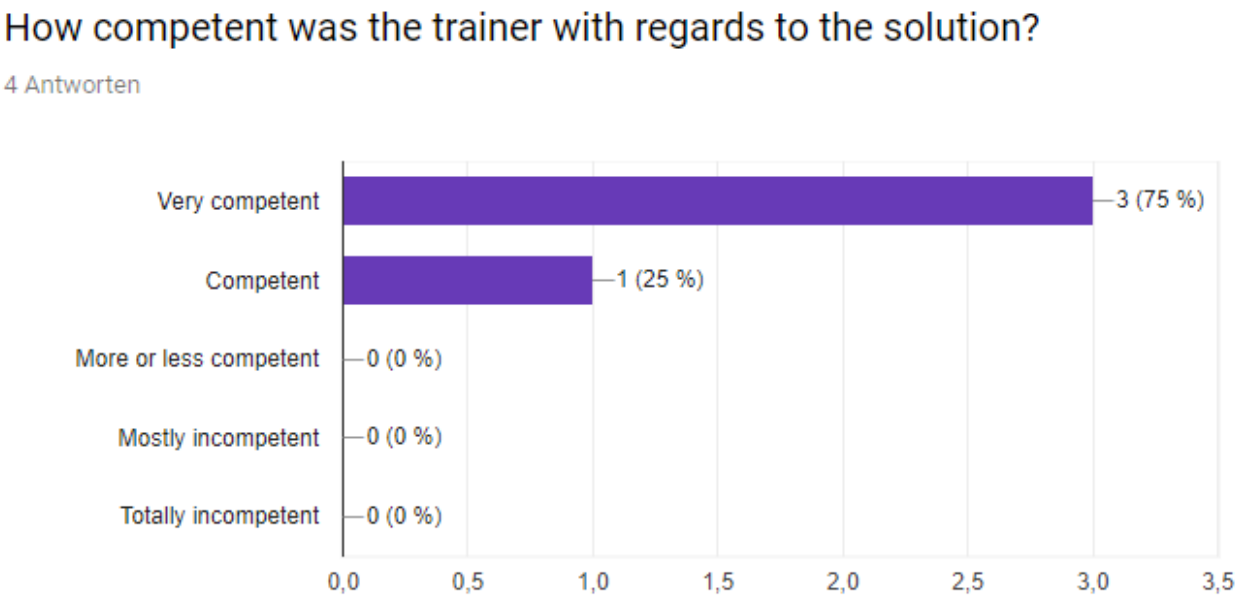


Figure A7.8: Merlin CrisisSuite - How competent was the trainer with regards to the solution

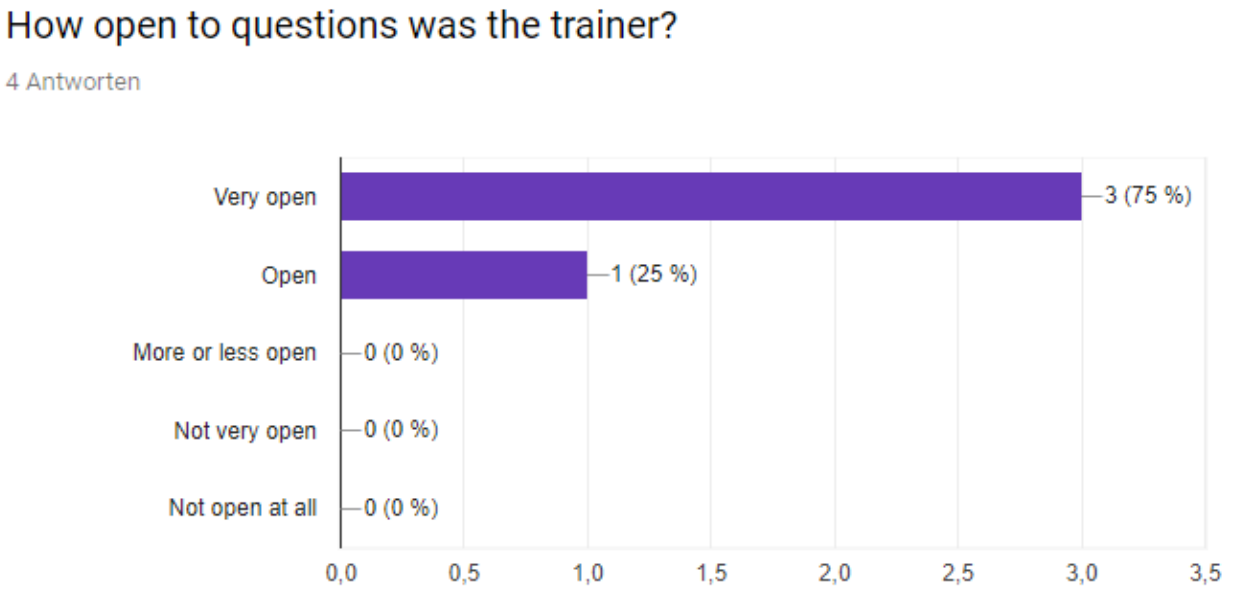


Figure A7.9: Merlin CrisisSuite - How open to questions was the trainer

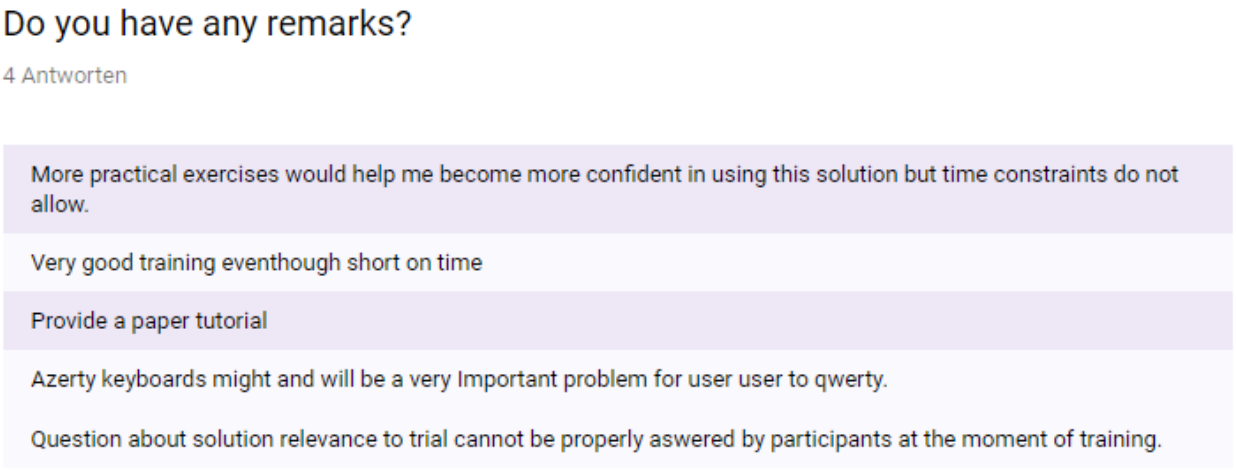


Figure A7.10: Merlin CrisisSuite - Do you have any remarks

Annex 8 – Institutions with player roles in the Final Demonstration

Table A8.1 shows as example the institutions which were involved as players in the Final Demonstration.

Table A8.1: Institutions with player roles in the Final Demonstration

Players	Institution
1	Police Academy of The Netherlands
2	Ministry of the Interior, Finland
3	Region of the Tyrol
4	Fraunhofer Institute for Applied and Integrated Security
5	ERCC Liaison Officer
6	ERCC
7	ERCC
8	ERCC
9	Polish State Fire Service
10	Polish State Fire Service
11	DG Fire Safety and Civil Protection
12	DG Fire Safety and Civil Protection
13	Tulcea County Inspectorate for Emergency Situations
14	Tulcea County Inspectorate for Emergency Situations
15	Landesfeuerwehrverband Steiermark
16	Freiwillige Feuerwehr Krems/Donau (Fire brigade of lower Austria)
17	GHOR SRH
18	GHOR SRH

Annex 9 – Mapping tables for homogenizing the feedback

Table A9.2, Table A9.3, and Table A9.4 provide a mapping of the actually given answers to the generalized ratings Very good, Good, Satisfactory, Sufficient, Poor.

Table A9.2: Rating translation for "Feedback to the SOLUTION" questions

Rating translated (as used in diagrams below)	Original answers to question How clear is it for you what the solution offers?	Original answers to question How clear is for you the added value of this solution for Crisis Management?	Original answers to question How clear is for you how to exploit the possibilities of this solution in the Trial?
Very good	Very clear	Very clear	Very clear
Good	Mostly clear	Mostly clear	Mostly clear
Satisfactory	Only some points clear	Only some points clear	Only some points clear
Sufficient	Not very clear	Not very clear	Not very clear
Poor	Totally unclear	Totally unclear	Totally unclear

Table A9.3: Rating translation for "Feedback to the TRAINING CONTENT" questions

Rating translated (as used in diagrams below)	Original answers to question Do you think the content of the training was sufficient?	Original answers to question Was the content of the training well structured?	Original answers to question Do you find it practically relevant for the Trial?
Very good	Totally sufficient	Very well structured	Very relevant
Good	Mostly sufficient	Well structured	Relevant
Satisfactory	More or less sufficient	More or less structured	More or less relevant
Sufficient	Mostly insufficient	Mostly unstructured	Mostly irrelevant
Poor	Totally insufficient	Totally unstructured	Totally irrelevant

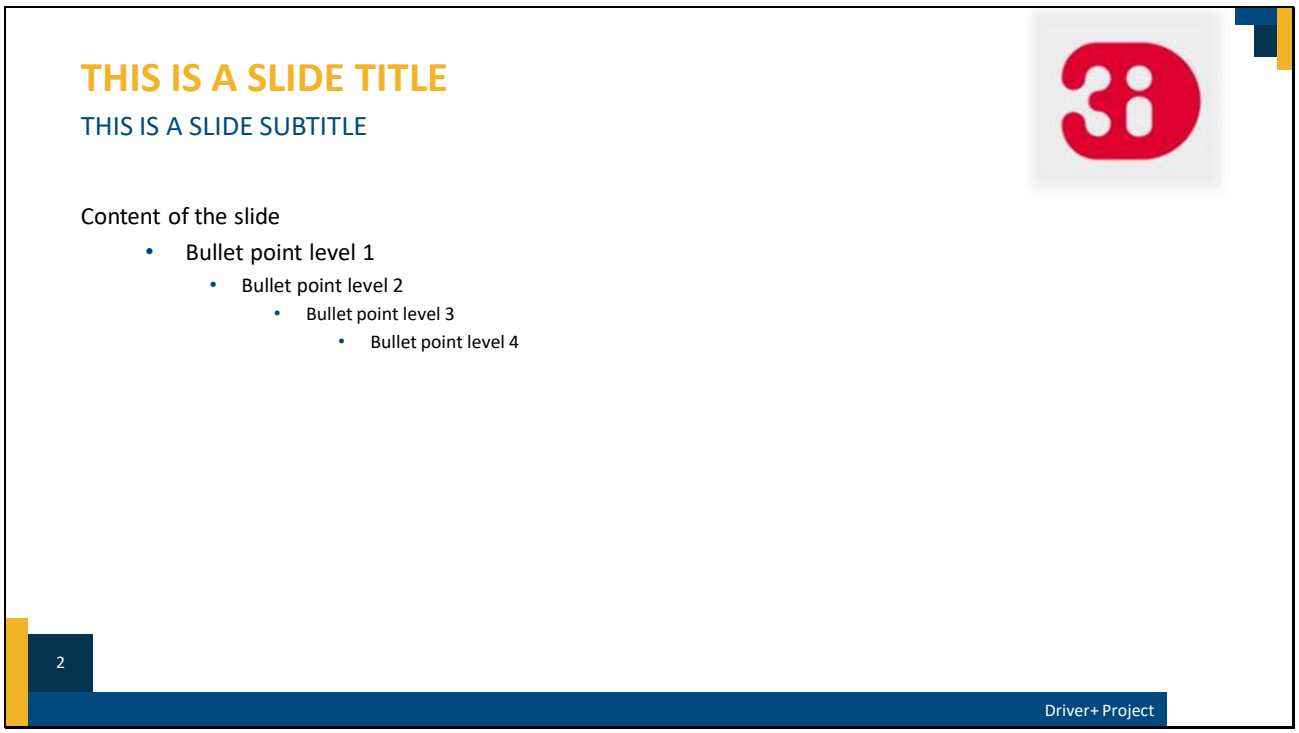
Table A9.4: Rating translation for "Feedback to trainer" questions

Rating translated (as used in diagrams below)	Original answers to question How confident do you feel to use this solution in the Trial?	Original answers to question How competent was the trainer with regards to the solution?	Original answers to question How open to questions was the trainer?
Very good	Very confident	Very competent	Very open
Good	Confident	Competent	Open
Satisfactory	More or less confident	More or less competent	More or less open
Sufficient	Mostly unconfident	Mostly incompetent	Not very open
Poor	Totally unconfident	Totally incompetent	Not open at all

The questions "How were the facilities of the training?" and "Do you have any remarks?" were designed as "free text" questions, therefore no translation of answers to a standardized nomenclature was necessary.

Annex 10 – Training material example – template

Aiming at homogenising the training sessions for different solutions, some template slides were communicated to the solution providers. This annex lists some example slides of the template.



GOAL OF THE HANDS-ON TRAINING

To get an overview of 3Di

To understand the possibilities of the 3Di portal for setting up a scenario

To get an overview of possible 3Di results

To get an overview of the connection between 3Di and Socrates

4

Driver+ Project

TERMINOLOGY

EXPLANATION OF THE TERMINOLOGY USED IN THE SOLUTION

5

Driver+ Project

ROLE OF 3DI

Risk assessment

Raise awareness and situational awareness among all stakeholders

Stimulate to get all knowledge and experience to come at the table

Optioneering for mitigation/response and recovery measures

7

Driver+ Project

HOW TO USE 3DI?

WORKFLOW EXAMPLE

8

Driver+ Project

HANDS ON – GO THROUGH 3DI PORTAL TOGETHER

Divide into 5 groups

2-3 practitioners per group

Practitioners at the computers, others can follow my screen

9

Driver+ Project

WRAP UP

3Di portal

- Run simulation
- Make scenario visual and interactive, stimulate communication and situational awareness
- Process results

Lizard

- Processed and evaluated results
- Export geotiffs for arrival times and water depth

Socrates

- Share 3Di results

14

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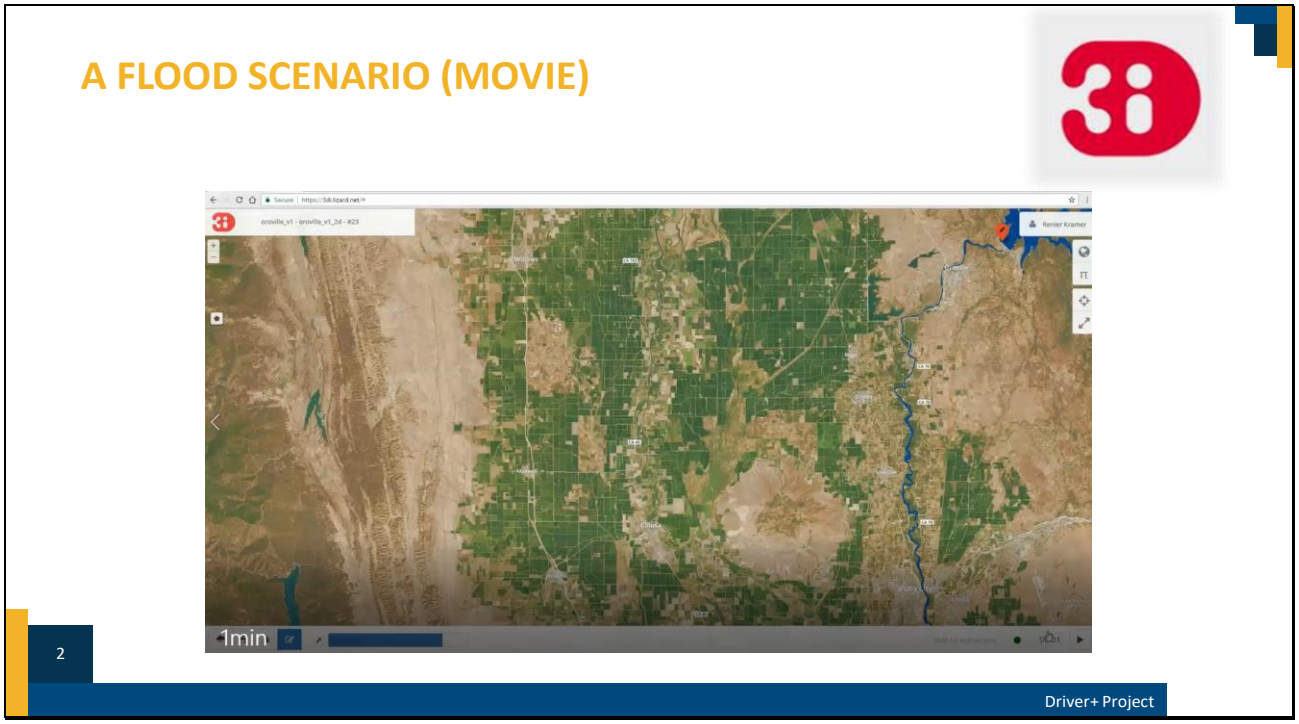
Annex 11 – Training material for Trial 1

Nelen Schurmanns 3Di training material

The training documentation for the 3Di solution is available on the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/3Di%20practical%20training%20-%20Driver%20%20-%20DR2.pptx.



GOAL OF 3DI PRACTICAL TRAINING

To get an overview of 3Di

To understand the possibilities of the 3Di portal for setting up a scenario

To get an overview of possible 3Di results

To get an overview of the connection between 3Di and Socrates

3

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TERMINOLOGY

Breach and levee:

4

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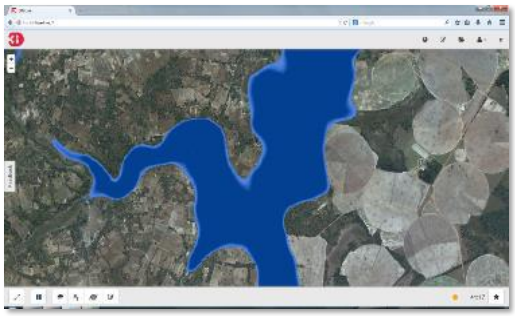
A WATER SIMULATION MODEL TO BRIDGE THE GAP BETWEEN SPECIALISTS AND STAKEHOLDERS



5

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ROLE OF 3DI

Risk assessment

Raise awareness and situational awareness among all stakeholders

Stimulate to get all knowledge and experience to come at the table

Optioneering for mitigation/response and recovery measures

6

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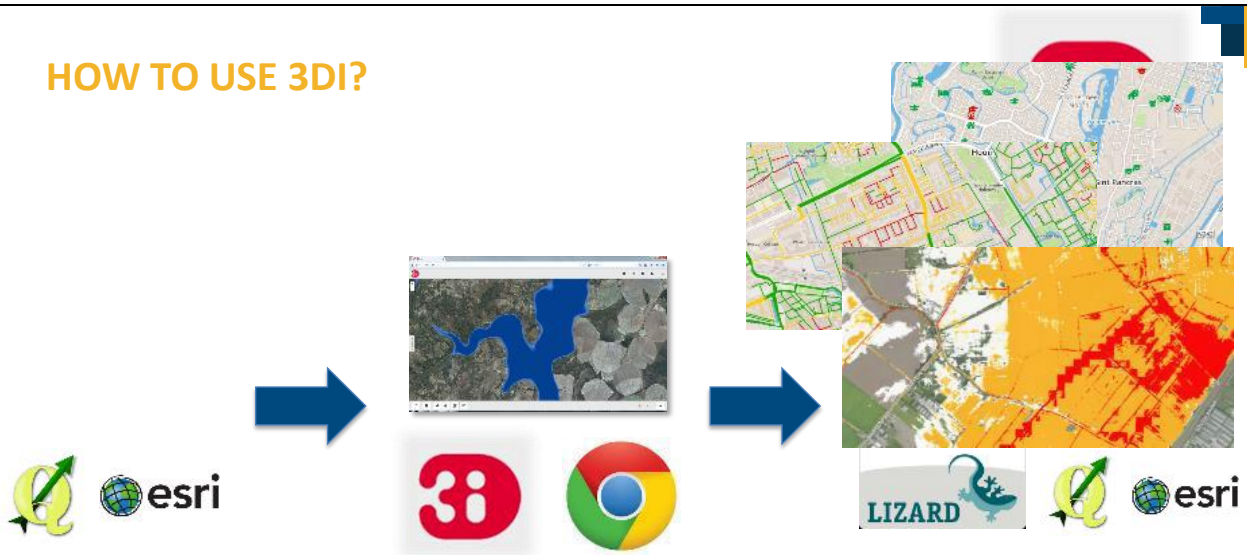
HOW TO USE 3DI?



MODEL

USE AND ANALYSE

7

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HANDS ON – GO THROUGH 3DI PORTAL TOGETHER

Divide into 5 groups

2-3 practitioners per group

Practitioners at the computers, others can follow my screen

8

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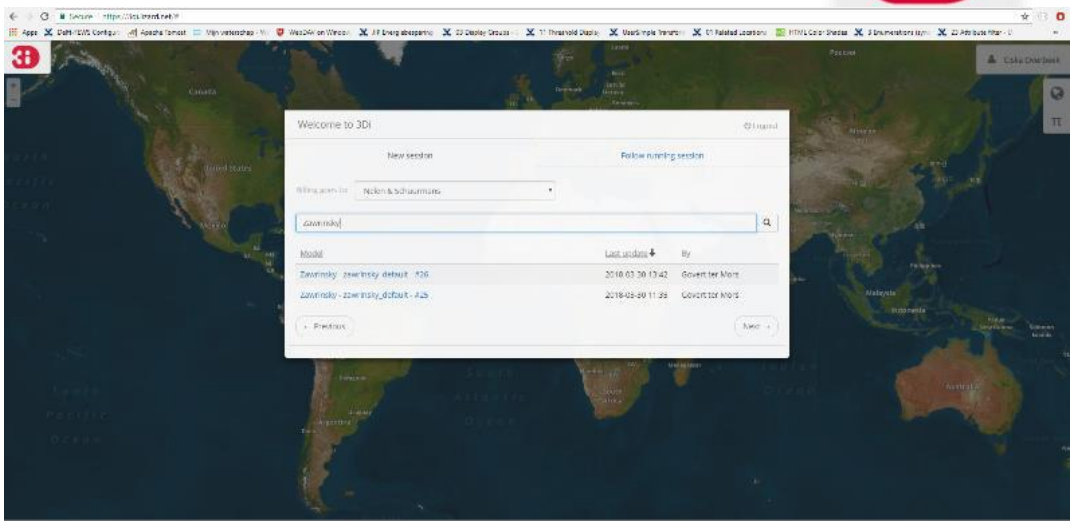
HANDS ON: 3DI PORTAL

3DI.LIZARD.NET



9

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HANDS ON: 3DI PORTAL

3DI.LIZARD.NET

Now try it for yourself!

Repeat the steps we did together

See how quickly you can flood the area

See which parts stay dry

10

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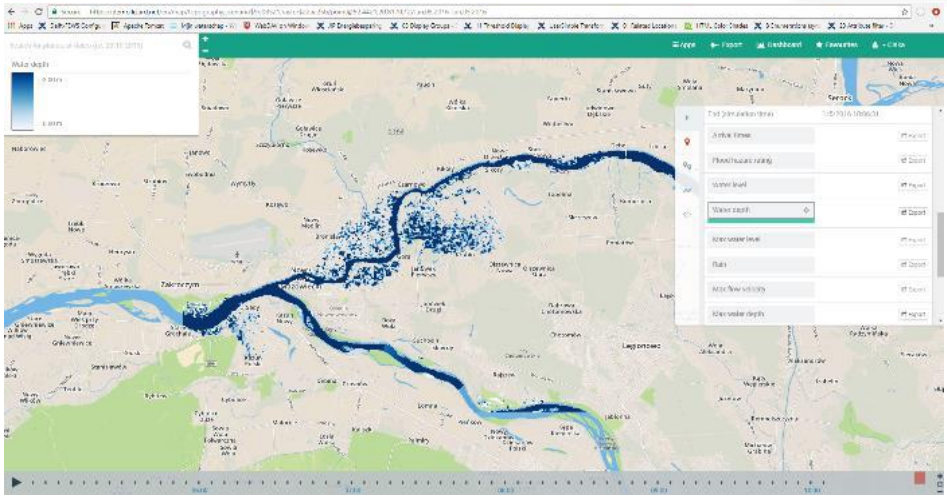
RESULTS IN LIZARD

DEMO.LIZARD.NET/EN



11

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GETTING RESULTS IN SOCRATES

In Trial1 not all practitioners have access to 3Di

Results will be shared through Socrates

- Water arrival times
- Water depth for different time steps after start of simulation

12

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WRAP UP

3Di portal

- Run simulation
- Make scenario visual and interactive, stimulate communication and situational awareness
- Process results

Lizard

- Processed and evaluated results
- Export geotiffs for arrival times and water depth

Socrates

- Share 3Di results

13

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THIS IS A SLIDE TITLE

THIS IS A SLIDE SUBTITLE

Content of the slide

- Bullet point level 1
  - Bullet point level 2
    - Bullet point level 3
      - Bullet point level 4

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Hexagon Drone Rapid Mapping training material

The training documentation for the Drone Rapid Mapping solution is available on the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/DriverPLUS_HexagonTrainings.pptx.

driver+
Driving Innovation in Crisis Management for European Resilience

DRONE RAPID MAPPING

Marcin Marjasiewicz, Hexagon SI

DRONE RAPID MAPPING

OUR SOLUTION OFFERS FAST, ON CLOUD UAV PHOTOS PROCESSING.

As a product Consumer got current picture of situation, which enables him to perform further analyses on it.

2

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DRONE RAPID MAPPING

User Story (solution utilisation) in accordance with Trial 1 scenario:

Generating ortophotomap and 3D model of:

- riverbanks – determining the range and extension of the leak (environmental damage assessment, collecting data to measure surface stream of the river)
- reservoir embankments - assessing the current state of levees without risk of injure (damage assessment, support of identification of breach)
- fast finding best location for pumps and spill barriers dislocation

Ortophotomap is instantly displayed on all connected geoportals and COP's and easily shared with other:

- Incident Commander is provided with visualisation that can be further used inside any COP
- 3D model aids navigating the responders vehicles through rough terrain, it depicts also damages that was caused by incident
- 3D model aids quickly brief highest level of management and politics. It is shown during press conference to helps informing population

Solution shares data as standard georeferenced map images, e.g. WMS or displays it on own, dedicated Geospatial Portal.

3

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Geospatial Portal

08.40 Reservoir leakage

08.55 Responders, alarmed by automatic system arrive. The incident commander asks for additional support.

09:10 Reservoir owner, local CM team or other responder sets the **5 minute** automatic mission for aerial photography with casual off-the-shelf hobby drone. **The area: about 9 ha.**

09.19 Mission ends, it was lenghtened due to light rain and wind up to 12 m/s

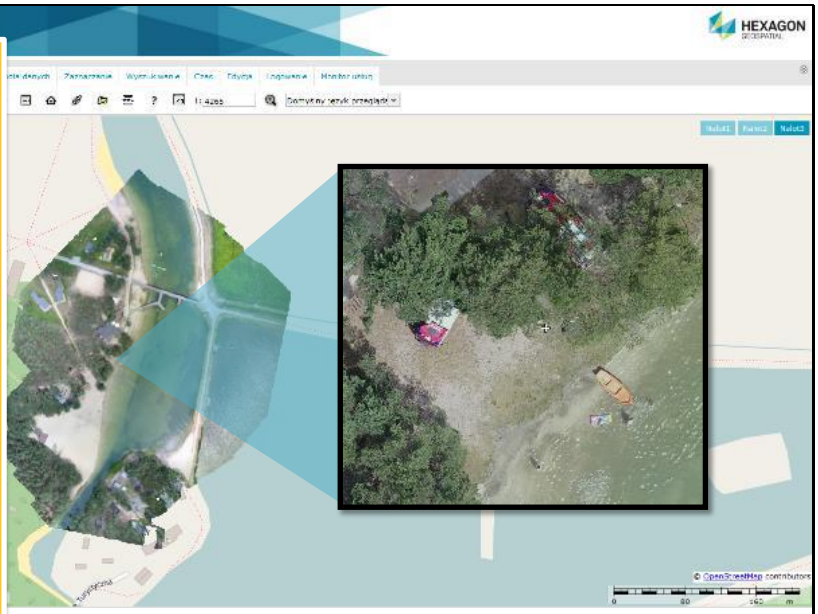
09.21 Data (84photos, 700mb) is transferred on lap-top

09.30 Data is sent via LTE (10Mb/s) [9 min]

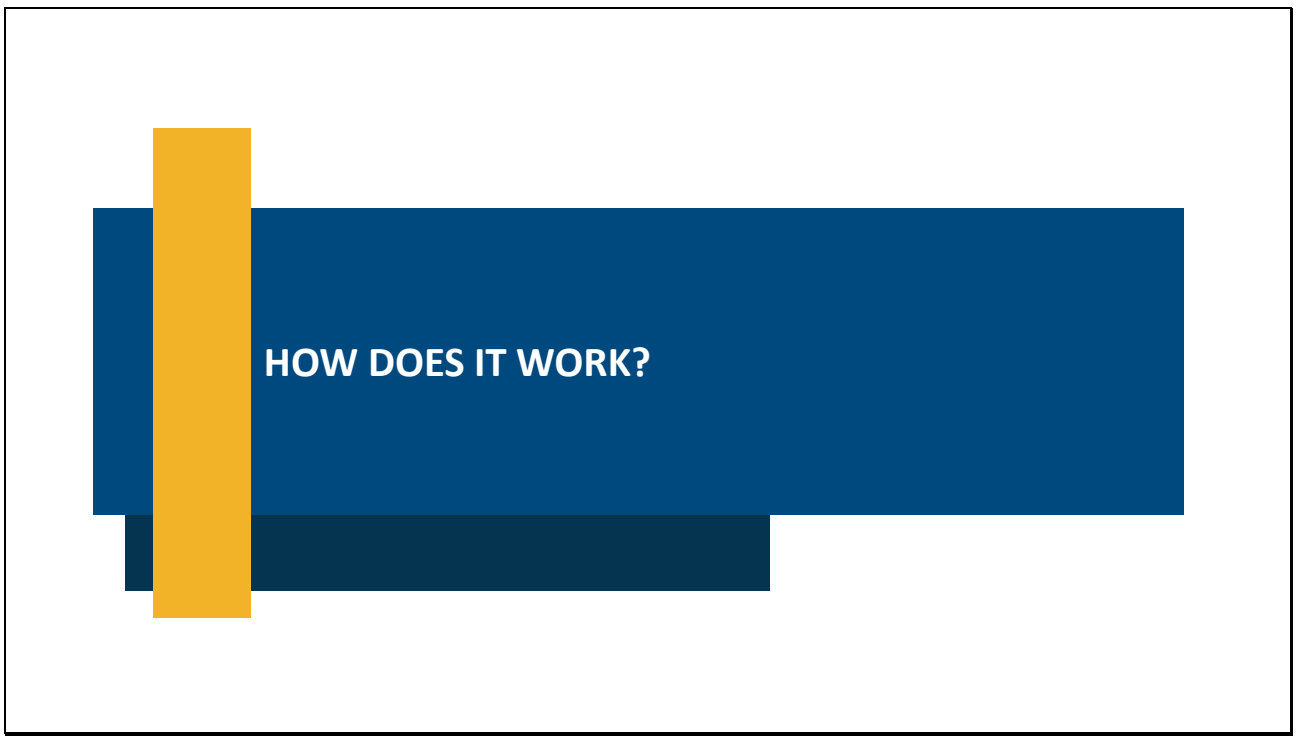
09.34 Processing into ortophotomap, that is instantly available on geoportal via link, pixel is 20mm [4 min]

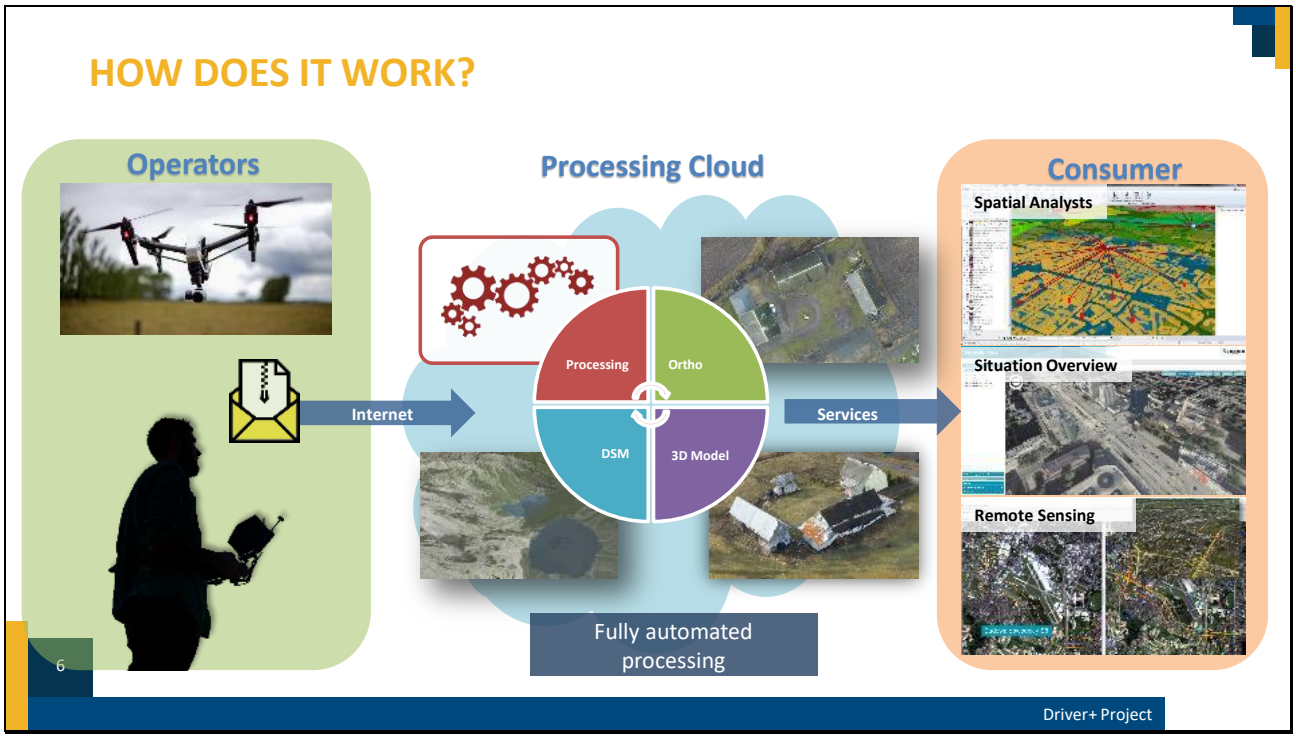
09.51 3D model is available for download [17 min]

Total for map: 24 minutes, 3D: 41 minutes



User Story (solution utilisation)


HOW DOES IT WORK?


HOW DOES IT WORK?
Operators
Internet
Processing Cloud
Processing
Ortho
DSM
3D Model
Services
Consumer
Spatial Analysts
Situation Overview
Remote Sensing
Fully automated processing
6
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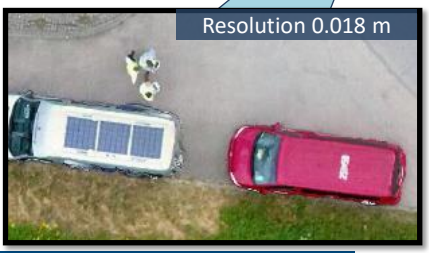
DATA PROCESSING



7

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DIGITAL SURFACE MODEL

8

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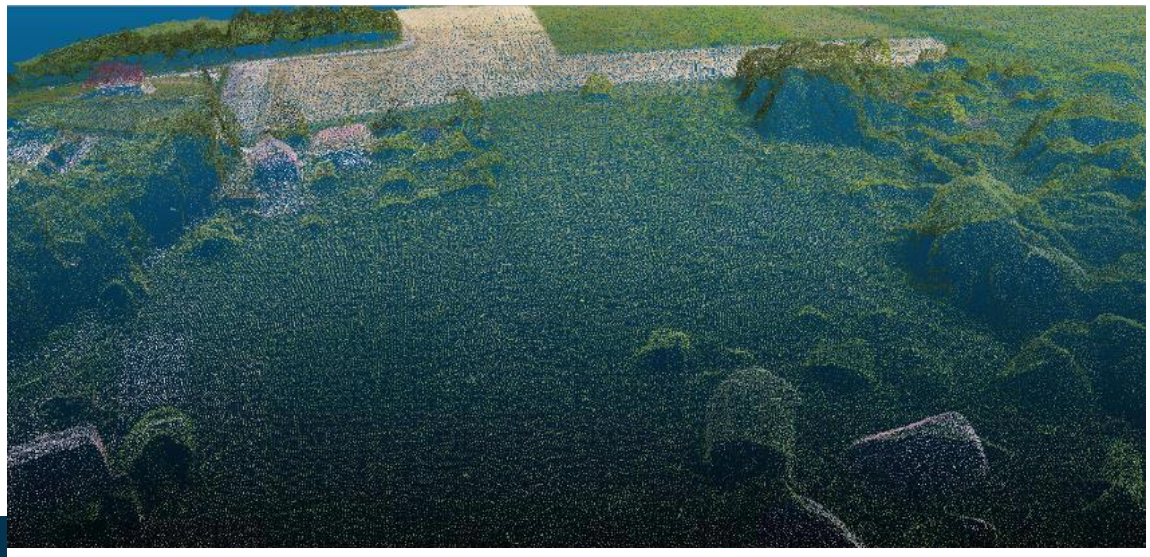
POINT CLOUD



9

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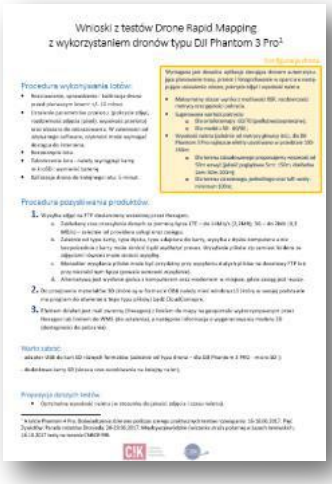
Model 3D

HOW ABOUT DRONE MISSION PLANNING?

IT'S ALL ABOUT AN EXPERIENCE

Best practices in UAV mission planning

Dependencies:
-Drone model
-Camera resolution and focus length
-Type of area (city, rural, forests)
-Type of product
-Expected time of processing
-Weather


Wnioski z testów Drone Rapid Mapping
z wykorzystaniem dronów typu DJI Phantom 3 Pro

11

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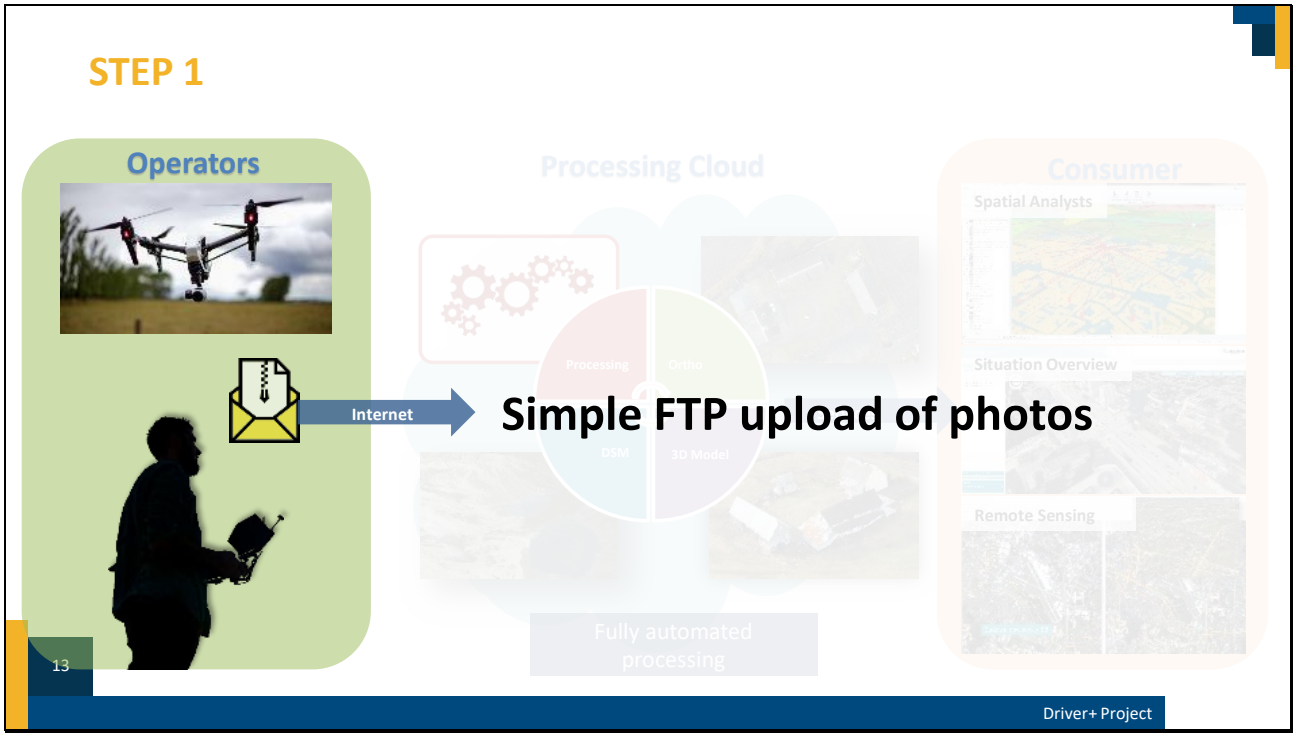
DRONE RAPID MAPPING IN DRIVER+


STEP 1
Operators
Internet
Simple FTP upload of photos
Processing Cloud
Consumer
Spatial Analysts
Situation Overview
Remote Sensing
Fully automated processing
13
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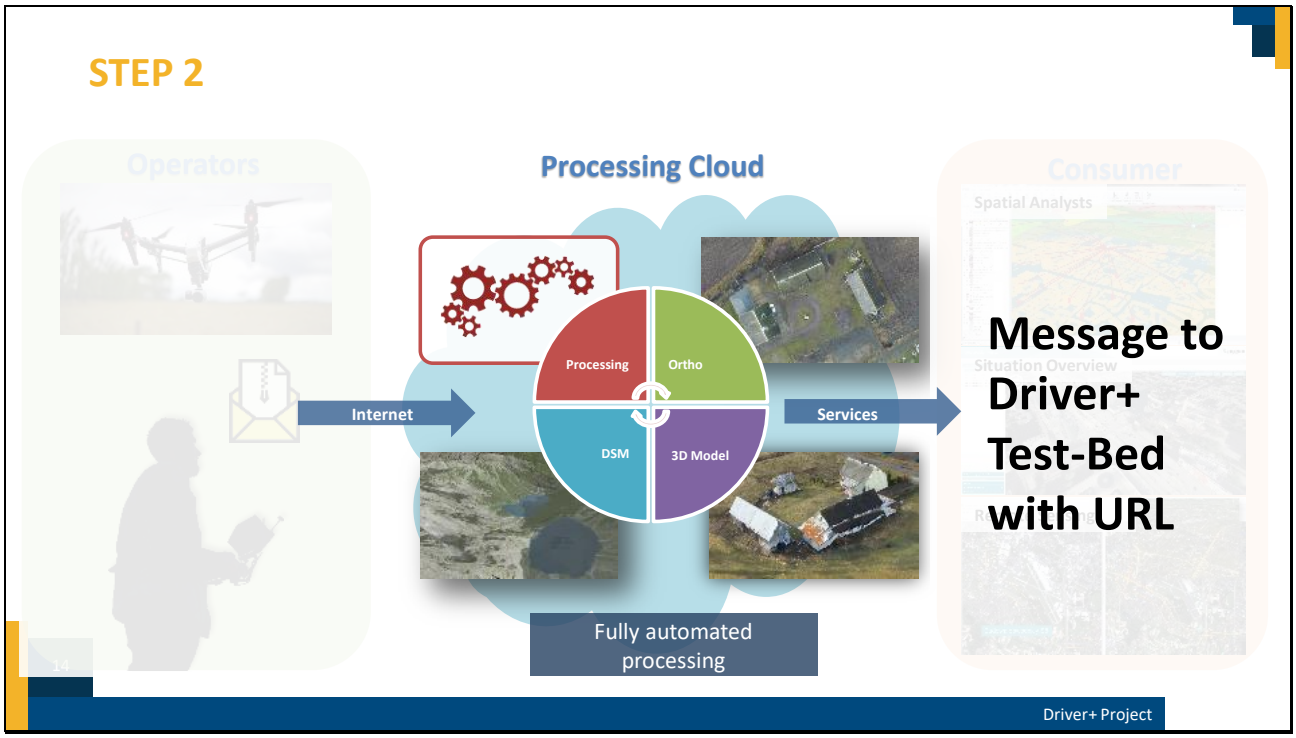
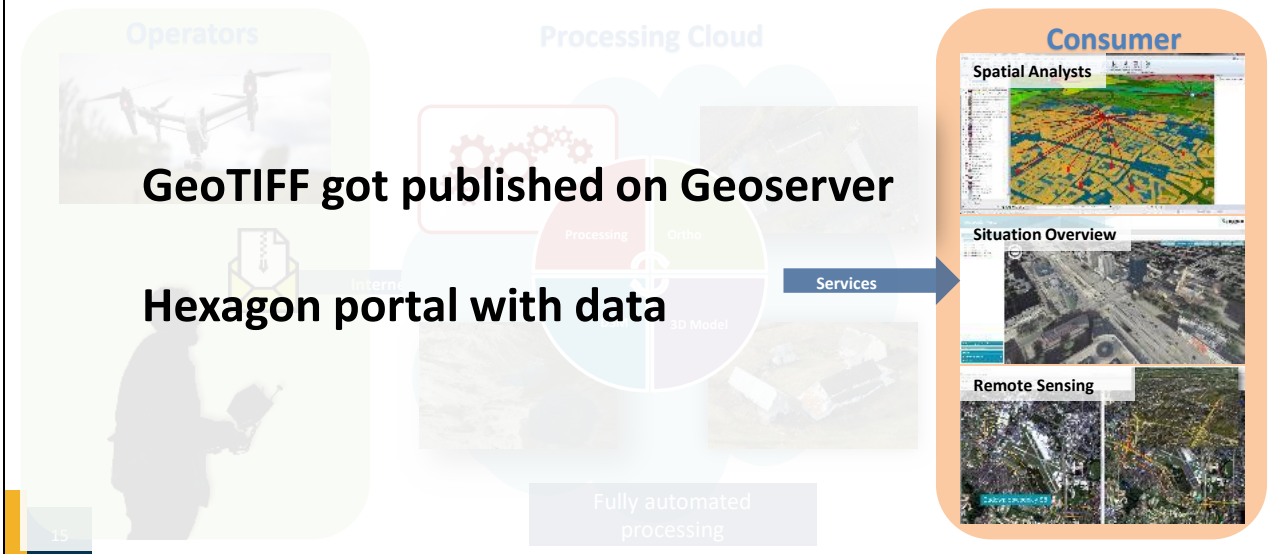

STEP 2
Operators
Processing Cloud
Consumer
Spatial Analysts
Internet
Processing
Ortho
DSM
3D Model
Services
Message to Driver+ Test-Bed with URL
Fully automated processing
14
Driver+ Project

STEP 3

GeoTIFF got published on Geoserver

Hexagon portal with data



15

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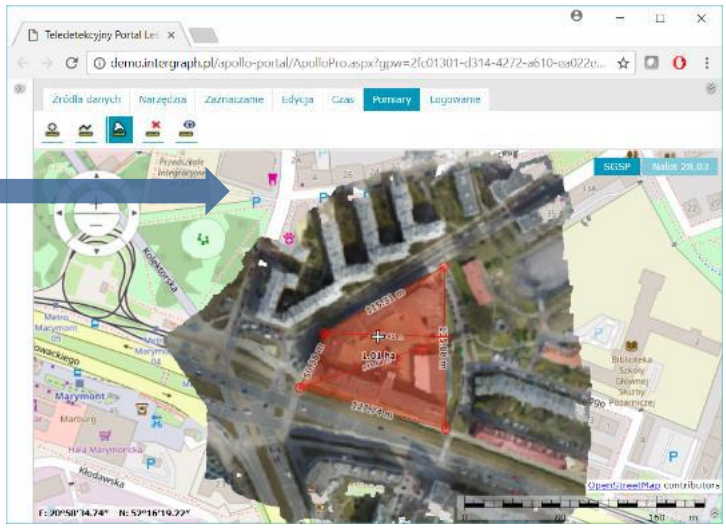
EXPLORE YOUR DATA

HANDS-ON TRAINING

LINK to Portal



- Explore your data
- Do measurements
- Compare datasets

16

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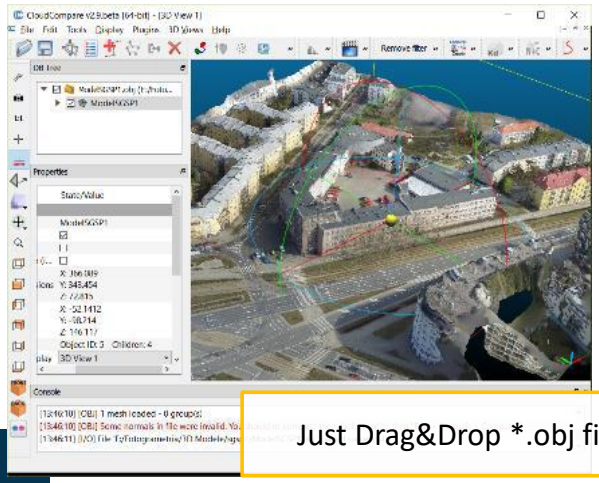
EXPLORE YOUR 3D DATA

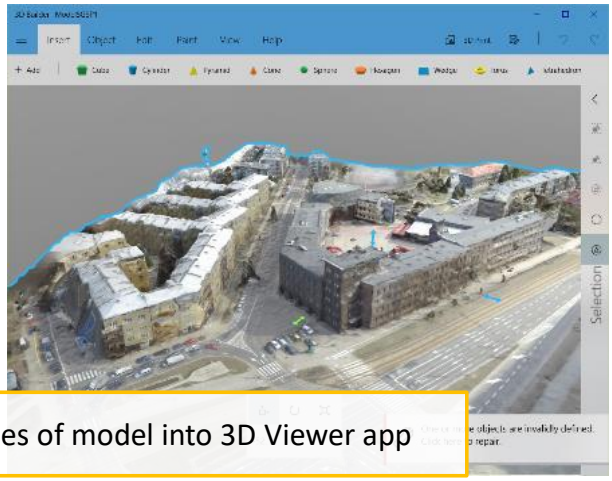
OPEN SOURCE

CloudCompare



WINDOWS 10 BUILD-IN APP

3D Builder



Just Drag&Drop *.obj files of model into 3D Viewer app

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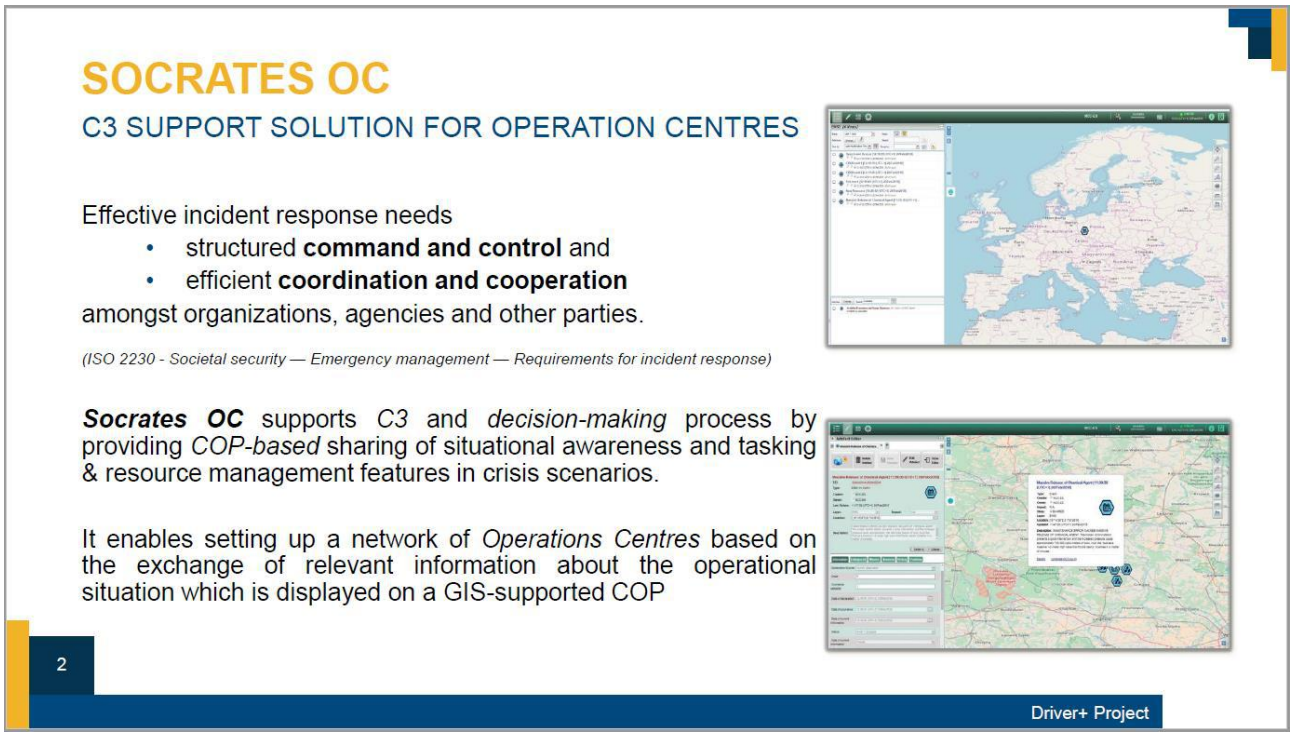
GMV SOCRATES OC training material

The training documentation for the SOCRATES OC solution is available on the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/Driver%2B%20Socrates%20OC%20Trial%201%2016042018.pdf.



SOCRATES OC

MAIN FEATURES

Socrates OC is a shared situational awareness tool developed by **GMV** which depicts the Common Operational Picture in a CM scenario.

It allows data exchange between different *Socrates OC* instances, enabling the reporting and tracking of events and inter-organizational tasking (mission assignment) and resource management (request, offer and transfer of resources).

- ***Events*** and their associated ***missions*** and ***resources*** are displayed in a GIS (Geographic Information System).
- Data about them are stored in a DB fully compliant with ISO's **EMSI** (*Emergency Management Shared Information*) – one of the standards supported by the test bed –.
- These data are replicated amongst connected *Socrates OC* instances, which can additionally interact for tasking and resource management.

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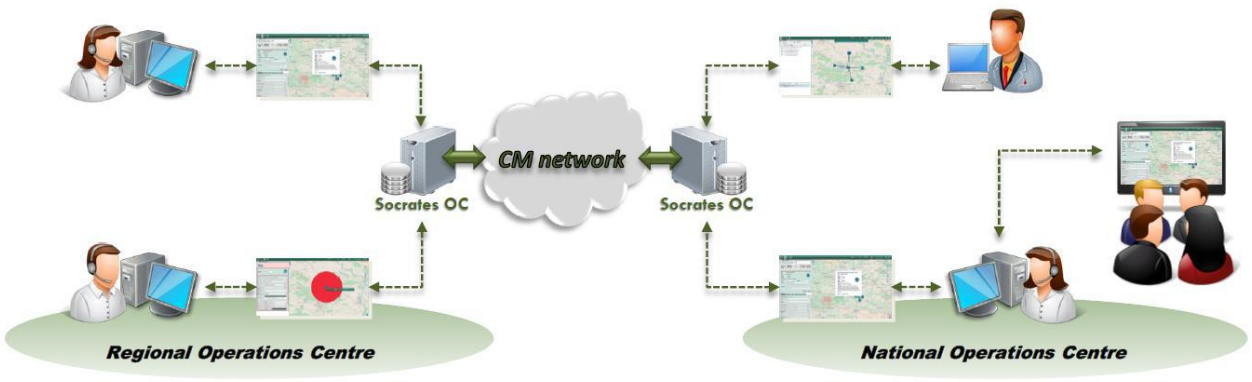
SOCRATES OC

CRISIS MANAGEMENT NETWORK



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SOCRATES OC

CM FUNCTIONS ADDRESSED

CM Function	User stories
Maintain shared situational awareness	**The solution can be used to:** • (automatically) collect, store and share *operational information* about the crisis situation (including events, related missions and resources) and • visualize this *operational information* in a situation map, **so that:** • *shared situational awareness* amongst *Operations Centres* is improved, • helping crisis managers and incident commanders *make better informed decisions* based on the current operational situation
Support C3 decision making	
Conduct coordinated tasking and resource management	**The solution can be used to:** • monitor resources (including their status and positions) and • check their availability and request them to other nodes in the CM network, **so that:** • resources can be more efficiently allocated to missions and events and • the existing needs can be more reliably determined and efficiently satisfied
	The solution can be used to: • create own missions and monitor their progress, and • assign missions to other nodes in the CM network, **so that:** • several OCs can contribute in a coordinated way to the joint effort

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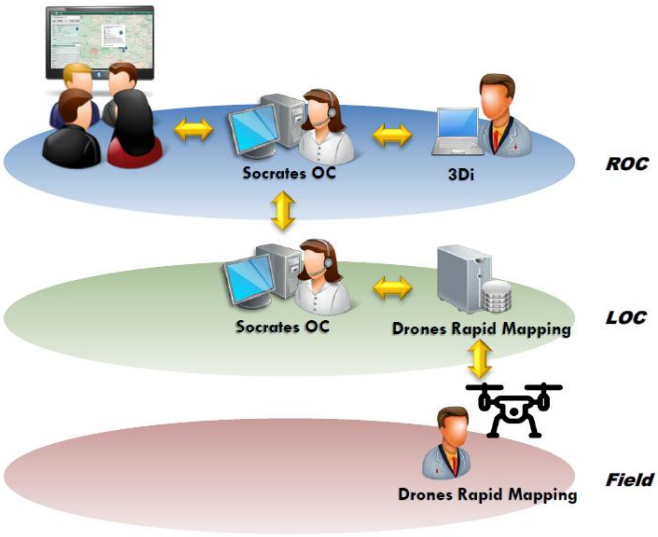
SOCRATES OC

OPERATIONAL PERSPECTIVE

Example:

- **Two levels of command:**
  Regional & Local Operations Centres.
- **Cross-border**:
  Replication of this structure (or part of it) in two countries.
- **On-field assets.**



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SOCRATES OC

SCENARIO-BASED EXAMPLE

Scenario

An error during maintenance incapacitates a control station for pipeline pressure causing a rupture in a toxic chemical pipe which releases a massive amount of a fluid mud like chemical.

Some requirements

- Monitoring the status of available resources
- Request for neutralization substances
- Dispose resources for tasks
- Ask for collaboration to face the event

8

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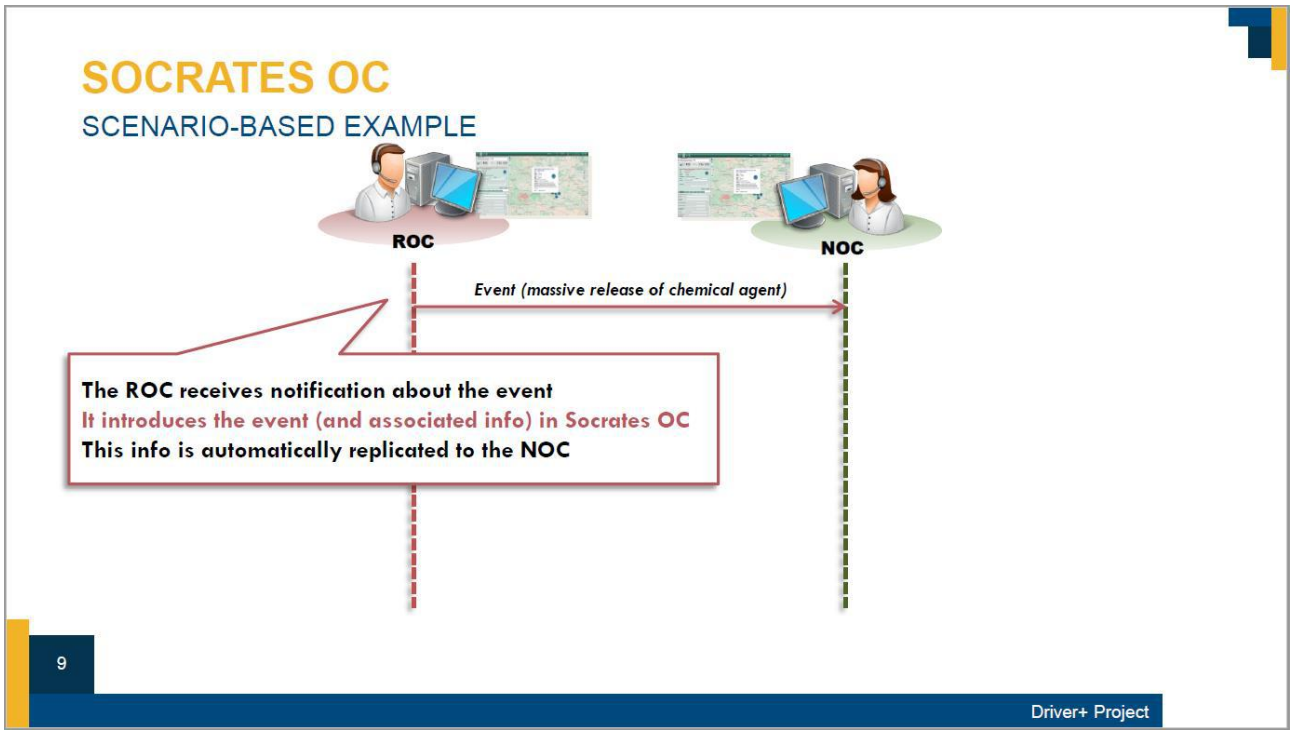
SOCRATES OC
SCENARIO-BASED EXAMPLE
ROC
NOC
Event (massive release of chemical agent)
The ROC receives notification about the event
It introduces the event (and associated info) in Socrates OC
This info is automatically replicated to the NOC
9
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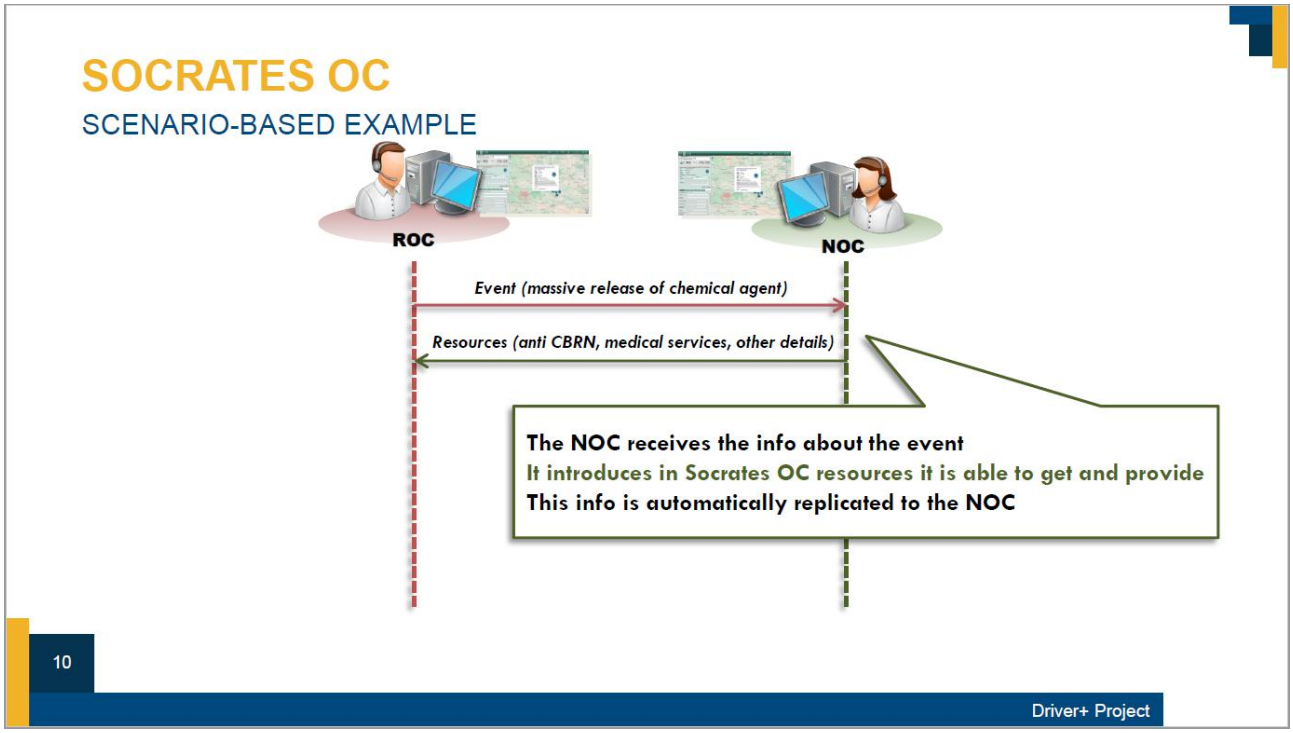
SOCRATES OC
SCENARIO-BASED EXAMPLE
ROC
NOC
Event (massive release of chemical agent)
Resources (anti CBRN, medical services, other details)
The NOC receives the info about the event
It introduces in Socrates OC resources it is able to get and provide
This info is automatically replicated to the NOC
10
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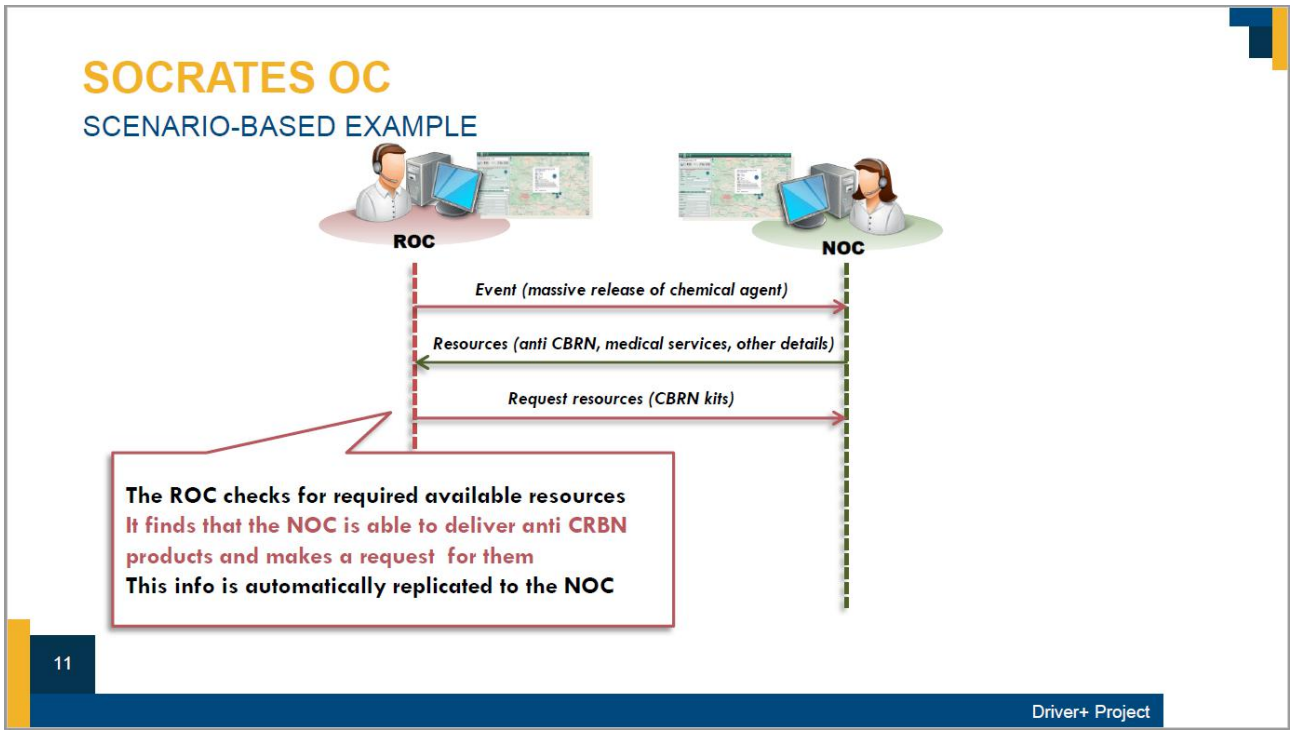
SOCRATES OC
SCENARIO-BASED EXAMPLE
ROC
NOC
Event (massive release of chemical agent)
Resources (anti CBRN, medical services, other details)
Request resources (CBRN kits)
The ROC checks for required available resources
It finds that the NOC is able to deliver anti CRBN products and makes a request for them
This info is automatically replicated to the NOC
11
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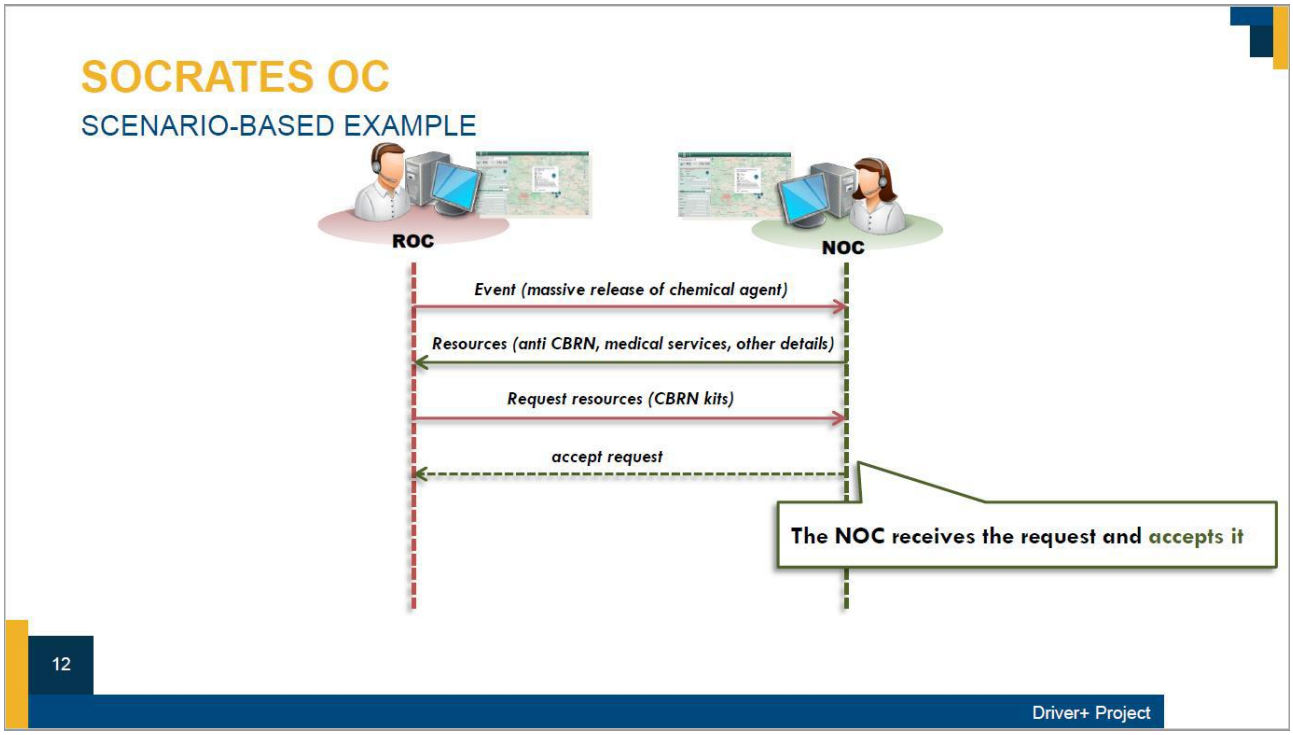
SOCRATES OC
SCENARIO-BASED EXAMPLE
ROC
NOC
Event (massive release of chemical agent)
Resources (anti CBRN, medical services, other details)
Request resources (CBRN kits)
accept request
The NOC receives the request and accepts it
12
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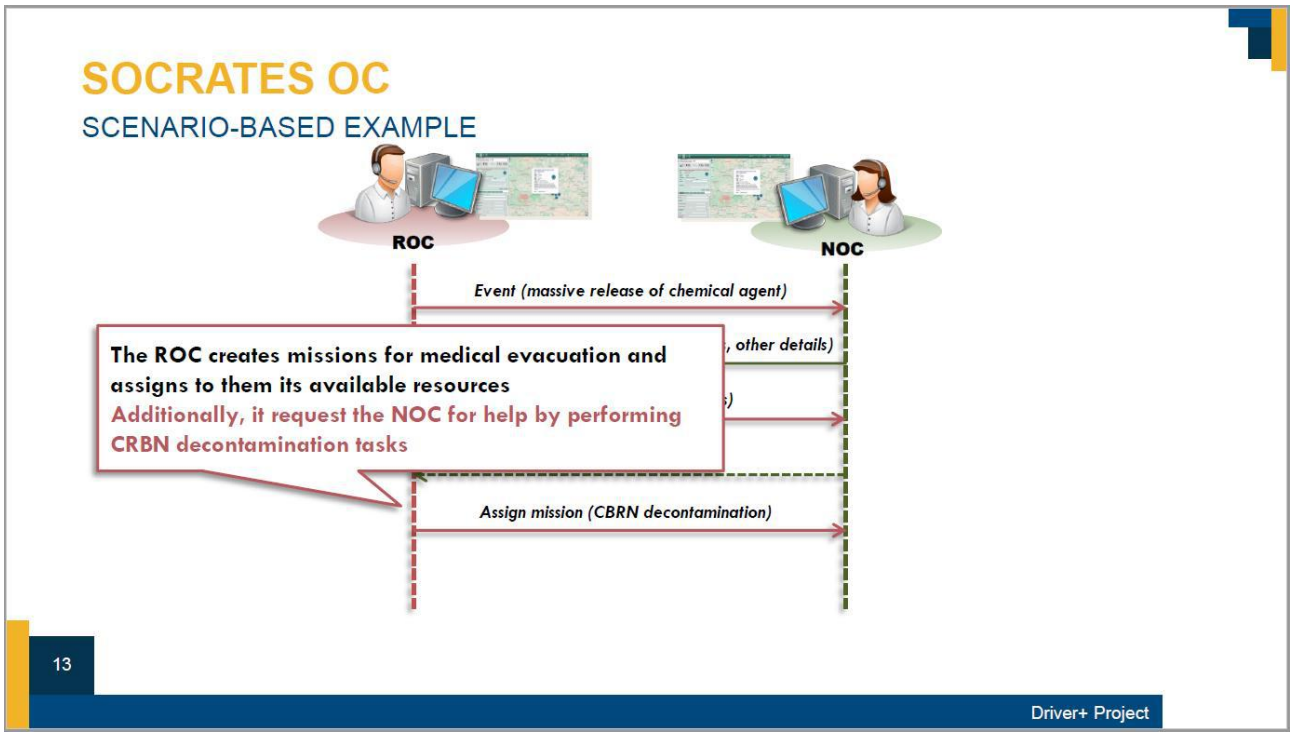
SOCRATES OC
SCENARIO-BASED EXAMPLE
ROC
NOC
Event (massive release of chemical agent)
, other details)
The ROC creates missions for medical evacuation and assigns to them its available resources
Additionally, it request the NOC for help by performing CRBN decontamination tasks
Assign mission (CBRN decontamination)
13
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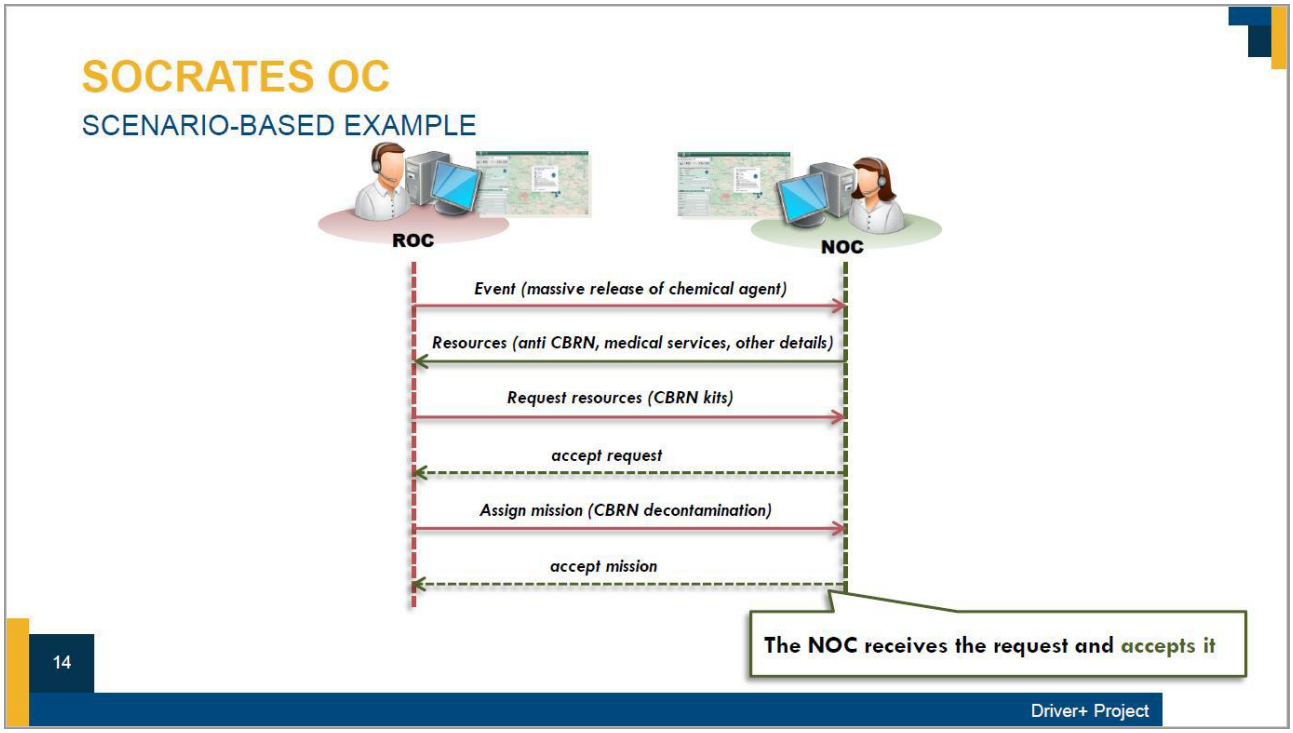
SOCRATES OC
SCENARIO-BASED EXAMPLE
ROC
NOC
Event (massive release of chemical agent)
Resources (anti CBRN, medical services, other details)
Request resources (CBRN kits)
accept request
Assign mission (CBRN decontamination)
accept mission
The NOC receives the request and accepts it
14
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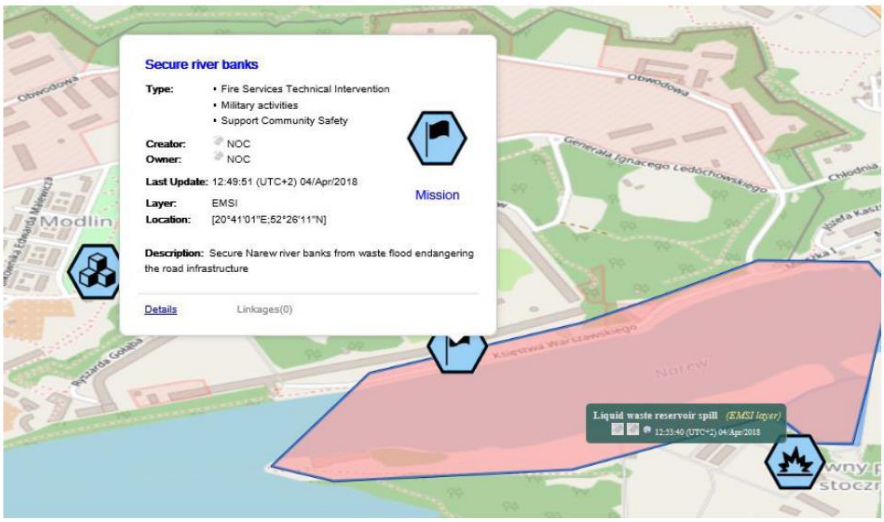
SOCRATES OC

RECREATION OF THE INCIDENT IN COP



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ANY QUESTION?

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Annex 12 – Training material for Trial 2

Merlin CrisisSuite training material

The training documentation for the CrisisSuite solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/Driver%2B%20CrisisSuite%20presentation.pptx.

Merlin
SOFTWARE FOR CRISIS

driver+
Driving Innovation in Crisis Management for European Resilience

CRISISSUITE

PRACTICAL TRAINING

Co-founders: René de Jong & Ruud van den Beukel

...

Ruud van den Beukel

René de Jong

Rudi Roelen

2

DRIVER+ Project

CrisisSuite

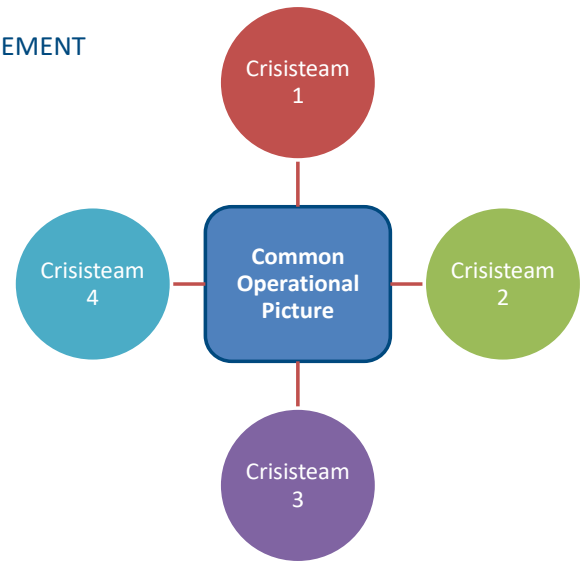
Online application for managing crisis information

3

DRIVER+ Project

NETCENTRIC

INFORMATION MANAGEMENT



4

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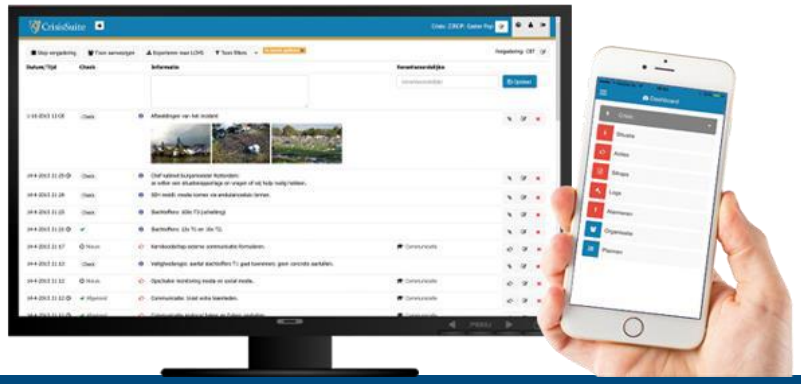
CRISISSUITE

APPLICATION

- Web application
- App for mobile devices



5

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CRISISSUITE

MODULES

- Organisation
- Plans

- Dashboard
- Crisis
- Logtool
- Attachments
- Sitreps
- Maps

6

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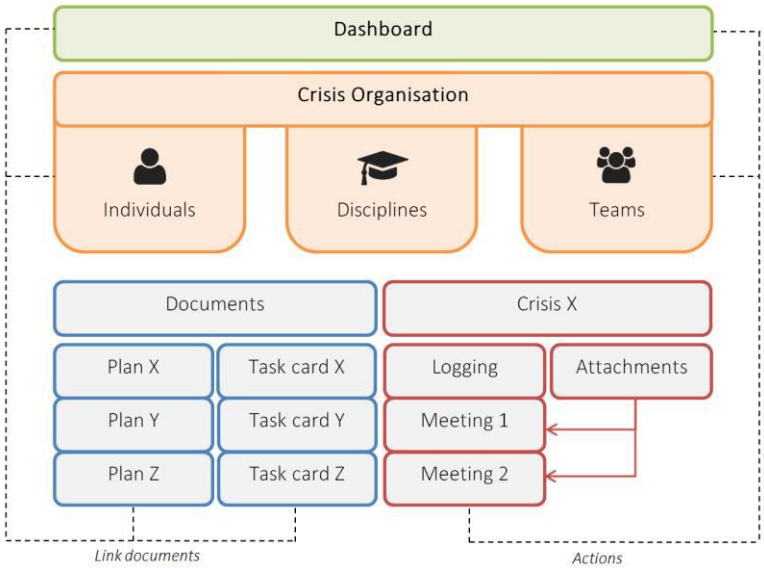
CRISISSUITE

STRUCTURE



7

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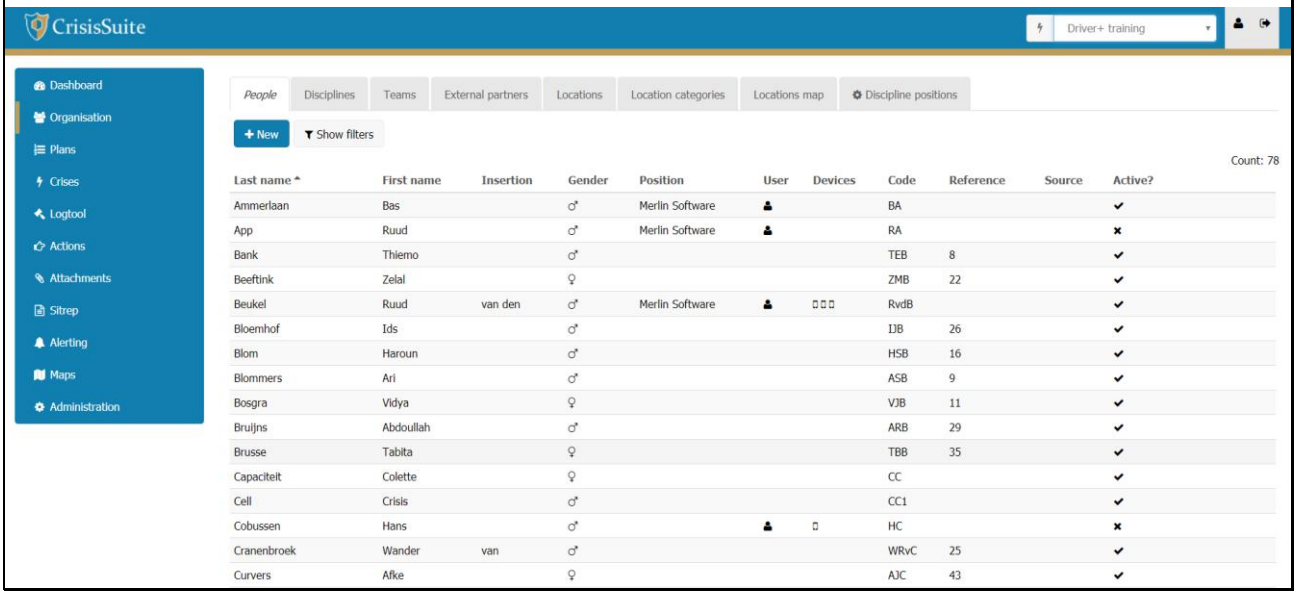
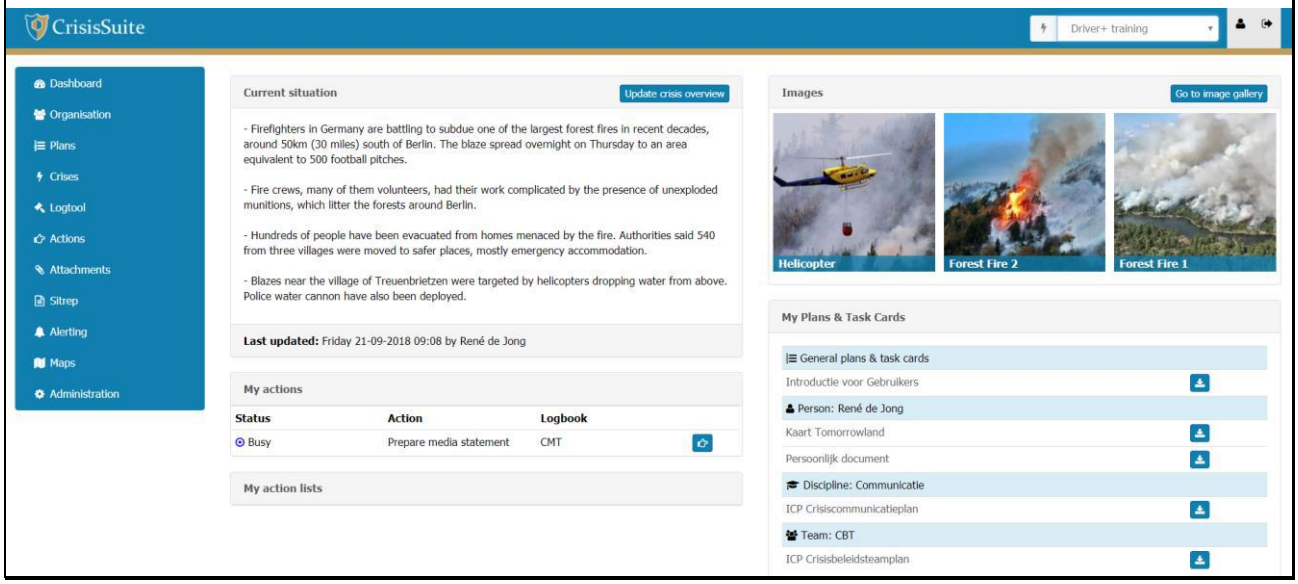
ORGANISATION

MODULE



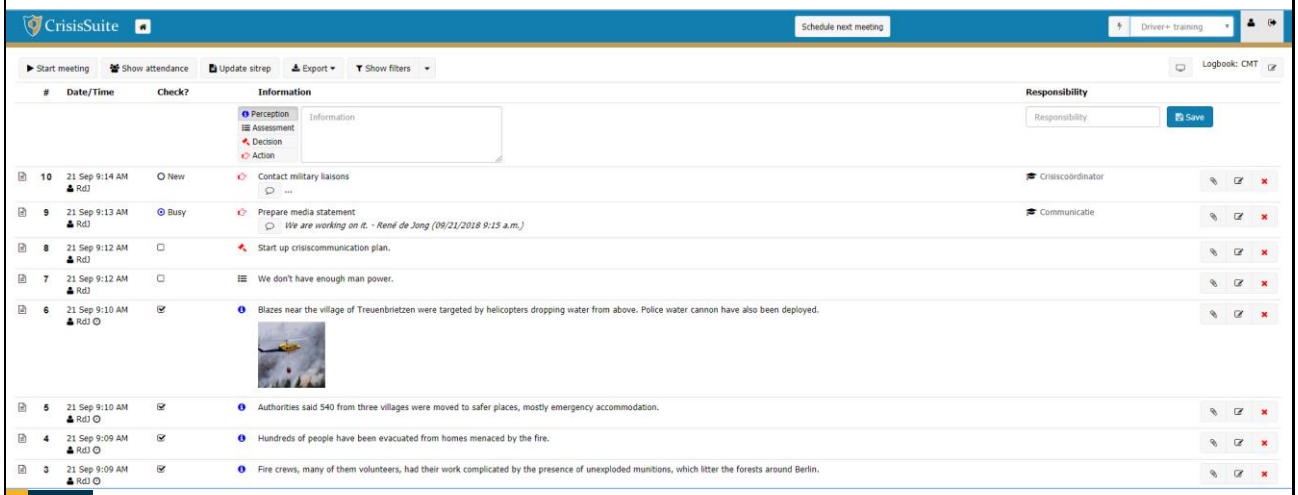
DASHBOARD

MODULE



LOGTOOL

MODULE



SITREP

MODULE

11

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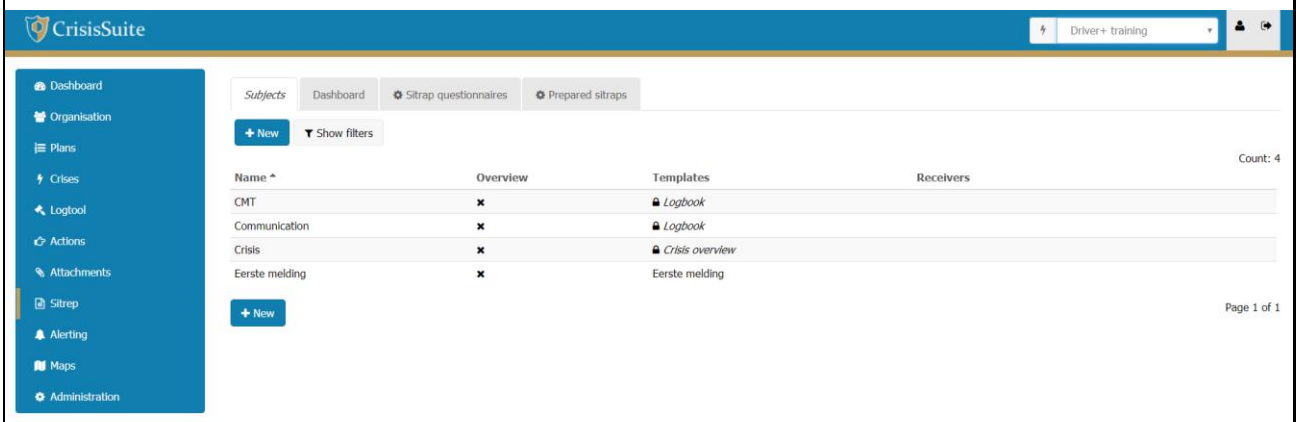
SITREP

MODULE



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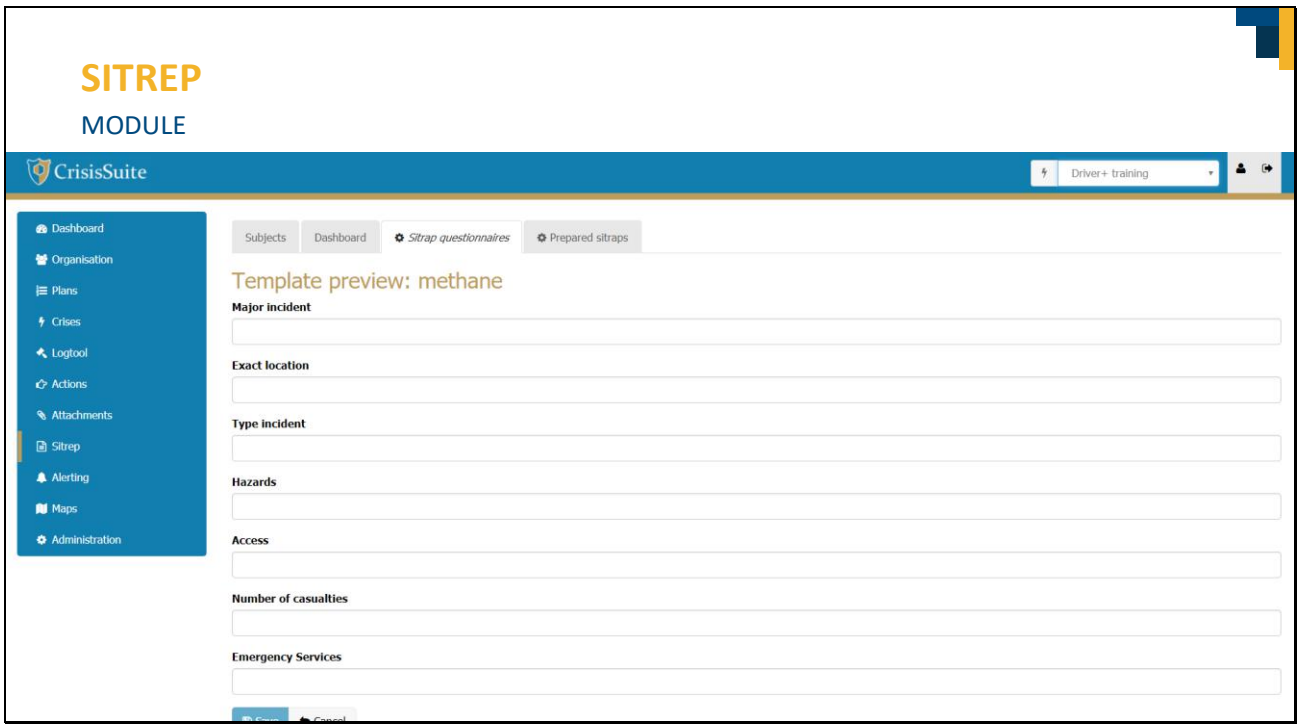
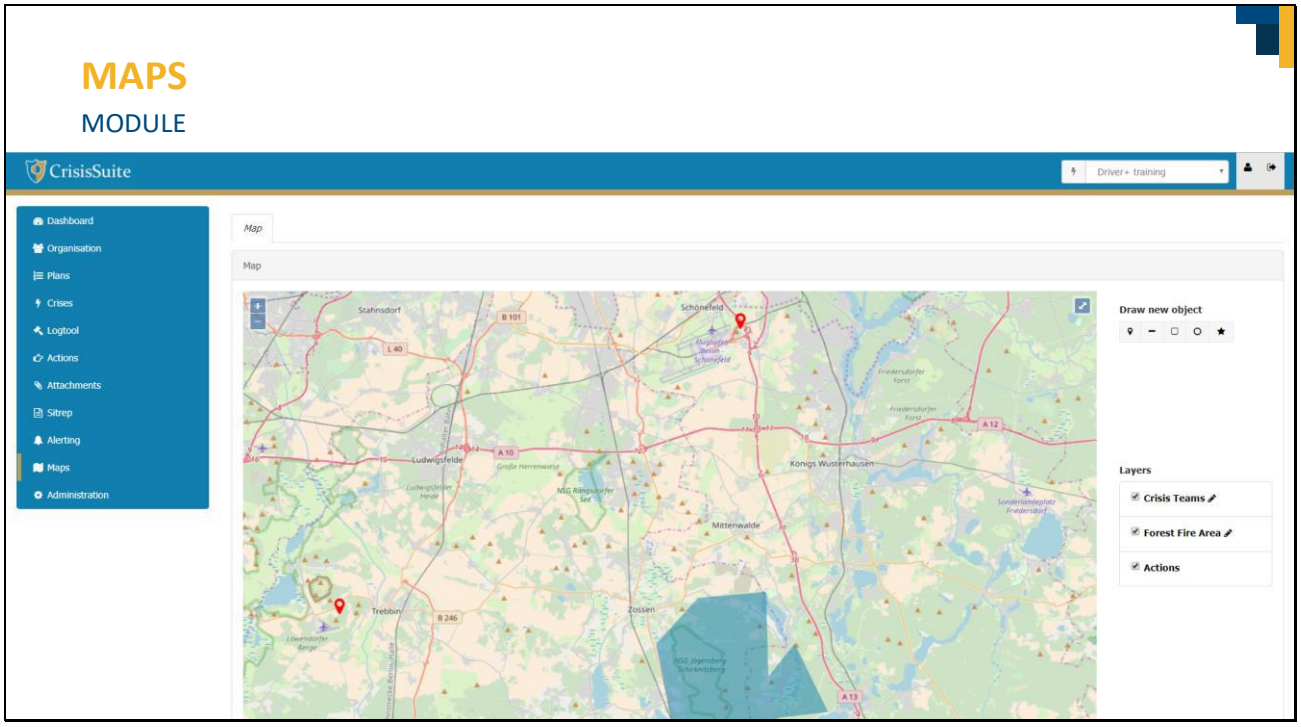
SITREP

MODULE



MAPS

MODULE



Thales SMAP training material

The training documentation for the SMAP solution is available on the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/Driver-trail2-SMPA-solution-training-v0.1_LDV2.pptx.

driver+
Driving Innovation in Crisis Management for European Resilience

THALES

SMAP FOR CRISIS MANAGEMENT

PRACTICAL TRAINING

THALES , Laurent & Antoine

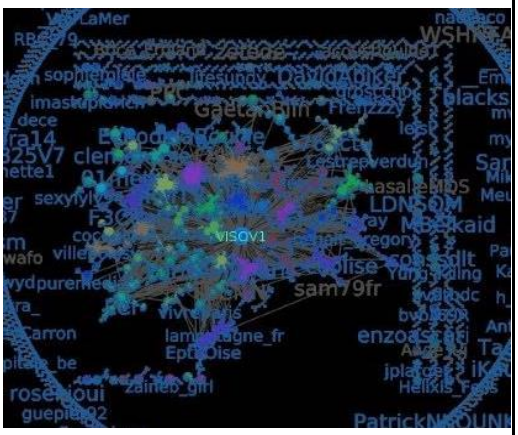
6th of October 2018

THALES

RATIONALE

WHY WE THINK SMAP MAKES SENSE IN DRIVER+

- **FACT:** Social Media contains information which relates to incident(s), Crisis Management, population needs, rumours,…
- **SMAP: Supports the Social Media Manager in finding and pushing the information of interest in Twitter**



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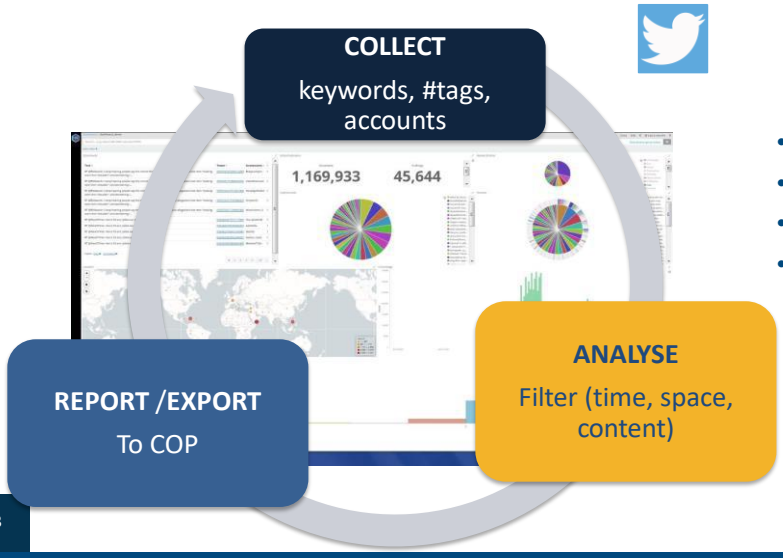
SOCIAL MEDIA ANALYSIS PLATFORM (SMAP)

THALES

SUPPORTING THE USE OF SOCIAL MEDIA IN CRISIS MANAGEMENT



- Thales / TRL 5-6 -> 6-7 in 2018
- Biz. model : **On premise** or **SaaS**
- **Big Data** architecture (>10^6 posts)
- **Deep learning** algorithms

3

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GOAL OF SMAP PRACTICAL TRAINING

THALES

- To enable you to use SMAP's main functions **during Trial 2**:
  - Limited to Trial 2 scope
    - Collect, Search and filter, Report to COP
  - Based on Trial 2 exercises
- There is more to SMAP which will not be used in Trial 2:
  - Event detection
  - Communinities (for rumour debunking)

4

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SMAP TRAINING'S SCHEDULE

THALES

Time slot	Activity	Leader
00 -> 5 mn	Introduction	Laurent Dubost
5 mn -> 20 mn	Guided examples	Antoine Léger
20 mn -> 45 mn	Hands on + assistance	All + Antoine Léger
45mn -> 50 mn	Report : Questions and Answers	All

5

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SMAP'S MAIN FUNCTIONS

USED DURING TRIAL 2

THALES

- **Dashboard** => overview of all collected Tweets

- **Search & filtering tools** => focus on Tweets of interest

- **Export to COP = >** send Tweets of interest to COP

- **Collect** => define/ manage your queries

During the Trial, some assistance will be provided to you

6

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TERMINOLOGY

THALES

Named entity: known organisation, person, place…recognized in the text

Hashtag: keyword given by people Twitting: #Valabre

Location: either geolocation metadata, or geolocated site recongized in Tweet

7

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HANDS ON EXERCISES

THALES

Divide into 5 groups

2-3 practitioners per group

Future players at the computers, others can follow my screen

8

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HANDS ON: SMAP PORTAL

HTTP://MYSERVER:MYPORT/MYDASHBOARD

- Guided Exercise 1: Dashboard
- Guided Exercise 2: Seach & filter
- Guided Exercise 3: Export to COP
- Guided Exercise 4: Manage collection query

9

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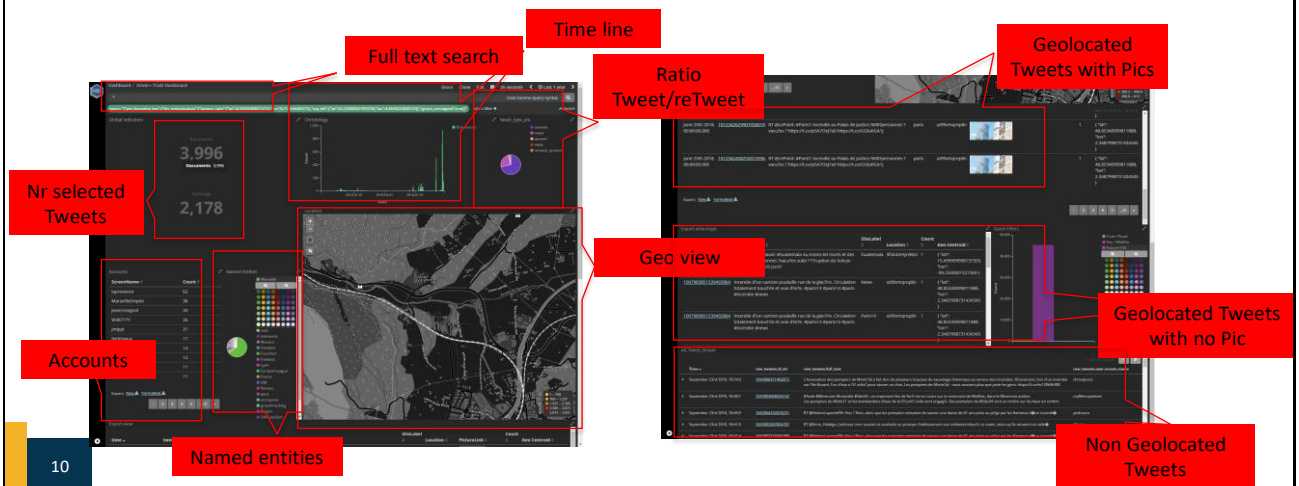
DASHBOARD

OVERVIEW OF COLLECTED TWEETS AND ACCESS TO FUNCTIONS



10

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HANDS ON:

DO IT BY YOURSELF!

- Repeat the steps we did together
- Your Mission:
  - Find All Tweets related to:
    - xxHashtag xx, xxPlacexx, xxTime slotxx,
  - Push them to COP
    - xxxx
  - Explain how you could improve Collect query

11

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RESULTS

12

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THALES
THANK YOU.
ANY QUESTION?
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THALES
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@driver_project
Groups:
Driver Project
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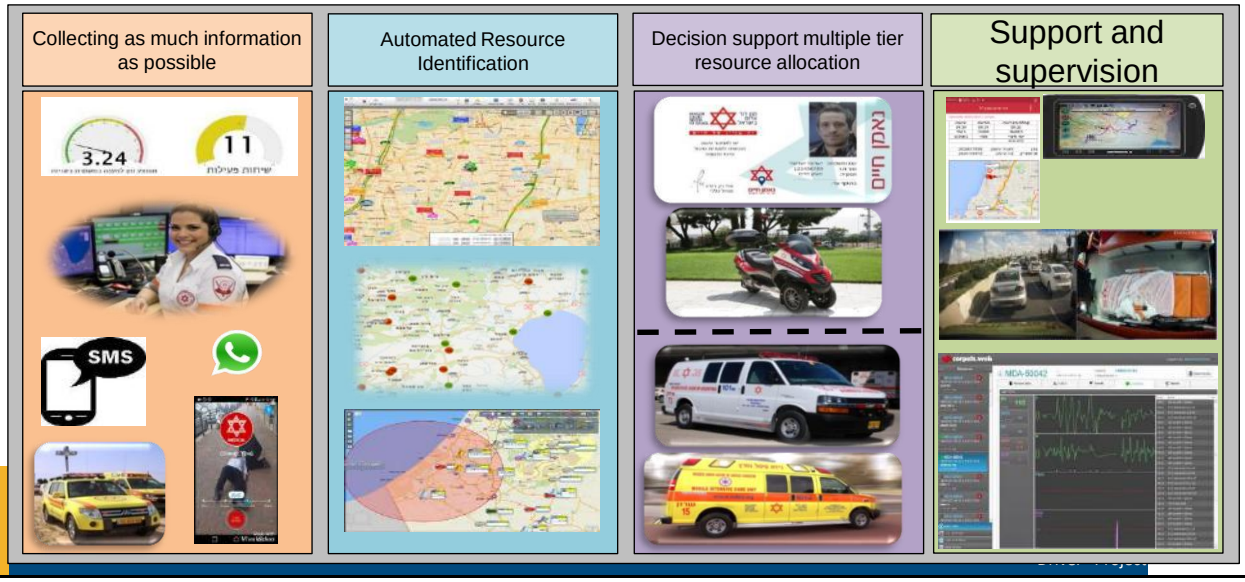
Project Director - Peter Petiet peter.petiet@tno.nl
Project Technical Coordinator - Marcel van Berlo marcel.vanberlo@tno.nl
External Cooperation Manager - Michael Löscher loescher@arttic.eu
This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n° 607798. The information and views set out in this presentation are those of the author(s) and do not necessarily reflect the official opinion of the European Union
driver-project.eu

MDA C2 training material

The training documentation for the MDA C2 solution is available on the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/DRIVER_Trial2_MDA_C2_training_V2.pptx.

THE EMS SYSTEM OVERVIEW



ROLE OF MDA COMMAND AND CONTROL

A command and control system to manage response for emergency incidents

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 organization's resources.

- Managing the vehicle fleet
- Locating incident location and dispatching rescue vehicles
- Marking the arrival status of rescue vehicles
- Receive input from the field (video conference calls, pictures)
- Sending relevant information to the hospitals

4

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MAIN FUNCTIONS

(THAT ARE IN USE IN TRIAL 2)

- Create a new incident
- Dispatch a unit to an incident
- Mark time of arrival
- Receive input from the incident location
- Send data to hospitals

The solution answers the following CM functions (Trial KPIs):

Collect information from deployed sources (5.2.2.1)

Conduct coordinated tasking and resource management (5.2.3)

5

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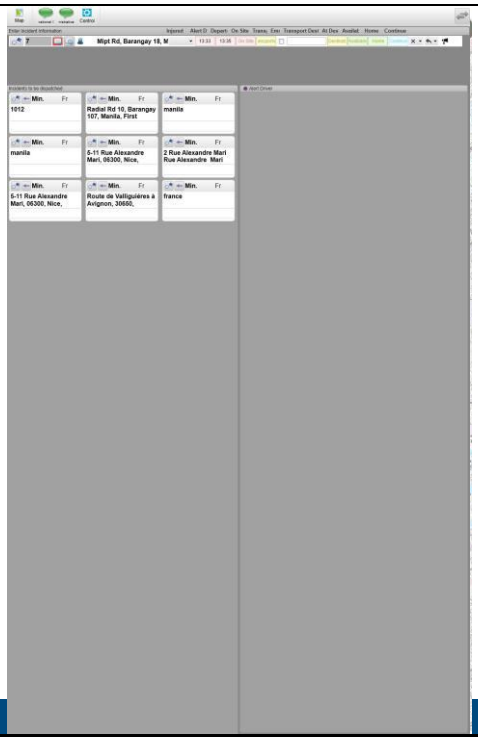
THE SCREENS

1. New incident screen
2. Map screen
3. Active incidents screen



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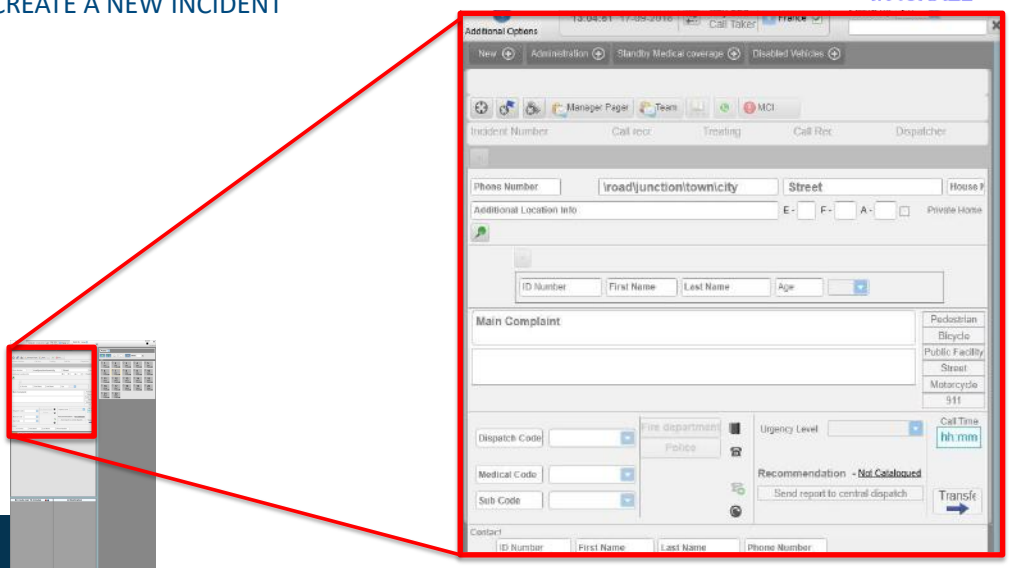
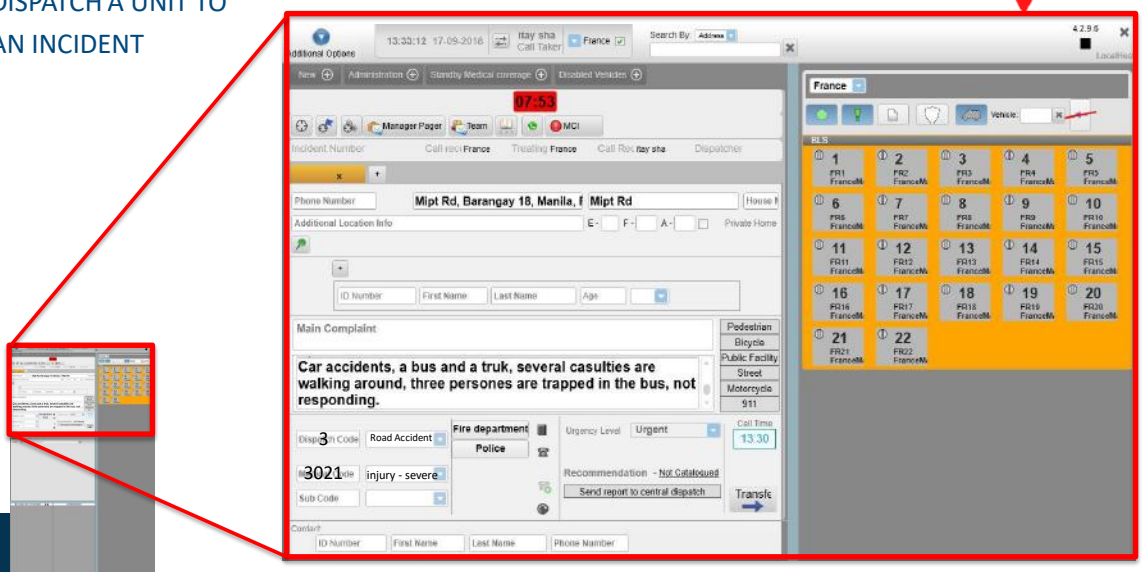
HOW TO USE THE TOOL?

CREATE A NEW INCIDENT



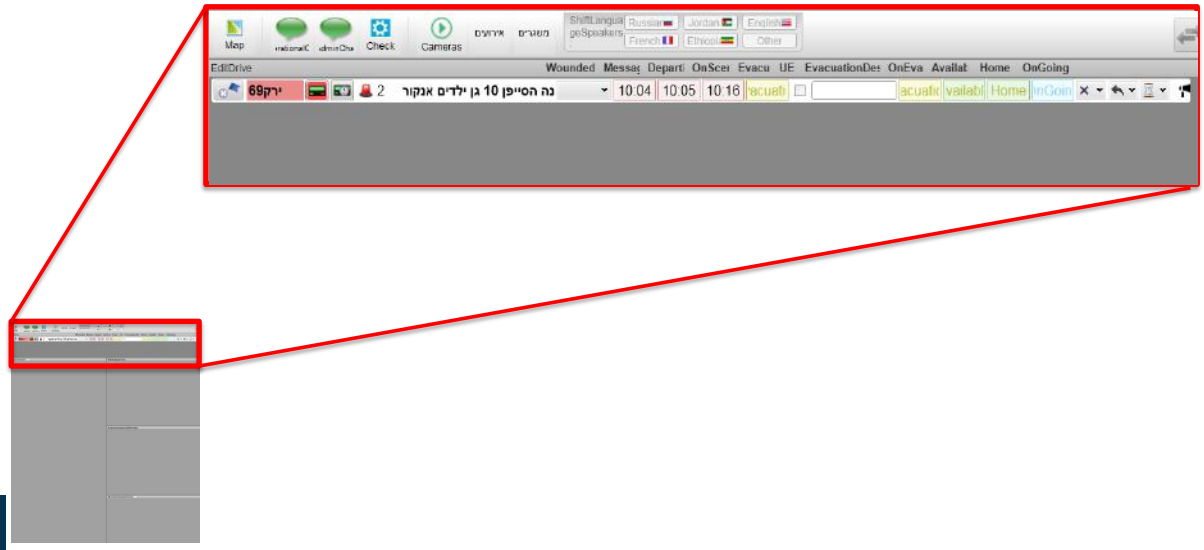
HOW TO USE THE TOOL?

DISPATCH A UNIT TO AN INCIDENT



HOW TO USE THE TOOL?

MARK TIME OF ARRIVAL



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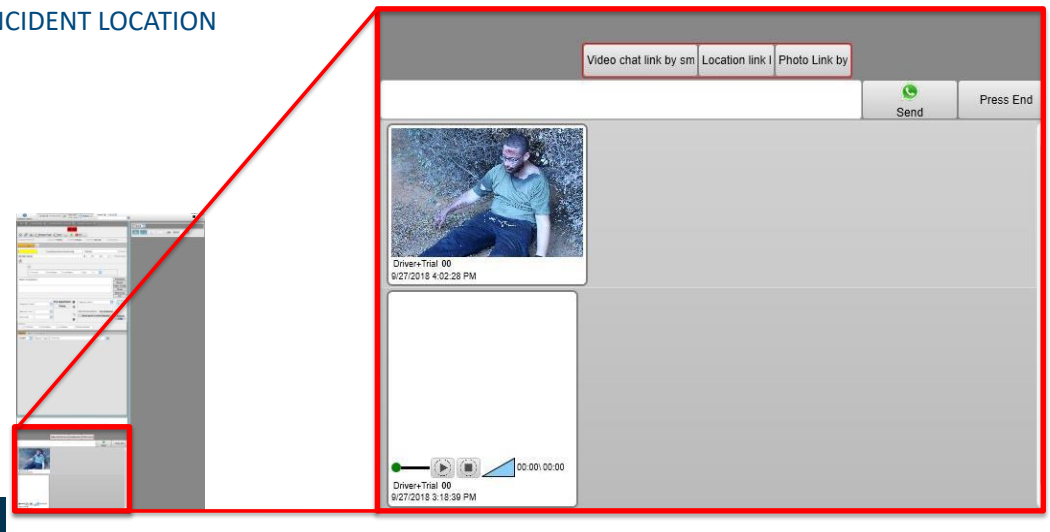
HOW TO USE THE TOOL?

RECEIVE INPUT FROM INCIDENT LOCATION



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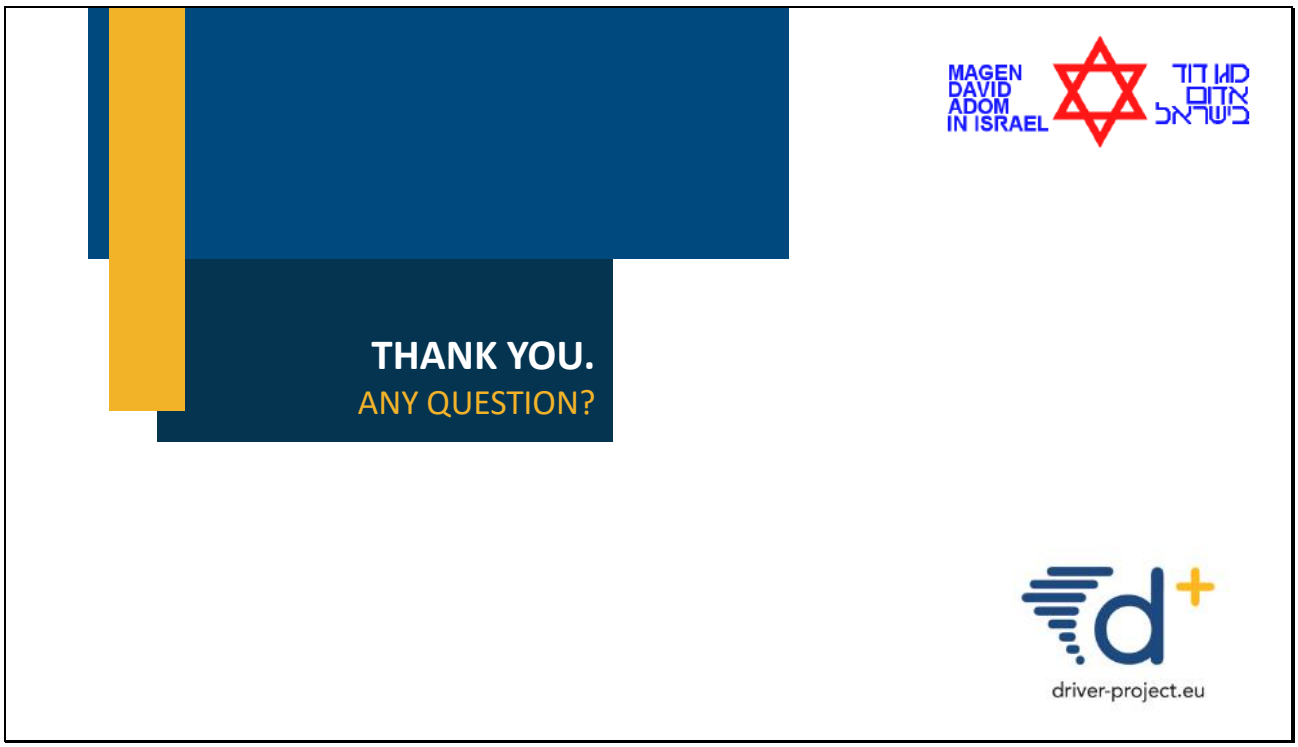
MAGEN DAVID ADOM IN ISRAEL
מגן דוד אדום בישראל
THANK YOU.
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Frequentis LifeX COP training material

The training documentation for the LifeX COP solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/Trial2_COP_SolutionTraining%20%20%20%20.pptx.

FREQUENTIS

driver+
Driving Innovation in Crisis Management for European Resilience

LIFE-X COP

SOLUTION TRAINING

Hannah Goeritz, Frequentis

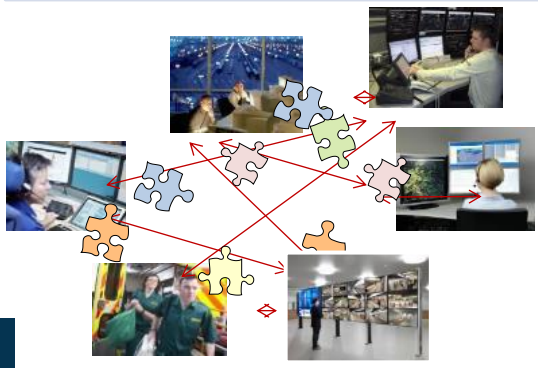
02/10/2018 - Valabre

LIFE-X COP – THE COMMON OPERATIONAL PICTURE

EFFECTIVELY EXCHANGE CRISIS MANAGEMENT (CM) INFORMATION

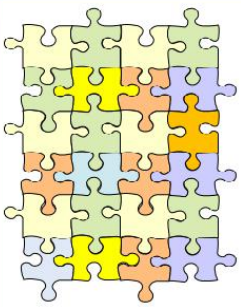
Motivation

- CM information is often distributed
- Information sharing often done by e-mail, phone, …



COP Approach

- Information is collected in a well structured way and shared among involved organizations



Real-Time Situation Picture

1. Citizens
2. Infrastructure
3. Environment
4. Companies
5. Responders
6. Hazards
7. Prognosis

2

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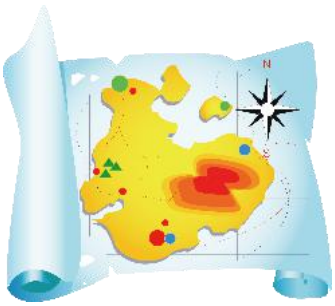
LIFE-X COP

SOME FACTS

- Prototype
  - already used successfully in other projects
  - constantly evolving
- Online application – no client installation needed
- Map based



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LIFE-X COP

Sensor information

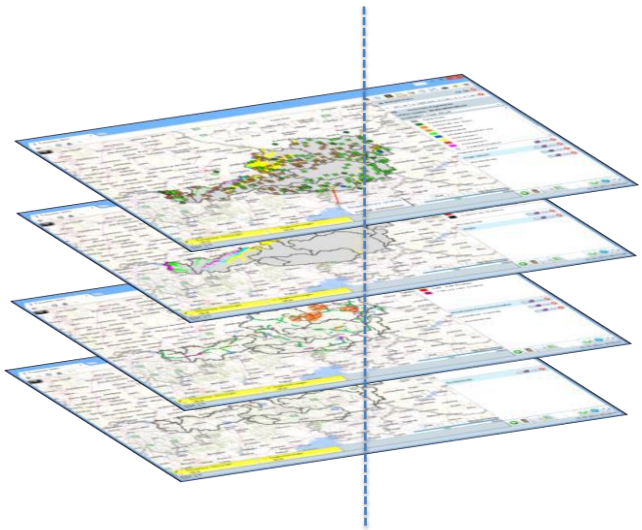
Hazard information

Status of infrastructure

Traffic situation, weather forecast

Status of Responder Units

.....



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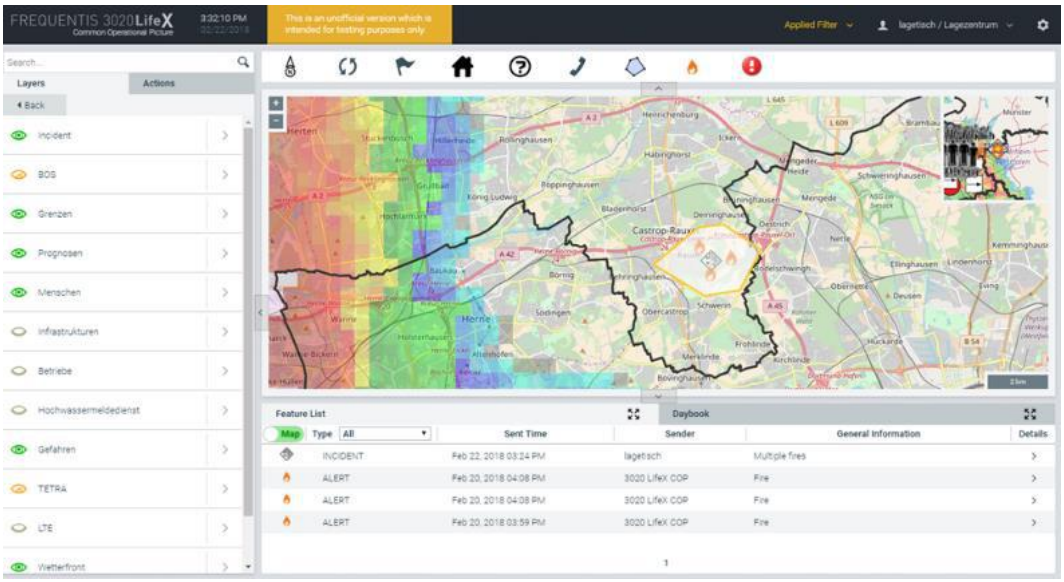
LIFE-X COP



5

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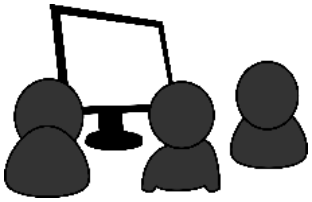
TRAINING

LIFE-X COP

TRAINING - OUTLINE



- Live demonstration
  - Overview of the COP and its functions

- Interactive training
  - Specific functions that might be needed during the trial
  - Give it a try!

7

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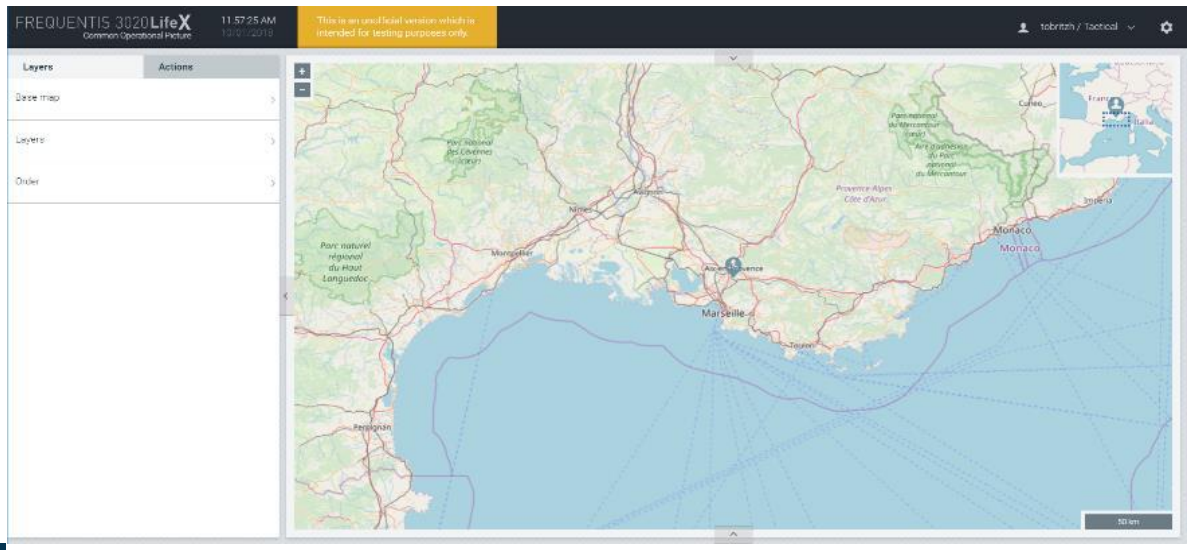
BASE MAP



8

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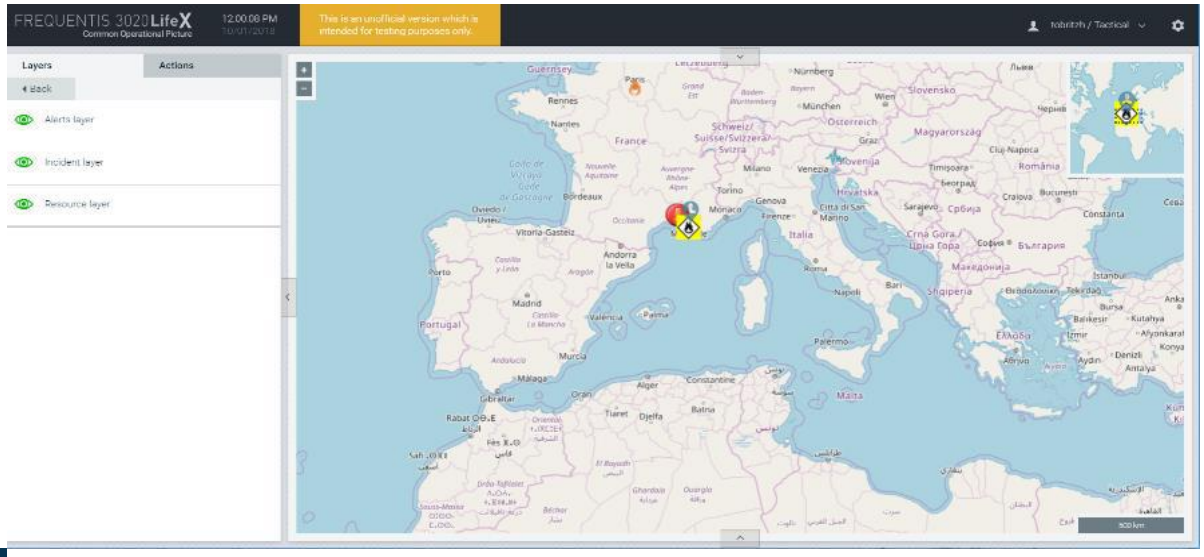
LAYER VISIBILITY



9

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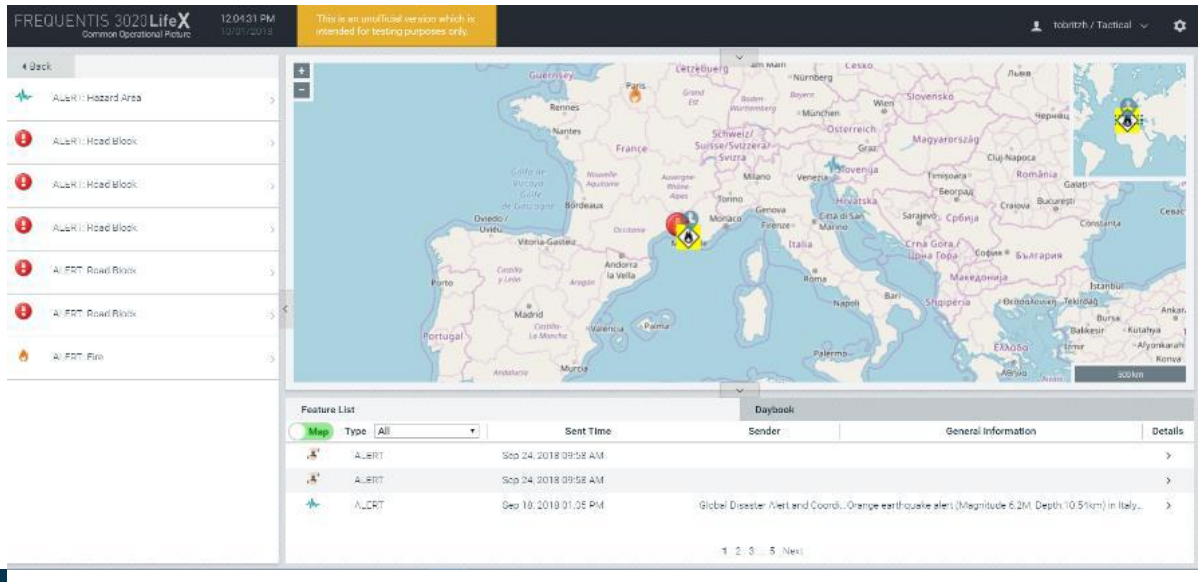
LISTS OF FEATURES



10

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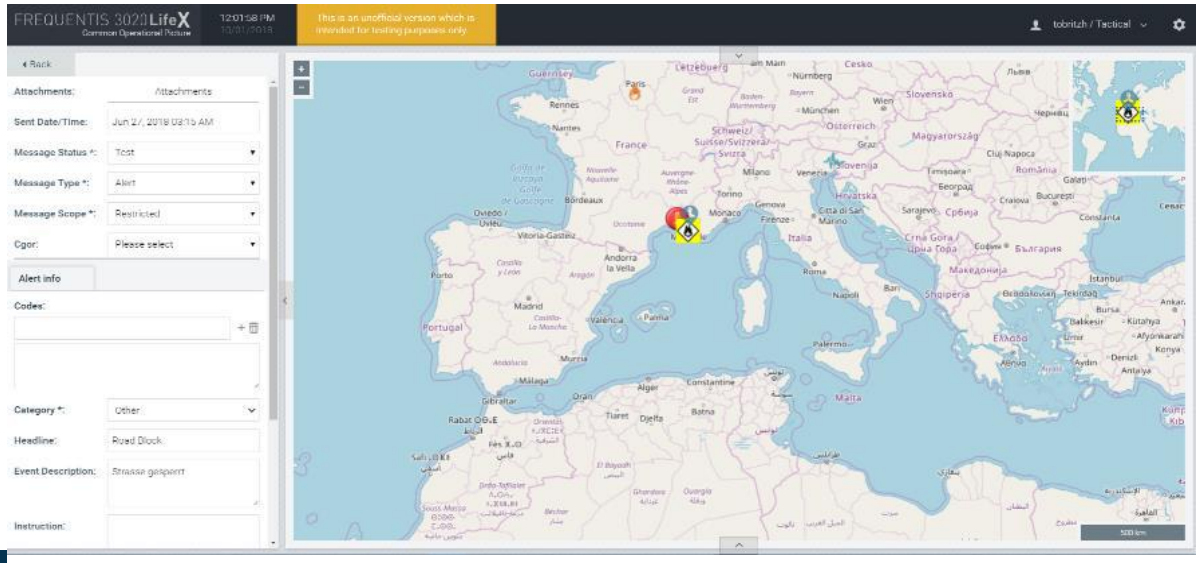
DETAILS OF AN ALERT



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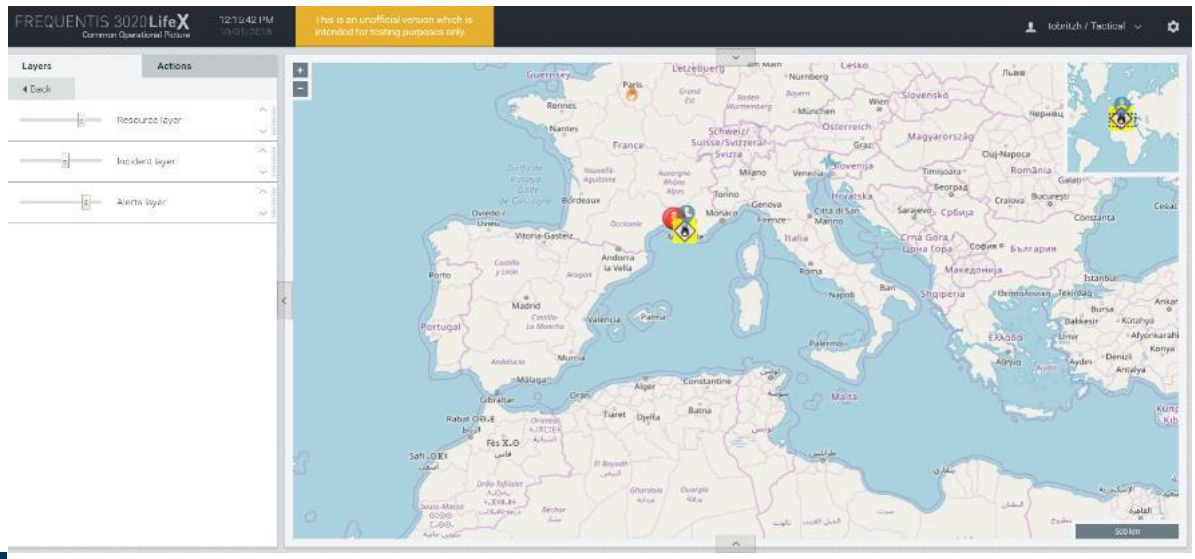
ORDER OF LAYERS AND THEIR OPACITY



12

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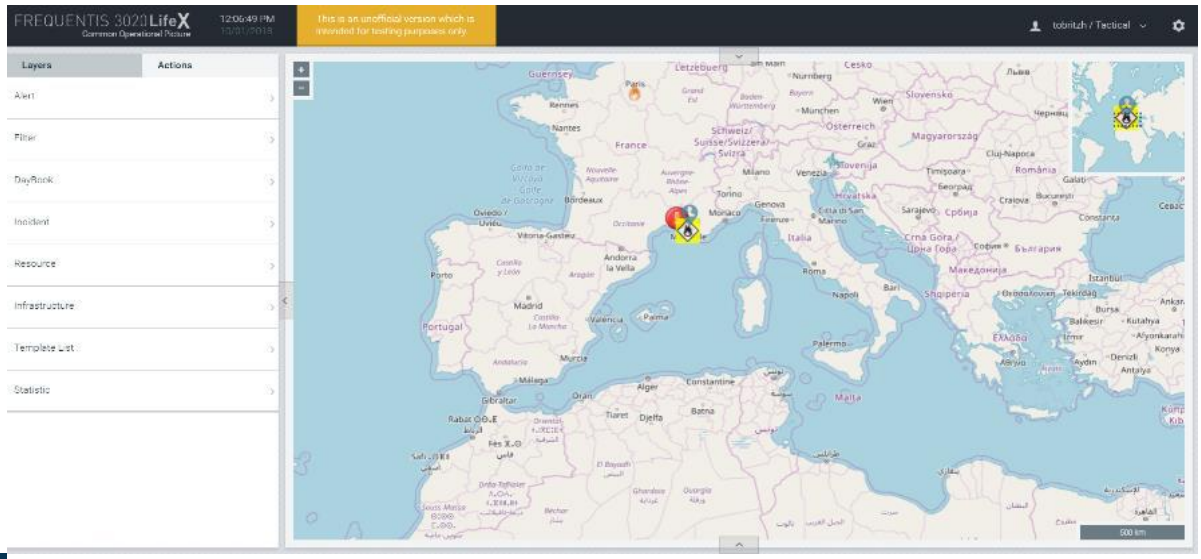
POSSIBLE ACTIONS



13

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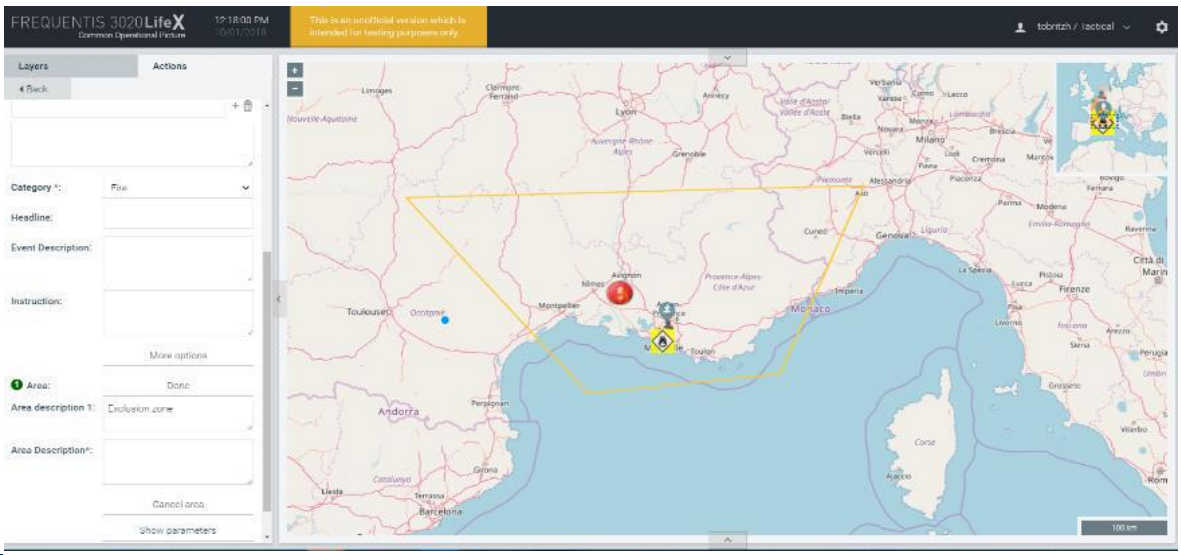
CREATING AN ALERT



14

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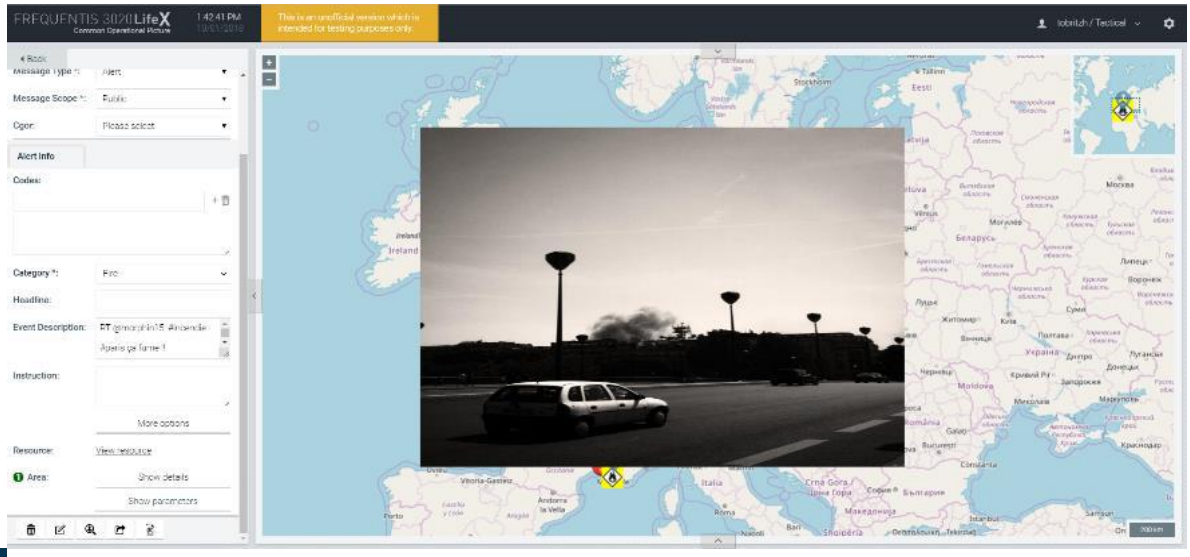
RESOURCE OF AN ALERT



15

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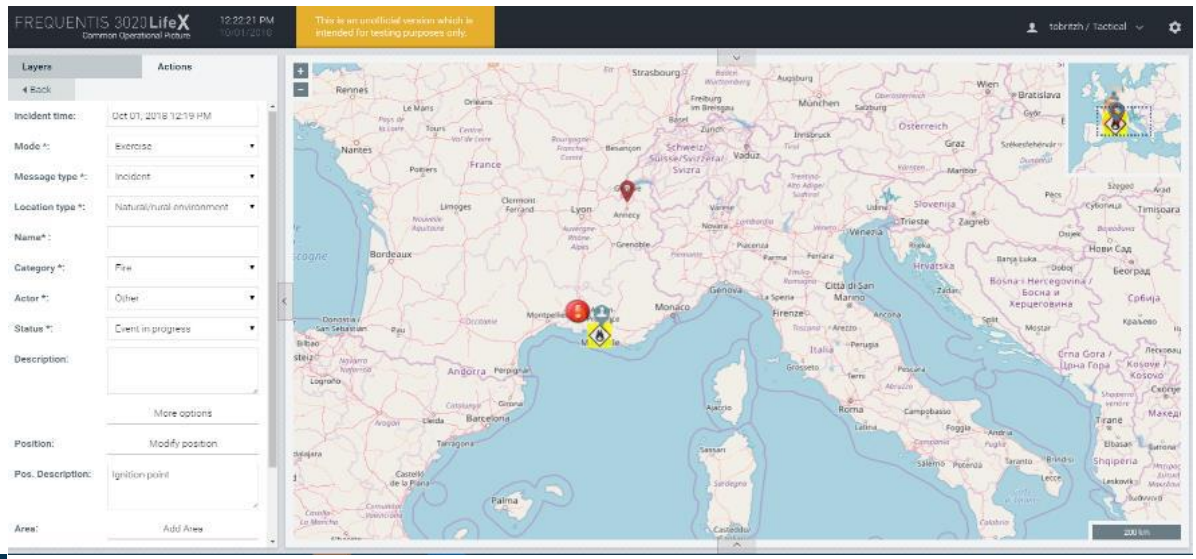
CREATING AN INCIDENT



16

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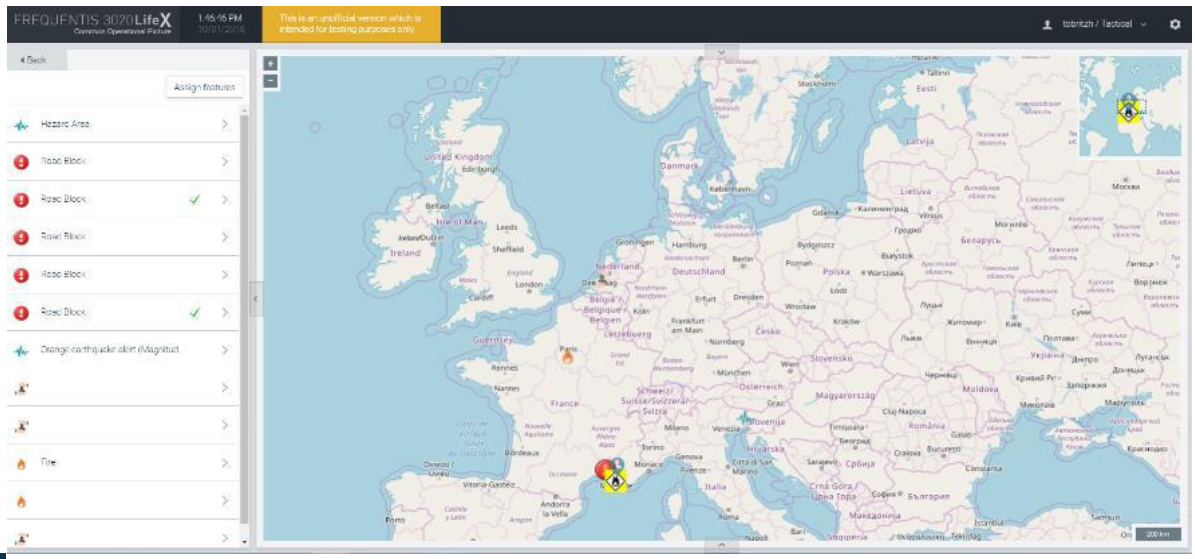
ASSIGNMENT OF ALERTS TO AN INCIDENT



17

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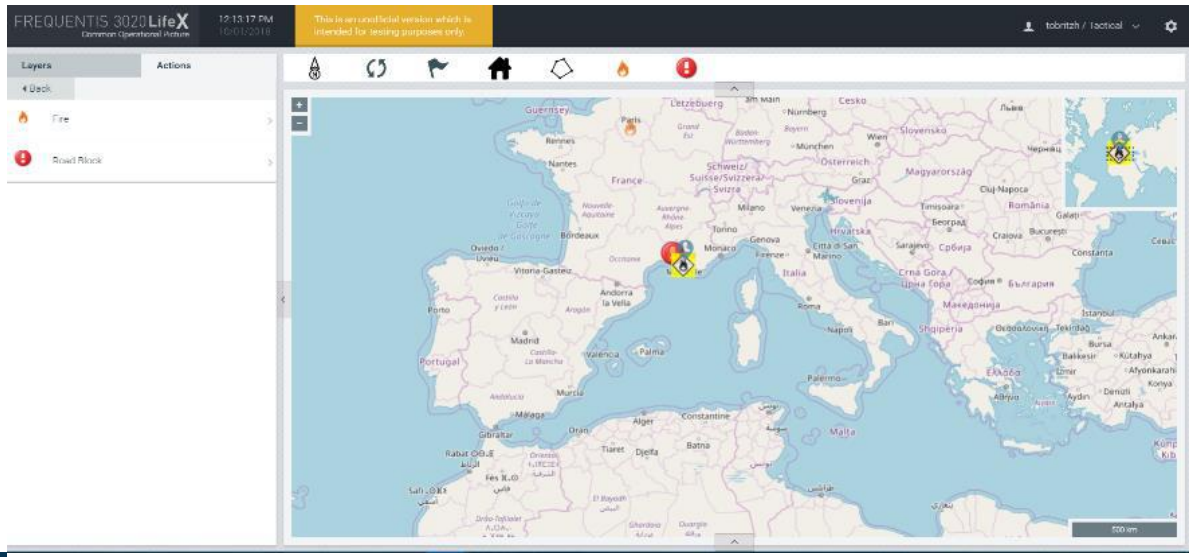
TEMPLATES



18

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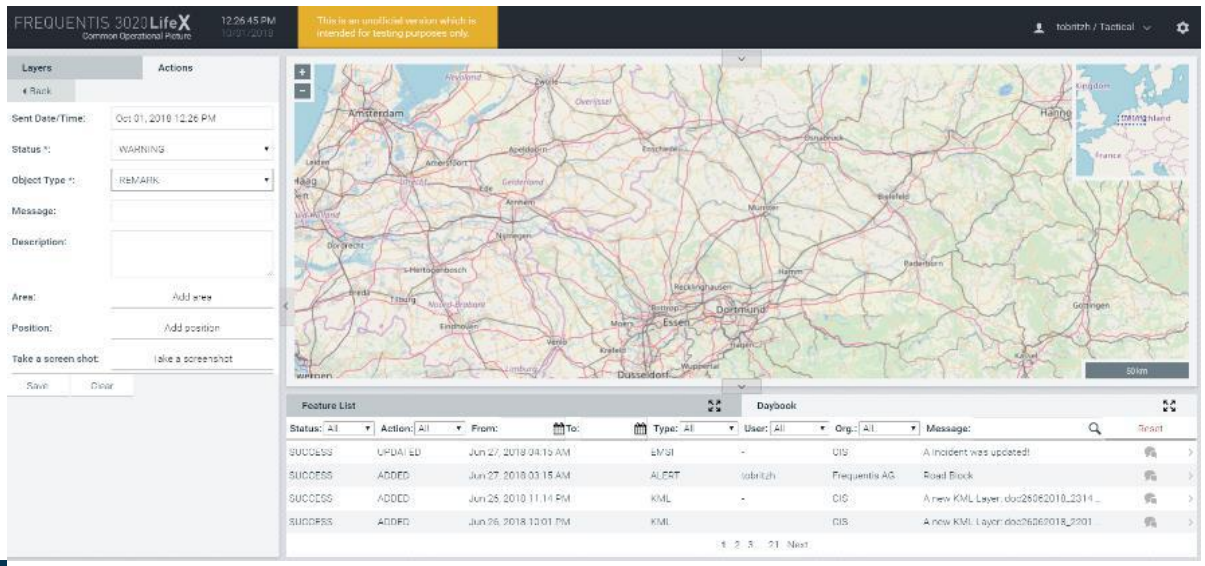
DAYBOOK



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THANK YOU.
ANY QUESTION?

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Interested in collaborating with us? - cooperation@projectdriver.eu
Communication and media contact communication@projectdriver.eu
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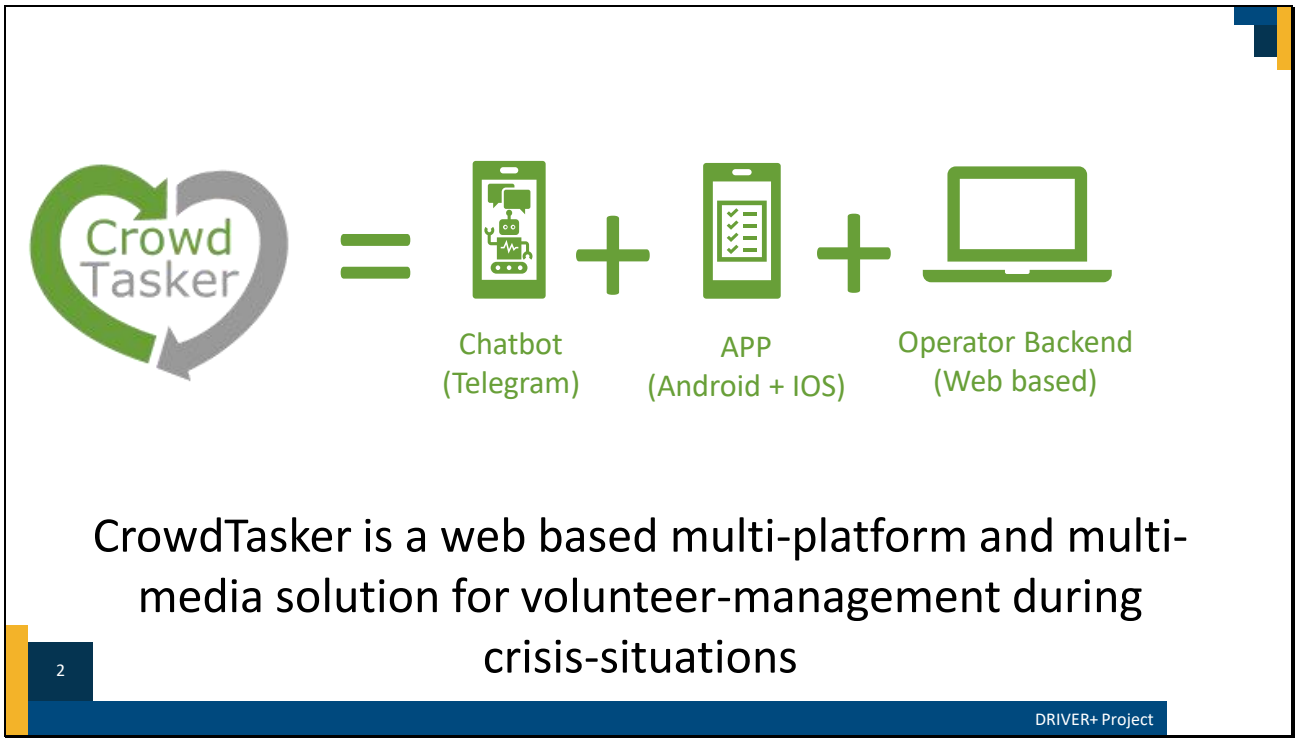
Annex 13 – Training material for Trial 3

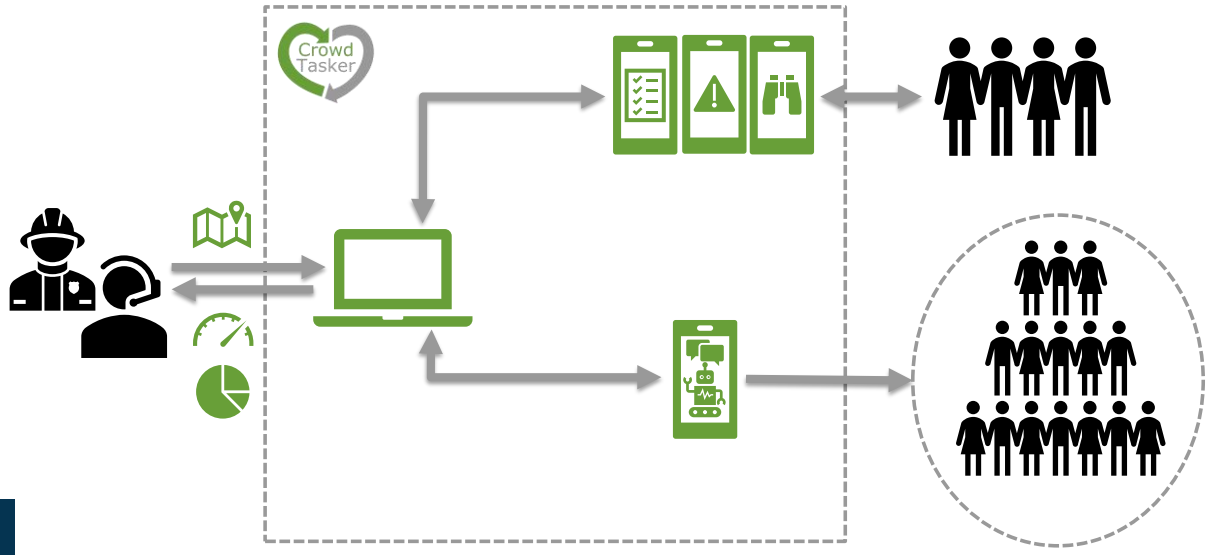
AIT CrowdTasker training material

The training documentation for the CrowdTasker solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/Driver%2B%20CrowdTasker.pptx.



CROWDTASKER

BIG PICTURE



3

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CROWDTASKER

FEATURES

- Instruct large numbers of volunteers with:
  - Customizable tasks
  - Contextual information
  - Warnings and alerts

- Receive, visualize and evaluate feedback to:
  - Get a detailed overview of the situation
  - Trigger adequate disaster relief services.

4

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CROWDTASKER

ADVANTAGES

When working with the volunteers that are already at a disaster site, CrowdTasker helps the crisis manager to:

- reduce the time and effort needed to exchange information with on site volunteers
- differentiate between volunteers based on their profiles (e.g. skills, health) and positions
- address the people that potentially possess local knowledge
- alleviate the workload for emergency and response organizations

5

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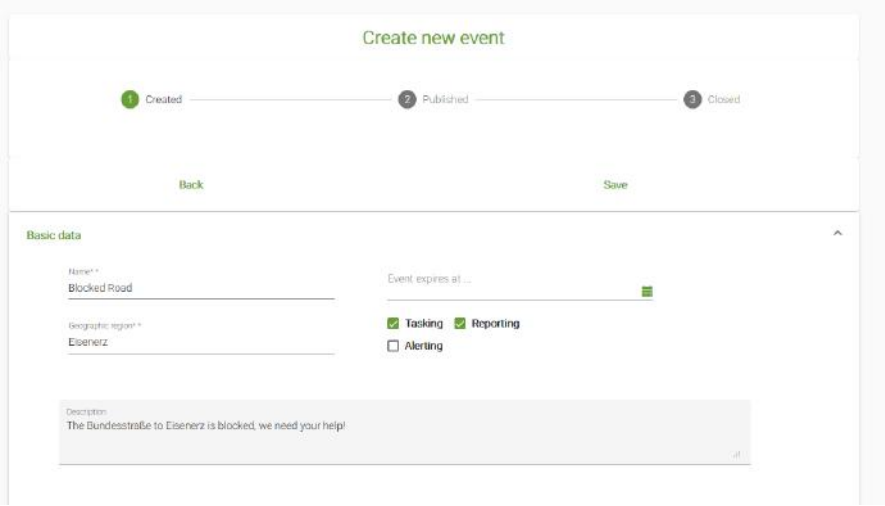
WORKFLOW

WORKFLOW – CREATE EVENT



6

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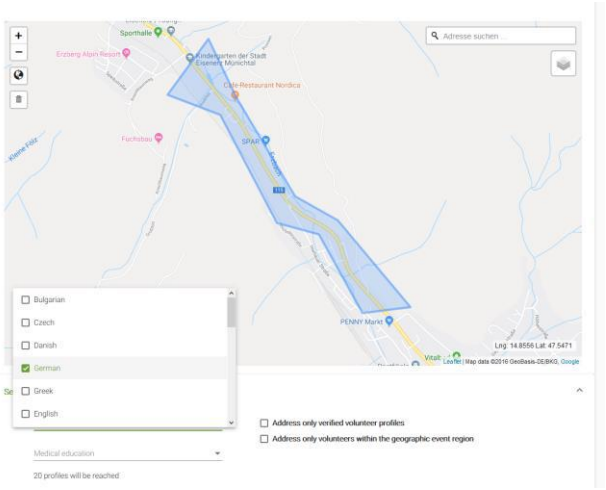
CROWDTASKER

WORKFLOW – CREATE EVENT



7

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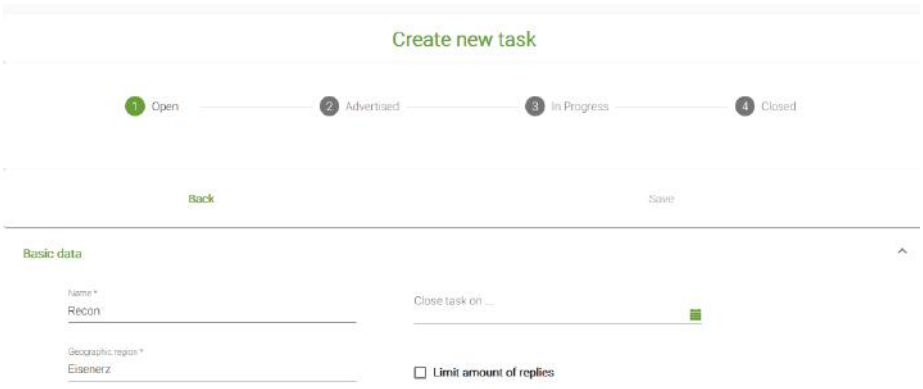
CROWDTASKER

WORKFLOW - CREATE AND ASSIGN TASKS



8

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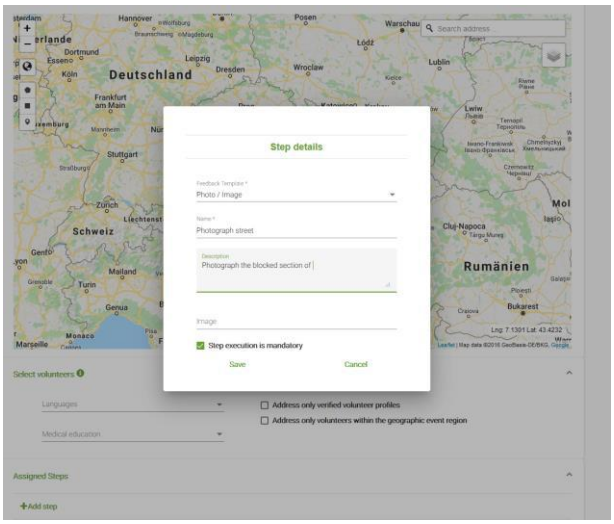
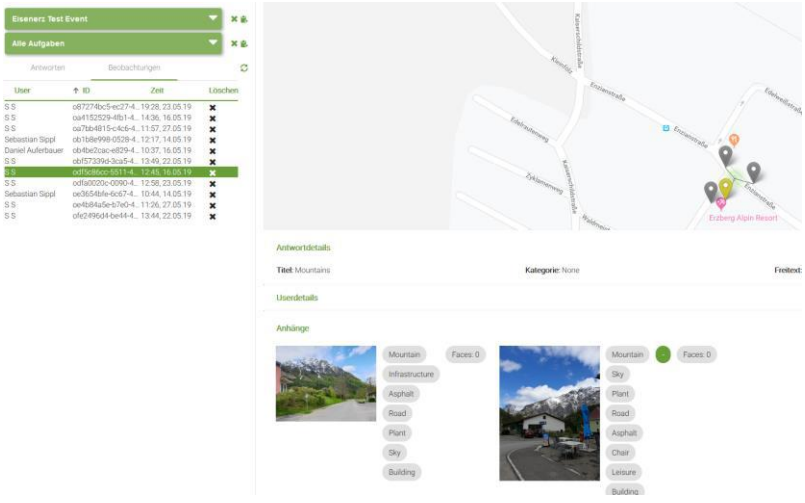
CROWDTASKER

WORKFLOW - CREATE AND ASSIGN TASKS



CROWDTASKER

WORKFLOW – ANALYZE RESULTS

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This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n° 607798. The information and views set out in this presentation are those of the author(s) and do not necessarily reflect the official opinion of the European Union
driver-project.eu

AnsuR ASiGN training material

The training documentation for the ASIGN solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/Driver%2B%20ASIGN%20presentation_0.pdf.

ASIGN PRO

SENDING PRECISE PHOTOS AND VIDEO THROUGH ANY AVAILABLE NETWORK

- ✓ Optimized to communicate through radio networks, as well as Satellite Communication and TETRA/TEDs.
- ✓ Smart bandwidth optimization and special protocols enable communication from the field despite low bandwidth.
- ✓ Focus the available network on operationally relevant contents to communicate precise photos and videos with up to 99% less bandwidth
- ✓ Faster and more efficient communication for quicker and better situational awareness and decision-making

3

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ASIGN PRO FEATURES

FIELD DATA COLLECTION TOOL

Menu
Login/Logout, Help and Settings

Message
Send geo-tagged text messages

Library
Manage submitted texts, forms and captured observations, push ROIs and send pictures onwards through email, messenger, etc.

Camera
Capture photos & videos.

Forms
Fill out pre-defined Assessment Forms

Tracking
Track your movements and send your location at desired time intervals

Geo Alerts
Set alerts when entering or exiting safe or danger zones

Live Import
Import photos from smartphone album without using ASIGN app

Live Mission Stream
See observations uploaded by team members

Collections
Manage observations and upload observations from phone storage

UAV Mode
Use smartphone as flying camera, select when & where photos taken automatically

Camera Interface
Upload photos and videos from professional DSLR cameras & GoPros

4

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ASIGN SERVER

USER, MISSION & INFORMATION MANAGEMENT

- User & Mission Creation and Management
- Data filtering and analysis
- Pulling full-quality 'Regions of Interest'
- Geo-Alerts
- Exporting data onto further mapping platforms

5

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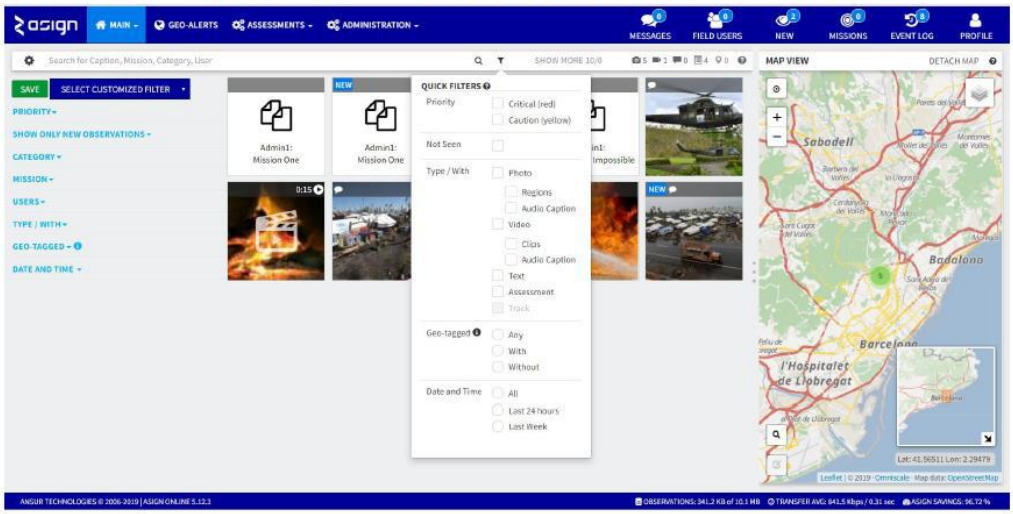
ASIGN SERVER DASHBOARD

FILTER BY USER, MISSION, PRIORITY, CATEGORY, OBSERVATION TYPE AND LOCATION



6

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INTEGRATION WITH DRIVER+ SOLUTIONS

In the past, ASIGN has been successfully integrated into mapping platforms such as the UNOSAT GDACS Live maps.

Within DRIVER+:

- ✓ Photos taken by ASIGN PRO users can be sent automatically from the ASIGN platform to the vieWTerra earth viewer.
- ✓ Mission can be automatically sent to vieWTerra and Crowdtaskr

7

DRIVER+ Project

CONTACT
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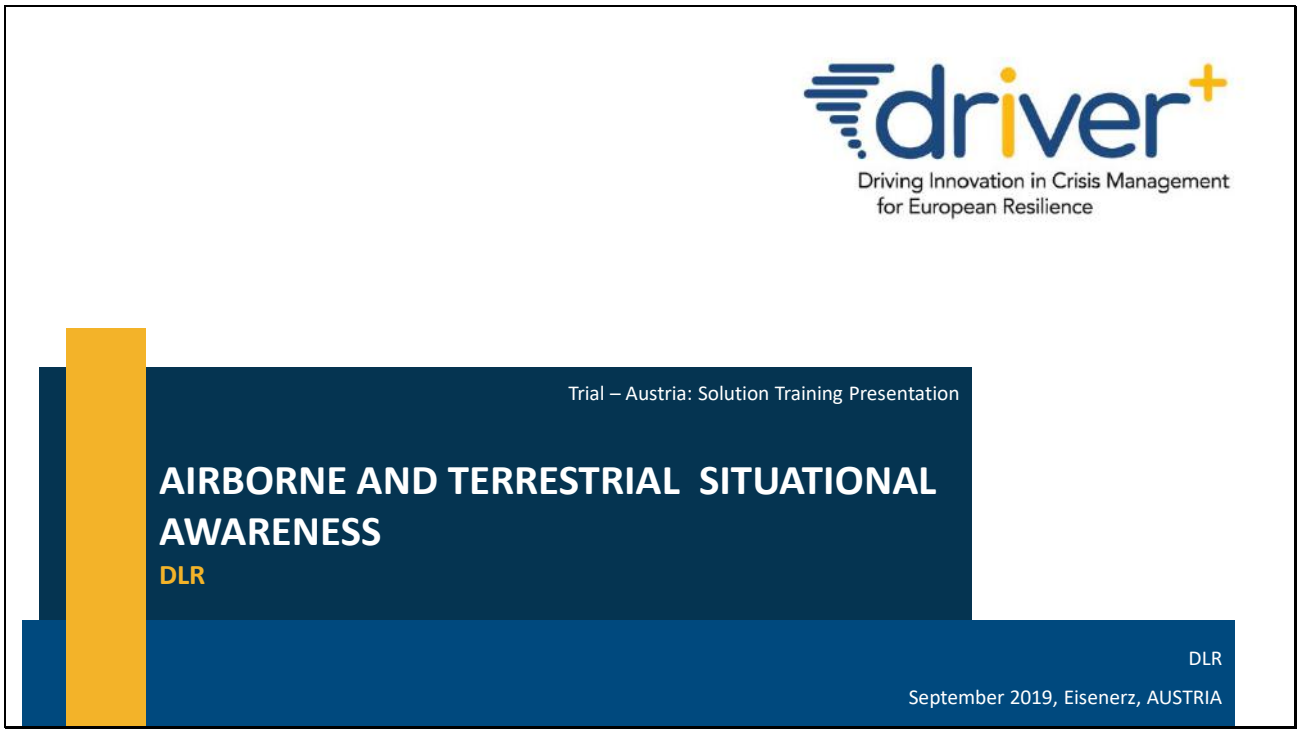
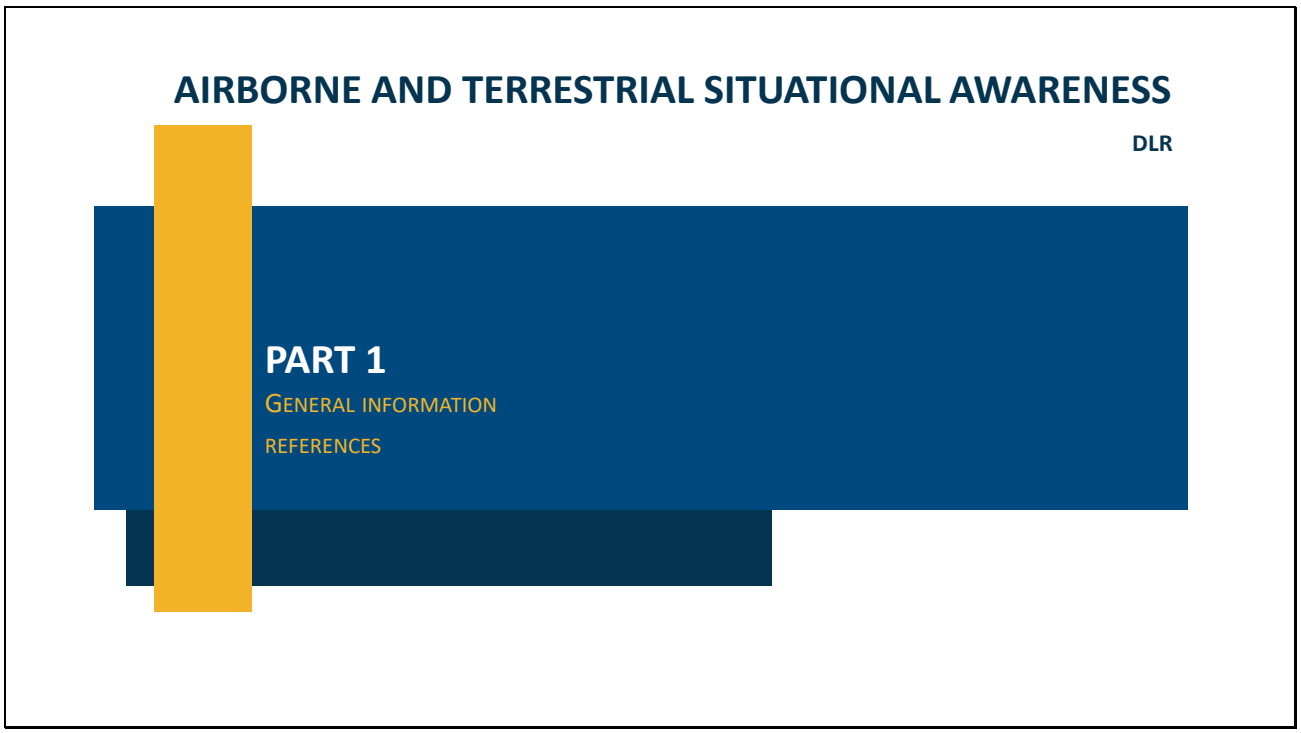
DLR Airborne and Terrestrial Situational Awareness (ATSA) training material

The training documentation for the ATSA solution for Trial 3 is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/DRIVER_TrialAT_Solution_Training_DLR_presentation_0.pptx.





AIRBORNE AND TERRESTRIAL SITUATIONAL AWARENESS

DLR

AIRBORNE AND TERRESTRIAL SITUATIONAL AWARENESS

DLR

Main features

Up-to-date aerial imagery to support decision-makers to get a better picture of the situation

- Aerial photos from the aircraft sent to the ground by data link, where they are made immediately available to the emergency services in standardized data format.
- Solution can provide 3D reference maps, usable for strategic planning, resource allocation and detection of landslides.

Flexible deployment of the solution

- React individually to the wishes of the operational command, prioritize certain areas or fly repeatedly.
- Full-size drone demonstrator Dornier Do-228 reaches remote and inaccessible areas not hindered by strong winds, rain or long flying distance.

4

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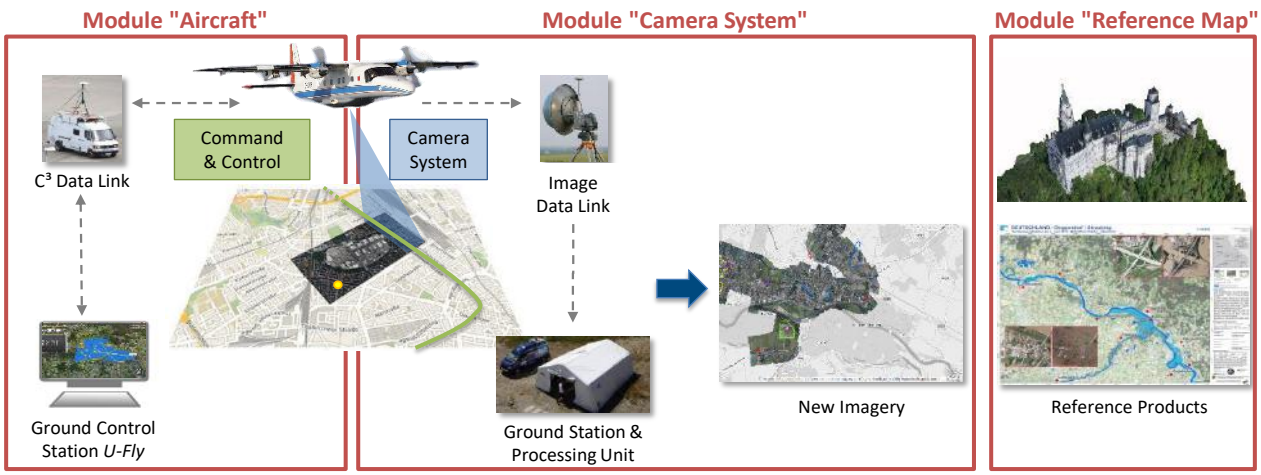
AIRBORNE AND TERRESTRIAL SITUATIONAL AWARENESS

DLR



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AIRBORNE AND TERRESTRIAL SITUATIONAL AWARENESS

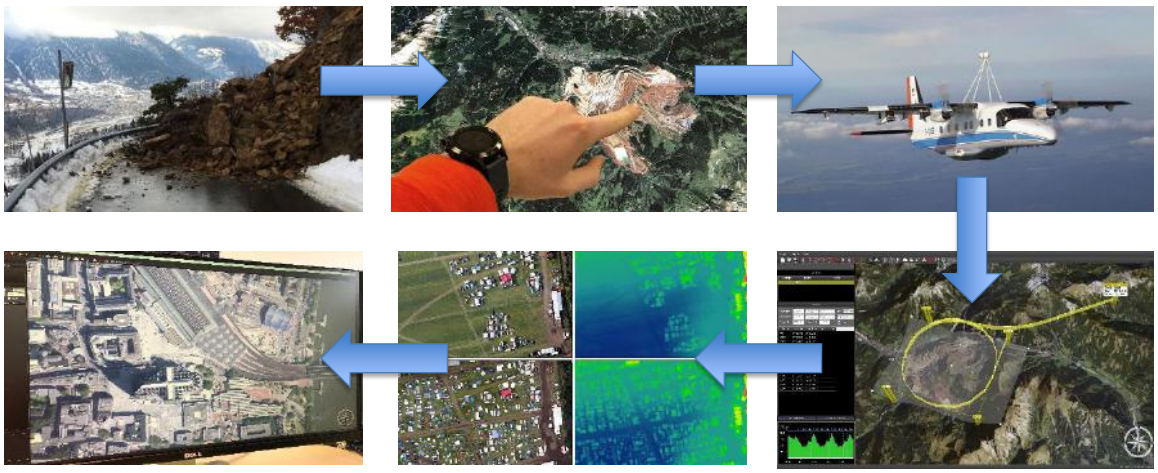
DLR

PART 2

TRIAL "AUSTRIA" ORIENTED USER STORY

AIRBORNE AND TERRESTRIAL SITUATIONAL AWARENESS

DLR



AIRBORNE AND TERRESTRIAL SITUATIONAL AWARENESS

DLR

User Story

- **Information for situation assessment** in near real-time: damage assessment, identification of access routes, planning of rescue forces and equipment and localisation of volunteers *without* endangering personnel.
- **Information for situation monitoring** in near real-time: identification of changes, monitoring of relief actions.
- Tailor-made data acquisition according to the requirements of the responsible parties.
- Provision of aerial imagery (GeoTIFF) and reference map products (JPG, GeoPDF).

8

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AIRBORNE AND TERRESTRIAL SITUATIONAL AWARENESS

DLR

PART 3

SOLUTION DEMONSTRATION

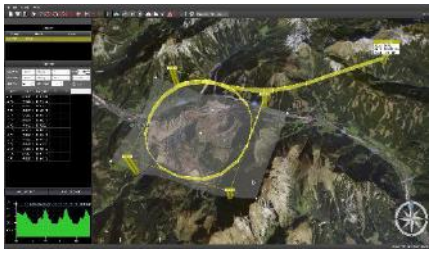
GV1

AIRBORNE AND TERRESTRIAL SITUATIONAL AWARENESS

DLR

Module “Aircraft”

→ Live demonstration



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AIRBORNE AND TERRESTRIAL SITUATIONAL AWARENESS

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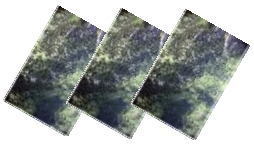
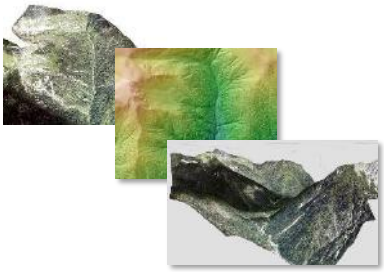
Module "Camera System"

Camera System

Data Transmission



Data Reception
&
Ground Station



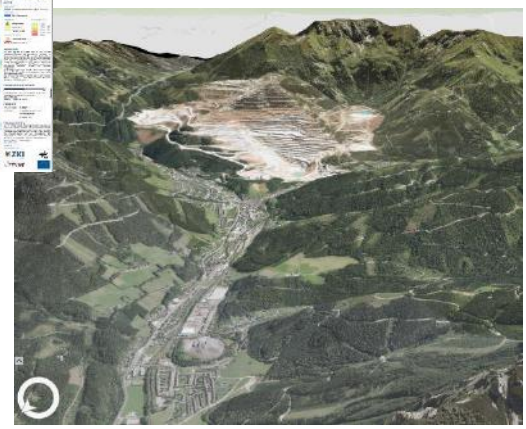
AIRBORNE AND TERRESTRIAL SITUATIONAL AWARENESS

DLR

Module “Reference Maps”

- Reference Maps

- 3D PDF
  - Explore 3D View
  - Measure
  - Comment




THANK YOU.
ANY QUESTION?
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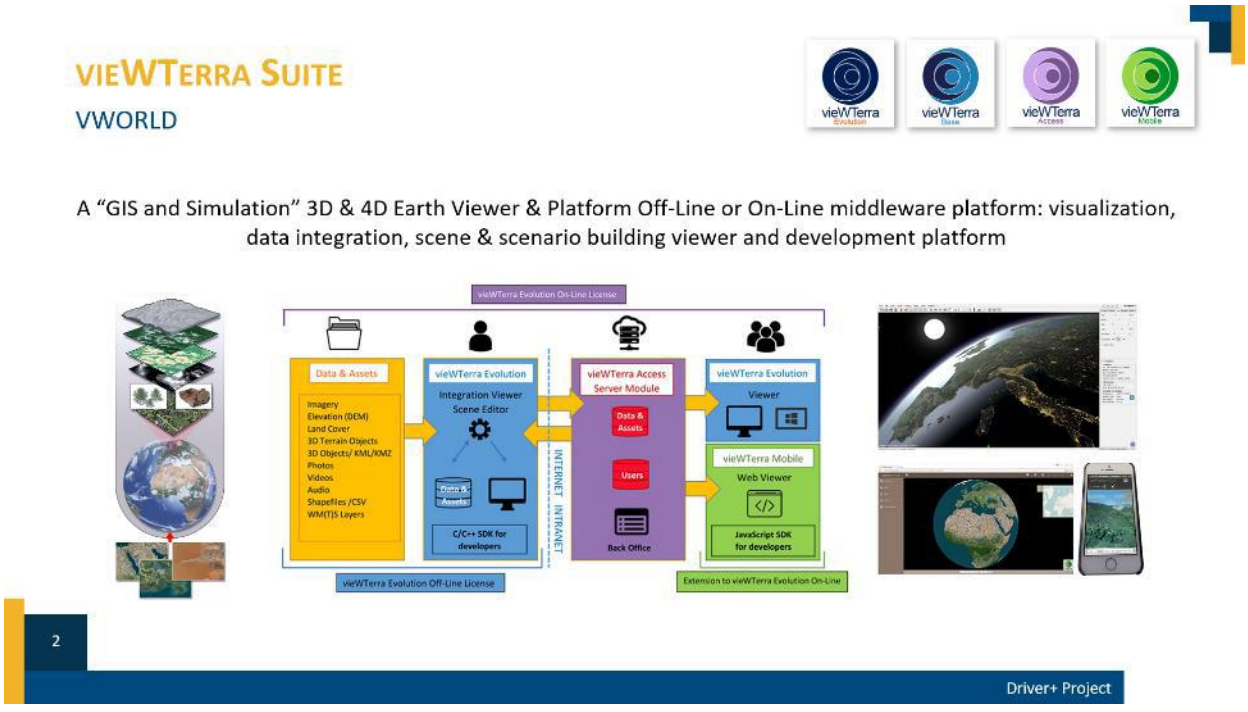
VWORLD vieWTerra Evolution training material

The training documentation for the vieWTerra solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/Driver%2B%20vieWTerra%20Suite%20Presentation.pptx.

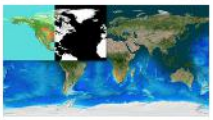


VIEWTERRA SUITE

VWORLD

Unique Positioning across GIS & Simulation markets, perceived unique assets for all phases of the Disaster Management cycle

- Complementary 3D and 4D real-time Globe Viewers, data & assets integration & development platforms
- Correct ellipsoidal Earth representation (WGS84)
- Cross platform: PC, tablets, smartphones: perfectly off-line (using cache out in-the-field) or on-line (Internet or Intranet)
- Single «One world» database : addresses interoperability issues, incorporating massive and disparate data sources; no limitation in terms of area modelling ; sharing of same data/assets by both software
- Provided global set of 29m Imagery, 90m DEM, 29m Land Cover mosaics as "base" resolution for the entire Earth
- Rapid integration of Imagery, DEM (including bathymetry), Land Cover (i.e. different ground types) up to 45 cm & photogrammetry or Lidar elevation models (Terrain) or 3D objects (e.g. buildings)
- Complementary data streaming supported (OGC WMS-WMTS cartography, accurate Imagery, local drapes)
- Easy and fast integration of multiple assets: shapefiles, cvs files, 2D map (disaster maps, evacuation routes, tactical situation, powerlines, rivers, roads ...), geotagged photos, videos, audio recordings, via simple drag & drop
- Real-time orthorectification of on-the-fly acquired Imagery data and display on the 3D Terrain (updated situation)
- 4D system / T (time) parameter: dynamic shadows/light and weather system (wind/snow/rain/mist...)
- GIS tools (distance, height, surface, profile, horizon 360°)
- Screenshots and videos recording mode



3

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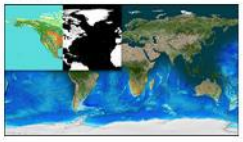
VIEWTERRA EVOLUTION

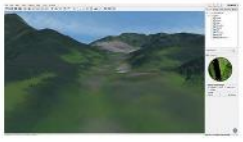
VWORLD

4D real-time Globe Viewers, data & assets integration:

- Provided global set of 29m cloud free Imagery, 90m DEM, 29m Land Cover mosaics as "base" resolution for the entire Earth, including Antarctica

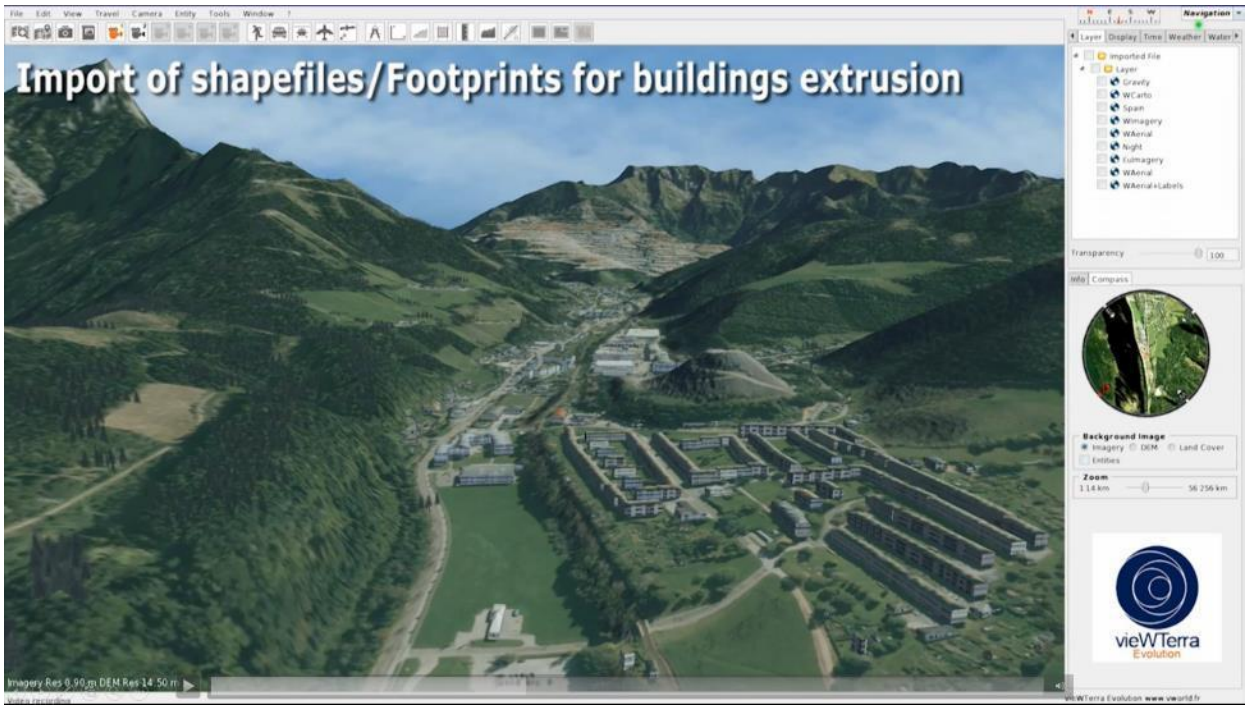


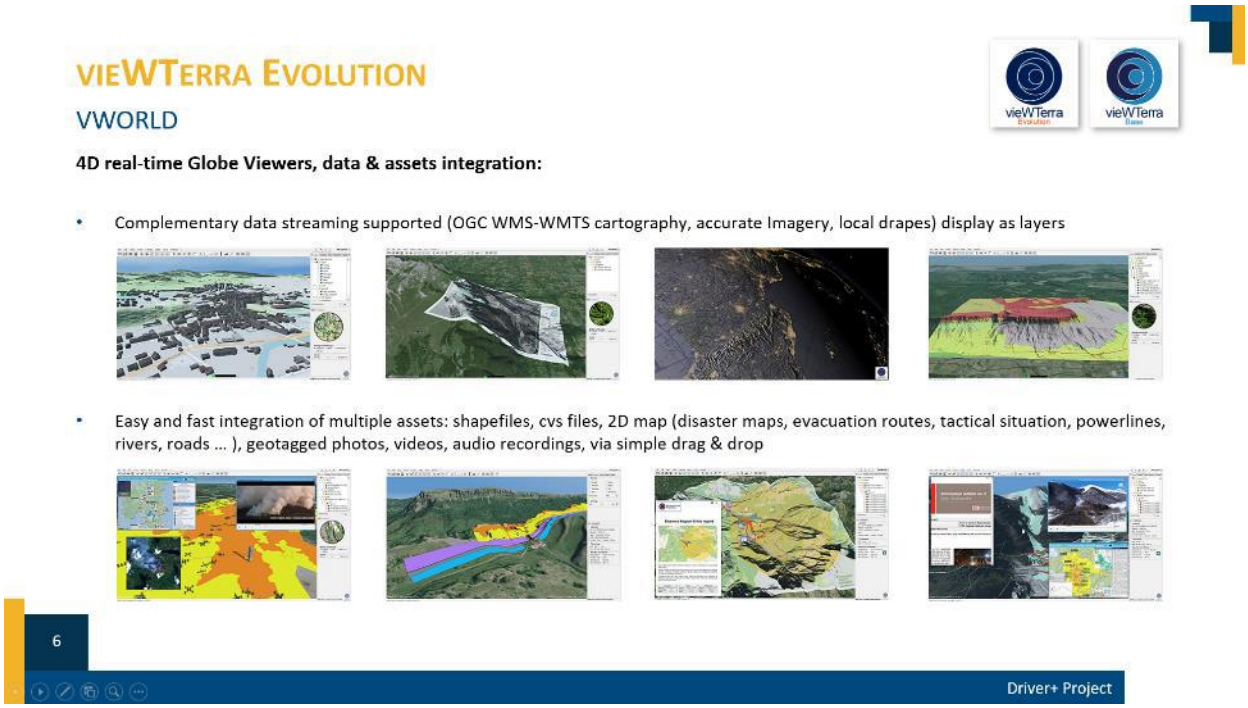

- Rapid integration of Imagery, DEM (including bathymetry), Land Cover (i.e. different ground types) up to 45 cm & photogrammetry or Lidar elevation models (Terrain) or 3D objects (e.g. buildings)

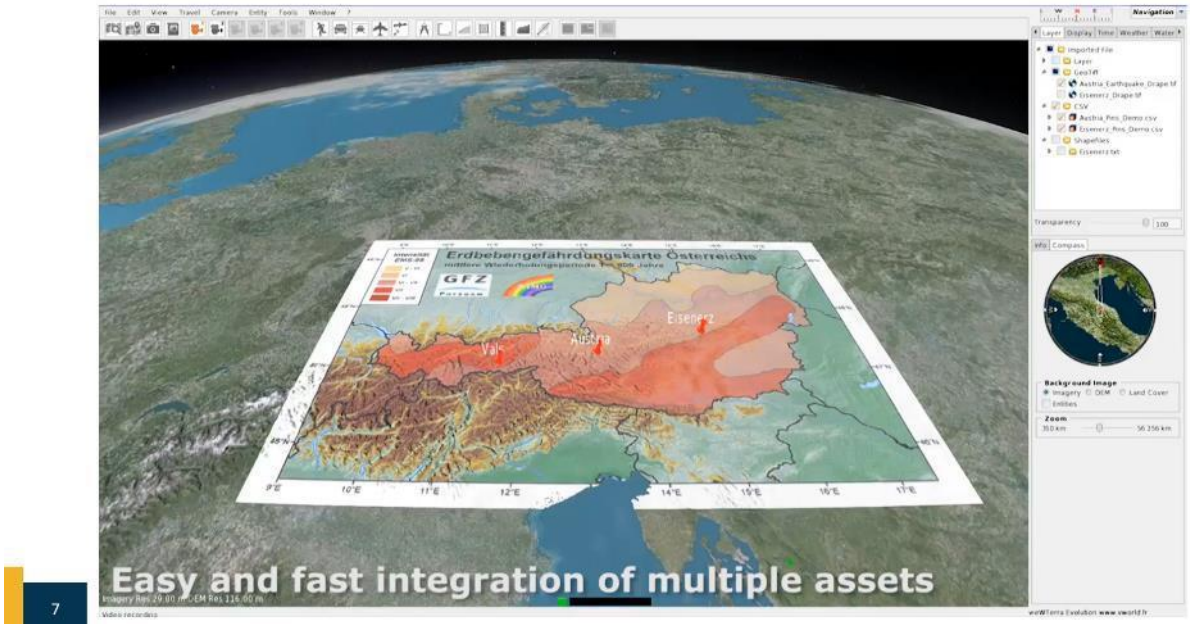



4

DRIVER+ Project


Import of shapefiles/Footprints for buildings extrusion
vieWTerra
Evolution


VIEWTERRA EVOLUTION
VWORLD
4D real-time Globe Viewers, data & assets integration:
Complementary data streaming supported (OGC WMS-WMTS cartography, accurate Imagery, local drapes) display as layers
Easy and fast integration of multiple assets: shapefiles, cvs files, 2D map (disaster maps, evacuation routes, tactical situation, powerlines, rivers, roads ...), geotagged photos, videos, audio recordings, via simple drag & drop
6
Driver+ Project



VIEWTERRA EVOLUTION

VWORLD

4D real-time Globe Viewers, Dynamic environment:

- 4D system/T (time) parameter: Celestial vault, dynamic shadows/light on terrain and objects, continuous time of day and seasonal changes
- Dynamic weather system:
  - Wind speed / direction (impacting clouds, sea states, vegetation, 3D objects)
  - Cloud cover
  - Temperature
  - Snow cover (variable snow mantle)
  - Precipitations (rain or snow depending on temperature)
  - Range (all weather parameters applied to a given area, extending or decreasing in a circle)
  - Visibility (changeable field of view, with more of less haze/fog in the distance)

8

Driver+ Project

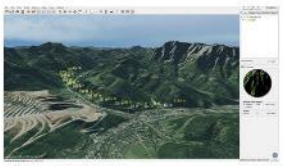
VIEWTERRA EVOLUTION

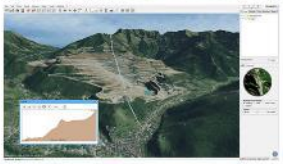
VWORLD

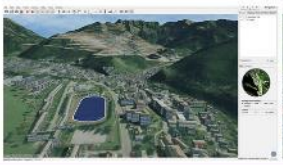
4D real-time Globe Viewers, GIS Tools:

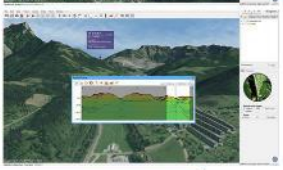
. a set of sophisticated and user-friendly GIS measuring tools, including:

- 2D Measuring Tool: measures the distance between 2 or more points
- 3D Measuring Tool: measures the distance between 2 or more points while taking the elevation into consideration
- Surface Measuring Tool: determines the surface of any area, including whole countries or continents
- Height Measuring Tool: measures the height of any object or geographical feature
- Profile Tool: measures the (Elevation) profile for a line drawn between 2 or more points. Results are shown as a 2D graph with detailed information.
- Horizon Tool: measures the horizon, 360 degrees around a chosen point. Results are shown as a graph with detailed information and extra visualization capabilities showing 2D display of ridgelines, viewsheds, elevations, objects detection etc.
- 3D Lines Tool: allows drawing of 3D lines anywhere on the surface including water, 3D Objects, footprints, dynamic entities, Terrain Objects...









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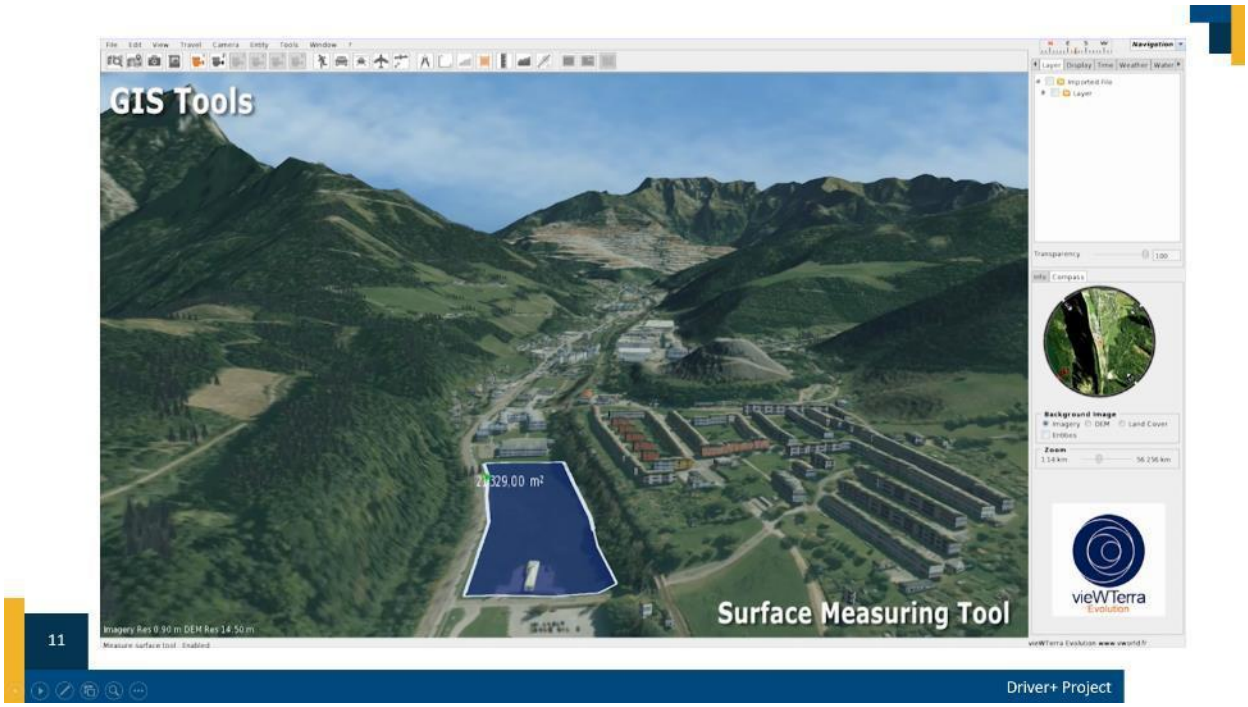


VIEWTERRA EVOLUTION

VWORLD

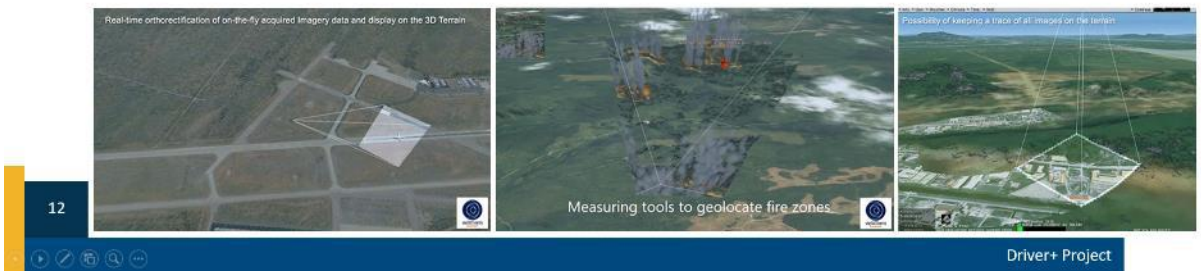
4D real-time Globe Viewers, real-time orthorectification:

- Real-time orthorectification of on-the-fly acquired Imagery data and display on the 3D Terrain (updated situation)

  - Real-time retrieval of images acquired by a remote platform (drone, plane), with the GPS coordinates of each corner of the images and the information yaw, roll and pitch of the camera, Field of view

  - Real Time Orthorectification with Elevation Data (DEM)

  - Draping images on 3D terrain



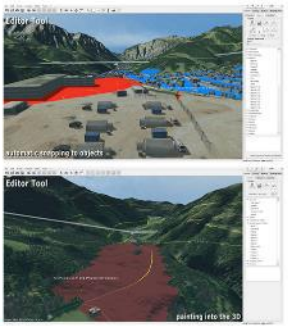
VIEWTERRA EVOLUTION

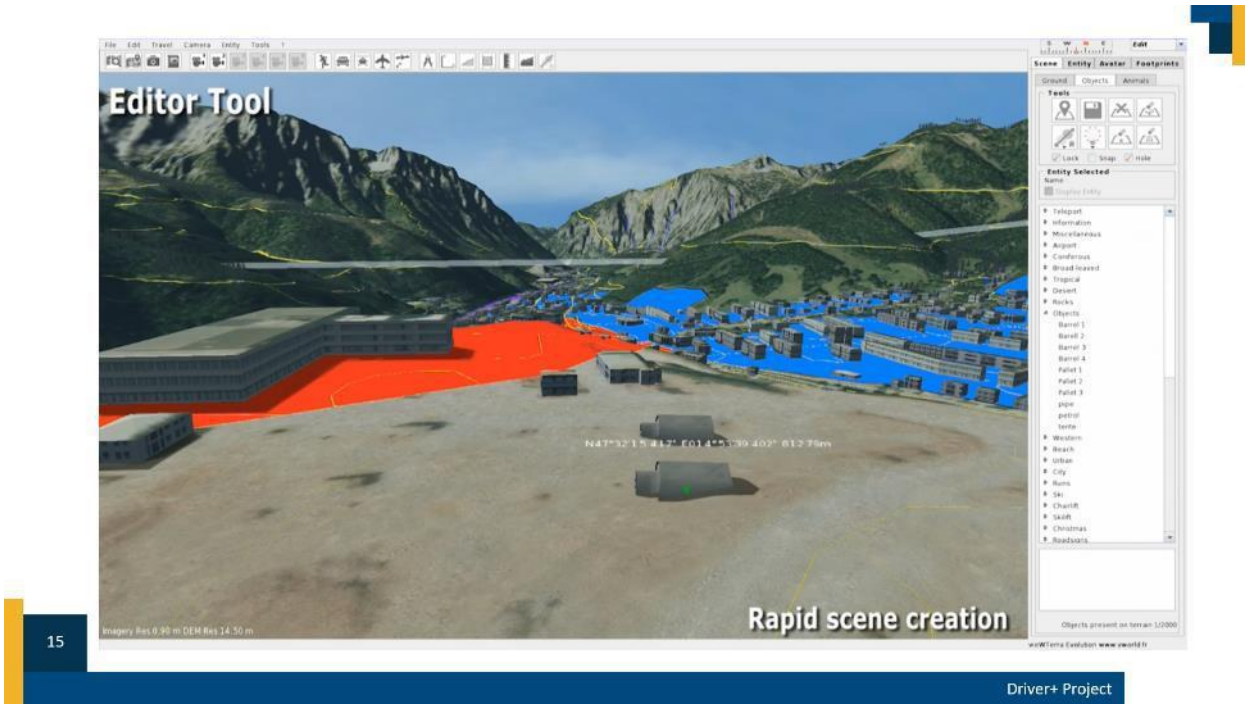
VWORLD

4D real-time Globe Viewers, editor tool:

Thanks to the dynamic controls and the user-friendly Editor Tool embedded into the vieWTerra Viewer, various scenarios can be quickly implemented, dynamically changed and recorded.

- Easy positioning of objects (place, rotate, scale, etc) and editing of terrains in real-time, directly into the 3D Window; instant visualization of changes
- Expandable Bank of Objects and ground types
- Complex 3D scenes creation with dynamic shadows and weather automatically impacting terrain and objects
- Rapid scenario creation through various controls and introduction of user-controllable entities/FXs
- Integrated easy-to-use painting and drawing functions to create custom ground cover (forests, fields, water, sand, pebbles, etc...), Vertex and Texture Editor Tools to erect new 3D buildings (with the possibility of customizing each façade)




Editor Tool
Rapid scene creation
15
Driver+ Project


VIEWTERRA EVOLUTION
VWORLD
4D real-time Globe Viewers, dynamic entities:
vieWTerra Evolution includes several types of user-controllable entities/transportation means users can choose from
the Entity Menu, and control by using various keyboard keys:
vieWTerra Evolution includes several types of user-controllable entities/transportation means users can choose from
the Entity Menu, and control by using various keyboard keys:
- Human/avatar
- Parachute
- Glider
- Snowbike
- Car
- Boat
- Bathyscaphe
- Balloon
- Helicopter
- Aircraft
- Rocket
- Space shuttle
- Satellite...
16
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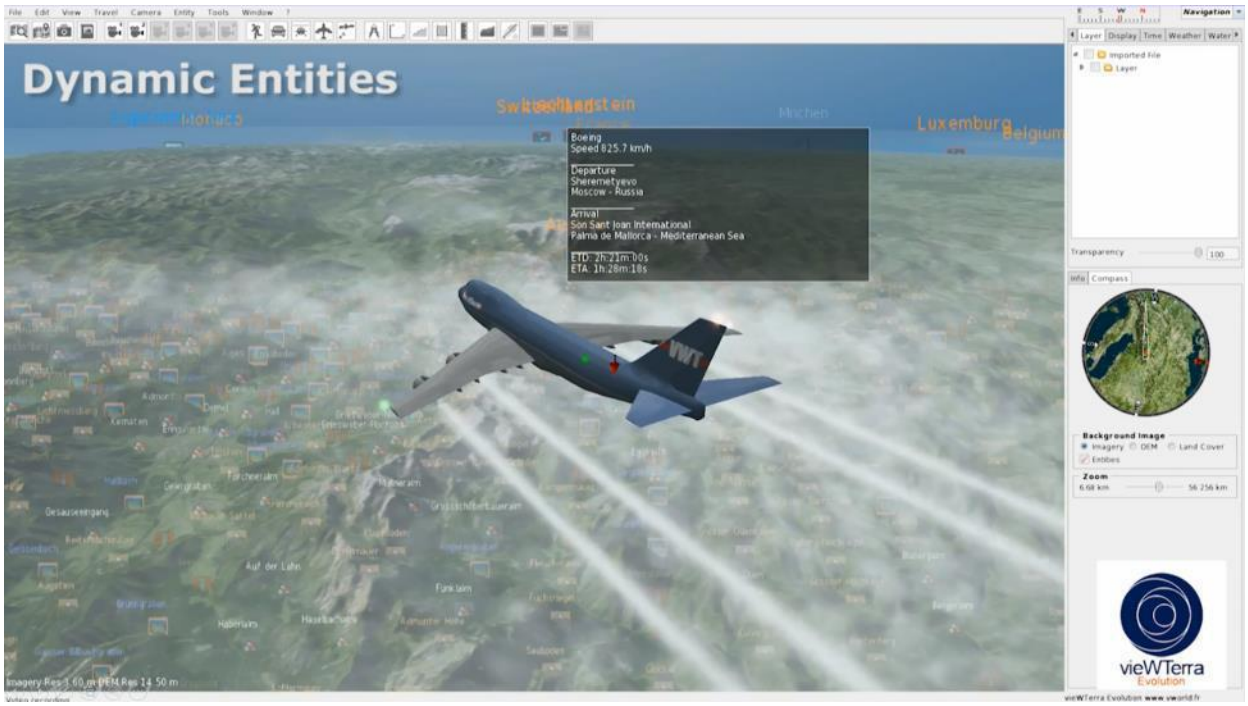


VIEWTERRA EVOLUTION

VWORLD

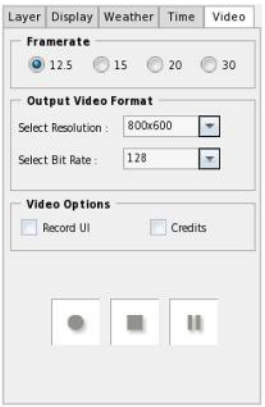
4D real-time Globe Viewers:

Screenshots and videos recording mode:

If you click **File/Screenshot,** a screenshot will be taken of the 3D Window and placed in the **shots folder** at the root of your vieWTerra folder. You can choose either, take the screenshot with the User Interface or without, and set the quality of the screenshot.

The Video Tab Page allows you to easily record videos, with or without the User Interface.

First choose the **desired frame rate**, then select the **video resolution** you would like and the **bit rate**. If you would like the **User Interface** to appear in the recorded video, please check the appropriate box in the **Video Options** pane. By checking the **Credits** box, the vieWTerra Evolution Credits appear at the end of the video.



18

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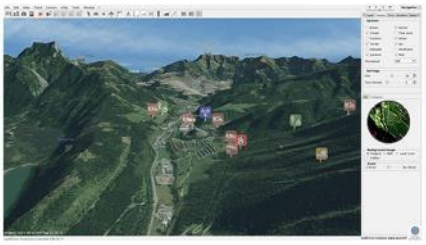
VIEWTERRA EVOLUTION

VWORLD

4D real-time Globe Viewers, Off-Line and On-Line mode:

- sharing and exchange of assets online ; distributed simulation; real-time display and tracking of moving icons or 3D entities (through communication protocol)

vieWTerra Evolution can be used as a visualization tool for entities for which the data are being sent by a third party software by UDP protocol. In case of a drone the footage can be watched while it is being filmed.



19

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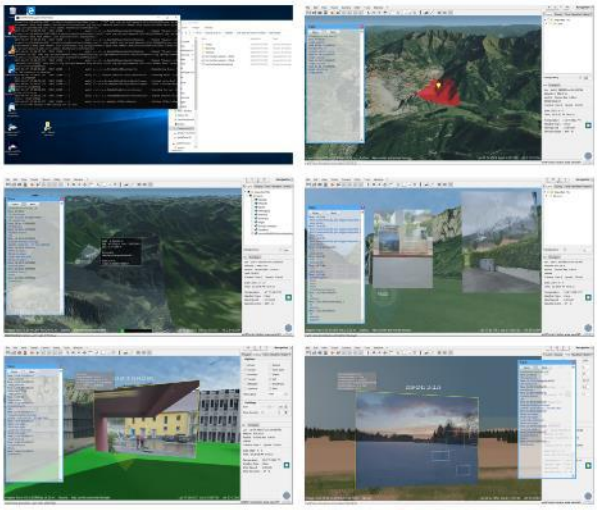
VIEWTERRA EVOLUTION

VWORLD

Trial Austria assets/functions:

- Connection to the test-bed
- Trace window and pins
- Display OGC Stream (DLR)
- Display Geotagged photo (Crowd Tasker)
- Display Geo-oriented (3D) photo (ASIGN)
- Display Danger zone (Crowd Tasker - ASIGN)



20

Driver+ Project


VWORLD
driver+
Driving Innovation in Crisis Management
for European Resilience
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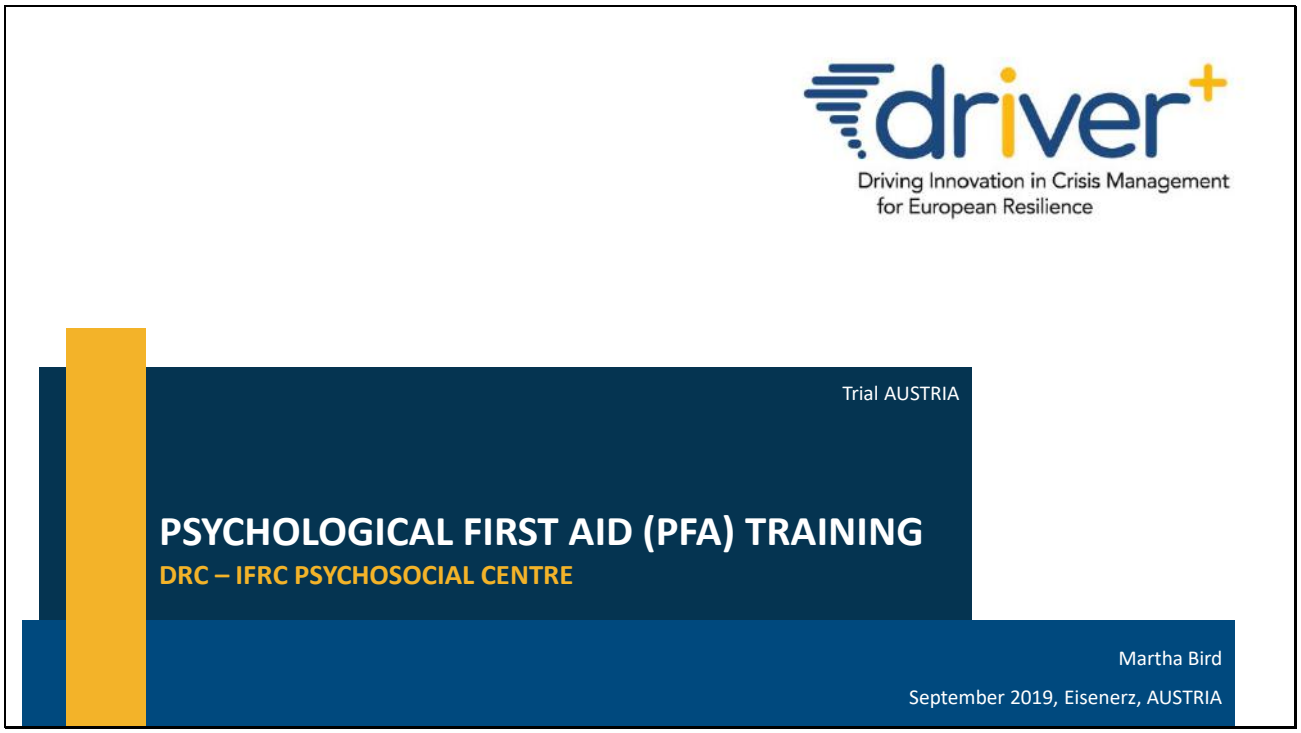
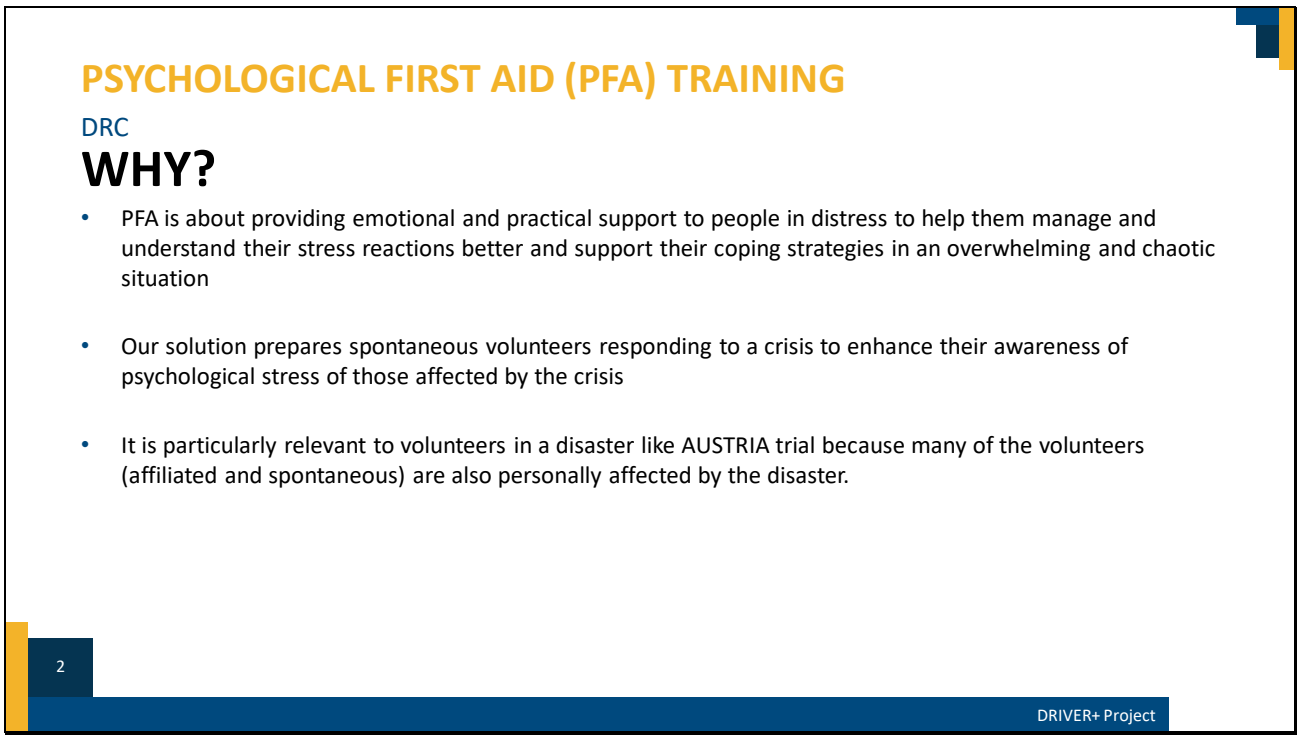
Florence Lévèque: fleveque@vworld.fr
Jean-François Lévigne: jflevigne@vworld.fr

DRC Psychological First Aid training material

The training documentation for the PFA solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/DRIVER%2B_common%20solution%20training%2005JUL2019.pptx.



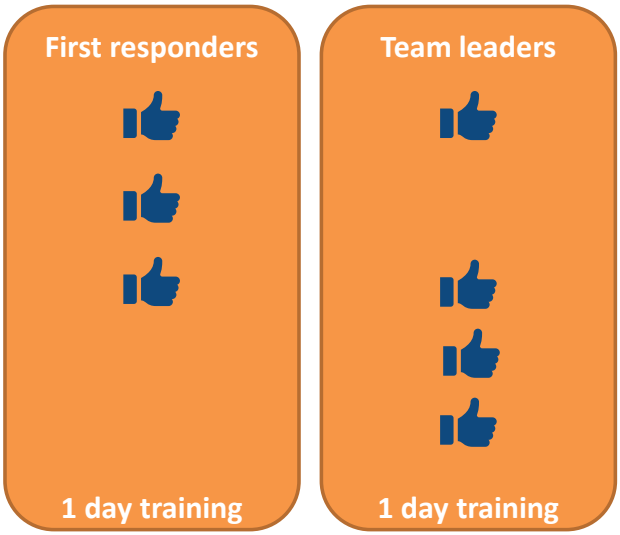


PSYCHOLOGICAL FIRST AID (PFA) TRAINING

DRC

WHAT?

- Staff and volunteers can recognize and support people with PFA during and after a crisis
- Increased self confidence in providing PFA to affected population
- Increased awareness on self-care strategies
- Team leaders recognise stress reactions in team members
- Team leader apply PFA to staff and volunteers who may display stress reactions after responding to a crisis event



3

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SCENARIO ENABLED PSYCHOLOGICAL FIRST AID (PFA) TRAINING

DRC

WHO?

Staff:

- First responders – incl. Spontaneous volunteers
- Team leaders at field level

4

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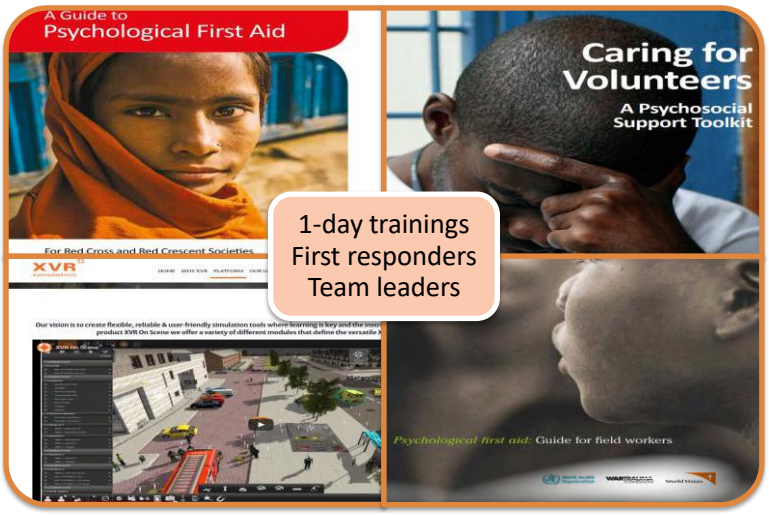
SCENARIO ENABLED PSYCHOLOGICAL FIRST AID (PFA) TRAINING

DRC - CONCEPT



5

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SCENARIO ENABLED PSYCHOLOGICAL FIRST AID (PFA) TRAINING

DRC

6

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SCENARIO ENABLED PSYCHOLOGICAL FIRST AID (PFA) TRAINING

DRC

7

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THANK YOU.

ANY QUESTION?

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Annex 14 – Training material for Trial 4

Merlin CrisisSuite training material

The training documentation for the CrisisSuite solution is presented in Annex 12 and is also available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/Driver%2B%20CrisisSuite%20presentation.pptx.

WWU HumLogSim training material

The training documentation for the HumLogSim solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/DRIVER%2B%20Trial%204%20HumLogSim%20Training%20Intro.pptx.

Michael Middelhoff

Adam Widera

Felix Hummel

2

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Humanitarian Logistics Simulation @Safety Region

SIMULATION OF HUMANITARIAN SUPPLY CHAINS

3

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EVACUATION OF POPULATION

URBAN AREA THREATENED BY FLOOD

4

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EVACUATION OF POPULATION

URBAN AREA THREATENED BY FLOOD

- **Send forces to affected area.**
  - Police, medical, military ...
- **Evacuate affected population.**
  - Cars, busses, trains ...
- **Setup camps to rescue people**
  - Supplies, forces ...
- **Assess and compare strategies**
  - Time & resources needed

5

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INFORMATION ON THE RELIEVE NETWORK

MASTER DATA – „WHAT WE KNOW“

- Supply Locations
- Evacuation Sites
- Public Transports
- Fire Departments
- Hospitals & Ambulances
- Police Departments
- Cross Docking Ports
- Statistics on Transport Types
- Statistics on Population by Area

6

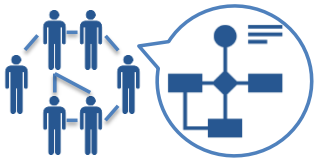
DRIVER+ Project

SIMULATION ENVIRONMENT

SPECIALIZED TO THE HUMANITARIAN DOMAIN

anylogic®

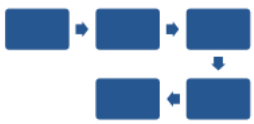
Agent-based Simulation



- Simulates actions and interactions of autonomous agents.
- Each agent (bus, ambulance, hospital, person, …) has own behaviours and objectives in a shared environment.

✓ **Dynamics of the humanitarian network are depicted.**

Discrete-event Simulation



- Simulates actions and interactions according to events.
- At discrete moments in time, an action is performed or a change to the shared environment is recorded.

✓ **Procedures in the network are described in detail.**

7

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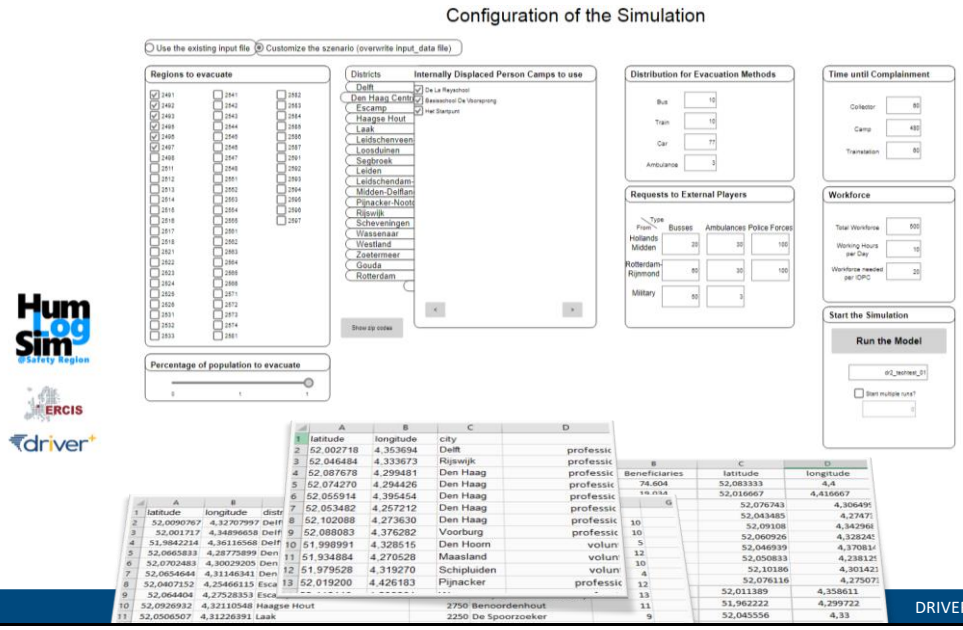
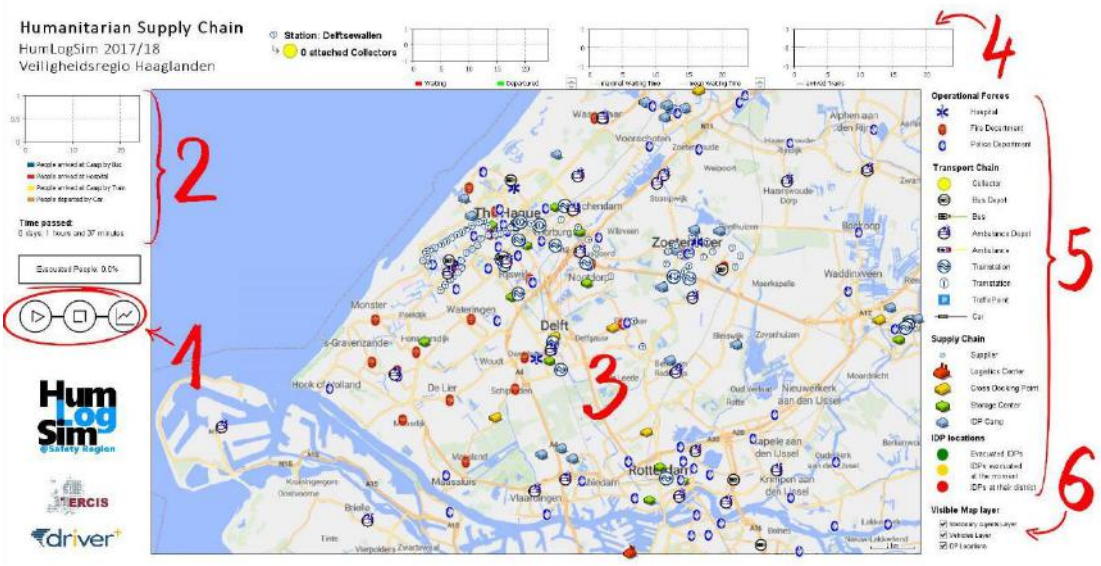
SETUP DIFFERENT EVACUATION STRATEGIES



OBSERVE THE SIMULATION AT RUNTIME



TESTING OF EVACUATION STRATEGIES

POSSIBILITY TO TRY AND COMPARE DIFFERENT SCENARIOS

Best case

- Less people affected, long time until flooding, many resources

Worst case

- Many people affected, short time until flooding, limited resources

Likely case

- People affected by prediction, one day until flooding, regular resources

10

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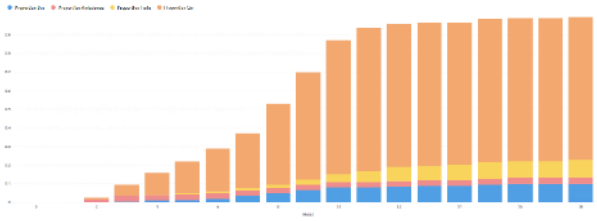
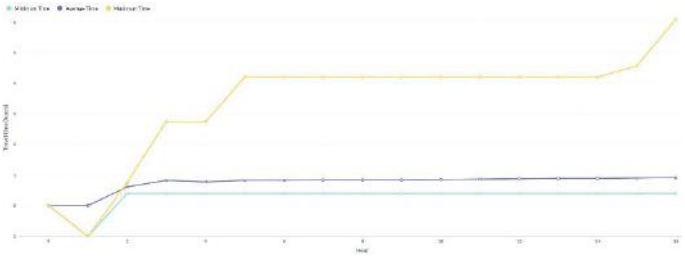
COMPARISON OF EVACUATION SCENARIOS

e.g. distribution over means of transportation over time



e.g. Duration of evacuation missions over time



Progression over Time

Cost Estimation

Resource Consumption

Geographical Distribution

11

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DLR KeepOperational training material

The training documentation for the KeepOperational solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/DRIVER%2B%20KeepOperational_introduction_final.pptx.

driver+
Driving Innovation in Crisis Management for European Resilience

KEEPOPERATIONAL

INTRODUCTION

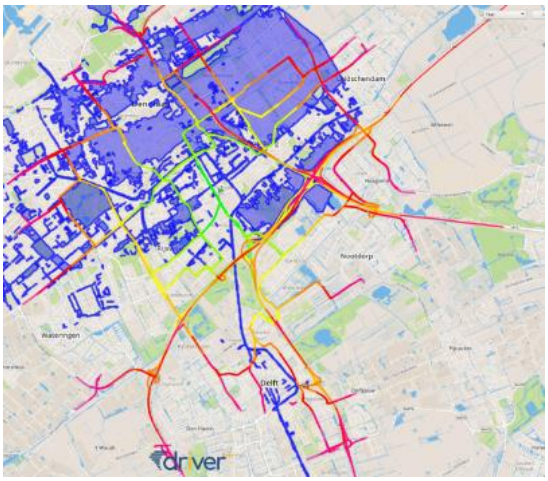
Ronald Nippold, Eric Neidhardt, Carsten Dalaff

10.04.2019 – The Hague

KEEPOPERATIONAL

Situational Awareness

Web-Service for efficient transport planning for professional responders



2

DRIVER+ Project

KEEPOPERATIONAL

MAIN FEATURES

Feature	Issue
Monitoring	• Repeatedly data acquisition and derivation of information allows for change detection analyses (not addressed in the trial)
Assessment	• Determination of disaster extent
Decision support	• Disaster extent and traffic situation (not addressed in the trial)
Logistics	• Optimised route planning for convoys / special vehicles

For large scale events

For professional responders

3

DRIVER+ Project

KEEPOPERATIONAL

MODULES/FUNCTIONALITIES

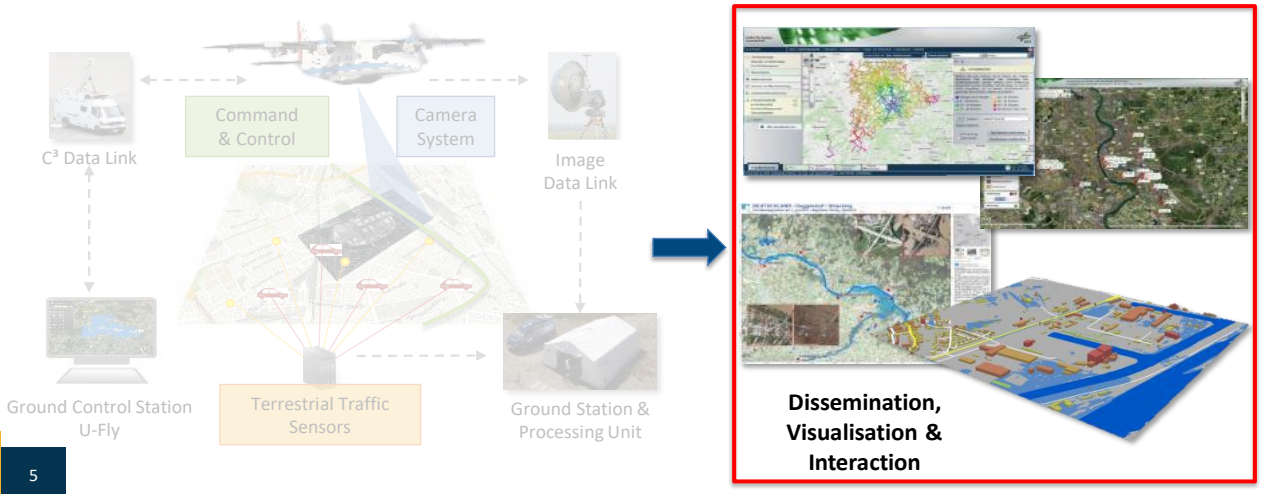
- Basic Map
- Routing
- Accessibility
- Net adaption

4

DRIVER+ Project

KEEPOPERATIONAL

BACKGROUND INFORMATION



5

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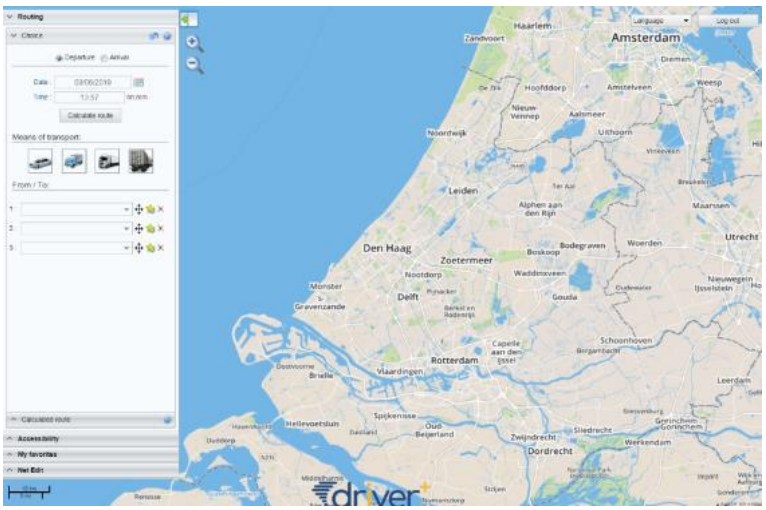
KEEPOPERATIONAL

DASHBOARD

- Start screen after login
- Functions in left Menu
- Map center on Den Haag



6

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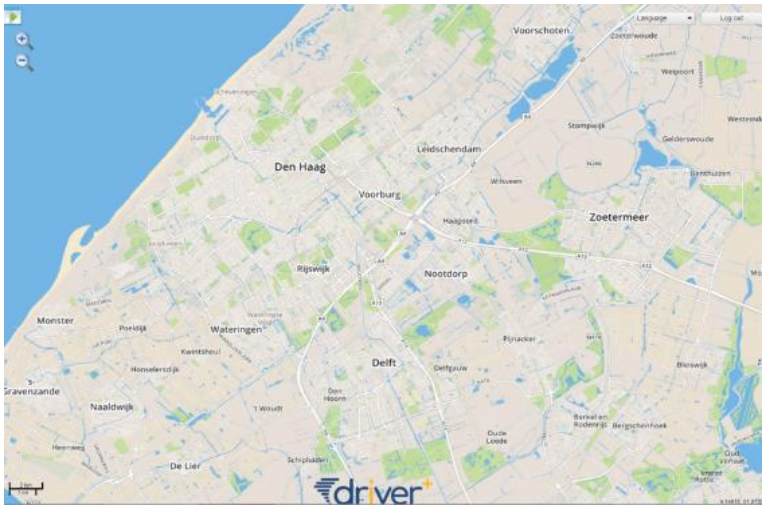
KEEPOPERATIONAL

BASIC MAP

- Scroll
- Zoom in/out
- Change language



7

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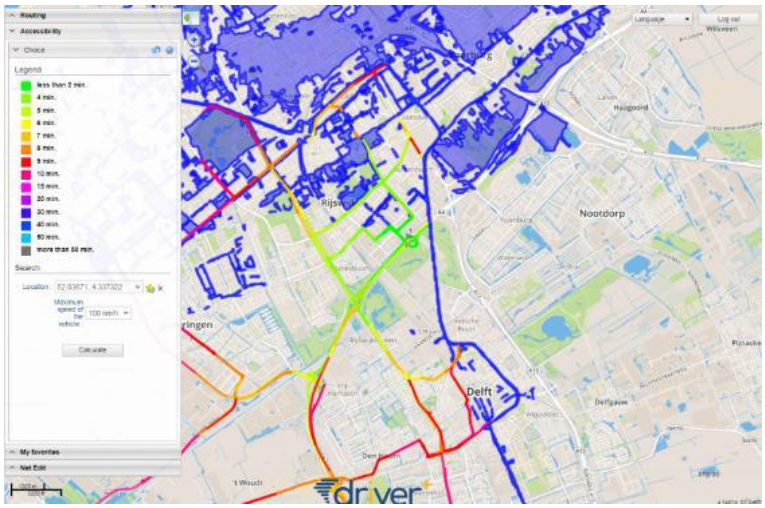
KEEPOPERATIONAL

ACCESSIBILITY

- How is the accessibility of a certain area affected by the flooding?
- How long does it take for emergency vehicles to reach any destination in the vicinity?
- Support for planning the optimal position of a operation base, shelter ... in the field



8

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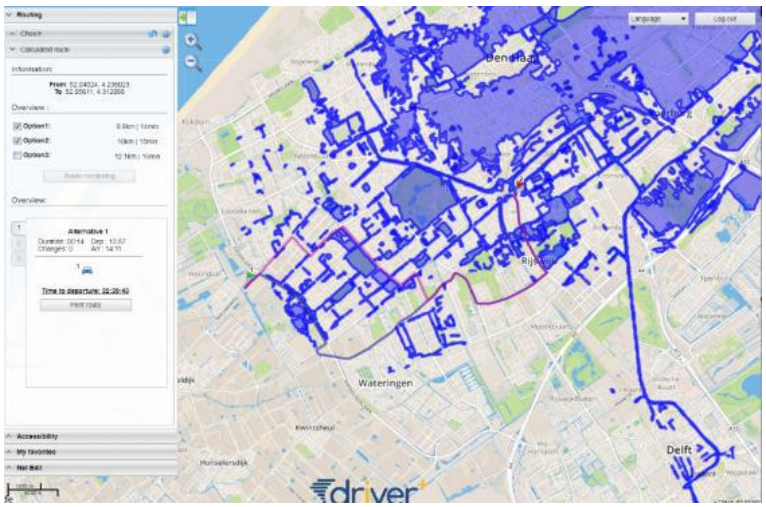
KEEPOPERATIONAL

ROUTING

- Considers traffic situation and crisis situation
- First response specific routing (e.g. large vehicles etc.)
- Selection of vehicle classes
- Various route alternatives



9

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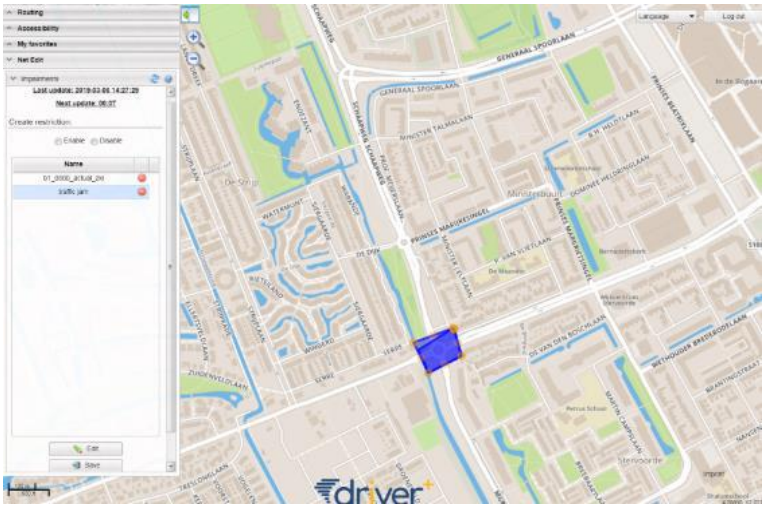
KEEPOPERATIONAL

NET ADAPTATION

- Show/hide flood mask
- Manually add, edit or delete closures to the map (traffic jams, closures, new information)
- Incorporate information from units in the field
- Flood masks and manually added restrictions are considered by the routing algorithm



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SIM-CI training material

The training documentation for the SIM-CI solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/DR2_introduction_SIM-CI.pptx.

SIM-CI®

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Driving Innovation in Crisis Management for European Resilience

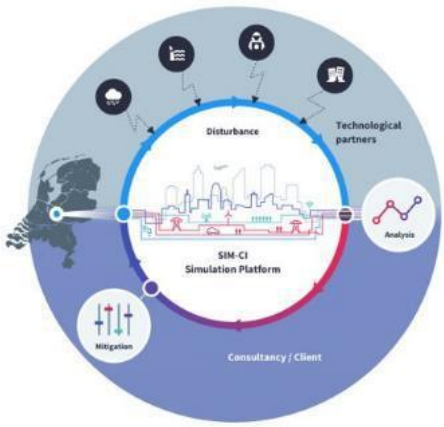
SIM-CI

INTRODUCTION DRY-RUN 2 TRAINING

Eelco Naarding

...

Our propositions

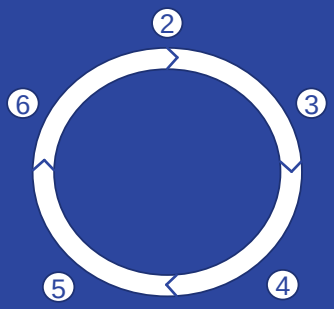


SIM-CI

 16 January 2020 2

Approach:

1. Create Digital Twin
2. Calculate disruption
3. Determine cascade effects
4. Analyse impacts
5. Distinguish vulnerabilities
6. Take mitigating actions



Result

1. Digital Twin City
2. Stressful event
3. Consequential damages
4. Quantified outcomes
5. Localisation of crucial parts
6. Effect of mitigations

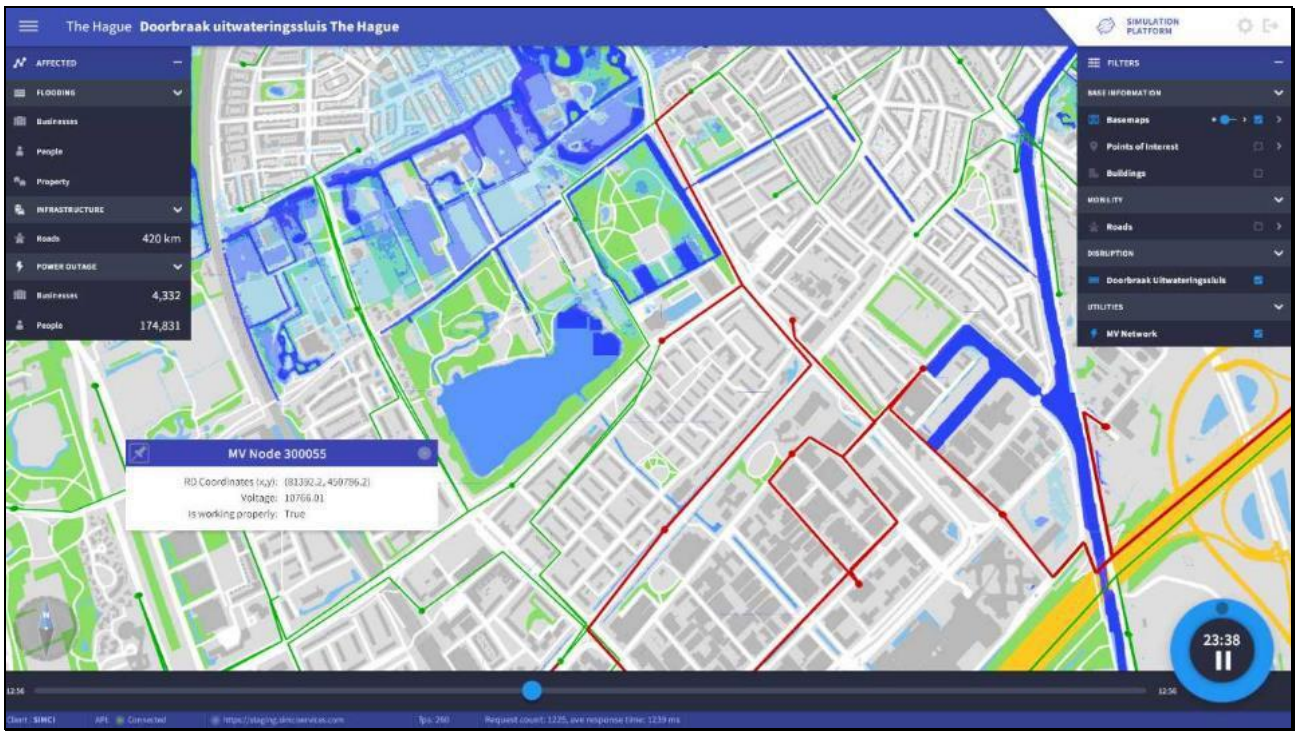
SIM-CI

 16 January 2020 3

Demonstration of solution

SIM-CI

 16 January 2020 4



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Martijn Stroeven martijn.stroeven@sim-ci.com

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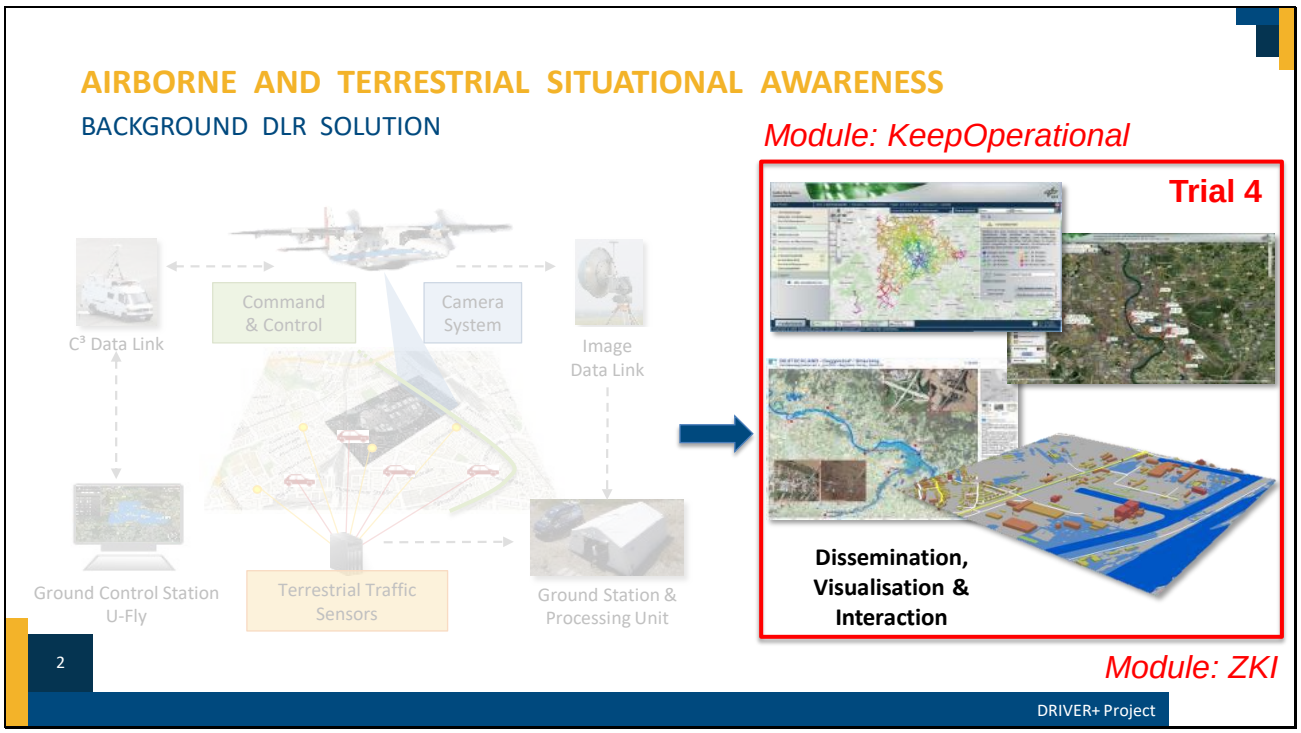
DLR ZKI training material

The training documentation for the ZKI solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/DRIVER%2B_trial4_ZKI_training_presentation_final.pptx.




CENTER FOR SATELLITE BASED CRISIS INFORMATION
ZKI
by DFD/DLR
– Provides a 12/7 service for
– Provision of satellite and airborne imagery
– Rapid mapping and damage assessment
– Monitoring crisis situations
– Has a substantial focus on research and development
– Consulting and training
– Since 1999
– Over 400 activations and trainings
– More than 1000 products
QUALITY SYSTEM CERTIFICATION
DNV·GL
ISO 9001:2015


INVOLVEMENT ON NATIONAL & INTERNATIONAL LEVEL
GERMANY
Emergency Mapping Service Provision within a national mandate for the German Federal Ministry of Interior
Federal Ministry of the Interior
ZKI·DE
EUROPE
Contribution through research projects, pre-operational and operational services
opernicus
The European Earth Observation Programme
GLOBAL
DLR as member of the International Charter ‚Space and major disasters'
INTERNATIONAL CHARTER SPACE & MAJOR DISASTERS
CHARTE INTERNATIONALE ESPACE ET CATASTROPHES MAJEURES
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ZKI

PORTFOLIO

5

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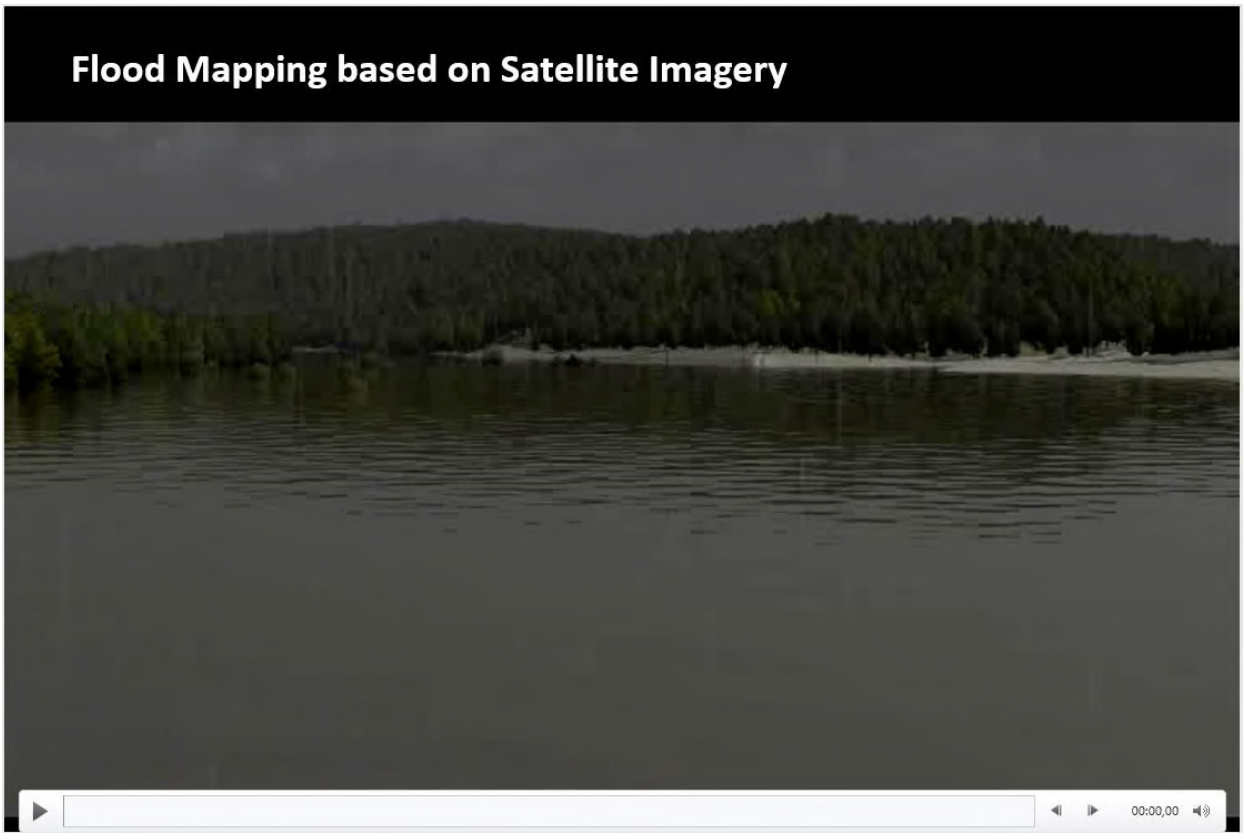
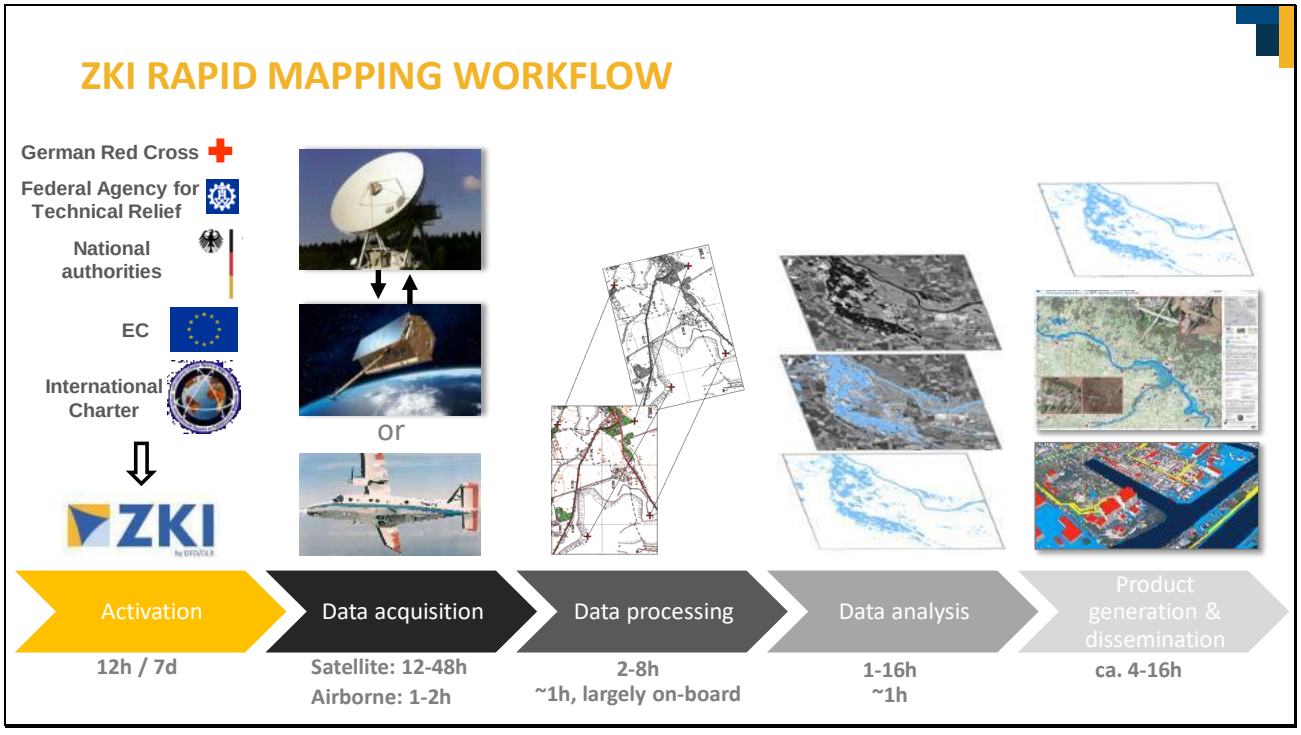



Aerial Imagery of flood situation
7
Flood in Germany, 05. June 2013, © DLR


ZKI RAPID MAPPING WORKFLOW
German Red Cross
Federal Agency for Technical Relief
National authorities
EC
International Charter
ZKI
or
Activation
Data acquisition
Data processing
Data analysis
Product generation & dissemination
12h / 7d
Satellite: 12-48h
Airborne: 1-2h
2-8h
~1h, largely on-board
1-16h
~1h
ca. 4-16h

ZKI

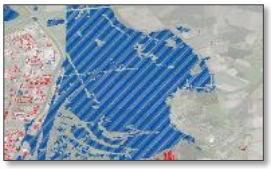
SERVICES & PRODUCTS FOR TRIAL 4

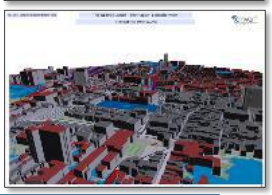
- Preparation of crisis related information
  - **water mask** derived from remote sensing data

  In this Trial: *simulated water mask, as if derived from aerial imagery and processed based on DLR user service ZKI processing facilities*

- Web based Product Dissemination
  - OGC WMS / WFS **web services** for water mask
  - Download service for ready to use map products

- Generation of ready to use **maps**
  - 2D GeoPDF
  - 3D PDF





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Annex 15 – Training material for the Final Demonstration

Merlin CrisisSuite training material

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GMV SOCRATES OC training material

The training documentation for the SOCRATES OC solution in the Final Demo is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/DRIVER%2B%20Socrates%20in%20FD%20v3.pptx.

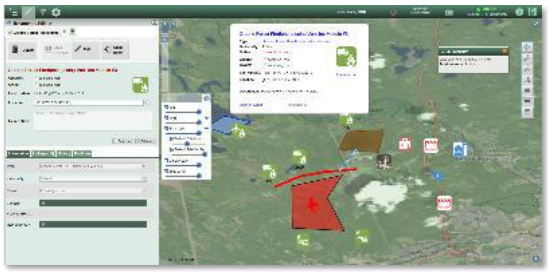
SOCRATES OC

C3 SUPPORT SOLUTION FOR OP. CENTRES

Socrates OC is a shared situational awareness tool developed by **GMV** which depicts the Common Operational Picture (COP) in a CM scenario.

It enables setting up a network of *Operations Centres* based on:

- the exchange of relevant information about the operational situation and
- tasking & resource management features which provide support to the *C3* and *decision-making* processes in crisis scenarios.



2

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SOCRATES OC

DEPLOYMENT OF SOLUTION

Being operationally used in domains such as ***Maritime and Border Surveillance***.

Also on R&D projects for pre-operational validation:


Socrates OC at the Guardia Civil's National Coordination Centre in Spain

- ***CLOSEYE***: C3 system for Joint EU Border Surveillance Operations.
- ***CAPSAT***: Operational system deployed in Guardia Civil's National Coordination Centre.
- ***EUCISE***: Light client for end-user institutions that do not have an existing legacy system.
- ***ESPRES***:COP solution supporting the display of the geographical information.
- ***EXOMARS***: COP solution displaying geographical information in the MPS for the Mars ROVER.

3

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SOCRATES OC IN DRIVER+ FINAL DEMO

CM FUNCTIONALITIES

In DRIVER+ Final Demo, Socrates OC users will be able to:

- Insert in the map relevant information regarding some event.
  - E.g.: location and type of the event, affected areas, location of the base of operations, location and type of resources (e.g. EU modules), modules' areas of responsibility, etc.
- Link or assign resources to events.
- Find places and identifying routes.
- Monitor the overall operational situation (status of events, assigned resources…)
- Receive info from external sources (fire danger forecast, weather forecast, etc.) as map layers through WMS.

5

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SOCRATES OC IN DRIVER+ FINAL DEMO

EXAMPLE OF USAGE DURING EPISODE E1/M1

E1	**Preparation for ERCC briefing**	EUCPT prepares for the meeting, all members are at Frankfurt airport
E1	**ERCC briefing**	Teleconference EUCPT – ERCC
E1	**TIME JUMP FOR FLIGHT**	Teams on the way to Arlanda Airport, telco internal summary
E1/M1	**Virtual modules update**	GFFF Norway updates others about arrival to Hudiksvall
E1/M1	**Virtual modules update**	GFFF France informs about arrival to Farila
E1/M1	**EUCPT + VM on the way to Coordination Cell**	Preparation of the report, initial PoA, Team splits
M1	**M3 informs others about itinerary**	Some tips on the road planning for tomorrow
M1	**M6 updates other teams and EUCPT**	GFFF Norway in the possible BoO
E1/M1	**NDMA F2F meeting with EUCPT**	First meeting in Farila Coord Cell, short situation introduction
E1/M1	**RDC Staff F2F meeting with UNDAC**	Mandate, area of responsibility, communication channel, meeting in Nynashamn harbor
E1/M1	**RDC Procedure**	Modules meet RDC staff at the harbor, initial information
M1	**Modules road to Farila**	Itinerary planning, roadblock, failure etc.
E1	**EUCPT - RDC staff information exchange**	EUCPT staff shares information gathered in Farila and Stockholm

6

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SOCRATES OC IN DRIVER+ FINAL DEMO

EXAMPLE OF USAGE DURING EPISODE E1/M1

E1	**Preparation for ERCC briefing**	EUCPT prepares for the meeting, all members are at Frankfurt airport
E1	**ERCC briefing**	Teleconference EUCPT – ERCC

E1/M1 - **Virtual modules update -** GFFF Norway updates others about arrival to Hudiksvall
E1/M1 - **Virtual modules update -** GFFF France informs about arrival to Farila

Create modules in Socrates map, assign them to the event and move them to the corresponding locations

E1/M1 - **M6 updates other teams and EUCPT -** GFFF Norway in the possible BoO

Possible BoO is located in the map

E1/M1 NDMA F2F meeting with EUCPT First meeting in Farila Coord Cell, short situation introduction

E1/M1 - **RDC Staff F2F meeting with UNDA -** Mandate, area of responsibility, …

Draw modules' areas of responsibility in Socrates map

E1/M1 RDC Procedure Modules meet RDC staff at the harbor, initial information

M1 - **Modules road to Farila -** Itinerary planning, roadblock, failure etc.

Route planning using Socrates. Route, roadblocks, etc. located in the map

7

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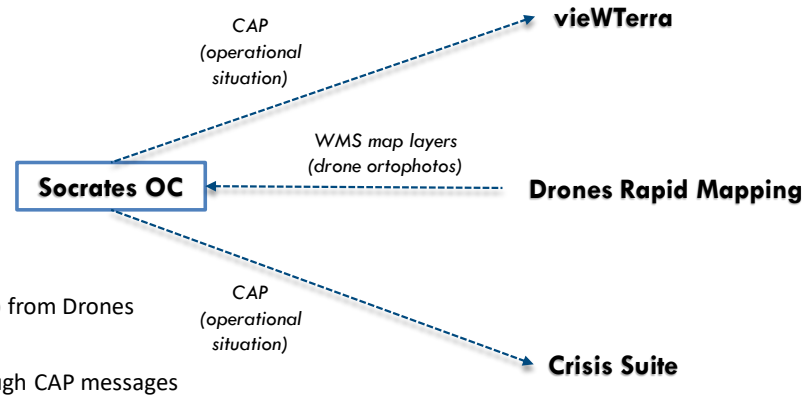
INTERACTION WITH OTHER SOLUTIONS

INFORMATION EXCHANGE

INTEGRATION OF SOLUTIONS

TECHNICAL PERSPECTIVE

Integration through DRIVER+ Test-bed Technical Infrastructure



Socrates OC will:

- Receive orthophotos (as map layers) from Drones Rapid Mapping.
- Send the operational situation through CAP messages to vieWTerra and Crisis Suite

9

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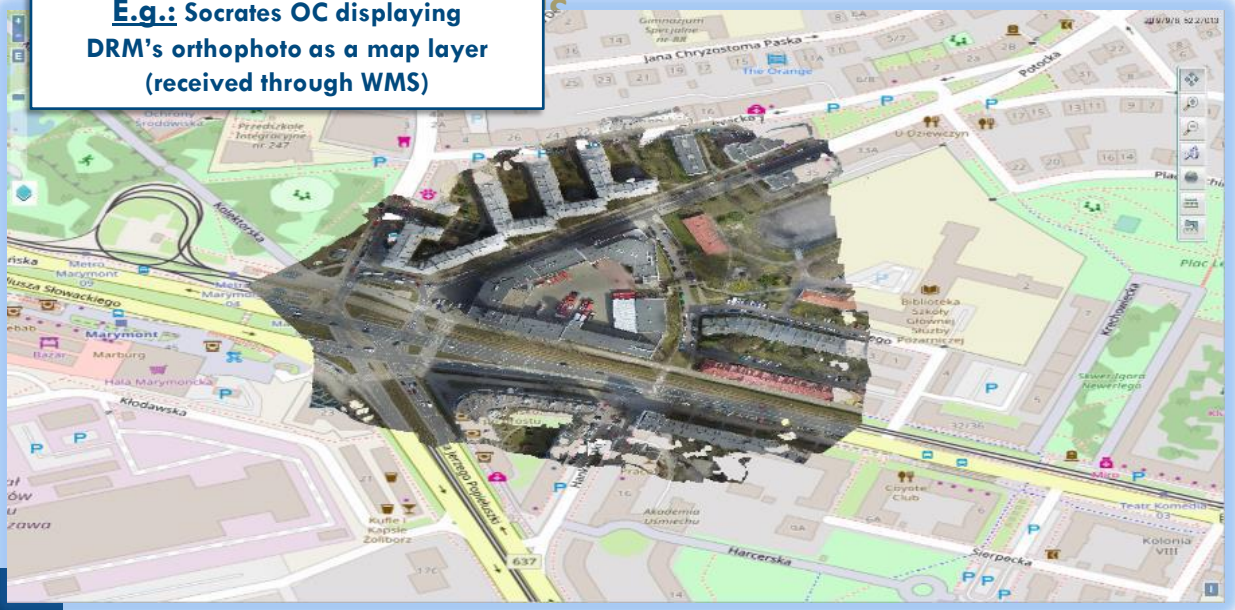
E.g.: Socrates OC displaying DRM's orthophoto as a map layer (received through WMS)



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THANK YOU.
ANY QUESTION?

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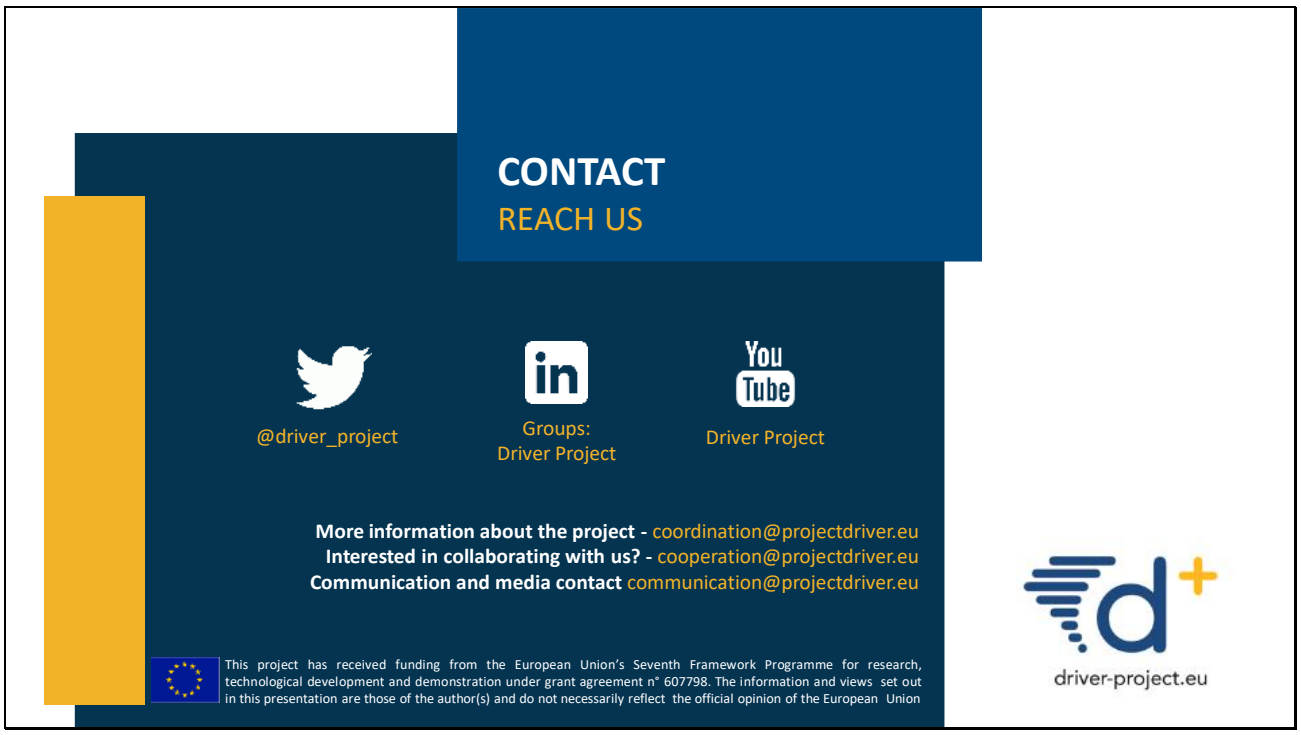
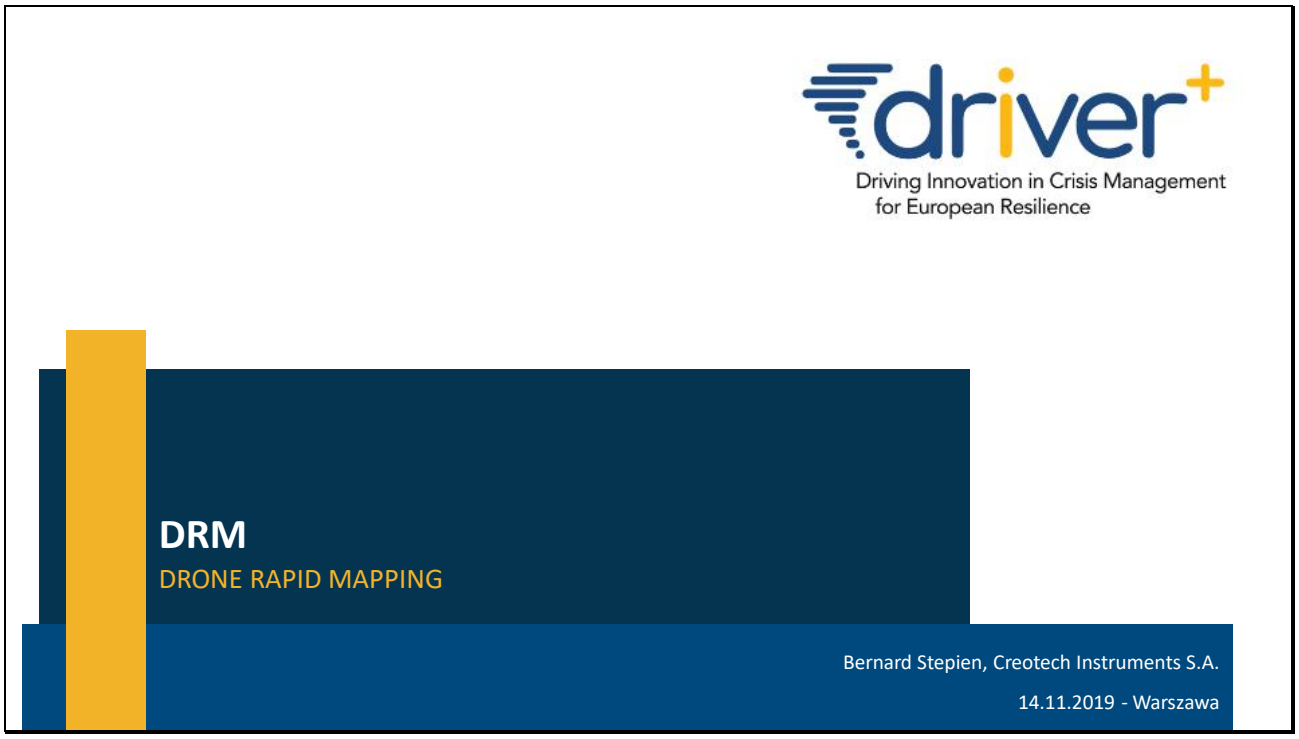


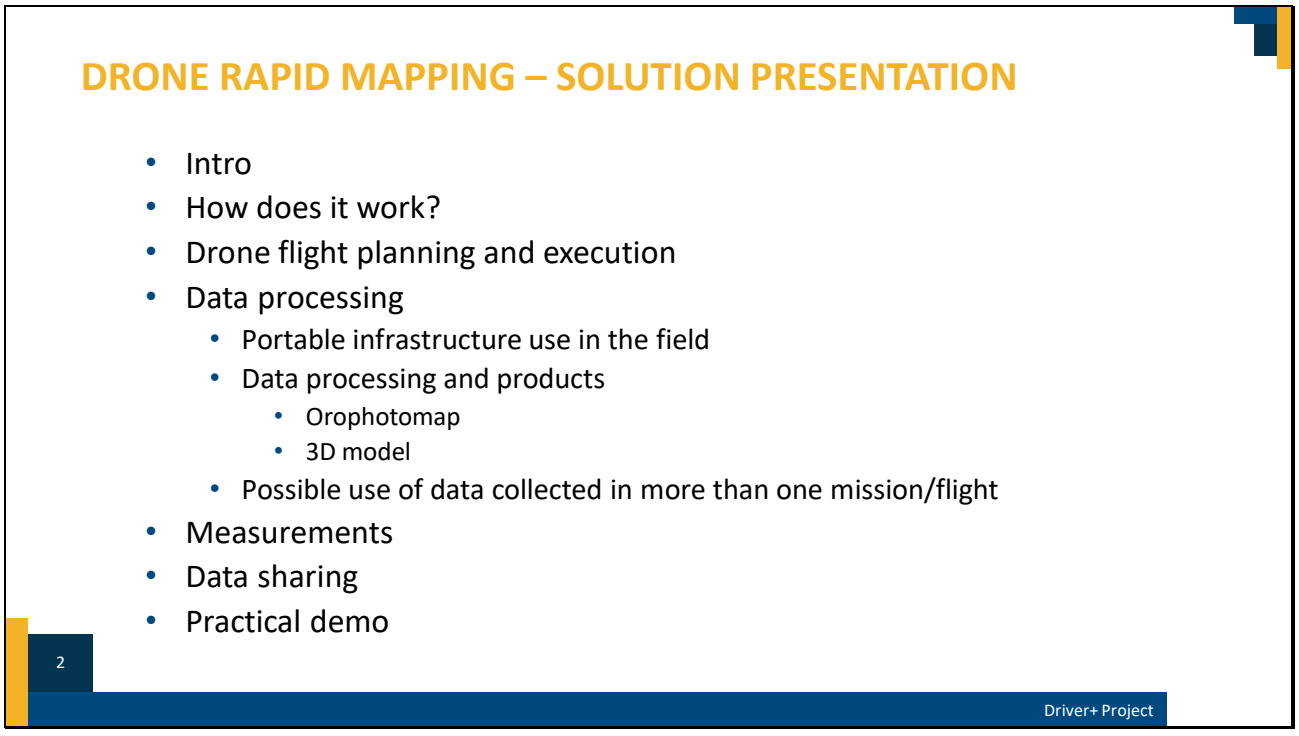
VWORLD vieWTerra Evolution training material

The training documentation for the vieWTerra solution is presented in Annex 13 and is also available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/Driver%2B%20vieWTerra%20Suite%20Presentation.pptx.

Creotech Drone Rapid Mapping training material

The training documentation for the Drone Rapid Mapping solution for the Final Demo is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/Driver%2B%20DRM%20training%20v.2.pptx.





INTRO

- Drone Rapid Mapping allows to generate accurate maps and 3D terrain models, using optical imagery collected by drones
- A drone operator conducts a flight over an area of interest and acquires images (using the on-board camera) in line with the standard operational procedures.
- Data is then uploaded on the spot into the standalone and autonomous server (only the 230V AC power supply required, with possible use of portable generator) and automatically processed and viewed on the spot.
- The results can be shared locally via wired or wireless LAN or published in other systems (when Internet connection is available)

3

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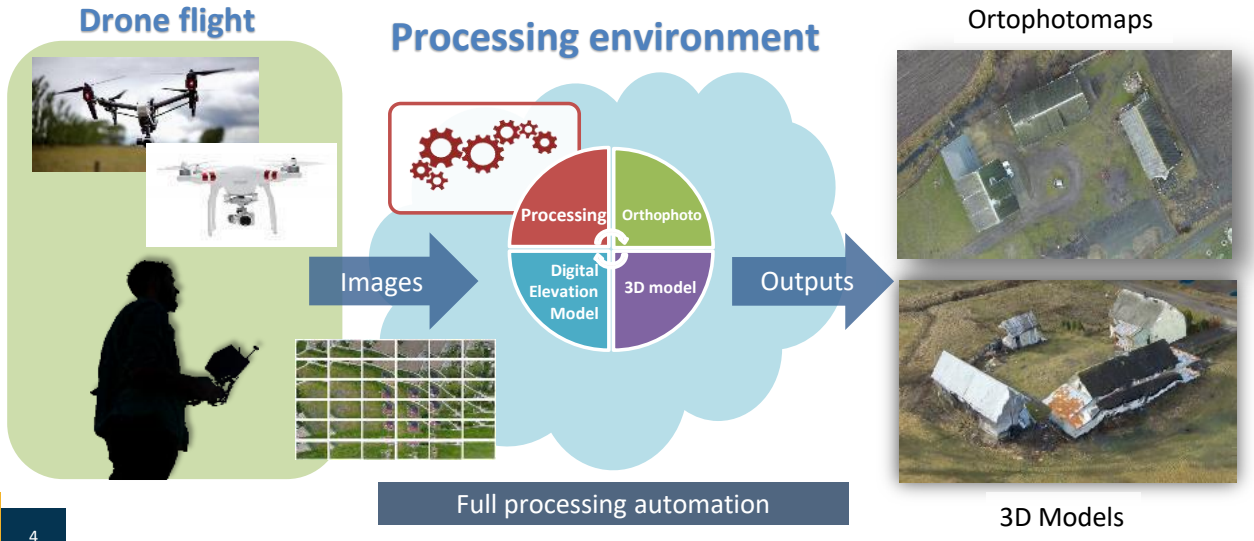
HOW DOES IT WORK?



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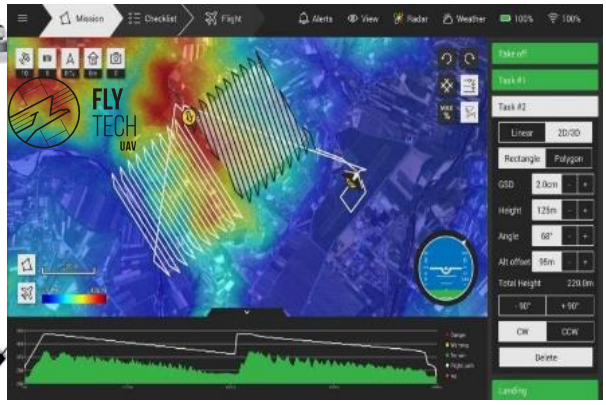
DRONE FLIGHT PLANNING AND EXECUTION



- Possible use of various drones
- Drone specific flight planning software to be used for the best results

Flight parameters

- Constant height – 70m above terrain (AGL)
- Flight in 2 orthogonal directions

Data collection

- images to be taken with 70% overlap
- Camera tilt of 70 degrees
- ISO100, shutter priority

5

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DATA PROCESSING

PORABLE INFRASTRUCTURE USE IN THE FIELD

- rugged design
- generator powered
- weather protected
- processing server (multicore with up to 2 GPU suport)
- up to 512 MB of RAM
- shock-resistant SSD storage
- Onboard WLAN
- 3 displays

6

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DATA PROCESSING AND PRODUCTS

7

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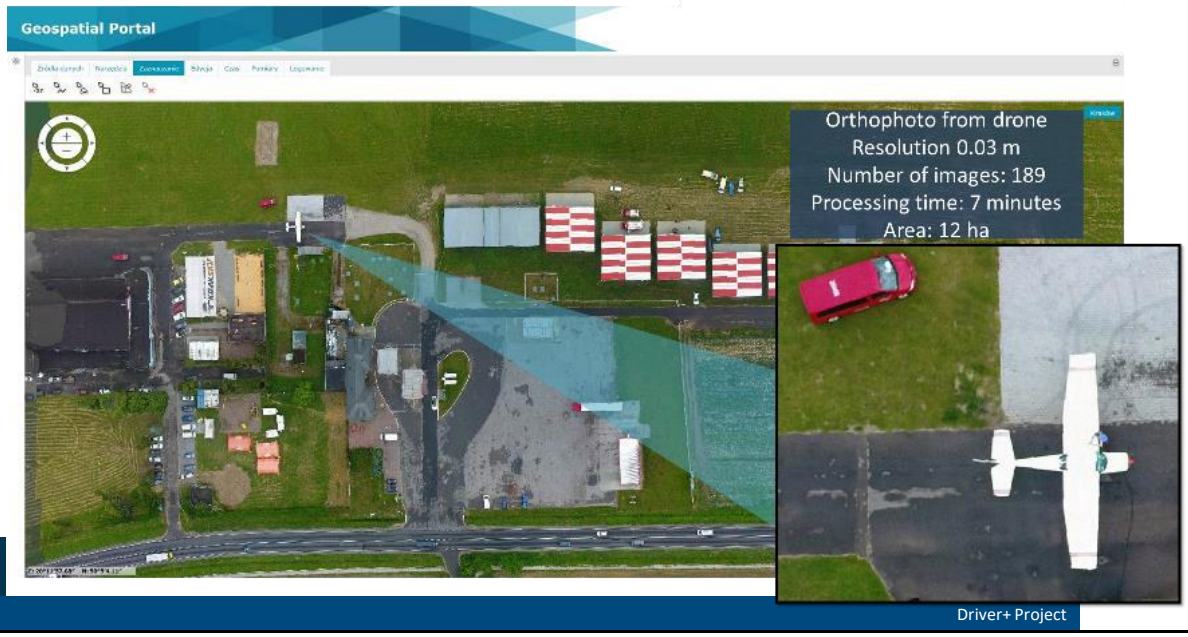
ORTOPHOTOMAP



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3D MODEL

9

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POSSIBE USE OF DATA COLLECTED IN MORE THAN ONE MISSION/FLIGHT

- Different drones and lighting conditions

9

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POINT CLOUD

10

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3D MODEL

12

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MEASUREMENTS

11

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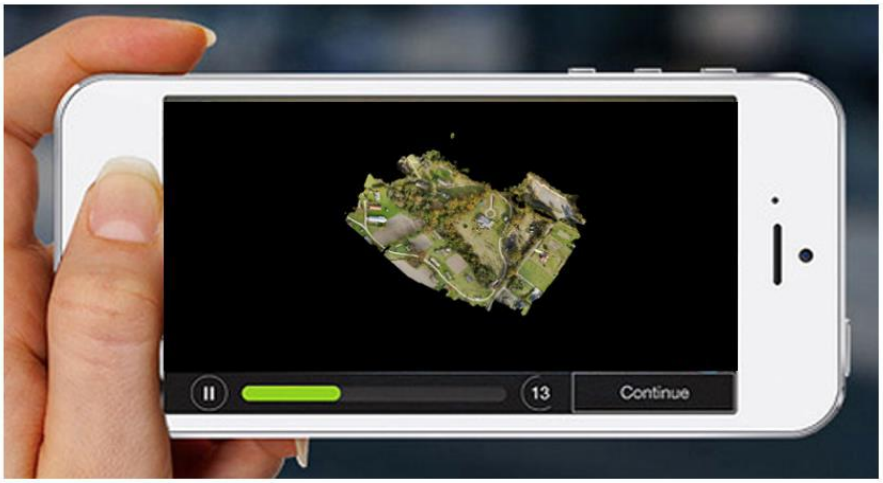
DATA SHARING

DATA SHARING

- 3D Models possible to be viewed locally, accessible via network connection (for example on mobile devices)
- Ortophotomaps with WMS service ready for use in various tools – **with automated sending to TestBed**



15

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PRACTICAL DEMO

WITH LIVE CONNECTION TO THE DRM SYSTEM

DRM SYSTEM

- Up to three displays, optimised for outdoor use in sunlight
- Detachable terminal unit – possible to be placed on a table
- Rugged design or the server casing - with transport handles and wheels. Size depends on system configuration.
- Storage compartments for displays, cables and accessories (optional)
- Fast mulitiprocessor server with GPU processing suport, Solid State Disks, memory cards reader and WiFi router allowing wired or wireless connection with other terminals

14

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THANK YOU.

ANY QUESTION?

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This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n° 607798. The information and views set out in this presentation are those of the author(s) and do not necessarily reflect the official opinion of the European Union
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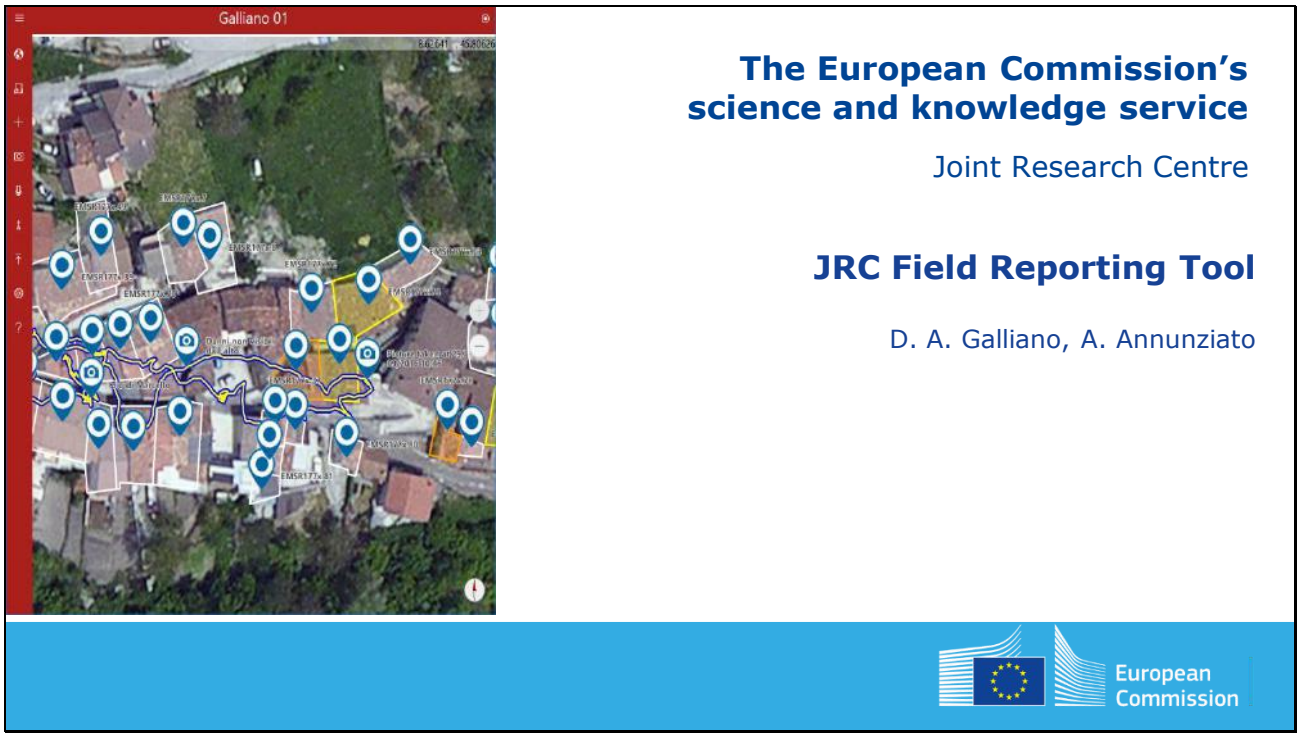
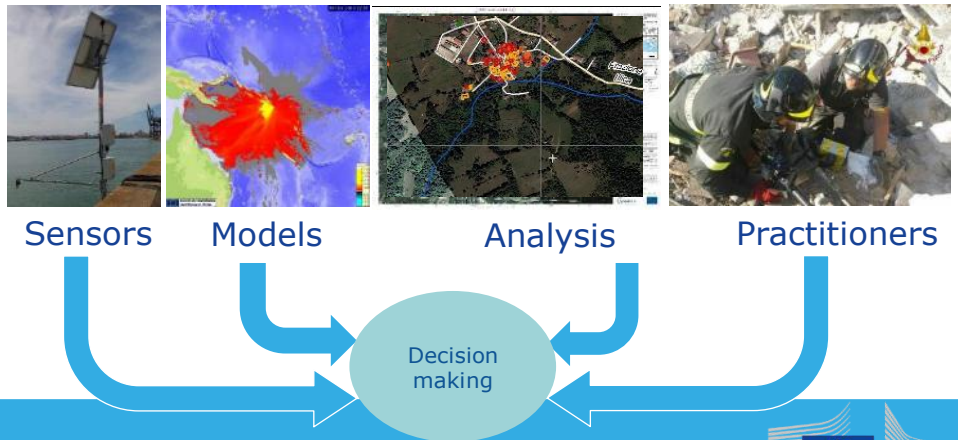
JRC Field Reporting Tool training material

The training documentation for the Field Reporting Tool solution is available in the Portfolio of solutions via this link: https://pos.driver-project.eu/sites/default/files/public/2020-01/FRT%20Driver%20Final%20Demo%202019.pptx.



DRM Unit

The whole information flow related to the Crisis Management is studied



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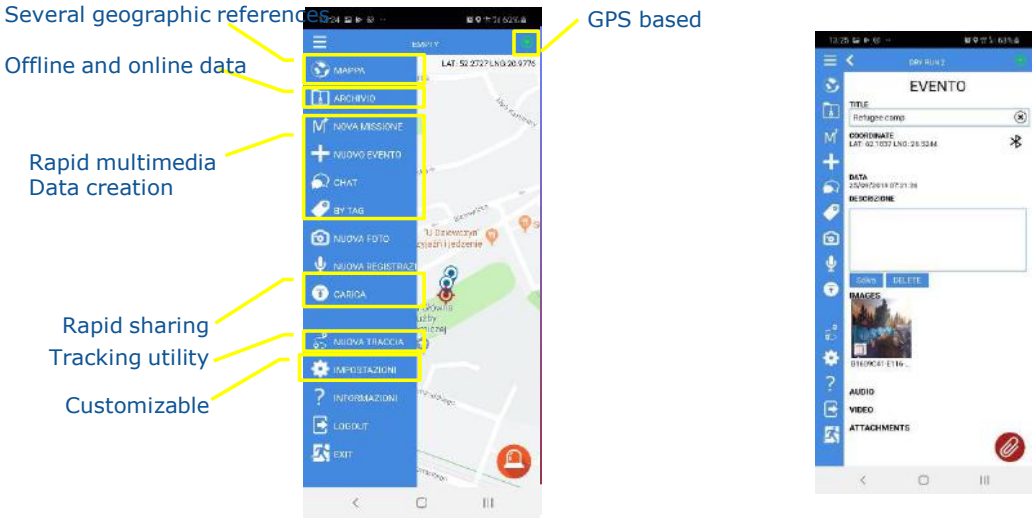
European Commission

Timeline

- Project start: June 2016
- First prototype: September 2016 (UWA)
- Test and user experience feedback until September 2017
- Integration in IFB platform and Android porting: whole 2018
- iOS porting and ERCC customization: 2019

3

European Commission



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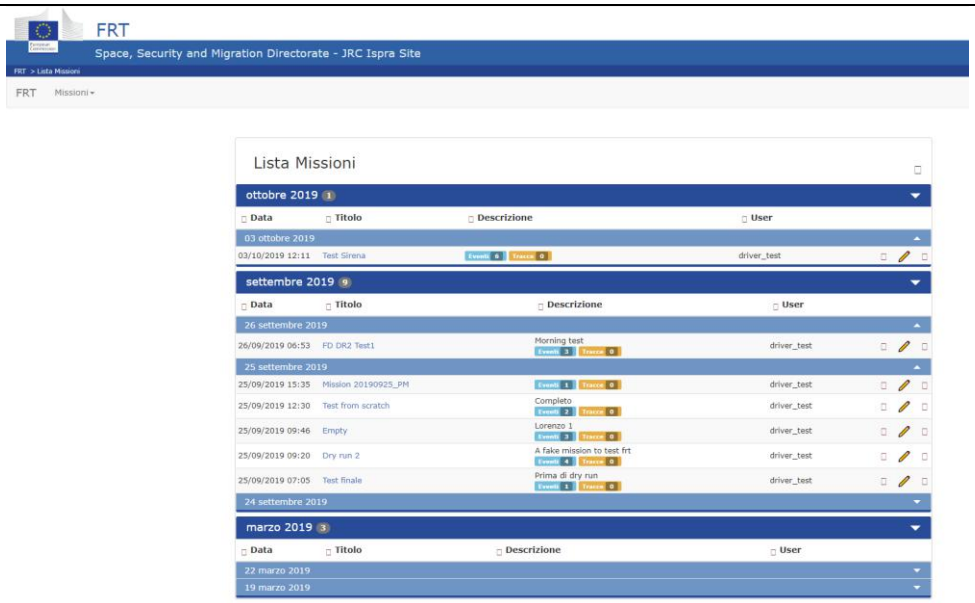

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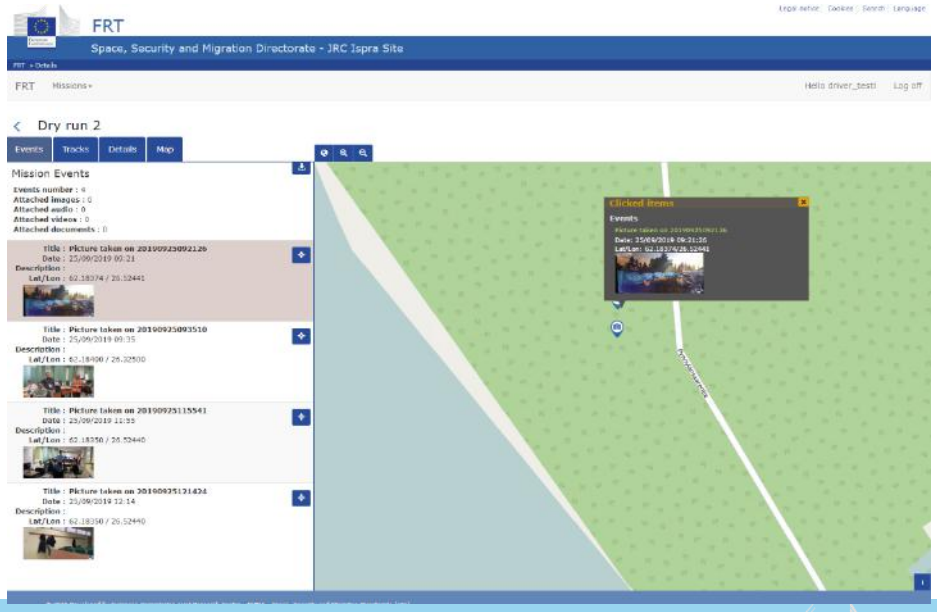

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European Commission

Search and rescue simulation

- More efficient than presently used technology
- Low cost and personal devices up to the task
- Untrained users require quite no formation

7

European Commission

Tested in real-like situation

- Combined visualization of new information and a reference (Copernicus data)
- Real-like survey stepping into destroyed houses
- Comparison of remotely performed assessment with the real situation

8

European Commission

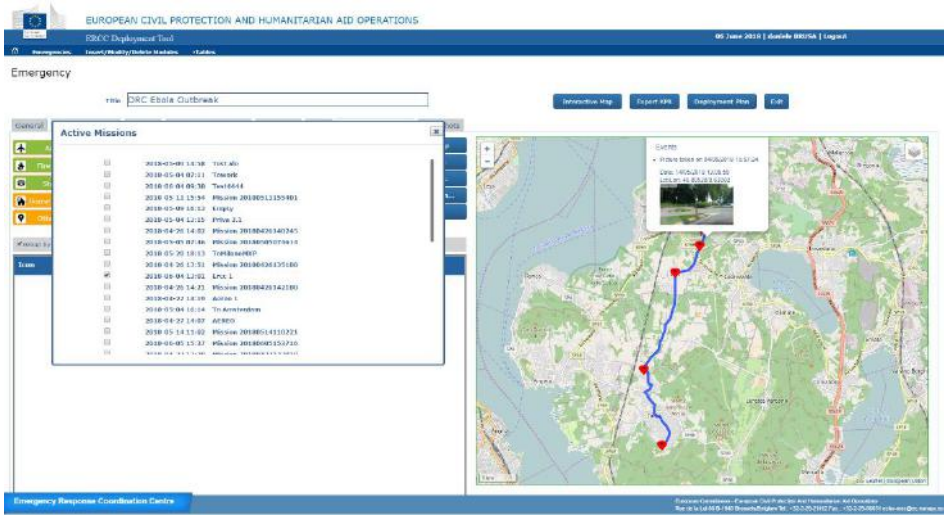
FRT4ERCC

- Integration with the ERCC tools
- Team oriented usage

9

European Commission

Integration with the ERCC tools



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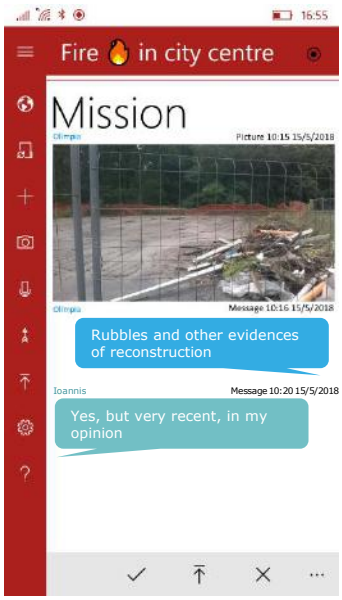
European Commission

Team oriented usage

Easily created and managed team will group users and allow them sharing the information (visibility)

The flowing interface will show the activity of the team at a glance



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