

[PRACTICE]

D4.1 MAPS OF EVENTS AND RESPONSES

PRACTICE WP4 deliverable

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Summary Work Package 4

The overall aim of the project “Preparedness and Resilience Against CBRN Terrorism using Integrated Concepts and Equipment” (PRACTICE) is to improve the ability to respond to and recover from a Chemical (C), Biological (B), Radiological (R) or Nuclear (N) incident. The objective of the project is to create an integrated European approach to a CBRN crisis – *i.e.* a European Integrated CBRN Response System. This will be achieved through the development of an improved system of tools, methods and procedures that is going to provide EU with a capability to carry out a truly integrated and coordinated operational reaction following the occurrence of a CBRN crisis, whether it is caused by a terrorist act or an accident.

The objective of the work package (WP) 4 “Toolbox concept development” is to design an improved PRACTICE toolbox for managing CBRN events. The toolbox will combine and structure main response functions and sub functions and correlate these to critical event observables/parameters. It will include identified best practices, analysis of gaps and shortcomings and improved sub concepts and functions. The concept will form the basis for the development of the actual toolbox in subsequent work packages.

WP4 is divided into four tasks with associated deliverables:

- Task 4.1. Combine, structure and analyse responses and functions, best practices and gaps
 - Subtask 4.1.1 Combine and structure the results of WPs 2 and 3.
 - Subtask 4.1.2 Produce tables of responses and functions linked to relevant event-critical parameters.
 - Subtask 4.1.3 Compare and combine the tables of handling C-, B- and R- and the traditional event thereby identifying similarities and differences.
 - Subtask 4.1.4 Analyse the tables to identify best practices as well as gaps and shortcomings. Define (sub) concept elements or functions which are either missing or need to be replaced or modified; rank these elements in order of importance. Aspects of local culture, and local law and regulations will be included.
- Task 4.2. Requirements of concept elements
 - Subtask 4.2.1 Describe the requirements of the (sub) concept elements or functions identified in subtask 4.1.4. Special care to be given to the prioritized gaps identified.
- Task 4.3. Concept development, architecture and requirements for toolbox
 - Subtask 4.3.1 Design and formulate the concept and architecture of a unified, integrated and improved total toolbox concept by combining relevant best practice and improved sub concept elements from the map produced in Task 4.1. The design will be based on a living information system gathering functions/sub functions, standards interfaces definitions, sets of functions and rules into a tool describing the management of a CBRN event. It will include sets of recommendations, standards and protocols, sub-systems, software tools, sensors and equipment, and various supplier platforms and systems.
 - Subtask 4.3.2 Produce requirements that will serve as input in the production of the toolbox in WP5.
- Task 4.4: Modelling and simulation

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- Subtask 4.4.1 Modelling and simulation of new concept to validate it and to improve on shortcomings in integration logics and structure before handing over to WP5. The simulations will be based on experience from related scenario assessment work in WP2.

The deliverables are:

- D4.1 “Maps of events and responses”.
- D4.2 “New or modified concept elements”
- D4.3 “Description of new validated toolbox concept”
- D4.4 “Requirements list”

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This WP is led by the Norwegian Defence Research Establishment (FFI).

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1. Executive Summary

This report, “Maps of events and responses”, constitutes the first deliverable of Work Package (WP) 4 “Toolbox concept development” of the EU FP7 project “Preparedness and Resilience Against CBRN Terrorism using Integrated Concepts and Equipment (PRACTICE)”. WP4 is led by the Norwegian Defence Research Establishment (FFI). The report couples the parameters developed by WP2 (Breivik *et al*, 2012) to the functions identified by WP3 (Bastings *et al*, 2012).

The work has been done based on background information from WP2 and WP3. A workshop has been carried out to structure the data, in addition to active discussions and revisions among the WP4 participants. WP3 representatives have also contributed in the discussions.

The full set of functions identified by WP3 has been broken down into subsets relevant to C, B, R or all of CBRN. The method for grouping the functions has been to look at the parameters from WP2 and decide if they *trigger* the start of a specific function or if they *influence* how a function is performed. Many of the functions have been found to be present also for non-CBRN incidents. The difference between the generic response functions and the ones influenced by CBRN, or unique to CBRN, has been highlighted. A few new functions identified as lacking from the original set of functions have been introduced with this report.

2. Introduction

The overall aim of PRACTICE is to improve the ability to respond to and recover from a Chemical (C), Biological (B), Radiological (R) or Nuclear (N) incident. The objective of the project is to create an integrated European approach to a CBRN crisis – *i.e.* a European Integrated CBRN Response System. This will be achieved through the development of an improved system of tools, methods and procedures that is going to provide EU with a capability to carry out a truly integrated and coordinated operational response following the occurrence of a CBRN crisis, whether it is caused by a terrorist act or an accident.

The objective of the work package (WP) 4 “Toolbox concept development” is to design an improved PRACTICE toolbox for managing CBRN events. The toolbox will combine and structure main response functions and sub functions and correlate these to critical event observables/parameters. It will include identified best practices, analysis of gaps and shortcomings and improved sub concepts and functions. The concept will form the basis for the development of the actual toolbox in subsequent work packages.

This report takes the output from WP2 (parameters) and WP3 (functions) and analyse the relationships between them. We look at the CBRN specific response in particular, and how this differs from the routine response performed for all traditional events. The detailed results are presented in tabulated form in the appendices, while the text presents our main findings.