

[PRACTICE]

D5.13 HEALTH SERVICE TOOL SUITE DESIGN

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Summary Work Package 5

The objectives of WP5 are to develop, integrate and test a complete toolbox for first responders, decision makers and the public, including innovative components developed during the project to provide an improved and integrated preparedness and response to CBRN events. The tools will be organized in 6 categories:

1. Recommendations
2. Standards
3. Protocols / procedures
4. Equipment and systems (eventually simulated): hardware, software, with performances, Technology Readiness Levels (TRLs), validation/certification status
5. Simulated environment (with 3D databases)
6. Real equipment and system emulation capabilities.

These tools will fulfil functions as defined in WP3, organized in line with the ESRAB/Staccato taxonomy functions, completed and detailed when needed for PRACTICE. The toolbox should be considered as living system gathering “bricks” into an integrated solution to manage a CBRN crisis. It will include actual tools and equipment and ICT simulated environments including hardware and software. This will allow plugging and playing new components and guarantee their interoperability.

The toolbox will be developed and integrated in two steps:

- a V0 version integrating in an innovative way existing validated capabilities (fed from WP 2 and WP 3) i.e., tools, methods and procedures that will be put together into an information system, with specified standard interfaces
- a V1 version integrating innovative tools, methods and procedures and supporting future standards to improve interoperability and consistency without impeding the existing operational systems.

Developing V0 and new CBR tools for V1 will be an iterative process with all the stakeholders in the loop. Focus will be put on specifying simple interfaces for any supplier to describe and present its "bricks" in order to "index / reference" them in our PRACTICE Toolbox Information System. Any new tool that satisfies the "standards" interfaces should be easily added to build new solutions ("buildings").

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1. Executive Summary

This report, “D5.13 Health Service Tool Suite Design”, is a deliverable associated to Work Package (WP) 5 “Toolbox Integration and Development” of the EU FP7 project “Preparedness and Resilience Against CBRN Terrorism using Integrated Concepts and Equipment” (PRACTICE). This WP is led by Astrium S.A.S. (AST).

The Health Service Simulator tools aim at demonstrating the support that Modeling & Simulation tools can provide to the contingency planning activities with a specific focus on the Health Service facing a CBRN event.

This deliverable provides the user with the detailed design of the Health Service Simulator tools able to meet the user requirements detailed in the deliverable D5.9 (Health Service Requirements and Models).

To that aim, the Health Service Simulator tools’ conceptual model is described. It represents the simulation developer’s way of translating modeling requirements (i.e., what is to be represented by the simulation) into a detailed design framework (i.e., how it is to be done). More in detail, it starts from the description of the simulation context given in D5.9, identifies all the entities and processes to be represented in the simulation and describes the simulation elements as well as the interactions and relations among them.

Once all of the entities, relationships and processes have been identified through the conceptual model, the system requirements capture the additional details, not provided by the conceptual model, that will allow to satisfy the user requirements identified in D5.9. As a matter of consequence, those system requirements actually are a complement of the information provided by the conceptual model.

Following the definition of the system requirements the document provides the description of the high level architecture of the Health Service Simulator system. Four main components have been identified: Integration Infrastructure, Graphical User Interface, Function Based Simulator and Health Service Simulator and, for each of them, a detailed description is provided as well.

Finally the test cases and the results of the system test activities are described.