SECUR-ED

SECured URban transportation - European Demonstration

D23.1 First platform and SECUR-ED standards for distributed simulation

Public Summary only (PS)

Reference SCR-WP23-D-THA-002-PS

Note: this document reports only the Public Summary of a non-public document. The full document identification is noted here below for information.

Full document identification	
Related SP / WP	SP2 / WP23
Related Deliverable	D22.1, D22.2
Lead Participant	Thales (THA)
Contributors	Dr. Wolf Engelbach (FHG) Jan Tegnér (FOI)

Reference	SCR-WP23-D-THA-002
Dissemination Level	CO
Lead Author	Dr. Volker Isbert (THA)
Reviewers	E.Vullings (TNO) A.Tedesco (ANS)

This document is issued in the frame and for the purpose of SECUR-ED project. This project has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 261605.

Public summary

The ever increasing advancement of computer based technology has now seen many once isolated systems, connected together to form a complex 'system of systems' world. The heterogeneous operating environment in mass transportation strongly suggests a system-of system approach to security system development.

To handle the complexity of roles, rules, infrastructure and information systems, for a broad range of possible scenarios, requires a broad set of tools. Modelling and Simulation (M&S) has a prominent role to handle this complexity.

Simulation has historically been confined to single isolated applications developed solely for a single purpose. This could be to train a train driver, to simulate fire or smoke propagation into underground stations, to simulate evacuation scenarios or even more complex to support cross-organizational hazard prevention to protect human life and critical infrastructures by optimised prevention and reaction [1].

Given the system-of-systems character of mass transport security solutions, the corresponding modelling and simulation concept is that of Distributed Simulations.

Distributed Simulation will take many independently constructed Simulations and provide the means to combine them together (physically or non-physically) to create a larger, better adapted Simulation.

Distributed Simulation is an architecture that allows several individual simulation models, developed independently, to join up to create a federation of models, all running in step, based on a common scenario. Standards which shall be consulted to the construction of the M&S ability in SECUR-ED are described in this document. The content of the possible M&S contribution to SECUR-ED are not part of this document, but it will be described in the following work packages (mainly WP23.3 Demonstration of a Simulation Federation).

Distributed simulation experiments in the context of SECUR-ED are highly complex projects. On the one hand, this is due to the variety of stakeholders involved and on the other hand the high complexity stems from the various simulation systems (virtual and constructive) and real systems (live) to be inter-connected. HLA 1516-2010 is today the most advanced standard in the domain of distributed simulation and should be used in SECUR-ED. This standard is fully compliant with the work of WP22 on interoperability [13].

Beside the technical standard the definition of the Federation Development and Execution Process (FEDEP) (revised and generalised by DSEEP) is very helpful to support the development of a Federation for SECUR-ED and should be followed.

- End of Document -