Project Requirements

D2.1

Publishable Executive Summary

Confidentiality	CO	Deliverable Type	R
Project	DEIS	Project Number	732242

1   Publishable Executive Summary

The open and cooperative nature of Cyber-Physical-Systems (CPS) poses a significant new challenge in assuring dependability. The DEIS project addresses these important and unsolved challenges by developing technologies that form a science of dependable system integration. In the core of these technologies lies the concept of a Digital Dependability Identity (DDI) of a component or system. A DDI is an assurance case package for a component modelled using the Structured Assurance Case Metamodel (SACM)[1]. DDIs are composable and executable in the field facilitating (a) efficient synthesis of component and system dependability information over the supply chain and (b) effective evaluation of this information in-the-field for safe and secure composition of highly distributed and autonomous CPS.

This document defines Digital Dependability Identifier (DDI) use cases and their requirements from user as well as from tooling perspective. These high-level project requirements constitute the basis for the development carried out within the DEIS project. Due to the characteristics of the DEIS project, an evolution and refinement of the set of requirements is expected during its execution. Moreover, a preliminary vision of the concept of a DDI is outlined which enables for the exchange of dependability information over the complete supply chain of CPS and will be refined during the DEIS project.

This document includes:

- An introduction for the Task 2.1 "Project requirements generation for the dependability information exchange"
- Terms and definitions needed to understand the DDI use cases and requirements
- The detailed description of the DDI use cases from user and tool perspective
- A set of project requirements derived from the DDI use cases
- A preliminary vision of the concept of DDIs

This document integrates the first version of the DDI requirements as known at project start. Note that further iterations for this document are planned in the course of the project to integrate intermediate outcomes and consolidate the list of requirements accordingly. Already a list of 12 use cases and 20 derived requirements could be identified. From a user point of view, the industrial use cases are covering following aspects:

- Distributed Dependable Systems Development
- Runtime optimization with respect to dependability
- Next Generation Connected Dependable Functionalities
- Dependable runtime integration for exchange of information
- Creation of Integrated System Assurance Case

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[1] http://www.omg.org/spec/SACM/ [Online: 28.04.2017]