SMART HANDLE

D2.2	Design of SMARTHANDLE reference software and hardware architecture

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Related Task Number and Name	T2.2. Hardware and Software specifications T2.3. Multi-agent AI resources interconnectivity – Reference architecture
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Contributing Partners	All partners
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Keywords

Reference Architecture, Software Architecture, Hardware architecture, Interfaces

Abstract

In the present deliverable named 'Design of the SMARTHANDLE reference software and hardware architecture', a description of the technical specifications, the reference architecture design, and the overall roadmap for the developments and integration of the enabling technologies are reported. A holistic view of the software and hardware modules is presented, and their implementation in each use-case specifically. The content is based on the outcome activities of Tasks T2.2 'Hardware and Software Specifications' and T2.3 'Multi agent AI resources interconnectivity – Reference Architecture'.

Executive summary

The document reflects the outcomes of tasks T2.2 'Hardware and Software Specifications' and T2.3 'Multi agent AI resources interconnectivity – Reference Architecture'. Specifically, it provides the technical specifications and the reference architecture that will steer the developments of the SMARTHANDLE project throughout its course. Based on the functional requirements outlined in D2.1 'Pilot case scenarios, User requirements and validation metrics definition', a series of functional specifications are defined for each Pilot case. These functional specifications guide the development of the required software modules required, as well as the needed production resources. The document details the software and hardware modules defined, both in system- and module-levels architecture.

At the system-level, a holistic architecture is presented, offering a comprehensive view of the overall SMARTHANDLE technological roadmap. It establishes the communication framework that enables seamless interaction between the technical modules and various external systems.

At the module-level, the architectural design for each software module is provided. It includes information on module functionalities, interfaces and connections with other modules, as well as technology specifications for the module. A technology plan is also defined for each software module, specifying hardware requirements, operating systems, computing resources.

Additionally, the document also defines the hardware modules to be developed, focusing on the production entities of each Pilot Case. This deliverable will serve as the foundation for the design and development of SMARTHANDLE modules, work to be conducted in WP3, WP4 and WP5.