DigiChecks. Digital environment for management of permits and compliance in building and construction

Consorcio: FCC Construcción; Affiliated Entity - FCC Construcción (UK); Affiliated Entity - Realia Business (ES); Tekniker (ES); IDP Ingeniería Medio Ambiente y Arquitectura (ES); Ibermatica (ES); Affiliated Entity – i3B (ES); Building Digital Twin Association (BE); Neanex Technologies (BE); Affiliated Entity – Semmtech BV (NL); Digital Construction (NL); Bureau Veritas Construction SAS (FR); CREE (AT); Ghent University (BE); INNCOME (ES)

Tecnología: Industria & Consumo; Digital Trust

Descripción general:

The objective of the solution is to provide flexibility, ease-of-use and efficiency to the permit validation and approval system in the construction project environment.t DigiChecks proposes to build a digital framework that implements the following steps to overcome the challenges mentioned and pave the way to a more streamlined approach to manage and process permits:

- Step 1: Standardized Permit Ontology. The first step is to create a shared language for permitting. This language, formalized in a permit ontology, enables the framework to map data from various sources into a common structure and make it processable by a computer in a repeatable manner.
- Step 2: Digitizing Permit Processes. To deal with the many different actors and their respective processes for permitting, DigiChecks proposes to develop a tool, based on OMG standards, where these actors can model their processes into DigiChecks. These process models can be updated and or removed when the processess change.
- Step 3: Building Permit Rules. DigiChecks proposed solution contains the ability for permitting authorities to build youre their own rules. These rules are used as a base for an automated compliancy checker.
- Step 4: Integration of the previous steps into a Permit Service (API). To transform the solution into a service. The DigiChecks Permit Service API implements the concepts from the ontology to defined rules and these rules are mapped to a process, thus digitizing the permit workflow.

Programa: HORIZON-CL4-2021-TWIN-TRANSITION-01 (101058541)

Duración: 36 meses (2022 – 2025)

Presupuesto global proyecto: 6.520.392,00 €

Presupuesto Grupo Ayesa: 701.250,00 €

European Commission

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Role of Ayesa:

The project's global architecture is being developed with the objective of enabling the automatic management of the permissions management process across the three pilots. To this end, a web portal has been developed to allow users to manage their construction permits. The portal uses a market-based business process management (BPM) system, jBPM, and has been integrated with a personalised application programming interface (API) to enable users to interact with the information through the portal. This BMP oversees the entire process of calling the remaining processes in the project's validation module, ensuring the seamless completion of the permissions management process.

Ibermatica has also contributed with the development of some of these validation modules, such as IA through LLM to verify the accuracy and completeness of the uploaded information. We have also collaborated with rules expressed in a BRMS to enhance the BPM's decision-making capabilities with the loaded information. Furthermore, third-party modules, including IDS connectors for file exchange and ontologies for data flow analysis, have been integrated.