PLEIADES

PLatform based on Emerging and Interoperable Applications for enhanced Decommissioning PRocessES

● OBJECTIVES

The PLEIADES project aims at **demonstrating a digitally enhanced approach** for a set of key decommissioning and dismantling (D&D) tasks in real life examples from selected projects in Europe. The PLEIADES project proposes to improve the D&D process, enabling more efficient and coordinated actions, by integrating state of the art digital concepts into a coherent ecosystem. The project will produce a **prototype platform** where digital solutions provided by partners of PLEIADES are interconnected through a Building Information Modeling (BIM) based interface. Demonstrations will include **scenario simulation-based** analyses and comparison of jobs in terms of **feasibility**, **waste produced**, **radiation exposure, cost and duration**. The core technical concept of PLEIADES is a **nuclear decommissioning specific ontology** providing a bridge between cutting-edge digital support tools into a BIM-based integrated platform adapted to practical needs in D&D processes. The platform will be applied through systematic demonstration exercises based on **real-life experiences** aiming at demonstrating applicability, as well as quantifying efficiency and needs for future developments. Ultimately, the project aims at proving a new **innovative methodology** for optimization of D&D strategies from a safety, cost and efficiency perspective through providing a first prototype of a tool to be provided to the industry jointly by the partners of the project.

● EXPECTED IMPACTS

The traditional challenges for actors involved in decommissioning are unclear initial and unverified scenarios. PLEIADES shall move forward the deployment of an interoperable platform **facilitating the use of 3D modelling** with existing software and tools in the complex process of decommissioning and dismantling of nuclear infrastructures. The appropriate use of digital tools should facilitate **exchanges between the various actors** (owner of the facility, leader of the decommissioning project, subcontractors and suppliers) and **professions** (studies and implementation of decommissioning works, decommissioning works and facility safety, radiation protection, waste management…) involved in the implementation of a D&D project. New work methodologies and the **PLEIADES platform** shall allow the overall improvement of the **integrated management of decommissioning projects**, in terms of safe progress, economical aspects and technical viability.

● HIGHLIGHTS

The PLEIADES platform will be the **first and unique platform to concatenate a set of mature digital modules often already implemented in D&D projects.** By gathering on the same platform a set of technologies to optimize the D&D process from scenario studies, assessment of dose for workers, waste and costs, PLEIADES addresses the main technical issues related to a D&D project. The integrated and tested modules are primarily solutions developed in Europe but with strong applicability potential in non-European markets. The main added value consists in the feedback from the real use-cases to get quantitative results on **both the modules and integrated processes carried out in real conditions**. Attracting the new generation of scientists and engineers to work with innovative digital tools is an important challenge of the project that will be tackled by the organization of targeted trainings and interaction with other industries.

● PARTNERS

CEA / CYCLIFE DIGITAL SOLUTIONS / EDF / ENRESA / IFE / IRSN / IUS / KIT / LGI / LIGHT AND SHADOWS / TRACTEBEL / VTT / WAI

● DURATION & BUDGET

October 2020 – September 2023 - 3 years
2.8M€

● CONTACTS

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● EVENTS

Training sessions - Timing available on the PLEIADES website.