Digital Twin Plant

**CONTEXT**

In today's industrial world, LEAN management is essential because it monitors process performance. This leads to non-predictive planning that is not very adaptable to the hazards encountered. The entry into the new era of Factory 4.0 forces us to adapt.

**Objective**

Use modeling and simulation (3D), IoT (4D) and AI (4D - predictive & 5D - prescriptive) to manage and monitor the plant in continuous improvement.

**How**

By modeling Factory 4.0 that takes into account the maximum locks of all associated projects.

**ADDED VALUE**

- Plant improvement proposal before actual investment
- Prevent the risks associated with a reorganization of flows
- Identify influential parameters to optimize and adjust resources
- Project adaptable to any industrial infrastructure

**Winnings**

- Simulation of the actual or prescribed operation of the plant thanks to the 3D model
- Monitoring and improvements of plant performance and processes in real time.
- Decision support in the event of hazards thanks to simulations of future plant states

**Solution: Digital platform**

- Complete modeling tool (Blender, 3Dmax or Catia, TopSolid for mechanical design)
- Simulation of integrated and complex systems (such as Dymola, Simulia, Tecnomatix, Flexsim...)

**Timeline (Next Steps)**

- Integration of project schedules (in progress)
- Create the models for the demonstrator (to be continued)
- Follow-up of project simulations (ongoing)
- Proposal and definition of KPIs (to be continued)
- Gathering (Reunion) of simulations (to be continued)
- Digital data processing for monitoring the Digital Twin Plant (to be continued)

**Team**

- 6 UO2

**Project Typology**

- AGILE Scrum

**Medium**

- Blender (+ to be defined)

**Partnership**

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