

OFFER SHEET

Flow management

Simulation tool

USE CASE

Validation of the capacity of a nuclear waste storage building

Multimodal analysis of traffic flows on an industrial site

Optimisation of a packaging line

Validation of dismantling schedule, organisation, and management of outlets

Validation of the layout and dimensioning of the access to controlled areas

CUSTOMER BENEFITS

Productivity gains

Improved working conditions

Optimal allocation of operator tasks

Optimisation of human resources

Optimisation of storage

Validation of return on investment

Validation of implementation and organisation

Context

Assystem's teams help their customers to optimise the flow of their resources and production systems. To achieve this goal, we create 3D digital twins of systems which can realistically simulate the system.

This method and analysis can also be used for sustainable development by studying the design of new systems design before installation, allowing the system to be optimised to ensure objectives will be met.

THE OFFER

The digital twin as a starting point in simulation operations.

The digital twin is created with a dedicated flow management software. This makes it possible to simulate the production cycle in real time or over a given period that can range from hours to years.

The creation of multiple scenarios allows the team to identify the constraints and limitations of the system. Next, practical solutions can be implemented and tested in optimised scenarios to validate the improvements by the identified solutions. This way, companies can anticipate challenges with the installation during the design step.

CREATE a 2D/3D simulation model and **INTEGRATE** the data related to the activity of the industrial site

SIMULATE and **EXTRACT** output data of each simulated scenarios

ANALYSE and **COMPARE** the results obtained

PRESENT the analysis showing the best solutions and the critical resources

ESTABLISH a collaborative relationship with the customer

Flow management

CHARACTERISTICS OF THE OFFER

FlexSim simulation software is used to carry out flow management projects. Our customers' 3D models can be integrated into the model, together with data and system parameters. The FlexSim model can be linked to an Excel file through an import/export system. This makes it easy to modify parameters on the fly, to test out different scenarios.

The tool allows different scenarios to be simulated at different paces. This allows clients to visualise what happens precisely in the model step by step, or fast forward to the end to view the final data.

Simulation from a digital twin



CASE STUDY

Validation of access dimensions to controlled areas

This project involved the layout and sizing of a controlled areas entrance within a nuclear facility, in compliance with EVEREST protocol constraints.

Context: The EVEREST protocol is a new method of deploying protection equipment before entering a controlled area. Its deployment was planned on the Flamanville site, where a study was needed to revamp the existing entrance areas to match the constraints of the new protocol, as well as the increased influx of operators.

Solution: The study followed an iterative workflow with a project team specialized in ergonomics who proposed different organisational solutions. These solutions were then simulated by the engineering team to evaluate the performance of each solution in accordance with previously identified indicators. The best solution was then presented to and validated by the customer.

Customer benefit: Reduction in maximum waiting times to enter/exit the controlled area within the constraints of available space and the EVEREST protocol.



Reduced waiting time



Compliance with EVEREST protocol for protective equipment deployment times