

OFFER SHEET

Holoreka

Control and maintenance assistant in augmented reality

USE CASE

Site validation

Preview of new installations in their industrial environment

Equipment validation and conformity

Measurement of deltas

Risk elimination operations

Maintenance and manufacturing support

CUSTOMER BENEFITS

Fast return on investment

Better coordination of workflows

Better traceability

Up to 10 times faster control operations

Better understanding of the facilities

Detection of incompatibilities during the design phase, and directly on site

CONTEXT

Augmented reality aims to improve industrial performance by assisting interventions on site. It allows professionals to carry out control and maintenance operations by overlaying 3D models onto a real-time view.

The first version of this solution was developed in partnership with Naval Group to reduce inspection times for welded parts on submarines and improve the reliability of manufacturing. After a series of conclusive results, Assystem has developed a new, more powerful tool that it can apply to each of its sectors of operation.

THE SOLUTION

Holoreka is a standalone augmented reality solution developed by Assystem's teams. Designed for maintenance and control operations, it allows users to visualise and test control equipment or industrial installations in real time.

Holoreka covers a wide range of operation types thanks to its twelve modules (with the potential for additional, custom modules).

It allows the user to:

- Overlay the 3D model onto its real counterpart with millimetre accuracy
- View the data produced by individual components
- Assign custom states / tags to parts
- Measure and evaluate deltas
- Carry out collaborative operations

VISUALISE the integration of new designs into a future environment

VALIDATE its location, accessibility and maintainability before starting the installation process

SUPPORT the manufacture and construction of project components

CHECK the implementation by identifying any gaps between the hologram and the reality

Holoreka

CHARACTERISTICS OF THE SOLUTION

- For optimal use of the application, Holoreka is installed in a Microsoft HoloLens2 mixed reality headset into which FBX format 3D models and a CSV file containing the data for the equipment to be controlled are transferred.
- The application can be controlled by two different types of input :
 - With an Xbox Controller, optimal for precise movements
 - With voice commands which is the easiest and most intuitive method
- Operations on the field can be streamed, recorded, and registered over the network or USB cable.



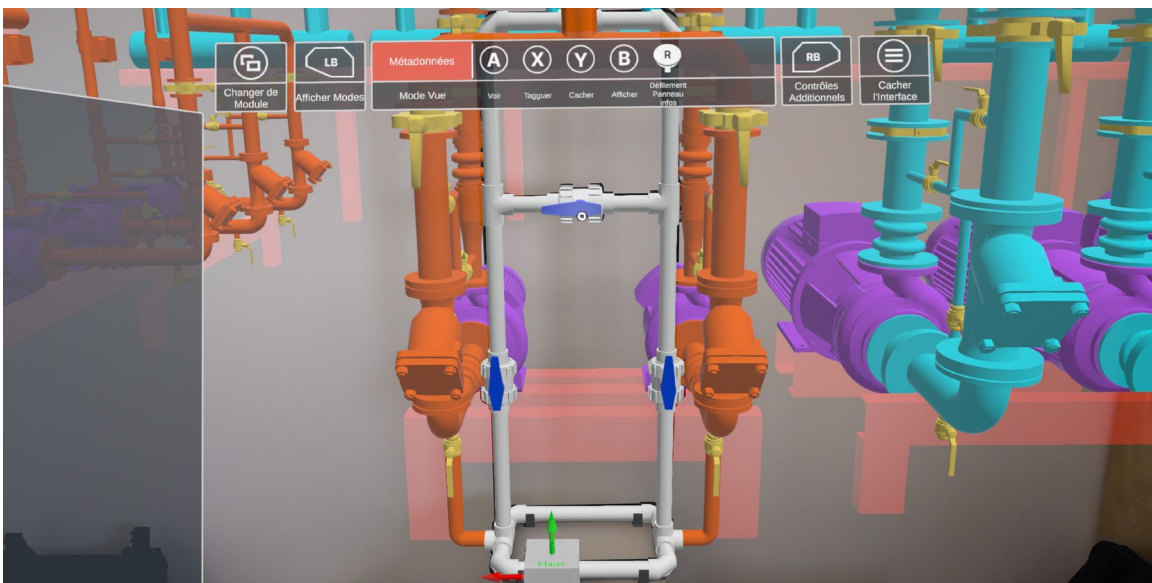
SPECIFICATIONS

- Load models up to 200 MB
- About 1000 objects loadable
- 2 hours of autonomy
- Supports FBX, OBJ, GLTF, GLB, PLY and STL formats



PERFORMANCES

- Holoreka has been developed for the Microsoft HoloLens 2 mixed reality headset, which is currently the most optimal available. Its performances are high enough to load large and complex 3D models with their data.



CASE STUDY

"Holoreka" for critical handling validation



Reduction of delays 3 to 6 months



Cost reduction



1 day of preparation and use of Holoreka

The project involves the validation of a critical handling operation to limit the costs of a corrective intervention in a nuclear environment for ORANO.

Context: Two large pieces of equipment had to be repositioned. According to the standard procedure, modification works would have been necessary by dismantling part of the installation for a maximum period of 6 months.

Solution: The Holoreka application was used to project the digital twin of two pieces of equipment onto their real counterpart. The entire handling operation was carried out in augmented reality, checking that there was no collision with existing elements. The operation was validated and could be successfully carried out in real time, avoiding all the heavy dismantling operations.

Customer benefits: Additional construction costs avoided and project delays minimised.