

VISIT US ON:



<https://fortis-project.eu>



@FORTISProjecteu



/fortis-project



@FORTIS-Project

## PARTNERS

**tecnal**<sup>ia</sup>

MEMBER OF BASQUE RESEARCH  
& TECHNOLOGY ALLIANCE



## CONTACT:

[info@fortis-project.eu](mailto:info@fortis-project.eu)

# FORTIS

*Multi-Modal and Multi-Aspect Holistic  
Human-Robot Interaction*

**Call: HORIZON-CL4-2023-DIGITAL-EMERGING-01-02**

**Duration: 01 January 2024 > 31 December 2024**

**Project ID: 101135707**

## OBJECTIVES

FORTIS is an EU-funded project that aims to provide a **solution for enabling robots to interact with humans in a human-like way for long periods**. Therefore, the main objectives are:

1. Develop, integrate, and provide a human-centric solution for modelling and analysing humans.
2. Develop and provide a flexible and agile multi-robotic-centric solution interacting with humans.
3. Integrate and provide the FORTIS solution where a safe and trustworthy Human-Robot interaction is guaranteed and provides optimized operations for both humans and robots.
4. Demonstrate the solution for industrial pilots in construction, maintenance and logistics.

The three **main paths** to achieve **FORTIS solution** are:

- Building the FORTIS digital world by **FORTIS HRI Digital Twin**.
- Monitoring **human safety** while preserving **privacy**.
- Optimising the operations of the human and robot during the interaction.

The **Tangible Expected Outcomes (TEOs)** related to the objectives of the FORTIS project will be:

- TEO 1: FORTIS **Human-Centric Toolkits** (Obj. 1). Toolkits for modelling the human's status.
- TEO 2: FORTIS **Robot-Centric Toolkits** (Obj. 2). Toolkits for building a multi-robotics solution that can interact with humans.
- TEO 3: FORTIS **Human-Robot Trustworthy Interaction** (Obj. 3). The Holistic solution of the FORTIS project.

## EXPECTED IMPACT

### IMPACT 1: *Human-Centric*

- Enrich the knowledge in a wide range of fields by understanding and modelling human behaviour.
- Bring new collaborative robot generations, more human-status aware and adaptable, able to provide more intuitive and user-friendly interfaces tailored to the cognitive capabilities of their users.
- Develop HRC and HRI systems that are more effective, user-friendly, and context-aware, leading to improved collaboration between humans and robots.
- Develop AI systems that are more effective, context-aware, and user-friendly, user satisfaction, and business outcomes.

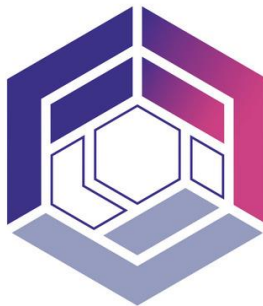
### IMPACT 2: *Robot-Centric*

- Providing a platform for testing and experimenting with new human-robot collaboration and interaction scenarios.

- Reduce development time and costs; increase market demand; improve product differentiation; enhance productivity; and create opportunities for innovation.
- Expansion of product portfolio, improvement of user experience, and meeting the increasing market demand for AI-embodied systems.

### IMPACT 3: *Human-Robot Trustworthy Interaction*

- Better understanding of the factors that influence human trust in robots.
- Improve the efficiency of manufacturing and production, allowing multiple robots to work together in a coordinated manner.
- Reduce the need for expensive physical prototypes and testing and reduce the risk of accidents and injuries in the workplace.
- Can enhance business processes, integrating AI and ML in cobots.
- Enhanced HRI architecture to endure both internal and external workplaces.
- Improve the quality of the work and the safety of workers.



# FORTIS

