



INVERSE

Interactive robots that intuitively learn to invert tasks
by Reasoning about their Execution

PROJECT OVERVIEW



8 Million
EU-Funding



12
partners



01 Jan 2024
- 31 Dec 2027

inverse-project.org

CHALLENGES

Limited Interaction

Robots lack advanced
interaction capabilities.

Adaptability

Robots lack the capability to
adapt to new environments
effectively.

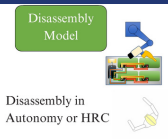
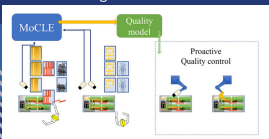
Cognitive Skills

Current robots fall short in
mimicking human-like problem-
solving across various.

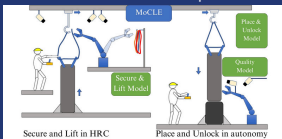
SOLUTIONS

INVERSE's approach includes: **interpreting sensor data**, **modelling environments**, **making decisions**, and **executing actions**. This is all designed to help robots independently navigate and manage complex tasks in changing real-world situations.

Use case 1: Batteries Assembly-Control-Disassembly in circular manufacturing lines



Use case 2: Robot-Crane-Human interaction in short-series production



EXPECTED IMPACTS

- 1. Increased robot autonomy:** improvement of worker's well-being, safety, productivity and quality in manufacturing and logistics operations.
- 2. User-centric design:** smooth integration of robots with human teams, boosting their effectiveness and enhancing the overall work experience.
- 3. Predictive manufacturing:** enhancement of recycling and reuse of critical materials.
- 4. Training for human-robot collaboration:** Educating the next generation of engineers and workers in robotics and automation.