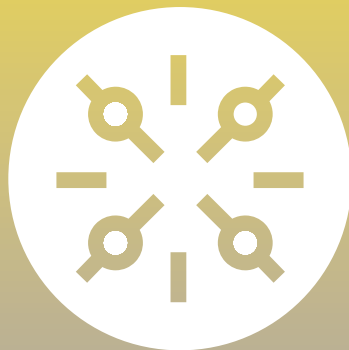




TALOS

A. brl.ghter future

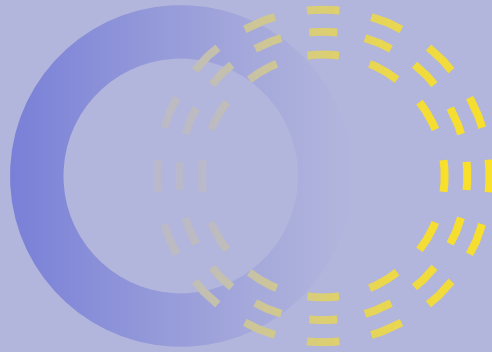


Funded by
the European Union

TALOS

harnesses **cutting-edge robotic solutions and artificial intelligence** for optimized operations and maintenance (O&M) in photovoltaic (PV) plants, **fostering human-robot collaboration.**

This integration enhances **safety, efficiency, and cost-effectiveness** in energy production across land-based, floating, and agricultural PV sectors.



TALOS integrates the **human-in-the-loop** concept, focusing on human-robot interaction within its innovative solutions, ensuring human aspects guide the development through end-user engagement and social impact analysis.

Robotic & AI Innovations for PV Efficiency



Human-robot collaboration with multi-agent environments.



Validated digital twins of TALOS PV parks to enhance O&M decision-making.



AI to early detect PV panel defects and optimize O&M strategies.



Drone inspection data for AI-driven fault classification.



Autonomous O&M robots for land-based and floating PV.



Advanced agricultural monitoring with AI and autonomous vehicles.

Reduction of



10%

Underperformance



>70%

Maintenance period



90%

Human risk exposure

Improving of



10%

Resource efficiency in O&M tasks

The image shows a large-scale agricultural facility, likely a greenhouse or polytunnel, with a complex metal frame. Solar panels are mounted on the roof structure, angled towards the sky. In the foreground and background, there are rows of green plants, possibly tomatoes, growing in the facility. A semi-transparent blue rectangular box is overlaid on the center of the image, containing the title and a descriptive paragraph.

AgriPV Pilot

In the Netherlands, TALOS brings robotics to agriculture, merging PV energy production with crop cultivation for a greener future.

A wide-angle photograph of a solar farm at sunset. The sun is a bright, glowing orb on the horizon, casting long, golden rays across a sky filled with soft, orange-tinted clouds. Below the horizon, a dark, silhouetted landscape of hills and trees stretches across the frame. In the foreground and middle ground, rows of solar panels are visible, their surfaces reflecting the warm light of the setting sun. A semi-transparent blue rectangular box is overlaid on the lower half of the image, containing the title and a descriptive paragraph in white and yellow text.

Land-based Pilot

In Spain, autonomous robots and AI enhance land-based PV efficiency, pioneering sustainable energy production.



Floating Pilot

In Portugal, autonomous cleaning and inspection robots revolutionise floating PV parks, showcasing innovation on water.



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