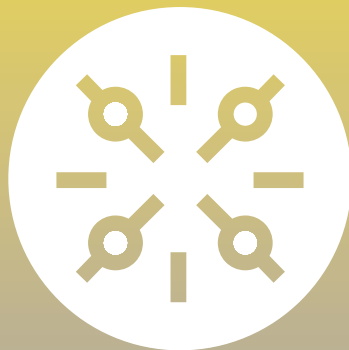




TALOS

A.Bri.ghter future

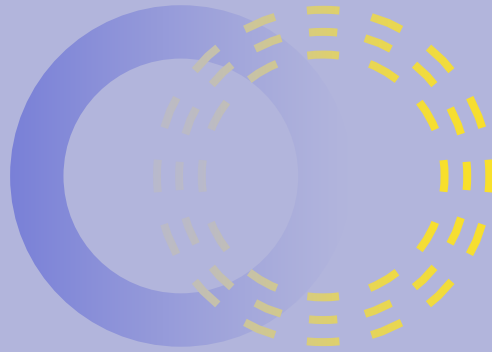


Funded by
the European Union

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 along the sides, there are rows of lush green plants, possibly strawberries, growing in beds. The sky is visible through the translucent roof panels, showing a clear blue with some light clouds.

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 vast solar farm at sunset. The sun is a bright, glowing orb in the center of the horizon, casting a warm orange and yellow light across the sky. The sky is filled with soft, wispy clouds. In the foreground, rows of solar panels are visible, their surfaces reflecting the golden light. The panels are arranged in neat, parallel lines that stretch towards the horizon. In the background, a line of green trees separates the solar farm from a distant, hazy landscape. The overall scene conveys a sense of clean, sustainable energy production in a natural setting.

Land-based Pilot

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

An aerial photograph of a vast floating solar farm. The image shows multiple rectangular sections of solar panels, each composed of a dense grid of smaller photovoltaic modules. These sections are connected by a network of white floating pontoons and cables. In the lower-middle section, a small, white, autonomous cleaning robot is visible, moving across the panels and leaving a trail of dark, cleaned areas behind it. The water is a deep blue-green color. A semi-transparent purple rectangle is overlaid on the upper-left portion of the image, containing the title and descriptive text.

Floating Pilot

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



Follow us on
social media:



TALOS EU PROJECT

Visit our website:
talosproject.eu

Contact us at:
info@talosproject.eu

The TALOS consortium:

NEW



INESC TEC

DTA THE SMART MOVE

SolarCleano

FundingBox

ICONS

isotrol

alisyS

res
power for good

WAGENINGEN
UNIVERSITY & RESEARCH



Eden
Core

ΓΕΩΠΟΝΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ
AGRICULTURAL UNIVERSITY OF ATHENS