TALOS

Transformable Adaptative Lines Optimized System

EUREKA SYSTEM
TECNOLOGIE INTEGRATE SU MISURA

ELIF LAB

CHALLENGES

High-mix, low-volume (HMLV) production poses several challenges:

- High operational costs from frequent setups
- Space inefficiency in factory layouts
- Low adaptability to diverse product demands
- Balancing workers' well-being with the pressure of shortened lead times
- Worker fatigue caused by rigid workflows and ergonomics issues

THE SOLUTION

A modular, AI-powered solution designed for the challenges of high-mix, low-volume manufacturing.

The TALOS project reinvents manual assembly by **replacing fixed workstations with mobile, robot-towed benches** and by coordinating the whole line through advanced planning algorithms that **optimise production tasks, robotic fleet movements, and overall workflows**, creating a dynamic line setup.

TALOS turns traditional assembly lines into flexible, dynamic systems by combining:

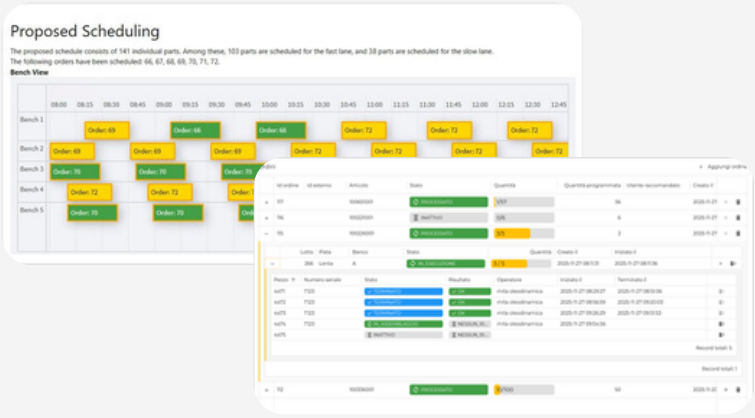
- mobile workbenches moved by Helko AMRs, totally customisable Autonomous Mobile Robots, that enable fast, safe, and ergonomic layout changes.
- AI-powered Mission Manager, fully integrated with production data for the intelligent coordination of every workflow in real-time, based on production orders, time constraints, and resource availability.

EARASHI is an EU project funded by Horizon Europe under GA 101069994.

RESULTS

A TALOS pilot line is currently in operation at MITA Oleodinamica S.p.A. facilities with 5 HELKO mobile robots under TALOS supervision.

- **Increase shift productivity:** +26% (from 15 parts/shift to 19 parts/shift per operator)
- **Shorter lead time:** Approx. -21% for the same work order, compared to the production in a traditional line
- **Increased delivery time predictability:** Production is now constantly monitored and tracked with less error rates on delivery times
- **More idle time for operators:** Approx +5% from an estimated baseline of 10% of total shift time, contributing positively to worker well-being
- **Improved ergonomics:** Operators no longer need to manually move carts between workstations, reducing physical strain
- **A well-accepted technology:** A HUROX Technology Acceptance survey conducted among the operators involved confirms a generally positive perception of the system



IMPACT

Thanks to EARASHI, we were able to:

- Deploy and validate our solution in a real operational environment
- Strengthen collaboration between leading robotics and AI innovators
- Implement a structured approach to digitalizing traditionally non-digitized manufacturing
- Integrate eco-design and sustainability considerations into our solutions
- Refine our business strategy and clarify our unique value proposition
- Engage with a broad network of European stakeholders

GET IN TOUCH WITH TALOS

https://www.eurekasystem.it/en/
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EARASHI

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