

Transformable Adaptative Lines Optimized System

The **TALOS Project** by Eureka System and Elif Lab was one of the 5 selected during the **EARASHI Open Call 2**. It tackles one of the main challenges in the recent European manufacturing industry, specifically the increasing demand for assembling small batches of similar products with varying processing requirements. TALOS aims to transform traditional manual assembly lines into dynamic, flexible working environments that serve the worker.

We achieve this with a double approach: firstly, replacing traditional workstations with **mobile workbenches operated by a fleet of Autonomous Mobile Robots**. Secondly, **optimizing production tasks, robotic fleet movements, and overall workflows through advanced algorithms and AI**, creating a dynamic line setup.

CHALLENGES

Traditional assembly lines must evolve to accommodate dynamic processing needs:

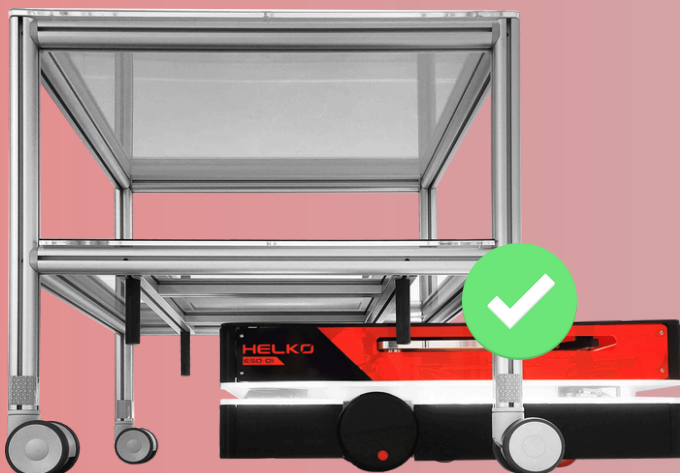
- Increasing demand for assembling many products in small quantities.
- The need to adapt assembly lines to handle similar products with varying processing requirements.
- The need to balance workers' well-being with the pressure of shortened lead times.



SOLUTION

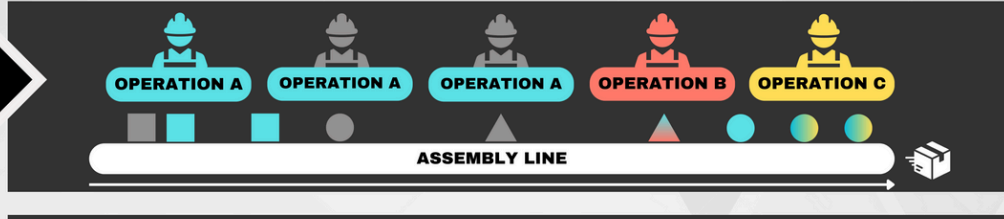
TALOS enables the creation of a work environment in which it is no longer the worker who must adapt to the needs of the assembly line because the flexible element is inherent in the technological set-up.

This innovative approach can relieve operators from the micro-planning work and the wearisome chasing of fast and extremely changeable production needs, thus reducing work-related stress and improving ergonomics.

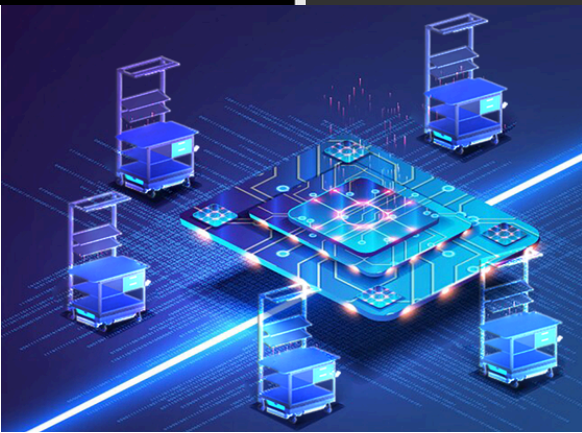
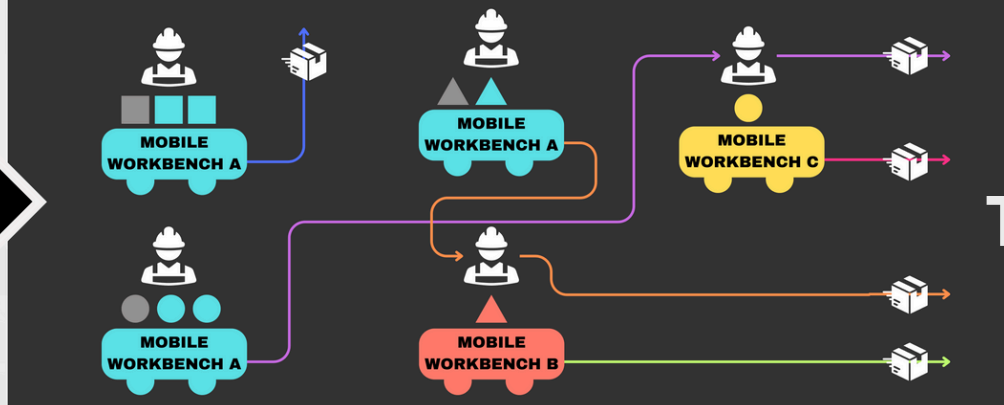


WORK ORDERS:

THE PROBLEM



OUR SOLUTION



MAIN GOALS

- Raising the technological level of manufacturing in Europe.
- Increase productivity.
- Reduce work-related stress and improve ergonomics.

KEY NUMBERS



3 advanced tech integrated in a single solution



Pilot application with a fleet of **5** AMRs installed in a real-world environment (manufacturing facility)



Solution already partially demonstrated with **4** AMRs in a medical environment showroom



A single fleet will support workers for **16** hours non-stop



3 targeted market segments: medical technology, vehicle and equipment accessories, and professional appliances.



We'll deliver a fleet of mobile robots with an integrated AI system that optimizes the planning of processes and the robots' movements, respecting time, energy and cost constraints.

We want to provide a highly customized solution, developed to adapt to the specific needs of each customer.



The financial backing and services support provided by the EU will be instrumental in bringing the TALOS project to life, facilitating the research and development of cutting-edge AI and Robotics solutions and allowing for the practical implementation and testing of these technologies in real-world settings.

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