Abstract ID 498

PRODUTECH R3 PROJECT

Paulo Peças

Instituto Superior Técnico

ppecas@tecnico.ulisboa.pt

Keywords: Automation, Smart Transport, Sustainable, Production

Summary: The PRODUTECH R3 project focuses on developing digital and sustainable solutions for industrial automation and smart manufacturing. This project integrates hybrid manufacturing, digital logistics, and autonomous production systems to enhance efficiency, resilience, and sustainability in industrial operations. Key innovations include intelligent stamping production, friction stir welding tools, and high-yield mold production. Additionally, decision-support systems for internal logistics and circular economy-driven digital solutions are introduced to optimize resource use and minimize waste. By combining Industry 4.0 technologies such as AI, IoT, and predictive analytics, this initiative fosters resilient and reindustrialized production ecosystems. Future developments will focus on expanding smart logistics, real-time process monitoring, and energy-efficient manufacturing. The digital transformation enabled by this project strengthens sustainable industrial practices, ensuring competitiveness in a rapidly evolving economic landscape.