

# CONVERGING

Social industrial collaborative environments integrating AI, Big Data and Robotics for smart manufacturing



## Discover CONVERGING



### CONVERGING vision

*The CONVERGING project aims to Develop, deploy, validate and promote smart and reconfigurable production systems including multiple autonomous agents (collaborative robots, AGVs, humans) that are able to act in diverse production environments.*



## CONVERGING Use Cases - Transforming Industries

### FORD Use Case: Streamlining Stamping Plant Operations

**Current Status:** In the automotive world, precision is paramount. At Ford, the stamping plant plays a crucial role in creating vehicle panels. However, this process involves manual labor, ergonomic risks, and repetitive tasks.

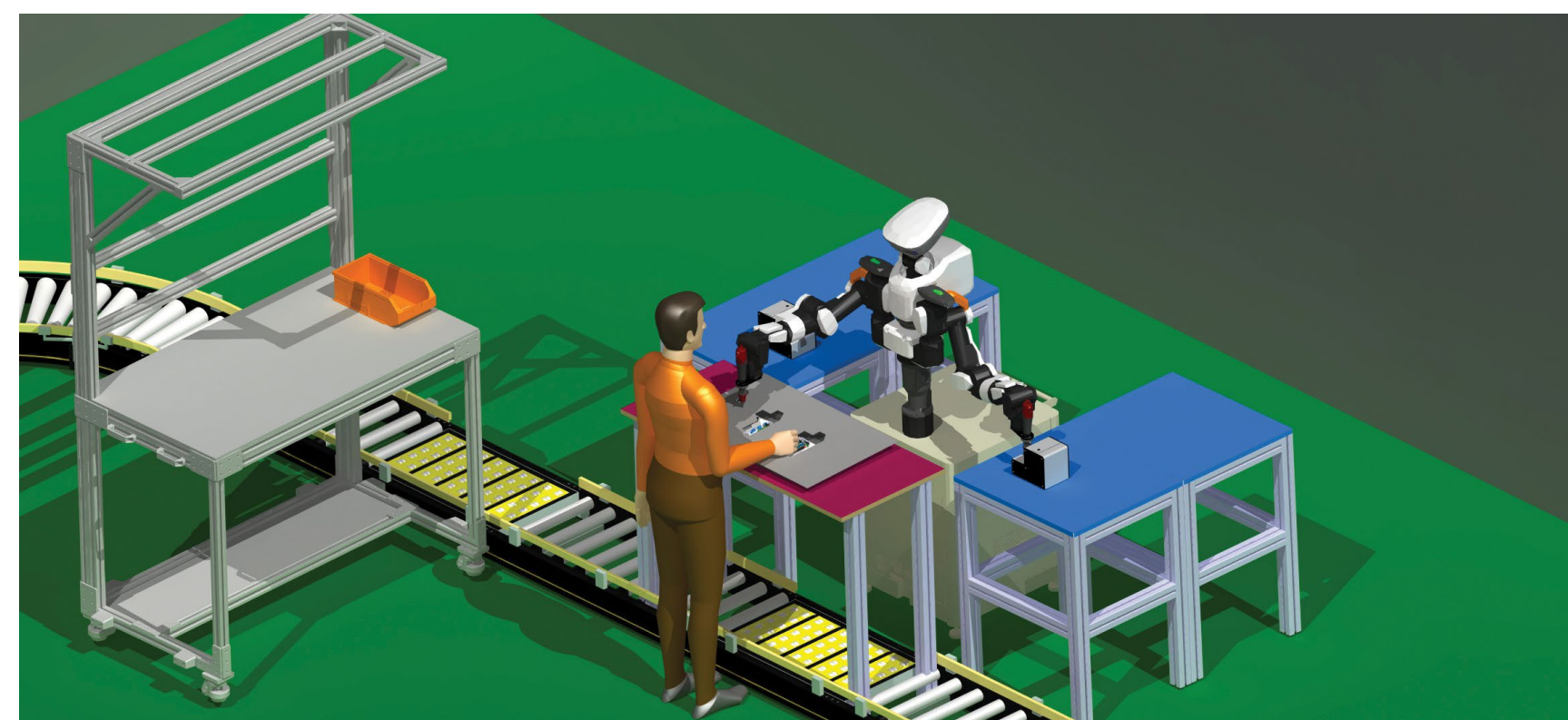
**CONVERGING Vision:** We're introducing AI-empowered collaborative robots to revolutionize die polishing. Human operators will focus on quality inspection while robots handle repetitive tasks. The result: enhanced efficiency, reduced risks, and top-notch quality.



### ELUX Use Case: Elevating Hob Manufacturing

**Current Status:** Kitchen hobs assembly involves heterogeneous and complex manual manufacturing processes, executed on a serial production line, posing physical and cognitive load to the operators.

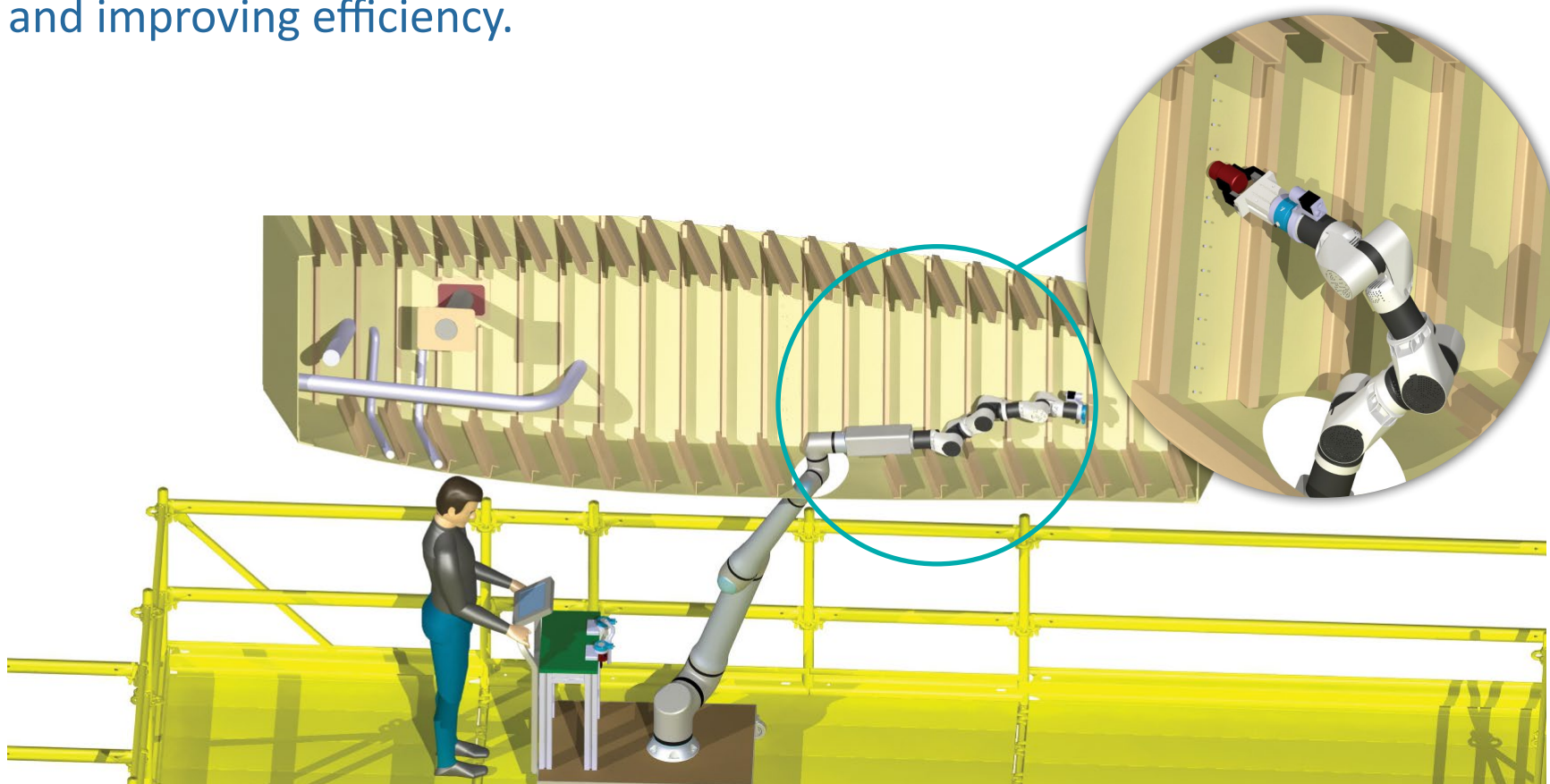
**CONVERGING Vision:** Our approach involves a collaborative human-dual arm humanoid robot. It ensures precise assembly, monitors operations, and leverages AI for error detection. Human-robot cooperation takes manufacturing to new heights.



### IAI Use Case: Improving Aircraft Fuel Tank Maintenance

**Current Status:** Fuel tank maintenance is complex and hazardous manual procedure. It demands specific body types, exposing the technicians in toxic fumes and ergonomics risks.

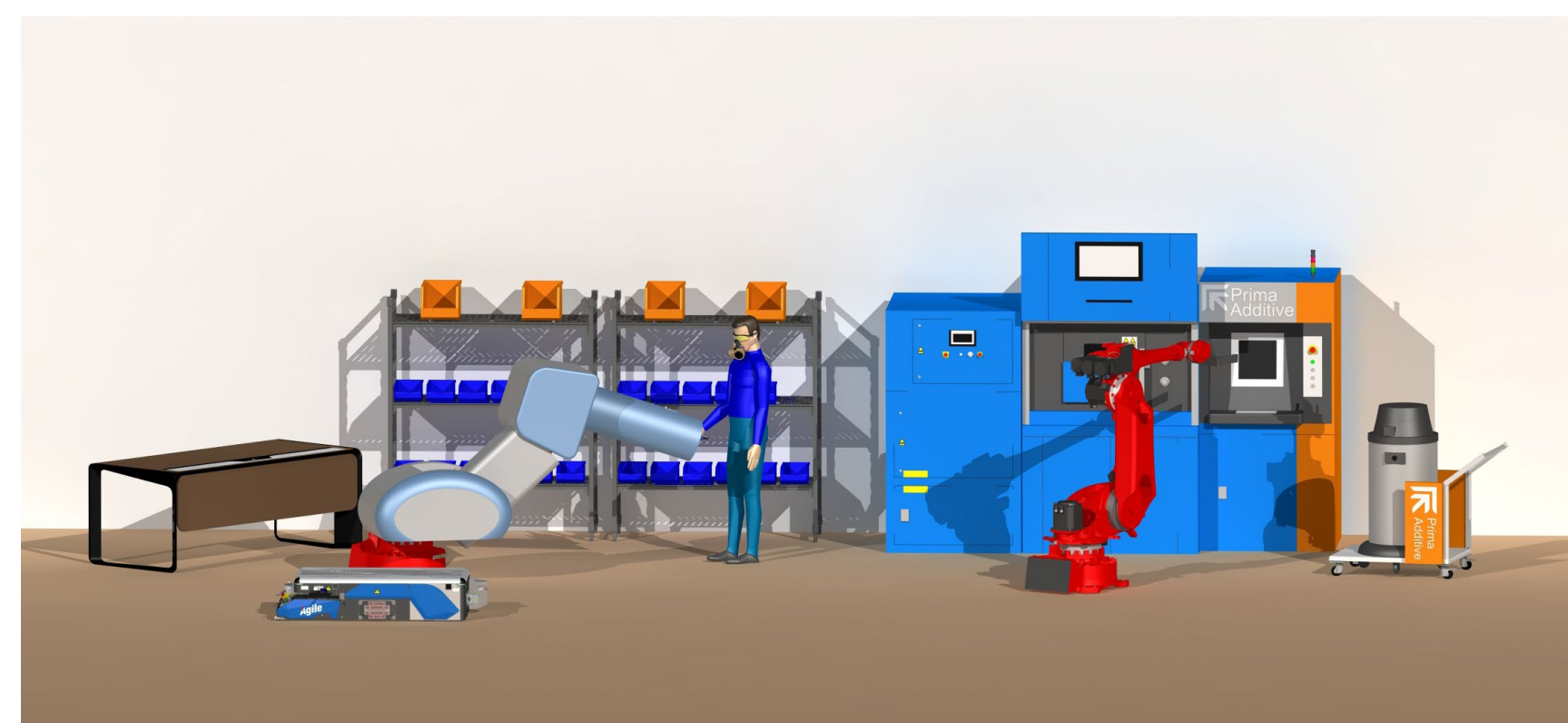
**CONVERGING Vision:** We're introducing smart collaborative robots with AI-based anomaly detection, ensuring safer inspections and faster maintenance. Operators oversee and intervene when needed, reducing risks and improving efficiency.



### PRIMA Use Case: Enhancing Additive Manufacturing Post-Processing

**Current Status:** Manual support removal in additive manufacturing is error-prone and costly. Variability in surface finishing adds to the challenge.

**CONVERGING Vision:** Our approach involves two robots working in tandem with operators. They ensure precision, safety, and adaptability. AI and sensors enhance autonomy and quality, making additive manufacturing more efficient.



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