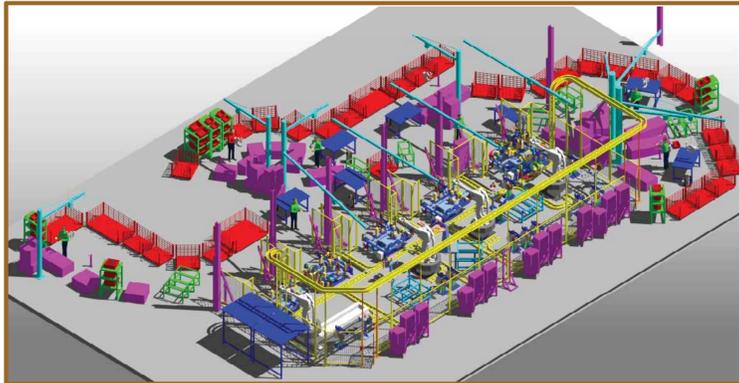# Remote Laser Welding (RLW) System *Navigator* for Eco & Resilient Automotive Factories


PRODUCTION SYSTEM CONFIGURATION

- Select candidate station to meet KPIs
- Configure Hybrid Assembly System that includes RLW and RSW operations
- Synthesise and evaluate Hybrid Assembly System performance

RLW CELL CONFIGURATION

- Optimise cell configuration
- Optimise robot trajectory and welding sequence
- Off-line programming of robot
- Evaluate performance of the RLW Cell
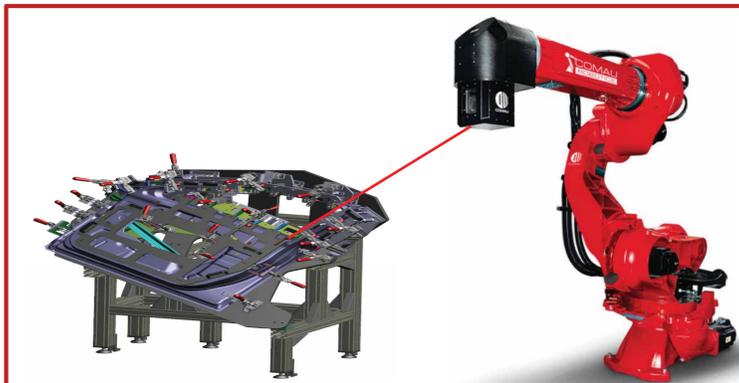
RLW PROCESS DESIGN OPTIMISATION

- Generate error budget map
- Optimise fixture layout (Max and Min part-to-part gap control)
- Select and optimise laser parameters

RLW PROCESS CONTROL

- Process monitoring strategies
- Root Cause Analysis (RCA)
- Corrective Action and Preventive Action (CAPA)

VEHICLE DESIGN GUIDELINES and ECO-EFFICIENCY EVALUATION

- Eco-efficiency evaualtion
- RLW Navigator software architecture
- Design guidelines for RLW