



## Taiprora Smartplant: Automotive IP Assembly Line + EOL

Taiprora designed and delivered a **semi-automatic assembly line + full-automatic EOL check and traceability system** to assemble cockpits in a third-party automotive corporate.

### Smartplant components consisting in the Assembly Area

- 7 in-line assembling stations equipped with screwing tools with torque and angle checks, traceability tools (barcode scanner);
- 2 additional stations for reworks;
- 12 AGVs fleet (max load 600Kg each);
- 1 full-automated boxed-EOL check station with 2 antropomorphic robots equipped with 2 smart-cameras for automatic-vision checks;
- 1 final check station with operator;
- 1 IoT controlling system based on 3 webcams for safety, help and maintenance purposes;
- 12 all-in-one touch-PCs with a software developed by Taiprora assists the operator in his workcycle;
- 3 softwares to manage and track every single action done in the entire area;
- Multilevel-based RFID System with EKS Keys to accessing on working areas.

The software system communicates constantly with 2 corporate's Systems:

- MES, to receive production information;
- TRACE to send both assembly and EOL check information (statistics about productivity, scraps, reworks, traceability, etc).

### Brief description of the logical structure

A Fleet of 12 AGVs automatically moves from a station to another each trolley, that includes a single-axis rotating nest where cockpits are placed during assembling operations.

The entire assembling area has been re-designed and the complete workcycle as well. Taiprora provided all hardware devices (boxes, accessing doors, robots, trolleys, agvs, plcs, cameras, etc) and designed and coded all three softwares needed to manage the entire workflow.

#### DIGITALIZATION & INDUSTRY 4.0 ENABLING TECHNOLOGIES:

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| <ul style="list-style-type: none"> <li>• Cloud computing</li> <li>• Advanced HMI / User Interface</li> <li>• Corporate's MES connectivity</li> </ul> | <ul style="list-style-type: none"> <li>• IIoT</li> <li>• Edge computing</li> <li>• Certificated assembling procedures</li> </ul> |
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#### ADVANTAGES WITH THIS SOLUTION

- ✓ High efficiency and reliability
- ✓ User-friendly graphic interface
- ✓ Zero errors
- ✓ Workcycle optimized
- ✓ Complete Traceability



#### FIND OUT MORE WITH DEDICATED VIDEOS



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