Ubisense

Automotive Manufacturing

SMART FACTORY IN ACTION

ERROR PROOFING

Ubisense Smart Factory enabled an Asian car manufacturer to eliminate errors and related waste on the engine dress-line at one of its major US production facilities.

THE CHALLENGE

To minimize the errors and inspection time on a fast moving engine dress-line with rigorous quality standards.

A major Asian OEM was using manual scanning to identify engines as they entered workstations on the dress-line of the engine assembly process, and to track the work completed on each asset.

Engines move down the assembly line with approximately three feet between them - each one is scanned and then processed, with any errors being flagged for repair. This process is based on an assumption that an engine scanned is the same engine that gets worked on, however the manual nature of the ID system meant that errors occurred and workers frequently got out of sync with the line. It was therefore impossible for quality control to be confident of which engines had been flagged for rework.

- Errors were occurring on the engine dress-line
- There was imperfect traceability and quality records for inspection and repair
- This caused 200% waste in repair work, with the engine either side of the one flagged having to be reprocessed to ensure quality standards
- WIP inventory cost increased a result of holding three engines instead of one each time a fault was flagged on the dress-line

THE SMART FACTORY SOLUTION

Smart Factory delivered highly reliable, automatic, virtual asset identification that enabled the Asian OEM to drastically reduce dress-line errors and to know with confidence exactly which engines required repair.

The Smart Factory system created a virtual zone around each engine on the dress-line, automatically identifying each asset and controlling the worker's tools so that they would only work on the engine that was next in sequence. With this precise real-time location and spatial-monitoring the manufacturer had a digital record of every process on the line, eliminating the need to rework three engines instead of one each time a repair was needed.

THE RESULTS

1. Decreased cost of quality, as Smart Factory automatic tool control error-proofed the dress-line from scanning mistakes
2. Reduced waste with a significant drop in repair activity and redundant repairs completely eliminated
3. Gained direct, high-confidence matching of quality records to specific products
4. Improved productivity by saving valuable process time with manual barcode scanning no longer required