

# Optimizing brownfield plant with Smart Manufacturing

## The situation

- A semiconductor manufacturer purchased a brownfield plant with dated technology and minimal investment in recent years.
- Needed to rapidly upgrade the plant, equipment, tooling and technology to meet a large increase in demand.
- Required doubling production and the size of the workforce within nine months.

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## The challenge

- Legacy systems were not integrated. Spreadsheets and manual logs were prevalent throughout production. Three different ERPs were being utilized.
- Operating procedures and training materials were paper-based manuals that complicated on-boarding of new employees.
- Significant quality and performance issues surfaced during and after production ramp-up, especially on off-shifts and weekends.
- Supervisors, engineers and management were forced into 'reactive-mode' with inadequate information to track performance, understand anomalies, resolve problems and prevent reoccurrence.

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## The approach

- Launched a Smart Manufacturing program to systematically improve production by providing all users with a common system for viewing and monitoring performance in real-time, automatically alerting or stopping out-of control processes and minimizing ad-hoc reporting and charting.
- A Proof of Concept (POC) was completed in 12 weeks to configure and implement the new digital production system at a work center.
- Rolled out the system to all 120 work centers within nine months.
- Established SymphonyAI Industrial as the Platform to integrate legacy and new enterprise and plant systems with the work centers.

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## The value

- Realized several million dollars of annual savings in yield and productivity improvements.
- Eliminated scrap through continuous monitoring and real-time automatic abnormality alerts, driving action during the production run.
- Significantly reduced on-boarding time and increased new hires effectiveness through directed work.
- Reduced the need for additional capital investment by integrating and digitizing legacy machines and systems.