Digital Factory connects people, equipment and manufacturing data to provide disruptive market capabilities that can deliver millions in top and bottom line value.

Market opportunity and triggers

- Smarter operations based on visibility and responsiveness across interconnected disparate systems
- Advanced analytics supported by Internet of Things (IoT) enabled devices
- Improved supply chain agility based on distributed process monitoring and management
- Continuous improvement and process optimization through machine learning-enabled analytics
- Quality integrated throughout product life cycle and operational processes to eliminates waste and proactively addresses issues
- Improved asset performance and management based on accurate and current production awareness

EY approach

- Business strategy initiatives
  Manufacturing systems project methodology
  Digital manufacturing strategy and systems
  Transformative change

Digital sophistication

Level 0 — Foundation
  Manufacturing systems platform strategy, cybersecurity strategy

Level 1 — Efficient
  “Paperless shop floor,” directive workflows, real-time alerts, mobility, visualization

Level 2 — Intelligent
  Advanced analytics, IoT, smart equipment, smart materials

Level 3 — Autonomous
  “No touch,” physical robotics, digital robotics, drones

Defect handling
Workers detecting a defect during an autonomous maintenance inspection task guided through the investigation and resolution processes

Integrated awareness
Workers able to view line operating conditions and detect exceptions to model behavior without being bound to particular location on shop floor

Autonomous maintenance
During normal production operations, workers prompted to execute clean, lube and inspect tasks based on time schedule, event or operating condition detection

Rapid changeover
Planned line changeover from product X to product Y and workers execute changeover in the least time possible through directed work activities

Condition-based predictive maintenance
Uses machine learning algorithms to evaluate behavior of equipment running under different external and internal conditions, constantly learning optimal running parameters, and calculating likely failure times to identify required intervention before a disruption can occur

Defect handling
Workers detecting a defect during an autonomous maintenance inspection task guided through the investigation and resolution processes
Providing end-to-end services for supply chain and operations problems requiring technology-enabled approaches

EY focus

The manufacturing industries are transforming at a rapid pace. We understand our clients need to stay ahead of the curve. We can co-develop leading-practice methods with our clients, leveraging our modern innovation studios while maintaining the essential awareness that the purpose of manufacturing isn't technology, it’s finished products that fulfill customers’ expectations.

Digital Factory enablers

- **Accelerator reference library** – an extensive collection of methods used in all types of projects and in all major industry segments, allowing project teams to select the specific templates, guidelines and examples that best fit the task and use these accelerators, where applicable, to efficiently deliver high-quality services
- **Digital Factory apps** designed to enable and accelerate operational excellence across the production floor
- **Standards** – applied all project deliverables to make certain of the quality and consistency of those work products
- **Templates** – used to support a structured framework for creating the phase deliverables
- **Guidelines** – recommended development approach to comply with deliverables of specific phases
- **Samples and examples** – leading-class deliverables used as a model for specific project requirements

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Service offerings

System integration
- MES/MOM full-service provider
- Enterprise resource planning (L4) integration to manufacturing systems
- Controls and automation services integration
- Data and event historians
- Report development and analytics
- Data warehouse and data mining
- Other manufacturing systems (e.g., CMMS, LIMS)

Manufacturing consulting
- Digital manufacturing strategy and road map
- Operational excellence design and implementation (including digital enablement)
- Manufacturing and quality analytics
- Manufacturing network strategy
- Manufacturing operating model design and implementation
- FDA system validation
- Business process mapping
- Sector-based consulting and solutions

Application development
- IoT-built cloud-based platform
- GE Predix, MS Azure, PTC ThingWorx, Rockwell FactoryTalk
- Energy management services
- Quality management and sample and test workflow
- GE Proficy mobile auto log app
- GE Proficy system health monitor
- Packaging performance
- Enterprise manufacturing intelligence reporting
- Environmental EPA monitoring compliance
- Industrial cybersecurity

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