



Wunderlich-Malec

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Engineering Solutions  
Since **1981**

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Designing **Manufacturing Execution Systems** For  
**Factories Of The Future**

**MES**

Employee Owned. Customer Committed.



**Manufacturing Execution Systems**

Helping clients  
meet their goals  
since 1981

Our manufacturing  
execution systems  
solutions

Our **Manufacturing Execution Systems Team** has a firm foundation in delivering value-driven solutions for our client's deeply rooted in manufacturing & quality experience. We excel at highly specialized, challenging projects utilizing first-hand knowledge of best practices within the life science industry.

Our continued success comes from actively listening to our clients' requirements & developing solutions to achieve their goals on the journey to digital transformation.

### Comprehensive Consulting

- 🔗 *Implementation Roadmap - Develop detailed plan & timeline for MES solution, outlining the various phases, milestones, and resources required.*
- 🔗 *Needs Assessment - Gather insights into pain points that could benefit from MES.*
  - User Requirements
  - IT/OT Infrastructure Requirements
  - Regulatory Compliance Requirements
  - Operational Requirements
- 🔗 *RFP Development*
- 🔗 *Cost/Benefit Analysis - Cost to implement & maintain/ROI & potential savings.*
- 🔗 *GAP Analysis - Compare current vs desired state & identify gaps and opportunities for improvement through MES solution.*
- 🔗 *Risk Assessment & Mitigation - Identify potential risks/challenges associated with MES implementation & develop strategies to effectively mitigate.*
- 🔗 *Vendor Evaluation - Evaluate different MES vendor suitability for non-existing.*

### Customized Design Solutions

- 🔗 *Software Implementation - MES Installation, Configuration & Integration with existing systems (ERP, DCS, Historian, LIMS, shop floor equipment).*
- 🔗 *Data Collection & Integration - Implement data collection mechanisms to gather real-time production data from the shop floor.*
- 🔗 *Production Monitoring & Control - Enable real-time monitoring of production processes, identify bottlenecks, & facilitate timely decision-making.*
- 🔗 *Electronic Batch Record - Manufacturing & Quality focused design enabling lean manufacturing, operational efficiency & improved compliance.*
- 🔗 *Inventory & Material Management - Track raw materials, work-in-progress, & finished goods inventory levels to optimize material usage & reduce waste.*
- 🔗 *Equipment Management - Track equipment status & improve operational efficiency.*
- 🔗 *Continuous Improvement & Optimization - Assist with continuous improvement initiatives & applying data-driven approaches to optimize production processes.*
- 🔗 *Data Integrity - Maintenance & assurance of data accuracy & consistency throughout lifecycle.*
- 🔗 *Quality & Compliance Management - Achieve Review/Release By Exception with strict adherence to industry standards & regulations.*
- 🔗 *Scalability & Upgrades - Ensure MES solution accommodates future growth & expansion while providing updates & upgrades to keep the system current.*

### Turn-Key Delivery

- 🔗 *Full System Installation, Validation & Qualification - Ensure MES solution adheres to industry standards & regulations.*
- 🔗 *Shop Floor Visualization - Provide visual displays & dashboards to give a clear view of the shop floor status & performance metrics.*
- 🔗 *Performance Reporting & Analytics - Generate reports & data analytics to provide insights into production performance, efficiency, & potential areas for improving KPIs*
- 🔗 *Mobility & Remote Access - Provide apps or remote access solutions to allow managers & supervisors to monitor production remotely.*
- 🔗 *Stakeholder Communication/Transparency - Inform on progress, decisions, & potential impacts on the organization.*
- 🔗 *Develop, Train, & Support Digital Operations Teams - Offer training programs to educate users & management on how to use the MES effectively. Provide ongoing technical support & maintenance services to ensure smooth operations.*
  - Manufacturing, Quality, & IT