MES Specialist

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Professional Summary

- **Senior MES/MRB Specialist** with extensive experience in managing and optimizing **Manufacturing Execution Systems (MES)** to streamline **Material Review Board (MRB)** processes and reduce non-conformance rates.
- Proven ability to implement and configure MES solutions (including **Camstar**, **Siemens OpCenter**, **AVEVA MES**, and **Mendix**) to enhance **production efficiency**, improve **product quality**, and ensure **regulatory compliance**.
- Expertise in **non-conformance management**, ensuring accurate defect tracking, timely resolution, and adherence to quality standards.
- Strong background in **medical device manufacturing**, specializing in **process optimization**, **validation**, and maintaining compliance with industry regulations.
- Experienced in integrating **CAD systems** with MES platforms to improve communication and data flow between design and production teams.
- Skilled in leveraging **statistical process control (SPC)** and advanced analytics to identify trends, optimize MRB processes, and enhance decision-making.
- Adept at developing and deploying **low-code MES applications** using **Mendix**, improving system functionality and user experience.
- Proven track record of **collaborating with cross-functional teams** to drive continuous improvement initiatives, reduce bottlenecks, and enhance **operational workflows**.
- Excellent problem-solving and analytical skills, with a strong focus on **root cause analysis** and **corrective/preventive actions** to improve manufacturing efficiency and minimize non-conformance events.
- Effective in **training and mentoring** teams on MES best practices, ensuring widespread adoption and fostering a culture of quality and accountability.

Education: Master's in computer and information science from Southern Arkansas University.

Technical Skills:

- **Manufacturing Execution Systems (MES) Software**: Siemens Opcenter, Rockwell FactoryTalk, Wonderware MES, GE Proficy iFIX, Dassault Systems DELMIA Apriso, POMSnet MES, Camstar
- **Programming Languages**: C#, JavaScript, SQL, T-SQL, Python
- **Web Technologies**: RESTful APIs, OData, XML, JSON
- **Database Management**: SQL Server, Oracle, MySQL
- **MES Configuration & Integration**: SAP ERP, SCM, PLC Integration, Data Collection & Reporting, Workflow Automation
- **System Architecture & Design**: MES system architecture, system configuration, and customization
- **MES Deployment & Support**: Full lifecycle implementation (UAT, Go-Live), system optimization
- **Version Control**: Git, SVN
- **Documentation & Quality Assurance**: Technical documentation, test case development, user manuals, non-conformance management
- **Manufacturing Expertise**: OEE, downtime analysis, lean manufacturing principles
- **Quality Management & Compliance**: Data integrity, FDA, ISO, GxP compliance
- **Project Management**: Agile, Waterfall methodologies, cross-functional team leadership

Professional Experience:

MES-MRB LEAD Developer — **Jan 2024 – Present**
Tesla — **Austin, TX**

Responsibilities:

- Integrate MES systems with shop floor technologies including PLCs, SCADA, and ERP systems (SAP) to enable seamless data exchange and automation of production processes.
- Develop custom modules and microflows within Mendix to streamline complex manufacturing workflows, improving traceability, efficiency, and error reduction.
- Design and implement custom workflows, dashboards, and reports within MES platforms to meet the unique needs of production environment.
- Develop and integrate MES solutions for improved CAD data exchange, enhancing design-to-production coordination and reducing lead times.
- Deploy and configure MES applications on the Mendix low-code platform, enabling faster development cycles and improved reporting capabilities.
- Lead the deployment and configuration of Camstar MES, ensuring smooth integration with manufacturing and business systems to facilitate end-to-end traceability.
- Establish and enforce documentation standards for MRB processes, ensuring accurate and comprehensive records of material reviews, corrective actions, and approval workflows.
- Drive implementation of best practices in Mendix application development, ensuring optimized performance, security, and user experience.
- Oversee the configuration and management of Opcenter Foundation and Execution Discrete modules, ensuring efficient scheduling, quality management, and process optimization across production lines.
- Configure and monitor Material Review Board (MRB) processes, identifying and resolving non-conformance issues, and driving corrective actions in the MES system.
- Regularly report MRB performance metrics to key stakeholders, ensuring alignment with operational objectives and strategic goals.
- Conduct rigorous end-to-end testing (unit, integration, and user acceptance) of MES implementations to ensure robustness and reliability before deployment.
- Improve production traceability and regulatory compliance by configuring MES systems to capture real-time data and ensure adherence to industry standards.
- Spearhead integration strategies between Teamcenter and MES systems using APIs and custom middleware, optimizing workflows across production and design departments.
- Lead design and implementation of Opcenter MES solutions, ensuring alignment with client requirements and industry best practices.
- Develop and maintain SQL scripts, stored procedures, and queries to support MES data analytics and reporting requirements.
- Configure and customize Camstar MES modules to meet specific production needs, ensuring alignment with manufacturing requirements.
- Collaborate with cross-functional teams and stakeholders to identify business needs and translate them into scalable MES solutions that meet operational objectives.
- Create and maintain comprehensive technical documentation, including user manuals, system specifications, and troubleshooting guides for MES processes.
- Deliver training sessions and workshops to production teams, ensuring they understand and utilize MES tools and workflows efficiently.
- Perform regular system upgrades, patches, and migrations to ensure that MES platforms remain compatible with enterprise systems and maintain data integrity.
- Optimize manufacturing operations using MES capabilities for resource allocation, production monitoring, and effective scheduling.

Sr. MES Developer/Engineer **Jan 2022 – Dec - 2023**
Cardinal Health **Dublin, OH**

Responsibilities:

- Developed and deployed MES solutions to optimize healthcare manufacturing operations, enhancing workflow efficiency and process accuracy.
- Customize Aveva System Platform, Aveva MES Operations, and Aveva Performance for real-time production tracking, data visualization, and performance analysis.

- Integrated PAS-X MES with ERP, SCADA, and automation systems to enable seamless data exchange and real-time monitoring of healthcare processes.
- Engineered SIMCA Online models to analyse and optimize healthcare processes, identifying operational bottlenecks and driving continuous improvements.
- Provided L2/L3 support for MES applications, troubleshooting issues, optimizing workflows, and ensuring system availability for critical healthcare operations.
- Led MES design and implementation based on ISA-95 standards, ensuring seamless integration with ERP systems and healthcare automation tools.
- Designed and developed custom workflows, electronic batch records (EBR), and recipe management within PAS-X.
- Automated data transfers between MES, ERP (SAP), and SCADA systems to improve data accuracy and real-time information flow across healthcare operations.
- Collaborated with regulatory and quality teams to ensure compliance with FDA, ISO 13485, and GMP standards during MES system deployments.
- Optimized batch management, workflow automation, and material traceability within Aveva MES, ensuring efficient healthcare manufacturing processes.
- Integrated renewable energy systems with MES for improved resource management and cost savings in healthcare facilities.
- Customized MES solutions using Camstar to improve manufacturing efficiency, product quality, and regulatory compliance in healthcare settings.
- Developed and configured custom applications within the Mendix low-code platform to meet specific healthcare MES requirements and streamline processes.
- Ensured compliance with healthcare regulations (FDA, ISO, and GMP) in MES-related design, configuration, and implementation.
- Collaborated with engineering and production teams to ensure healthcare products met regulatory standards and design specifications.
- Integrated MES with ERP and other business systems to improve data synchronization between manufacturing, inventory, and supply chain in healthcare operations.
- Developed custom features using C#, .NET, and Java to meet healthcare-specific manufacturing needs and optimize operational performance.
- Created real-time dashboards and reports using Aveva Insight and Historian to track production KPIs, patient throughput, and operational efficiency.
- Integrated MES with shop floor systems to optimize manufacturing workflows and improve data visibility in healthcare operations.
- Maintained SQL databases and optimized queries for efficient data retrieval, reporting, and storage across healthcare systems.
- Utilized SIMCA Online for predictive healthcare analytics, identifying operational inefficiencies and improving patient care processes.
- Performed system validation and testing to ensure MES systems met functional, performance, and regulatory requirements in healthcare settings.
- Developed detailed technical documentation, including user guides, test cases, and deployment plans to support MES implementation and user training.

MES Design Engineer **Jan 2018 – Aug 2021**
NHPC **India**

Responsibilities:

- Spearheaded the design and implementation of Manufacturing Execution System (MES) solutions, ensuring they were tailored to meet customer specifications and aligned with business goals in the energy sector.
- Led the configuration, customization, and deployment of MES applications, ensuring seamless integration with enterprise systems like ERP, PLM, and energy-specific platforms.
- Manage the configuration and support of Apriso modules, including Production, Quality, Maintenance, and Inventory, to streamline shop floor operations and improve visibility.
- Oversaw database integration for CAD design data within the MES, enhancing traceability and streamlining production planning for energy-related manufacturing processes.

- Integrate Tulip MES applications with shop floor systems, including IoT devices and PLCs, enabling real-time data capture, monitoring, and analysis for improved decision-making.
- Design and develop interfaces for seamless integration between Apriso MES and ERP systems (SAP) to enable real-time synchronization of production and inventory data.
- Integrated MES with SCADA, PLCs, and IoT sensors, utilizing SQL databases for efficient real-time data collection, monitoring, and advanced analytics in the energy production process.
- Led functional, regression, and performance testing for MES applications using HP ALM, ensuring robust, high-performance deployments with minimal operational disruptions.
- Ensured compliance with relevant energy industry standards, regulations, and best practices throughout the development and deployment of MES solutions, including integration with Teamcenter.
- Performed in-depth system testing, troubleshooting, and debugging to guarantee that the MES system operates efficiently and accurately within the energy production environment.
- Designed, configured, and customized Opcenter EX (Execution Discrete) and Opcenter EX FN (Foundation) modules to cater to the specific needs of energy manufacturing and supply chain operations.
- Developed comprehensive technical documentation, such as system specifications, configuration guides, and test case documentation, to support the deployment and maintenance of MES solutions.
- Delivered training sessions and on-going support to end-users, ensuring smooth adoption and effective utilization of MES tools in the energy sector.
- Collaborated with external vendors to guarantee full compatibility of MES solutions with third-party software and hardware systems used in energy operations.
- Participated in continuous improvement initiatives to enhance the MES system, optimizing manufacturing processes, and increasing production efficiency in energy production settings.
- Monitored and analysed MES performance to identify potential areas for improvement, proposing system upgrades to drive operational efficiencies and cost savings.
- Managed MES system updates, patches, and version control to ensure the integrity and security of systems supporting energy production.
- Led workshops and presentations for stakeholders, showcasing MES features, capabilities, and their impact on improving manufacturing efficiency and production quality in energy-related operations.

Manufacturing-Quality Design Engineer **Mar 2015- Dec 2017**
Havells **India**

Responsibilities:

- Led the design, implementation, and continuous optimization of manufacturing processes for electrical products, ensuring alignment with stringent quality standards and safety regulations.
- Integrated automation technologies with CAD and Manufacturing Execution Systems (MES) to streamline production workflows, enhancing precision and reducing cycle time in the manufacturing process.
- Championed the implementation of Statistical Process Control (SPC) techniques within MES, improving product quality, reducing defects, and ensuring consistent output in electrical product manufacturing.
- Designed and developed Manufacturing Execution System (MES) solutions that facilitated effective production planning, quality assurance, and supply chain management, resulting in smoother operational execution.
- Conducted root cause analysis (RCA) for product defects and initiated corrective actions, significantly improving product quality and optimizing production efficiency.
- Collaborated with product design, manufacturing, and supply chain teams to integrate quality standards seamlessly into product development and production processes.
- Created and maintained comprehensive quality documentation, including process flow charts, control plans, inspection procedures, and quality protocols, ensuring consistency and regulatory compliance.
- Managed non-conformance reports (NCRs) by implementing corrective and preventive actions (CAPA) to resolve manufacturing defects and enhance product reliability and performance.
- Provided technical support to troubleshoot and resolve production challenges, ensuring minimal disruption to delivery schedules and maintaining production timelines.
- Worked closely with design engineering teams to identify opportunities for product design and process improvements, ensuring that products met all specified quality requirements and performance standards.