



CONFERENCE & EXPO
DETROIT, USA

AUTOMOTIVE SMART MANUFACTURINGX CONFERENCE & EXPO USA | DETROIT

AI DRIVEN AUTOMOTIVE MANUFACTURING

Cost Reduction, Automation, Flexible Production, Supply-Chain Resilience, and Digital Factory Intelligence



REDUCED
COST



SUSTAINABILITY
GOALS



INCREASE
CAPACITY



CYBER
SECURITY



IOT & AI



MASS
CUSTOMISATION



SMART
FACTORIES



DIGITAL
TWIN



LEVERAGING
SMART
TECHNOLOGIES

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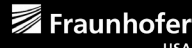
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THE LEADING FORUM FOR IT/OT CONVERGENCE, AUTOMATION, AND DATA-DRIVEN MANUFACTURING

Accelerating the Next Generation of Automotive Manufacturing

Step inside the future of factory innovation—where intelligent systems, IT/OT integration, and real-time data are driving the next leap in productivity, resilience, and sustainability. Join the leading minds in automotive manufacturing as we decode the latest breakthroughs in connected production environments, AI-powered operations, and digital factory infrastructure. From Unified Namespace to GenAI, from software-defined factories to predictive quality and energy optimization—this is where digital transformation becomes operational reality. Gain first-hand insights from OEMs, Tier 1s, and technology pioneers who are reengineering how vehicles are built. Whether you're modernizing legacy infrastructure or scaling smart manufacturing across plants, Automotive SMART Manufacturing USA delivers the insights, tools, and connections to stay ahead in a rapidly transforming landscape.

Shape the Future of Automotive Production

Our agenda is driven by the real-world needs of automakers, suppliers, and digital transformation leaders navigating the complexities of Industry 4.0. We're inviting technical experts, solution architects, and strategic innovators to contribute to the conversation by sharing practical insights, use cases, and forward-thinking strategies. Are you leading advancements in IT/OT integration, AI-driven automation, MES implementation, or smart factory resilience? This is your opportunity to present alongside OEM and Tier 1 pioneers on the industry's most respected stage. The Automotive SMART Manufacturing 4.0 conference provides a platform to showcase your breakthrough implementations, operational frameworks, and transformational wins to a highly engaged audience of technical decision-makers. Join a lineup of thought leaders shaping the next era of connected, agile, and intelligent automotive manufacturing. Submit your proposal today and help define what comes next.

Powering Automotive Production Through Data, AI, and Connectivity

The Automotive SMART Manufacturing 4.0 agenda is engineered to tackle the industry's most urgent system-level transformation challenges—from IT/OT convergence to AI-powered production optimization. Developed in partnership with leading OEMs, Tier 1s, and digital manufacturing pioneers, the program delivers practical, technical insights to accelerate your smart factory strategy. Explore high-impact sessions on unified data architectures, digital twins, real-time analytics, robotics, MES integration, and workforce redesign—grounded in real-world case studies and scalable implementation frameworks. Learn how to deploy cloud-edge infrastructure, harness AI for predictive maintenance, secure your OT environments, and drive sustainability through circular digital models. Designed for technical leaders and transformation architects, this agenda provides the tools, benchmarks, and peer insights you need to future-proof your operations, boost resilience, and unlock performance across every layer of your manufacturing enterprise.

Sponsor, Exhibit, Network

Position your company at the center of North America's leading smart manufacturing event. Automotive SMART Manufacturing 4.0 brings together senior engineers, digital transformation leaders, and manufacturing executives from OEMs and Tier 1 suppliers who are actively searching for solutions that enable data-driven production, operational agility, and factory modernization. Whether you're delivering cutting-edge MES platforms, robotics, vision systems, IT/OT convergence solutions, AI/ML analytics, or cloud infrastructure—this is your opportunity to demonstrate innovation where it matters most: live, in front of the people driving digital transformation forward. Secure your place on the show floor, gain direct access to strategic decision-makers, and showcase how your technologies are reshaping the smart factory. Join the technology showcase powering the next industrial revolution.

NAVIGATING THE NEXT FRONTIER IN AUTOMOTIVE MANUFACTURING – AMID GLOBAL UNCERTAINTY

The automotive industry is confronting an era of unprecedented transformation—and growing disruption. While companies race to implement Industry 4.0 and build intelligent, connected manufacturing ecosystems, they now face heightened geopolitical volatility, including renewed trade tensions and tariff policies.

With tariffs on imports, automotive OEMs and suppliers face potential cost surges, supply chain restructuring, and operational recalibration. In this complex climate, digital agility and operational resilience are more critical than ever.

Automotive Smart Manufacturing 4.0 USA, organized by WeAutomotive Group, is North America's definitive technical conference dedicated to the digital transformation of automotive production. Built in collaboration with leading OEMs and tier-one suppliers, this agenda responds directly to today's challenges—from supply chain instability and global cost volatility to the rapid deployment of scalable smart factory technologies.

Key agenda themes include:

- IT/OT Convergence for enterprise-wide visibility and agility
- Generative AI for Production Optimization and faster decision cycles
- MES, Digital Twins, and Cloud/Edge Architectures for scalable automation
- Cybersecurity in Converged Environments and Critical Infrastructure
- Data-Driven Operational Resilience and Continuity Planning
- Workforce Transformation to Meet the Demands of Digital Production
- Smart Energy Management and ESG-Aligned Factory Design

In a climate where cost pressures, regulatory exposure, and political risks are redefining manufacturing strategy, this event will arm attendees with real-world insights, technical benchmarks, and peer-driven solutions. Join over 400 automotive professionals involved in engineering, IT/OT architecture, and digital manufacturing innovation for an intense day of deep-dive case studies, high-impact panels, and unmatched networking. If you're rethinking your production strategy to prepare for tariff implications, supply chain disruption, and technology-driven transformation—this is the event that meets the moment.

CONFERENCE TOPICS

The Strategic Imperative of IT/OT Convergence in Automotive Manufacturing

Deploying Generative AI for Predictive Automation and Intelligent Production Optimization

Building an Integrated IT/OT Architecture from Shop Floor to Boardroom

Unified Namespace (UNS): The Backbone of Modern Manufacturing Connectivity

Creating a Target Operating Model (TOM) for OT Management

Leveraging ServiceNow for OT Asset Management and Incident Resolution

Artificial Intelligence in Manufacturing: Predictive Maintenance and Beyond

Robotics and Automation for Complex Assembly Lines

Harnessing IoT for Real-Time Process Optimization

Building a Software-Defined Factory (SDF) with Multi-Agent Systems

Cloud and Edge Computing in Automotive Manufacturing

5G-Enabled Manufacturing: High-Speed, Low-Latency Plant Connectivity

Manufacturing Execution Systems (MES) for Smart Factory Enablement

AI-Powered Analytics for Quality Assurance and Defect Detection

OT Vulnerability Management: Automation and Threat Mitigation

Smart Infrastructure for Automated Vehicle Movement: A Scalable AVM Approach

Building a Data-First Culture: Governance, Ownership, and Quality

Redesigning Manufacturing Workforces for Industry 4.0

Combating Cyber Threats in Converged IT/OT Environments

Resilience, Sustainability & Cost Optimization

Operational Resilience Through IT/OT Redundancy and Continuity Planning

Version Control and Backup for Operational Technology: Safeguarding Agility in Automotive Manufacturing

Sustainable Manufacturing Through Circular Data Loops

Digital Twins for Automotive Production Lines: Real-Time Simulation and Optimization

Using GenAI in OTSM: A Framework for Scaling AI in Manufacturing

The SWARM Team Model: Outsourcing Shopfloor IT Without Losing Control

Implementing a CMDB for OT Assets: Challenges and Wins

Scaling Industrial Analytics with Hybrid Cloud: Unlocking the Value of Operational Data

Smart Manufacturing in Action: Scaling AI-Powered Digital Labor for Quality and Efficiency

The GenAI Revolution: Shifting from Vision to Reality

Driving Production Intelligence: Advanced Vehicle Assembly with End-to-End Visibility

AI-Powered Automotive Manufacturing and Supply Chain Solutions

Smart Energy Management: Reducing Costs with IoT & AI

Sustainable Factory Design: Aligning Digital Transformation with ESG Goals

#SHOWCASE YOUR TECHNOLOGIES AND SOLUTIONS AT AUTOMOTIVE SMX USA

CONTACT US

07:30

Morning Registration

08:00



The Strategic Imperative of IT/OT Convergence in Automotive Manufacturing

Praveen Cherianv, EVP, Global Automotive Industry Group, **Capgemini**

As automakers face pressure to boost productivity, resilience, and sustainability, IT/OT convergence is a strategic imperative. Explore how breaking down silos between enterprise systems and the factory floor enables smarter, faster, and more agile manufacturing through real-time, data-driven decision-making.

- Visionary outlook on how IT/OT integration is transforming competitiveness and operational agility.
- The foundational principles of IT/OT convergence and why it is now a strategic imperative
- The key barriers to integration, including cultural, architectural, and cybersecurity challenges
- Real-world examples of how manufacturers are achieving measurable gains through unified data platforms, interoperable systems, and advanced analytics
- The role of cloud, edge computing, and unified namespace architecture in enabling scalable, future-proof factory operations
- How IT/OT alignment drives new business models, operational visibility, and strategic responsiveness to supply chain volatility and changing consumer demand

08:20



Deploying Generative AI for Predictive Automation and Intelligent Production Optimization

Manbir Singh, Digital Transformation Leader – Automotive, **Kyndryl**

GenAI is unlocking breakthrough efficiencies across the factory floor, empowering teams, and transforming decision-making from the shop floor to the C-suite. If you're ready to cut through the noise and see where GenAI delivers real results in automotive manufacturing, this is your must-attend session.

- Understand how GenAI is transforming traditional workflows in automotive manufacturing
- Learn how to democratize data access and empower non-technical users with AI tools
- Explore the role of GenAI in driving real-time, automated decision-making
- Discover how conversational AI enhances operator interaction and responsiveness
- Gain insights into using AI for predictive maintenance to reduce unplanned downtime
- Examine how AI-powered vision systems improve quality inspection and defect detection
- Learn to optimize resource allocation and streamline production with intelligent automation
- Identify cost-saving opportunities through predictive analytics and process optimization

8:40 | Panel

Bridging the Gap: Building an Integrated IT/OT Architecture from Shop Floor to Boardroom

Best practices for seamless data flow and coordination across systems

Trent Randles, Manufacturing Engineering Manager, **BorgWarner**

Aaron K. Dunlap, ME Tech. Fellow MES- Architect ME Vehicle Systems, **General Motors**

Ragu Athinarayanan, Director, **Smart Manufacturing Innovation Center**

Raj Sohmshtetty, Smart Manufacturing & Industry 4.0 Consultant & Advisor, **ex-Ford Technical Specialist**

Maria Rossana Ruiz, Manufacturing Engineer, **Ford Motor Company**

Arsalan Hafiz, Cloud AI Data Engineer & Strategy, **Ford Motor Company**

Karthik Krishnamurthy, Global Strategy & Business Development Head, **Amazon Web Services (AWS)**

Examine how automakers and Tier 1 suppliers are building integrated IT/OT architectures to enable unified data environments, eliminate silos, and support real-time decision-making across the enterprise. Whether you're modernizing legacy infrastructure or scaling digital operations, this session will offer actionable insights for creating a connected, transparent manufacturing ecosystem—from the shop floor to the C-suite.

- Core principles for aligning IT and OT systems across production, engineering, and enterprise functions
- Architectural frameworks that enable scalable data exchange, including Unified Namespace and hybrid cloud models
- Best practices for achieving data interoperability, system standardization, and seamless edge-to-cloud connectivity
- Lessons learned from early adopters—challenges, security considerations, and strategies for cross-functional alignment

9:00

Unified Namespace (UNS): The Backbone of Modern Manufacturing Connectivity

Technical deep dive on how UNS enables scalable, flexible data integration.

Designed for plant engineers, architects, and digital transformation leads, this session will demystify UNS and demonstrate its value as the connective tissue for Industry 4.0 success. As manufacturers face increasing pressure to unify fragmented systems and data sources, the Unified Namespace (UNS) has emerged as a foundational architecture for smart, connected factories. This technical session offers a deep dive into how UNS enables scalable, flexible, and real-time data integration across IT and OT environments.

- Core concepts and structure of a Unified Namespace: what it is—and what it isn't
- How UNS centralizes contextualized data from machines, MES, ERP, and cloud platforms
- The role of UNS in enabling real-time visibility, interoperability, and edge-to-cloud scalability
- Implementation strategies for layering UNS into existing legacy systems
- Security, governance, and performance considerations when architecting a resilient UNS
- Case studies of automotive manufacturers using UNS to accelerate digital transformation

9:20

Creating a Target Operating Model (TOM) for OT Management

Guidelines for Designing standardized OT roles, tools, and workflows.

Attendees will gain a clear framework for transforming legacy OT practices into a unified, enterprise-grade operational model ready for Industry 4.0. This session explores how to design and implement a robust Target Operating Model (TOM) that aligns OT systems, roles, and processes across manufacturing environments.

- Defining the core components of an effective OT TOM: governance, roles, responsibilities, and performance metrics
- Standardizing OT workflows to reduce operational variance, increase system uptime, and improve auditability

- Aligning OT with IT and business functions to support digital transformation initiatives
- Selecting and integrating tools for asset visibility, configuration management, and incident response
- Lessons learned from automotive use cases, including how to overcome change resistance and ensure workforce adoption
- Building a roadmap for scalable OT maturity across plants and regions

9:40



Leveraging ServiceNow for OT Asset Management and Incident Resolution

Madhu Rao, Sr. OE Automotive Engineering, IoT, **Hankook Tire America Corp.**

Actionable strategies for using ServiceNow to bridge IT/OT service management, reduce operational risk, and drive standardized, scalable support models across manufacturing networks.

As Operational Technology (OT) environments grow in complexity, manufacturers are seeking enterprise-grade platforms to improve visibility, control, and responsiveness. Explore how ServiceNow can be effectively leveraged to manage OT assets and streamline incident response across production systems.

- Structuring a CMDB (Configuration Management Database) for OT environments
- Best practices for automating OT asset discovery, classification, and lifecycle tracking
- Integrating ServiceNow with shop floor systems to enable real-time alerts, ticketing, and remediation workflows
- Building incident resolution playbooks that align with manufacturing operations and minimize downtime
- Security, compliance, and change management within OT asset governance frameworks
- Case study insights from automotive manufacturers who have implemented ServiceNow in live production environments
- Enabling Smart Operations with Advanced Technologies

10:00



Artificial Intelligence in Manufacturing: Predictive Maintenance and Beyond

Karthik Krishnamurthy, Global Strategy & Business Development Head, **Amazon Web Services (AWS)**

How AI is being applied across the production lifecycle to increase uptime, reduce costs, and improve quality.

- Real-world applications of AI for predictive maintenance: reducing unplanned downtime and extending equipment life
- Using machine learning to detect anomalies, optimize maintenance schedules, and improve root cause analysis
- AI-driven quality inspection and defect detection using computer vision and pattern recognition
- Enhancing production throughput and yield through AI-powered process optimization
- Leveraging AI for energy efficiency, resource planning, and real-time decision support
- Challenges in data quality, model training, and change management—and how leading OEMs are addressing them

10:20



Robotics and Automation for Complex Assembly Lines

Maria Rossana Ruiz, Manufacturing Engineer, **Ford Motor Company**

Deployment and scaling strategies for collaborative robots and AI vision systems. A technical roadmap for leveraging robotics and vision-driven automation to improve productivity, reduce manual strain,

and accelerate digital transformation on complex automotive lines.

As automotive assembly lines grow in complexity and product variation, robotics and automation technologies—particularly collaborative robots (cobots) and AI-powered vision systems—are becoming essential for maintaining precision, flexibility, and throughput.

This session explores strategies for successfully deploying and scaling intelligent automation in high-mix, high-variation environments.

- Designing automation solutions for dynamic assembly tasks with tight tolerances and varied components
- Integration of collaborative robots (cobots) for safe, flexible human-machine interaction in shared workspaces
- Leveraging AI vision systems for real-time quality control, adaptive guidance, and error detection
- Overcoming deployment challenges, from safety validation to changeover optimization
- Developing modular and scalable automation architectures that adapt to evolving production requirements
- Case studies from OEMs and Tier 1 suppliers demonstrating ROI, improved ergonomics, and enhanced consistency

10:40

Harnessing IoT for Real-Time Process Optimization

Real-time data is the key to operational excellence. Explore how Internet of Things (IoT) technologies—combined with edge computing and advanced analytics—are enabling manufacturers to monitor, optimize, and adapt production processes with unprecedented speed and precision. Gain a practical understanding of how to deploy and scale IoT infrastructure to enable smarter decision-making, enhance productivity, and support sustainability goals on the factory floor.

- Architecting an IoT ecosystem: sensor integration, data acquisition, and edge-to-cloud connectivity
- Using real-time sensor data to identify bottlenecks, minimize waste, and optimize machine performance
- Strategies for implementing condition-based monitoring and predictive control systems
- Leveraging IoT data to drive energy efficiency, including load balancing, downtime analysis, and environmental control
- Case studies from automotive OEMs and suppliers showing tangible improvements in throughput, cost savings, and sustainability
- Overcoming challenges with data standardization, latency, and cross-system interoperability

11:00 | Morning Networking Break

11:40



Building a Software-Defined Factory (SDF) with Multi-Agent Systems

Edward Lesnau, Director, Industry Digital Strategy, **Microsoft**

The path to a truly software-defined factory (SDF) is paved with complex challenges—from integrating siloed legacy systems to enabling real-time, autonomous control across the production floor.

This session explores how manufacturers are using multi-agent system architectures to operationalize intelligent automation, enable faster decision-making, and bridge the gap between AI systems and frontline experts. Learn how decentralized AI agents can coordinate data collection, analytics, and control actions—transforming fragmented operations into a cohesive, adaptive production ecosystem.

- Understand the core technical challenges in implementing software-defined manufacturing systems
- Learn how multi-agent systems enable distributed, autonomous control with real-time responsiveness
- Explore how unstructured inputs from field personnel can be interpreted and actioned by AI agents

- Examine the role of central orchestration and embedded safety verification in intelligent production environments
- Discover strategies for integrating advanced automation with existing legacy equipment and infrastructure
- Identify the foundational technologies required today—and where further innovation is still needed

12:00

Cloud and Edge Computing in Automotive Manufacturing

Architecture considerations for latency, security, and scalability. Balancing the roles of cloud and edge computing has become critical for optimizing performance, scalability, and security. A technical deep dive into designing resilient, efficient architectures that support real-time operations, data-driven insights, and enterprise-wide integration. Insights into building robust cloud-edge ecosystems that support Industry 4.0 initiatives while maintaining the responsiveness and reliability essential to automotive manufacturing.

- Architectural best practices for distributing workloads across cloud and edge environments
- Managing latency-sensitive applications in production lines, including machine control, vision systems, and quality assurance
- Ensuring data security, sovereignty, and compliance across distributed infrastructure
- Strategies for scalable deployment of edge gateways, microservices, and cloud-native applications
- Leveraging hybrid models to unify IT/OT systems and enable centralized analytics with decentralized execution
- Real-world case studies demonstrating performance gains, operational flexibility, and cost optimization through cloud-edge integration

12:20

5G-Enabled Manufacturing: High-Speed, Low-Latency Plant Connectivity

5G technology is a game-changer in automotive production environments, offering the speed, bandwidth, and low latency needed to support data-intensive applications across the factory floor. This session explores the practical infrastructure requirements and deployment strategies for integrating 5G into smart manufacturing ecosystems.

- Technical advantages of private 5G networks over Wi-Fi and wired systems in high-density, high-mobility environments
- Deployment models: public vs. private networks, hybrid approaches, and shared spectrum use
- Infrastructure planning: base stations, edge compute nodes, network slicing, and device compatibility
- Enabling real-time communication for AGVs, cobots, AI vision systems, and digital twins
- Addressing cybersecurity, network resilience, and data sovereignty in telecom-based architectures
- Case studies from automotive plants implementing 5G to enable predictive maintenance, real-time analytics, and adaptive automation

12:40



Digital Twins for Automotive Production Lines: Real-Time Simulation and Optimization

Mike Bradford, Director of Strategic Business Development, **Dassault Systèmes**

Digital twins are redefining how automotive manufacturers design, monitor, and optimize production systems. The session will examine the full lifecycle of digital twin implementation—from initial modeling to live data integration and continuous optimization. Attendees will gain a practical understanding of how to deploy and scale digital twin technologies to unlock smarter, faster, and more resilient production capabilities.

- Core components of a production line digital twin: physics-based models, IoT data integration, and control loop alignment
- How digital twins enable scenario testing, throughput forecasting, and process optimization—before changes are made on the line
- Real-time monitoring and anomaly detection for predictive maintenance and downtime avoidance
- Tools and platforms supporting scalable deployment of digital twins in multi-plant environments
- Frameworks for integrating digital twins with MES, PLM, and ERP systems to create a unified digital thread

13:00



Manufacturing Execution Systems (MES) for Smart Factory Enablement

Aaron K. Dunlap, ME Tech Fellow, Manufacturing Execution Systems-Architect ME Vehicle Systems, **General Motors**

Integrating MES with ERP and OT systems for holistic visibility. The role of the Manufacturing Execution System (MES) is evolving from a production control tool to a central pillar of smart factory architecture. Learn how modern MES platforms enable real-time visibility, traceability, and coordination by bridging the gap between ERP systems and OT infrastructure. Attendees will gain practical insights into deploying MES as a scalable, interoperable platform that unlocks holistic factory visibility and supports Industry 4.0 initiatives.

- The evolving role of MES in automotive manufacturing
- Strategies for integrating MES with ERP, SCADA, PLCs, and industrial IoT platforms
- Achieving end-to-end visibility across the digital thread—from order to execution to quality
- MES as a foundation for predictive analytics, energy management, and continuous improvement
- Challenges in aligning legacy systems with modern MES platforms and how to overcome them
- Case studies of successful MES implementations that drive productivity, agility, and compliance in automotive plants

13:20



AI-Powered Analytics for Quality Assurance and Defect Detection

Dr. Marcel Schaefer, Senior Research Scientist, SCFA Senior Program Coordinator, **Fraunhofer USA**

Quality control is being transformed by artificial intelligence. Explores how machine learning and computer vision technologies are enabling real-time defect detection, reducing false positives, and improving root cause analysis across automotive production lines.

Attendees will leave with a clear understanding of how AI-powered analytics can elevate quality assurance from reactive to predictive, driving significant gains in performance, cost, and customer satisfaction.

- Leveraging supervised and unsupervised machine learning models to detect anomalies in complex, high-volume manufacturing environments
- Deploying AI-driven vision systems for high-speed, automated inspection of surfaces, welds, components, and assemblies
- Integrating quality analytics with MES and production data to identify trends and inform corrective actions
- Minimizing human error and inspection variability while accelerating throughput and first-time yield
- Case studies from OEMs and suppliers applying AI to improve consistency, traceability, and cost efficiency in quality assurance
- Challenges in data labeling, model training, and change management—and how to mitigate them

13:40

FORTINET

OT Vulnerability Management: Automation and Threat Mitigation

Carlos-Raul Sanchez, Sr Director, Operational Technology Solution Engineer Specialists, Fortinet

Security architecture for proactive and real-time vulnerability detection.

The attack surface across Operational Technology (OT) systems continues to broaden. Learn how manufacturers can implement robust security architectures to proactively detect, prioritize, and mitigate OT vulnerabilities—without disrupting critical production operations.

- Practical insights into building scalable, automated OT cybersecurity programs that reduce risk, ensure compliance, and maintain uptime in smart automotive factories.
- Foundations of OT cybersecurity: key differences from IT environments and unique risk considerations
- Architecting real-time vulnerability detection and response systems across industrial networks
- Leveraging automation for asset discovery, patch management, and threat remediation workflows
- Integrating OT security platforms with CMDBs, SIEM tools, and incident response frameworks
- Strategies for prioritizing vulnerabilities based on risk, asset criticality, and exploitability
- Best practices for cross-functional coordination between IT, OT, and security teams

14:00

embotech*

Smart Infrastructure for Automated Vehicle Movement: A Scalable AVM Approach

A novel approach to AVM that shifts intelligence from the vehicle to the surrounding infrastructure—enabling the automation of vehicle movement using standard production models, without requiring complex onboard systems. A blueprint for deploying intelligent, infrastructure-centric automation in vehicle production environments—making automated marshalling accessible, flexible, and future-ready.

- Understand how smart infrastructure—rather than vehicle-based autonomy—can be leveraged to control vehicle motion
- Explore the technical architecture behind infrastructure-driven AVM, including perception, localization, and communication layers
- Examine how this solution integrates with existing factory systems, vehicle software, and facility layouts
- Discover how infrastructure-led automation reduces cost, enhances scalability, and avoids the need for vehicle retrofits
- Review operational outcomes and use cases demonstrating increased throughput, reduced handling time, and improved safety

14:15 | LUNCH

embotech*

15:00



Building a Data-First Culture: Governance, Ownership, and Quality

Brian Breuhan, Global Optimization Strategist, General Motors

As data becomes the foundation of smart manufacturing, leading automotive companies are shifting toward a data-first culture—where clean, trusted, and accessible data is treated as a strategic enterprise asset. This session explores how to establish the governance, ownership models, and data quality frameworks required to unlock value from operational and enterprise data at scale.

Attendees will gain practical strategies for embedding data-centric thinking into organizational processes, enabling smarter decisions, greater transparency, and accelerated digital transformation.

- Learn how to define and assign data ownership across IT, OT, and business functions to ensure accountability and governance
- Understand how to implement data governance frameworks that support consistency, traceability, and secure access
- Discover techniques for integrating automated data quality checks into data pipelines and production workflows
- Gain insights into using metadata management and data catalogs to drive discoverability and self-service analytics
- Explore strategies for standardizing master data models across enterprise and operational systems to break down silos
- Learn how to automate data validation and enrichment to improve trust in real-time decision-making
- Understand how to structure data councils or Centers of Excellence to align data initiatives with business priorities
- Examine best practices for maintaining traceability and compliance in regulated environments through auditability
- Prepare your data ecosystem for AI/ML integration by ensuring clean, contextualized, and structured inputs
- Learn how to measure and report data quality KPIs to support continuous improvement and digital transformation

15:20

HITACHI

Redesigning Manufacturing Workforces for Industry 4.0

Wei Yuan, Director & Industrial Solution Lead / Smart Factory / Digital Manufacturing, Hitachi America

Quan (Jason) Zhou, Sr. Researcher on Smart Manufacturing, Hitachi America

AI, and digital integration, the workforce must evolve in parallel. How manufacturers can strategically redesign their workforce to remain competitive—by reskilling, upskilling, and retaining talent equipped for the digital factory.

- Attendees will gain actionable insights into aligning people strategy with digital strategy—ensuring their workforce is empowered, adaptable, and future-ready.
- Identifying emerging skill sets required for smart manufacturing: data literacy, digital fluency, and cross-disciplinary problem-solving
- Reskilling legacy workforce for modern tools, including MES, digital twins, cobots, and AI-powered systems
- Developing scalable upskilling programs through digital training platforms, certifications, and immersive learning (AR/VR)
- Creating talent pipelines through industry-academic partnerships and apprenticeship models
- Enhancing talent retention through career progression paths, purpose-driven work, and flexible, tech-enabled environments

15:40

Combating Cyber Threats in Converged IT/OT Environments

This session explores the evolving cybersecurity landscape in smart manufacturing, and provides practical strategies for securing converged environments against disruption, data loss, and downtime. Designing cybersecurity architectures that protect both production continuity and digital integrity—ensuring smart factory initiatives can scale securely.

- Understanding the unique vulnerabilities introduced by IT/OT integration across plant networks
- Building a cybersecurity framework tailored to industrial systems: segmentation, access control, and anomaly detection
- Implementing real-time monitoring, threat intelligence, and incident response protocols across critical systems
- Hardening legacy equipment and ensuring secure connectivity across PLCs, SCADA, MES, and cloud platforms
- Aligning cybersecurity programs with regulatory compliance, risk management, and resilience planning

- Case studies of proactive breach prevention, rapid containment strategies, and recovery operations in automotive plants

16:00

Operational Resilience Through IT/OT Redundancy and Continuity Planning

Designing for fault tolerance and incident response in a manufacturing environment increasingly reliant on interconnected digital systems, downtime is not an option. Explore how automotive manufacturers can design for operational resilience by implementing robust IT/OT redundancy and continuity strategies that ensure fault tolerance, rapid recovery, and uninterrupted production. Gain a blueprint for strengthening your operational backbone—ensuring high availability, risk mitigation, and business continuity in the face of disruption.

- Core principles of designing fault-tolerant IT/OT architectures across production networks and critical systems
- Building redundancy into control systems, edge infrastructure, network paths, and data storage
- Developing continuity plans that integrate IT and OT response protocols, including failover processes and backup operations
- Mapping dependencies between business-critical systems and production-line automation
- Real-world approaches to disaster recovery, cyber incident mitigation, and system restoration
- Case studies from OEMs and suppliers that have implemented resilient digital infrastructure to minimize downtime and safeguard throughput

16:20

COPIA

Version Control and Backup for Operational Technology: Safeguarding Agility in Automotive Manufacturing

Gerry Abbey, Director of Product Marketing, Copia Automation

Maintaining consistent, recoverable, and traceable control over shopfloor systems is no longer optional—it's mission critical. How best-in-class version control and backup strategies for Operational Technology (OT) can help manufacturers respond faster to change, reduce downtime, and ensure system reliability across complex, connected environments.

- Understand the role of version control in managing PLCs, SCADA, and machine configurations
- Learn how automated backup systems reduce recovery time after failures or cyber incidents
- Discover how configuration drift can impact system performance—and how to prevent it
- Explore best practices for integrating version management into change control workflows
- Examine case studies demonstrating improved uptime, auditability, and compliance

16:40

Smart Energy Management: Reducing Costs with IoT & AI

Energy consumption is one of the largest operational costs in automotive manufacturing—and a priority for sustainability. This session explores how IoT and AI technologies are enabling smart energy management strategies that reduce utility costs, minimize waste, and improve environmental performance.

- Attendees will learn how to build a connected, intelligent energy infrastructure that cuts costs while enabling more sustainable and agile factory operations.
- Deploying IoT sensors and submetering to monitor real-time energy usage across machines, lines, and facilities
- Leveraging AI and machine learning to detect inefficiencies, forecast utility demand, and optimize peak-load performance
- Integrating energy analytics with production systems to align resource use with manufacturing cycles

- Automating energy alerts, usage thresholds, and anomaly detection to prevent overconsumption
- Creating a data-driven energy strategy that supports ESG goals and regulatory compliance

17:00 AFTERNOON BREAK

17:40

Sustainable Manufacturing Through Circular Data Loops

Digital technologies are playing a critical role in closing the loop between production, consumption, and resource recovery. Learn how circular data loops—enabled by IoT, AI, and digital twins—can be used to track material flows, minimize waste, and reduce carbon impact across the manufacturing lifecycle. Gain practical insights into how data-driven strategies can accelerate sustainable manufacturing goals while enhancing operational efficiency and compliance.

- Building data visibility across the product lifecycle to support circular economy strategies
- Using digital twins to model energy consumption, material usage, and environmental performance
- Leveraging real-time data for process optimization, scrap reduction, and smarter resource allocation
- Implementing traceability systems to monitor components and materials for reuse, remanufacturing, or recycling
- Aligning sustainability reporting with automated data collection and emissions tracking

18:00

Sustainable Factory Design: Aligning Digital Transformation with ESG Goals

This session explores how digital transformation initiatives can be intentionally aligned with environmental, social, and governance (ESG) goals to engineer smarter, greener factory systems. Explore strategies for designing digital manufacturing systems that not only drive operational efficiency but also support long-term ESG commitments and regulatory readiness.

- Integrating sustainability metrics into digital factory planning, from site layout to process automation
- Leveraging digital twins, AI, and simulation tools to optimize energy use, reduce emissions, and minimize material waste
- Designing for circularity: incorporating renewable energy, closed-loop resource flows, and modular infrastructure
- Using real-time data to monitor carbon footprint, water usage, and other key ESG indicators
- Embedding ESG performance into MES, ERP, and supply chain systems for transparent reporting and compliance

18:20

Using GenAI in OTSM: A Framework for Scaling AI in Manufacturing

Integrating Generative AI into Operational Technology Service Management (OTSM) presents a powerful opportunity to enhance decision-making, reduce downtime, and streamline support. Explore a structured framework for deploying GenAI within OTSM environments—ensuring scalability, governance, and measurable impact.

- Understanding the role of Generative AI in OTSM: from intelligent ticketing and knowledge management to real-time diagnostics and automation
- Building a phased implementation roadmap: from proof of concept to production-ready deployment across plants
- Key components of a scalable GenAI architecture, including data pipelines, model training, and API integration
- Governance strategies for AI adoption: ensuring transparency, auditability, and responsible use

- Managing data privacy, model accuracy, and human-in-the-loop workflows in industrial environments
- Case studies showcasing the application of GenAI in OT support operations, asset management, and incident resolution

18:40

The SWARM Team Model: Outsourcing Shopfloor IT Without Losing Control

Maintaining responsive and reliable IT support on the automotive shopfloor is critical—but traditional outsourcing models often struggle to meet the speed, flexibility, and contextual awareness required. Introducing the SWARM Team Model, a modular, agile approach to outsourcing that enables manufacturers to scale IT support while retaining governance, quality, and real-time responsiveness. A practical exemplification of how the SWARM Team Model improves agility, reduces downtime, and enhances collaboration between IT and OT teams—without compromising control or strategic direction.

- Defining the SWARM Team concept: decentralized, cross-functional support teams embedded at the factory level
- How modular team structures enable fast triage, incident resolution, and system support across MES, SCADA, and OT infrastructure
- Case study from an automotive OEM that successfully implemented the SWARM model to streamline shopfloor IT operations
- Balancing outsourced delivery with internal control: KPIs, SLAs, escalation paths, and quality monitoring
- Governance frameworks for coordination between internal teams, external partners, and digital transformation leadership
- Lessons learned in scaling the model across plants while maintaining consistent service and domain expertise

19:00

Implementing a CMDB for OT Assets: Challenges and Wins

Tools, integrations, and impact on visibility and compliance

Maintaining a clear, accurate inventory of Operational Technology (OT) assets is no longer optional—it's essential. This session look at the implementation of a Configuration Management Database (CMDB) tailored for OT environments, detailing the tools, integration strategies, and business impacts. Leave with a clear understanding of how to plan, deploy, and scale a CMDB for OT environments, supporting both technical operations and broader smart manufacturing strategies.

- What makes an OT CMDB different: unique asset types, data sources, and dynamic operational conditions
- Selecting the right tools and platforms to support asset discovery, normalization, and lifecycle management
- Integrating the CMDB with existing ITSM, cybersecurity, MES, and SCADA systems
- Overcoming practical challenges: data inconsistency, vendor diversity, and change management
- Enhancing compliance, audit readiness, and risk management through accurate asset records

19:20

Scaling Industrial Analytics with Hybrid Cloud: Unlocking the Value of Operational Data

Vijay Sanikal, Product Owner AI, Cloud Compute, CAE Virtual Engineering, **General Motors**

Despite the explosion of data generated on the automotive factory floor, most manufacturers still leverage less than 1% of it effectively. This session explores how to close that gap by deploying a hybrid cloud strategy that enables scalable, secure, and actionable analytics—empowering operations teams to solve problems faster, optimize performance, and drive innovation.

Attendees will walk away with a roadmap for turning raw operational data into a competitive advantage—through modern architecture, empowered teams, and advanced analytics at scale.

- Overcoming the common disconnect between data availability and data usability on the factory floor
- Architecting hybrid cloud environments that balance on-premise control with cloud scalability and compute power
- Enabling condition-based monitoring, predictive analytics, and real-time insights by connecting edge assets to cloud-native applications
- Democratizing data access: empowering engineers, analysts, and operators with self-service analytics tools
- Strategies for scaling analytics across sites through governance frameworks, unified data models, and standardized toolsets
- Case studies showcasing how leading automakers are integrating analytics into daily decision-making to improve efficiency, quality, and agility

19:40

Industrial AI

Smart Manufacturing in Action: Scaling AI-Powered Digital Labor for Quality and Efficiency

Jose Dos Santos, Co-founder & CEO, **Industrial AI**

This session provides a real-world look at how AI-powered digital labor is transforming automotive manufacturing—reducing cost, improving quality, and enabling scalable innovation. Philipp Schume of IBM shares how one top-tier auto supplier deployed an AI-enabled digital inspector using an acoustic foundation model to monitor weld quality in real time, achieving results beyond human capabilities and delivering hundreds of millions in cost savings. This session will equip attendees with practical insights into building, scaling, and securing C-level sponsorship for AI-powered smart manufacturing programs with real financial impact.

- How generative AI and acoustic modeling are redefining quality inspection—faster, more accurate, and less invasive than traditional methods
- Architecting scalable smart manufacturing solutions by integrating AI, hybrid cloud, and IoT across plants and production lines
- Rethinking the role of inspection technology to reduce destructive testing, manual intervention, and cycle time
- The importance of treating GenAI as more than just language models—unlocking new use cases in complex industrial environments
- Building cross-functional alignment and vendor collaboration to implement enterprise-scale AI initiatives
- Achieving executive buy-in by anchoring digital transformation to measurable business outcomes and operational KPIs

20:00 | PANEL

The GenAI Revolution: Shifting from Vision to Reality

Modertor: John Dyck, CEO, **CESMII**

Generative AI (GenAI) has rapidly moved from buzzword to boardroom priority, creating urgent demand for practical industrial applications across the automotive sector. This expert panel brings together technology leaders and manufacturing innovators to explore how GenAI is being deployed beyond prototypes—into real-world use cases that deliver measurable value on the factory floor.

Dr. Marcel Schaefer, Senior Research Scientist, SCFA Senior Program Coordinator, **Fraunhofer USA**

Rajeev Kalamdani, Director, Manufacturing & IIoT Analytics, **Ford**

Aaron K. Dunlap, ME Tech. Fellow MES- Architect ME Vehicle Systems, **General Motors**

Miguel Saez, Ph.D, Manager, Automation Execution, **General Motors**

Brian Breuhan, Global Manufacturing Optimization Strategist, **General Motors**

Michael Flynn, Data Science, Analytics & Product Management, **RIVIAN**

Nick Alexander, Manufacturing Project Inn. Center, Senior Manager, **Toyota North America**

Discussion Topics Include:

- Where GenAI fits in the industrial tech stack: automation, design, quality, and beyond
- Lessons learned from early adopters: use cases that work—and those that don't
- Integrating GenAI with existing IT/OT systems and navigating data challenges
- Ethical considerations, governance, and managing trust in AI-generated outcomes
- Building the internal capabilities and cross-functional teams needed to scale GenAI
- What's next: future-looking applications for engineering, service, and supply chain optimization

20:20

PLEX®

Driving Production Intelligence: Advanced Vehicle Assembly with End-to-End Visibility

As automotive manufacturers evolve toward leaner, more connected operations, outdated ERP systems often stand in the way—lacking real-time visibility, MES integration, and the flexibility to support rapid change. This session examines the strategic and operational challenges organizations face when transitioning to a modern, cloud-based ERP platform under time-sensitive and resource-constrained conditions.

Through real-world insights, attendees will explore how smart manufacturing teams can execute fast, effective ERP implementations that unlock immediate operational gains while laying the groundwork for scalable growth and digital transformation.

Attendees will leave equipped with actionable strategies to future-proof their ERP architecture while supporting continuous improvement and operational resilience in the smart factory environment.

- Understand the core risks and limitations of legacy ERP systems in high-volume automotive manufacturing
- Understand critical success factors for rapid ERP implementation, including data readiness, stakeholder engagement, and training
- Explore how real-time production and inventory visibility drive responsiveness, reduce manual processes, and improve quality
- Learn how to streamline operations by integrating ERP with MES and eliminating redundant legacy tools

- Discover strategies for achieving lean scalability—extending system capabilities without increasing headcount
- Gain practical guidance on post-implementation optimization, from KPI visibility to system configuration and change management
- Identify the core risks and limitations of legacy ERP systems in high-volume automotive manufacturing
- Understand critical success factors for rapid ERP implementation, including data readiness, stakeholder engagement, and training
- Explore how real-time production and inventory visibility drive responsiveness, reduce manual processes, and improve quality
- Learn how to streamline operations by integrating ERP with MES and eliminating redundant legacy tools
- Discover strategies for achieving lean scalability—extending system capabilities without increasing headcount
- Gain practical guidance on post-implementation optimization, from KPI visibility to system configuration and change management

20:40

Version Control and Backup for Operational Technology: Safeguarding Agility in Automotive Manufacturing

Maintaining consistent, recoverable, and traceable control over shopfloor systems is no longer optional—it's mission critical. This session explores how best-in-class version control and backup strategies for Operational Technology (OT) can help manufacturers respond faster to change, reduce downtime, and ensure system reliability across complex, connected environments.

Attendees will gain actionable strategies to future-proof their OT infrastructure while enabling greater flexibility and resilience on the production floor.

- Understand the role of version control in managing PLCs, SCADA, and machine configurations
- Learn how automated backup systems reduce recovery time after failures or cyber incidents
- Discover how configuration drift can impact system performance—and how to prevent it
- Explore best practices for integrating version management into change control workflows
- Examine case studies demonstrating improved uptime, auditability, and compliance

21:00

GE VERNOVA

AI-Powered Automotive Manufacturing and Supply Chain Solutions

Vikram Mankar, Principal Product Manager, **GE Vernova**

Unifying OT and IT for AI-Driven Manufacturing: Real-Time Insights at Enterprise Scale

The fragmentation between OT and IT systems remains one of the biggest barriers to scalability, agility, and intelligent decision-making. Dive into next-generation architecture built to bridge that divide—delivering a unified data foundation, real-time analytics, and GenAI-powered insights across the automotive manufacturing and supply chain ecosystem.

Explore how AI-powered data platforms can transform siloed legacy environments into intelligent, cloud-first operations capable of scaling predictive maintenance, connected vehicle data, quality optimization, and more.

- Understand the architectural framework for unifying OT and IT data into a single, secure cloud platform
- Learn how to deploy domain-specific AI models for predictive maintenance, energy efficiency, and yield improvement
- Explore the role of GenAI accelerators in streamlining ERP/data warehouse modernization and SQL performance optimization
- Examine strategies for real-time monitoring and contextual decision support across supply chain and production environments
- Discover how manufacturers are using AI and cloud-native tools to monetize data, manage connected vehicle intelligence, and increase supply chain agility

21:20 | Closing Remarks

What's Next for Automotive Manufacturing? Vision 2030

21:30

Dinner & Drinks Reception

EXHIBITOR CATEGORIES

Manufacturing Execution Systems (MES)

track and document the transformation of raw materials into finished goods, providing real-time production management to drive enterprise-wide compliance, quality and efficiency

Distributed Control Systems (DCS)

use decentralized elements to control dispersed systems, such as automated industrial processes or large-scale infrastructure systems

Computerized Maintenance Management Systems (CMMS)

help organizations track and manage maintenance and repair activities for their facilities, equipment and other assets in one place

Asset Performance Management (APM)

combines process, operational and machine-level data through dashboards to monitor machine and plant health

Design & Visualization

raw ideas into intuitive HMI and immersive VR simulations for smarter, faster production

Power Control

drives continuous flow of valuable process and diagnostic data that informs the design environment, visualization systems and information software

Industrial Control Systems

improve processes and production quality at every stage of your operation and provide seamless data exchange

Smart Devices

are self and system-aware assets that acquire, process and monitor operating data

Robotics

accelerate autonomous / semi-autonomous operations and contribute to systems that are more intelligent, intuitive and flexible

Analytics

use data to solve manufacturing bottlenecks, optimize output and quality and provide new insights, tapping into the power of Industrial AI

Production Logistics

delivers an orchestrated, agile, zero touch material flow through manufacturing operations with autonomous mobile robots

Quality Management Systems (QMS)

standardize and automate quality documentation, processes and measurements

Supply Chain Planning (SCP)

combines data from multiple departments to sync demand and supply forecasting to improve inventory accuracy and production management

Enterprise Resource Planning (ERP)

automates front- and back-office processes across business management and related functions

Production Monitoring

provides seamless connectivity to machines on the plant floor, delivering transparent, real-time operational KPIs like Overall Equipment Effectiveness (OEE)

ATTENDEES BY COMPANY **SMX USA 2025**

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Build meaningful connections and collaborations with leading experts, decision-makers and potential customers in the Smart Automotive Manufacturing field. Our conference provides ample networking opportunities, including dedicated networking breaks, receptions, and one-on-one meetings with key stakeholders.

MAXIMUM VISIBILITY

Get your brand in front of a highly targeted audience of Smart Automotive Manufacturing professionals, including researchers, engineers and executives from the EV and energy storage industries. Increase your visibility through prominent logo placement, booth displays, and speaking opportunities

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