CONFERENCE & EXPO

WE AUTOMOTIVE GROUP

DETROIT, USA

28 AUGUST 2024
DETROIT | NORTH AMERICA

SMX
AUTOMOTIVE

SMART MANUFACTURINGX SUMMIT USA

ENHANCING MANUFACTURING PROCESS AND PERFORMANCE THROUGH DIGITAL INNOVATION

- REDUCE COST
- SUSTAINABILITY GOALS
- INCREASE CAPACITY
- CYBER SECURITY
- IOT & AI
- MASS CUSTOMISATION
- SMART FACTORIES
- DIGITAL TWIN
- LEVERAGING SMART TECHNOLOGIES

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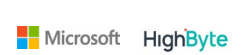
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JOIN NORTH AMERICAS LARGEST FUTURE VEHICLE - AUTOMOTIVE SMART MANUFACTURINGX SUMMIT

Take part in this industry leading event where Smart Factory leaders representing global OEMs and their key suppliers, explore future factory trends, innovations and disruptive technologies shaping the future of vehicle manufacturing

Our programs are diligently researched and curated in partnership with the Automotive Manufacturing community, to ensure they address the most pertinent current challenges and key investment areas. This level of detail is part of our pioneering approach to content and ensures that we attract the highest level of attendees. SMX USA provides our attendees with a high-end experience, and unparalleled technical-conference agenda as well as the opportunity to engage with full decision-making faculties all under one roof – in a welcoming, personable environment

Automotive Smart Manufacturing will continue to disrupt the automotive manufacturing space, giving rise to smart connected factories, digitalization of operations, advanced network capabilities and seamless data exchange. Connected factories area a culmination of the internet of Things IoT, Predictive Analytics, Blockchain, AI, Machine Learning, Mobility, 5/6G, Cyber Security and innovative immersive technology

As part of WeAutomotive Group's premier xEV event portfolio, Smart xEV Manufacturing 4.0 has become the premier event for manufacturing leaders, engineers, maintenance heads, CTOs, technologists and experts alike, to collectively address the key challenges and industry innovations surrounding the utilization of smart technologies, paving the way for a digitally accelerated and advanced low carbon future. This conference analyses The Connected Factory, Data And Analytics, Robotics And Automation, Cybersecurity, Digital Twins, augmented/Mixed Reality, Asset Performance Management And Sustainably

You are invited to join over 400 OEM automotive engineers involved in the design and implementation of digital production solutions and production data management, at North America's largest technical conference and exhibition for automotive smart manufacturing professionals – where experts will engage during a series of case study presentations, interactive panels, and unparalleled networking opportunities

KEY TOPICS

Cloud Architecture To Facilitate The Move To A Smart Manufacturing Future

The Emerging Role Of Artificial Intelligence To Control Automotive 4.0 Inspections And Improve Data Analytics Allowing The Production Line To Operate Continuously Without Impacting Overall Throughput

Reaping The Benefits Of Digitilizing And Modernizing Operational Technology (OT) To Bridge The Divide Between IT And OT Teams, Enabling People, Processes, And Technology To Seamlessly Work Together

End-To-End Body Manufacturing Lines Increases Flexibility To Accommodate Completely Random Production Flow That Extends To Model-Specific Assembly, Welding And Quality Inspection

Using 3D Printed Jigs And Fixtures To Reduce Cost, Improve Safety And Boost Efficiency

The Evolution Of Efficient Artificial Intelligence Algorithms Combined With Hardware That Allows Automotive Manufacturers To Streamline Process, Reduce Human Dependence Throughout The Value Chain, And Deliver Improved Results

Recognizing The Key Challenges In Brining Smart-Factory Cyber Security Up To Speed And The Steps Required to Mitigate Attacks

Strategies To Overcome The Growing Cyber Threats That Can Be A Menace In Smart Manufacturing Environments

Ensuing Automotive Manufacturing Facilities Are Ready To Meet The Emerging Demand For Automated Electric Vehicle Production

The Growing Role Of AGVs In Smart Manufacturing Environment: Using Data And Automation To Reach Your Destination Without Congestion

With Sustainability Now An Integral Part Of Industry Transformation: What Are The Major Factors To Be Considered by Automotive Manufacturers For Transformation?

Converging On A Zeo-Trust Blueprint To Close The Security And Safety Gaps In The Automotive Industry

By Implementing Augmented Reality (AR) Solutions On The Factory Floor, Automotive Manufacturers Have Established An Entirely New Avenue For Improving The Key Performance Indicators Of Manual Assembly And Maintenance Operations

Java-Based HMI/SCADA Offer An OS-Independent Product, But Some Java-Based HMI/SCADA Systems Come With Disadvantages. Are They Worth The Risk?

The Benefits Of Deploying New Generation HMI/SCADA Systems In Smart Manufacturing Environments

Embracing The Opportunities Offered By Industrial 4.0 To Optimize Processes For Better Productivity

Shifting Gears With AI-Driven Generative Design For Automotive Manufacturing

Empowering Automotive Manufacturers To Reduce Unscheduled Downtime, Prevent Equipment Failure, And Reduce Maintenance Costs While Increasing Asset Utilization With Asset Performance Management (APM 4.0).

Ensuring Quality Management Keeps Pace With the Digitalization Of The Automotive Sector With The Advent Of Smart Manufacturing

Realizing Value From Digital Twin Investment In Automotive Manufacturing

08:00

Registration | Breakfast Reception

08:30

Chairman's Welcome

08:40

OEM Panel

DRIVING EFFICIENCY

Smart Automotive Manufacturing In The Digital Age

The automotive industry is rapidly evolving with advancements in technology, particularly in the realm of smart manufacturing. This panel discussion will delve into the innovative strategies and technologies driving efficiency and productivity in automotive manufacturing processes.

- Explore how the Internet of Things (IoT) and Artificial Intelligence (AI) are revolutionizing automotive manufacturing, enabling predictive maintenance, real-time monitoring, and adaptive production processes
- Discuss the role of digital twins and simulation in optimizing production workflows, reducing time to market, and enhancing product quality through virtual prototyping and testing
- Examine the impact of robotics and automation on assembly lines, highlighting advancements in collaborative robots (cobots), autonomous mobile robots (AMRs), and automated guided vehicles (AGVs) for increased flexibility and agility
- Explore how data analytics and visualization tools are being utilized to analyze vast amounts of manufacturing data, uncover insights, and optimize decision-making processes for continuous improvement
- Address the cybersecurity challenges inherent in smart automotive manufacturing, including protecting sensitive data, securing interconnected systems, and mitigating potential cyber threats to ensure operational resilience
- Examine strategies for optimizing supply chain management in the automotive industry, leveraging smart technologies such as blockchain for transparent and efficient logistics, inventory management, and supplier collaboration
- Highlight the importance of workforce upskilling and training programs to empower employees with the necessary skills to thrive in an increasingly digitalized manufacturing environment, fostering innovation and competitiveness

09:20

AI & GEN AI

The Emerging Role Of Artificial Intelligence To Control Automotive 4.0 Inspections

Michael Koper, Director - Industry 4.0 Digital Software, **Eines Vision Systems**

- Why should you use a 3D simulation system to optimize quality systems?
- What is the significance of big data, rule-based algorithms, advanced AI, and deep learning in learning and classifying defects and object detection?
- Understanding why the in-line tunnel concept saves labor costs and time

- How to optimize operators' performance with AI and augmented reality
- Achieving immediate feedback in a human machine interface with digitalization and big data
- How to analyze and use data to enable smart manufacturing in auto-repair systems
- Overcoming challenges in identifying defect root causes in the press shop, body shop, paint shop, and final assembly

09:40

DIGITAL TWINS

Accelerating Time-To-Market And Sustainability Goals With Integrated Digital Twins And Generative AI In Automotive Manufacturing

- Discover how integrated digital twins and generative AI technologies streamline product development processes, allowing automotive manufacturers to bring new products to market faster and more efficiently
- Learn how these advanced technologies empower manufacturers to identify and eliminate waste in their operations, contributing to sustainability goals and enhancing brand reputation
- Explore the use of streamlined IoT solutions in automotive manufacturing, enabled by integrated digital twins and generative AI, to enhance operational efficiency and resource utilization
- Understand how AI-enabled technologies enable manufacturers to anticipate issues proactively, ensuring the creation of secure, safe, and sustainable factories by addressing potential risks before they escalate
- Delve into how integrated digital twins and generative AI solutions support scalability and adaptability in automotive manufacturing systems, allowing organizations to effectively manage growth and expansion while maintaining operational excellence

10:00

DATA & ANALYTICS

Energizing Efficiency By Harnessing Data For Smart Energy Management In Automotive Manufacturing

- Explore how monitoring and analysing energy consumption data can provide valuable insights into energy usage patterns and identify areas for optimization
- Learn how data analytics can help pinpoint opportunities for energy savings, such as optimizing equipment settings, adjusting production schedules, and implementing energy-efficient technologies
- Discover various strategies for optimizing energy usage across manufacturing facilities, including predictive maintenance to ensure equipment operates at peak efficiency and smart grid integration for dynamic energy management.
- Understand how effective energy management practices can lead to significant cost reductions by minimizing energy waste, optimizing resource allocation, and reducing utility expenses
- Delve into the environmental benefits of smart energy management, including reducing carbon emissions, minimizing environmental footprint, and aligning with corporate sustainability goals

10:20

CYBERSECURITY

Securing Connected Ecosystems: Cybersecurity Strategies For Modern Automotive Factories

- **Understanding the Risks:** Gain insight into the cybersecurity risks posed by connected ecosystems in automotive manufacturing, including the expanded attack surface, potential vulnerabilities in IoT devices, and the implications of insider threats
- **Securing IoT Devices:** Learn best practices for securing IoT devices in automotive factories, including device authentication, encryption protocols, and continuous monitoring to detect and respond to anomalous behaviour
- **Implementing Network Segmentation:** Explore the importance of network segmentation in isolating critical production systems from non-essential networks, reducing the impact of cyberattacks and limiting lateral movement within factory environments
- **Leveraging Threat Intelligence:** Discover how automotive manufacturers can leverage threat intelligence to proactively identify and mitigate emerging cyber threats, enhancing their ability to anticipate and respond to cyber incidents effectively
- **Building a Culture of Cybersecurity:** Understand the importance of fostering a culture of cybersecurity awareness and accountability among employees in automotive manufacturing facilities, empowering them to recognize and report suspicious activities and adhere to security policies and procedures

10:40

Morning Networking Break

11:20

AI & GEN AI

Harnessing The Transformative Impact Of Gen AI On Predictive Maintenance Strategies Within Smart Manufacturing Environments

- **Leveraging Sensor Data:** Gen AI harnesses vast amounts of sensor data generated by machinery and equipment in smart manufacturing facilities. By analysing this data in real-time, AI algorithms identify patterns and anomalies indicative of potential equipment failures
- **Understanding Proactive Maintenance Scheduling:** With Gen AI, manufacturers can transition from reactive to proactive maintenance approaches. By predicting equipment failures before they occur, Gen AI empowers organizations to schedule maintenance activities strategically, minimizing disruptions to production processes
- **Minimizing Downtime:** Timely intervention facilitated by Gen AI predictive maintenance helps minimize downtime in manufacturing operations. By addressing potential issues proactively, manufacturers can prevent costly unplanned downtime and optimize overall equipment effectiveness
- **Optimizing Operational Efficiency:** Through the implementation of predictive maintenance powered by Gen AI, manufacturers can optimize operational efficiency. By identifying

- opportunities for improvement and prioritizing maintenance tasks, organizations can streamline production processes and maximize output
- **Future Perspectives:** As Gen AI continues to evolve, its role in predictive maintenance within smart manufacturing is expected to expand further. Embracing emerging technologies and data-driven approaches will be crucial for staying ahead in the ever-changing manufacturing landscape

11:40

ROBOTS & AUTOMATION

Revolutionising Automotive Assembly Lines With Autonomous Mobile Robots

- Learn how AMRs and AGVs streamline assembly processes by efficiently delivering parts and components to designated assembly stations. By automating material transportation, these robotic solutions optimize production flow and minimize bottlenecks, ultimately improving overall productivity
- Understand the impact of AMRs and AGVs in minimizing assembly line downtime. By autonomously transporting materials and modules between workstations, these robots eliminate manual handling errors and delays, ensuring continuous operation and maximizing throughput
- Explore how AMRs and AGVs enhance assembly line flexibility and adaptability. These robotic systems can dynamically adjust their routes and tasks to accommodate changes in production demands or layout configurations, enabling agile manufacturing processes
- Discover the efficiency gains achieved through the integration of AMRs and AGVs in assembly line support. By automating repetitive material handling tasks, these robots free up human operators to focus on value-added activities, driving efficiency and resource optimization
- Explore the future potential of AMRs and AGVs in automotive assembly lines. From advancements in navigation and obstacle avoidance to integration with collaborative robots (cobots), uncover the evolving role of robotics in shaping the future of automotive manufacturing

12:00

NETWORK

Realising The Potential Power Of Edge Computing For Real-Time Data Processing In Automotive Smart Manufacturing

- **Reducing Latency:** Edge computing brings data processing closer to the source, minimizing latency and enabling near-instantaneous decision-making in automotive manufacturing environments. This ensures timely responses to critical events and enhances overall operational agility
- **Enabling Real-time Insights:** With edge computing, automotive manufacturers can analyze data in real-time, gaining actionable insights into production processes, equipment performance, and quality control. This enables proactive maintenance, optimized resource allocation, and improved product quality
- **Enhancing Scalability:** Edge computing enhances the scalability of data-intensive applications in smart manufacturing by distributing computational tasks across edge devices. This allows automotive manufacturers to efficiently manage large volumes of data generated by IoT devices, sensors, and production systems
- **Empowering Predictive Maintenance:** By deploying edge computing solutions, automotive

manufacturers can implement predictive maintenance strategies that anticipate equipment failures before they occur. This minimizes unplanned downtime, extends asset lifespan, and reduces maintenance costs
- **Driving Innovation:** Edge computing unlocks new opportunities for innovation in automotive smart manufacturing, enabling the development of advanced AI algorithms, autonomous systems, and predictive analytics tools. By leveraging edge computing capabilities, manufacturers can stay at the forefront of technological advancements and maintain a competitive edge in the industry

12:20

MANUFACTURING SOFTWARE

Utilising Manufacturing Execution Systems To Empower Automotive Manufacturing With Data-Driven Decision Making

- **Harnessing Data Insights:** MES empowers automotive manufacturers by collecting and analyzing data from various stages of the manufacturing process. These insights enable informed decision-making, allowing companies to identify trends, anticipate maintenance requirements, and optimize resource allocation for enhanced efficiency
- **Predictive Maintenance:** Through data analytics, MES facilitates predictive maintenance in automotive manufacturing. By leveraging historical data and machine learning algorithms, manufacturers can forecast equipment failures and schedule maintenance activities proactively, minimizing downtime and maximizing productivity
- **Integration of Industry 4.0 Technologies:** MES serves as a linchpin in the integration of Industry 4.0 technologies like IoT, AI, and machine learning into automotive manufacturing operations. By connecting disparate systems and devices, MES enables seamless communication and collaboration, fostering innovation and agility in the manufacturing ecosystem
- **Improved Operational Performance:** With data-driven decision-making facilitated by MES, automotive manufacturers can enhance operational performance across the board. By leveraging real-time data analytics, companies can optimize production processes, streamline workflows, and drive continuous improvement initiatives to achieve operational excellence
- **Future-Proofing Manufacturing Operations:** By embracing data-driven decision-making enabled by MES, automotive manufacturers can future-proof their operations in an increasingly digital and competitive landscape. By staying agile and responsive to changing market dynamics, companies can position themselves for sustained success and growth in the automotive industry

12:40

DATA & ANALYTICS

Driving Efficiency By Unlocking Production Optimization In Automotive Manufacturing

- Explore how analysing production data can provide valuable insights into manufacturing processes, allowing for informed decision-making and continuous improvement
- Learn how data analytics can help identify bottlenecks and inefficiencies in production lines, enabling proactive measures to address these issues and streamline workflows
- Discover strategies for optimizing manufacturing workflows, including resequencing tasks, reallocating resources, and implementing

automation technologies to minimize idle time and maximize throughput
- Understand the importance of real-time performance monitoring to track key performance indicators (KPIs), identify deviations from targets, and ensure production goals are met consistently
- Emphasize the value of a culture of continuous improvement, where data-driven insights are used to drive incremental changes and optimizations across the manufacturing process, leading to enhanced efficiency and productivity

13:00

Network Lunch Break

14:00

PANEL

Driving Towards Sustainability And The Role Of Smart Automotive Manufacturing In A Greener Future

As the automotive industry faces increasing pressure to reduce its environmental footprint, smart manufacturing technologies offer promising solutions to drive sustainability and promote a greener future. This panel session will explore the pivotal role of smart automotive manufacturing in advancing sustainability goals and addressing environmental challenges

- Discuss how smart manufacturing technologies, such as IoT sensors, AI-driven optimization, and energy-efficient systems, are enabling automotive manufacturers to streamline production processes while minimizing resource consumption and waste generation
- Explore the impact of smart manufacturing on the production of electric vehicles (EVs), including advancements in battery manufacturing, lightweight materials, and supply chain optimization to accelerate the transition towards zero-emission mobility
- Examine how automotive manufacturers are embracing circular economy principles by implementing strategies for product reuse, remanufacturing, and recycling, fostering a closed-loop system to reduce dependence on finite resources and minimize environmental impact
- Highlight the importance of integrating sustainability criteria into supply chain management practices, from responsible sourcing of raw materials to ethical labor practices and efficient logistics, to ensure transparency and accountability throughout the automotive value chain
- Discuss innovative approaches to reduce the carbon footprint of automotive manufacturing operations, such as renewable energy adoption, carbon offset programs, and emissions monitoring and reduction initiatives, to achieve net-zero emissions targets

14:40

NETWORK

Unlocking Heightened Levels Of Efficiency, Agility, And Innovation Across Operations With The Power Of Cloud And SaaS

- Explore how cloud computing enables automotive manufacturers to scale their IT resources dynamically, allowing them to meet fluctuating demand and adapt to evolving production requirements seamlessly
- Learn how SaaS solutions hosted in the cloud provide automotive manufacturers with unparalleled flexibility in accessing and deploying

- software applications. Discover how this flexibility fosters remote collaboration, facilitates real-time decision-making, and supports agile manufacturing practices
- Understand the cost-saving potential of cloud-based SaaS solutions for automotive manufacturers. Delve into the benefits of subscription-based pricing models, which eliminate upfront hardware investments and reduce operational expenses associated with software maintenance and upgrades
- Examine how cloud-based collaboration tools and platforms facilitate seamless communication and knowledge sharing among geographically dispersed teams. Discover how SaaS applications empower cross-functional collaboration, enabling stakeholders to collaborate on design, production planning, and supply chain management in real time
- Discover the robust security features and compliance capabilities inherent in cloud computing and SaaS solutions. Learn how leading cloud providers implement advanced security measures, such as encryption, access controls, and threat detection, to safeguard sensitive manufacturing data and ensure regulatory compliance

15:00

CYBERSECURITY

Navigating The Dynamic And Ever-Evolving Threat Landscape Facing Smart Manufacturing Environments

- **Identifying Common Threats:** Gain insights into common cyber threats facing smart manufacturing, including malware attacks, phishing attempts, and supply chain vulnerabilities, to better understand the breadth and scope of potential risks
- **Understanding Adversarial Tactics:** Explore the methods and tactics employed by cyber adversaries targeting smart manufacturing environments, including reconnaissance, exploitation of vulnerabilities, and lateral movement within industrial networks
- **Mitigating Industrial Control System Risks:** Learn about the unique challenges associated with securing industrial control systems (ICS) in smart manufacturing facilities and discover strategies for mitigating risks, such as network segmentation, intrusion detection systems, and regular security assessments
- **Addressing Ransomware Threats:** Discuss the increasing prevalence of ransomware attacks targeting manufacturing organizations and explore proactive measures for preventing, detecting, and responding to ransomware incidents, including robust backup and recovery procedures and employee training programs
- **Building a Resilient Security Posture:** Understand the importance of adopting a holistic and proactive approach to cybersecurity in smart manufacturing, including establishing incident response plans, fostering a culture of security awareness among employees, and staying informed about emerging threats and vulnerabilities in the industrial sector

15:20

AI & GEN AI

How AI Empowers Automotive Smart Manufacturing 4.0

Steven Lund, US Head of Sales, **MakinaRocks**

- Understand the fundamental concepts of AI and its potential applications in automotive manufacturing

- Explore the value proposition of AI for driving efficiency, quality, and agility in manufacturing processes
- Discover how AI-powered predictive maintenance can revolutionize the automotive manufacturing landscape
- Learn how machine learning algorithms and data analytics enable proactive identification of equipment failures, reducing downtime, and optimizing maintenance schedules
- Explore compelling real-world use cases and success stories that exemplify the application of AI in automotive manufacturing processes
- Highlight the tangible benefits, lessons learned, and potential roadmaps for organizations aiming to accelerate their transition to AI

15:40

DATA & ANALYTICS

Bridging The Gap By Achieving Interoperability In Automotive Manufacturing

- Highlighting the critical role of interoperability in facilitating seamless data exchange and collaboration among diverse systems, applications, and devices within the automotive manufacturing ecosystem
- Discussing the challenges faced in achieving interoperability, such as disparate data formats and protocols, and presenting strategies and solutions for overcoming these challenges through standardization and integration efforts.
- Exploring existing standardization initiatives and frameworks aimed at promoting interoperability in automotive manufacturing, including efforts to standardize data formats, communication protocols, and interfaces across different systems and devices
- Illustrating the benefits of interoperability, such as improved efficiency, enhanced productivity, reduced operational costs, and increased flexibility in adapting to changing market demands and technological advancements
- Sharing best practices and real-world case studies of successful interoperability implementations in automotive manufacturing, highlighting lessons learned, key success factors, and recommendations for industry stakeholders embarking on interoperability initiatives

16:00

ROBOTS & AUTOMATION

Transforming Inventory Management In Automotive Manufacturing With AMRs And AGVs

- Discover how AMRs and AGVs leverage RFID or barcode scanning technology to automate inventory tracking tasks. These robotic systems autonomously navigate through storage areas, accurately identify, and locate inventory items, and update inventory records in real-time, eliminating manual data entry errors and improving inventory accuracy
- Learn how AMRs and AGVs optimize stock replenishment processes in automotive manufacturing facilities. By autonomously transporting materials and components to production lines based on real-time demand signals, these robotic solutions minimize stockouts, reduce lead times, and ensure uninterrupted production flow
- Explore the role of AMRs and AGVs in streamlining cycle counting procedures. These robotic systems can autonomously perform cycle counts by systematically scanning RFID tags or barcodes on inventory items, eliminating the need for manual counting efforts and accelerating

inventory auditing processes
- Understand the significance of real-time inventory data insights facilitated by AMRs and AGVs. By continuously updating inventory records and transmitting data to centralized systems, these robotic solutions enable automotive manufacturers to make data-driven decisions, optimize inventory levels, and enhance supply chain visibility
- Uncover the benefits of enhanced operational efficiency achieved through the integration of AMRs and AGVs in inventory management. By automating repetitive inventory tasks and minimizing human intervention, these robotic systems free up valuable resources, improve labour productivity, and drive overall operational excellence in automotive manufacturing facilities

16:20

Afternoon Network Break

16:40

ROBOTS & AUTOMATION

Unlocking Efficiency: Why Every Vehicle Factory Needs Automated Vehicle Marshalling (AVM)

George Geros, Commercial Director, **Embotech AG**

- **Automated Vehicle Marshalling (AVM):** what's hiding behind that term?
- **Inside the scoop:** this is AVM tech explained
- How AVM is addressing the challenges and bottlenecks created through traditional factory vehicle movements
- Future potential and applications beyond traditional factory logistics

17:00

DIGITAL TWINS

Unveiling The Power Of Digital Twins For Automotive Manufacturing Process Optimisation

- Explore how digital twins simulate production workflows, providing insights into potential bottlenecks and inefficiencies in automotive manufacturing processes
- Discover the benefits of real-time monitoring enabled by digital twins, allowing manufacturers to track production metrics and make informed decisions to optimize operations instantly
- Learn how digital twins help automotive companies optimize resource utilization by identifying areas of over or underutilization, leading to cost savings and improved productivity
- Understand how digital twins facilitate waste reduction strategies by pinpointing areas of waste generation and enabling targeted interventions to minimize waste generation and disposal
- Explore how the integration of digital twins fosters a culture of continuous improvement in automotive manufacturing, driving ongoing optimization efforts to maximize efficiency and competitiveness

17:20

CYBERSECURITY

The Critical Importance Of Incorporating Cybersecurity Measures Into The Entire Lifecycle Of Smart Manufacturing Systems

- Understand the significance of embedding cybersecurity considerations into the design phase of smart manufacturing systems, ensuring that security features are integral to the architecture and functionality of the technology from the outset
- Explore the importance of implementing granular access controls and authentication mechanisms to limit unauthorized access to critical systems and data, thereby reducing the risk of insider threats and unauthorized modifications
- Learn about the value of conducting regular security assessments and audits throughout the lifecycle of smart manufacturing systems, enabling organizations to identify and remediate vulnerabilities before they can be exploited by malicious actors
- Discover how threat modelling techniques can help organizations anticipate potential security threats and vulnerabilities during the design phase, allowing for the implementation of proactive security measures tailored to the specific risks faced by smart manufacturing environments
- Emphasize the need for collaboration and information sharing among manufacturers, cybersecurity experts, and technology vendors to collectively address emerging threats and develop best practices for enhancing the security posture of smart manufacturing systems. By fostering a culture of security awareness and collaboration, organizations can better defend against cyber threats and ensure the resilience of their operations

17:40

DATA & ANALYTICS

Revolutionizing Automotive Manufacturing With Git-Based Source Control

Ben O'Rourke, Chief Revenue Officer, **Copia Automation**

- Understand the fundamentals of Git for automotive manufacturing
- Discuss strategies for integrating Git with popular automotive development tools
- Learn how Git-based source control enhances traceability throughout the development lifecycle
- Discover how Git enables agile methodologies and iterative development in the automotive domain
- Explore techniques for managing feature branches, release cycles, and hotfixes
- Discuss strategies for automating build, test, and deployment processes using Git hooks and CI/CD
- Address the unique challenges of managing large-scale automotive projects with Git

18:00

AI & GEN AI

Revolutionizing Quality Control With Gen AI In Smart Manufacturing

- Understanding how Gen AI empowers smart manufacturing facilities to detect defects, anomalies, and deviations from quality standards in real-time. By analysing diverse data sources including images, videos, and sensor data, AI algorithms identify and flag potential issues on the production line instantaneously
- Ensuring consistent product quality across production batches through the deployment of Gen AI for quality control. By identifying and addressing defects early in the manufacturing process, organizations can maintain high standards and deliver superior products to customers
- Minimizing the occurrence of defects and deviations, Gen AI can help reduce waste in smart manufacturing operations. By optimizing quality control processes, manufacturers can minimize scrap, rework, and product recalls, resulting in cost savings and improved efficiency
- Consistent product quality facilitated by Gen AI contributes to enhanced customer satisfaction. By delivering products that meet or exceed quality standards, manufacturers can build trust with customers, enhance brand reputation, and foster long-term loyalty
- As Gen AI continues to evolve, its application in quality control and inspection processes is expected to expand further. Embracing AI-driven quality control technologies will be essential for manufacturers seeking to stay competitive in the digital era of smart manufacturing

18:20

DATA & ANALYTICS

Addressing Data Scalability Challenges In Automotive Manufacturing

- Highlighting the exponential growth of data generated by manufacturing operations in the automotive sector and the challenges it poses in terms of storage, processing, and analysis
- Emphasizing the critical role of scalability in ensuring that automotive manufacturers can effectively manage and utilize large volumes of data to drive operational insights, efficiency, and innovation
- Discussing the need for robust and scalable infrastructure, including cloud computing resources, edge computing solutions, and high-performance data storage and processing systems, to support the growing demands of data-intensive manufacturing environments

- Exploring scalable data management solutions, such as distributed databases, data lakes, and data streaming platforms, that enable automotive manufacturers to efficiently store, process, and analyse vast amounts of data in real-time
- Highlighting the importance of cost-effective scalability solutions that enable automotive manufacturers to manage data growth without incurring prohibitive costs, while also improving operational efficiency and agility in responding to changing business needs

18:40

ROBOTS & AUTOMATION

Empowering Human-Robot Collaboration By Unleashing The Potential Of Collaborative Robots

- **Exploring Collaborative Robotics:** Delve into the world of collaborative robots (Cobots) and their pivotal role in modern manufacturing environments. Understand how these robots seamlessly integrate with human workers to enhance efficiency and productivity on the factory floor
- **Enhancing Safety and Productivity:** Discover how Cobots are equipped with advanced safety features, including sensors and force-limiting technology, to ensure a secure working environment. Learn how this enhanced safety allows for increased productivity as Cobots and human workers collaborate on various tasks
- **Embracing Flexibility and Adaptability:** Witness the versatility of Cobots as they adapt to evolving production demands. Explore their flexible nature and ease of programmability, enabling quick reconfiguration to meet changing workflow requirements without disruption
- **Optimizing Task Performance:** Gain insights into the diverse range of tasks that Cobots excel at, from assembly and material handling to inspection and packaging. Understand how Cobots optimize task performance, leading to streamlined production processes and improved operational efficiency
- **Driving Innovation and Efficiency:** Uncover the transformative impact of Cobots on manufacturing operations, driving innovation and efficiency across industries. Learn how embracing Cobots revolutionizes traditional manufacturing practices, empowering businesses to stay competitive in today's dynamic market landscape

19:00

Chair's Closing Remarks

19:20

All Attendee Evening Drinks Reception

LEADING OEMs & BATTERY DEVELOPERS ATTENDING THIS YEAR

| Who Is Attending

Lucid Motors, **Rivian,** ONE | Our Next Energy, **Tesla,** Ford, **GM, Stellantis, Amazon, BDTRONIC, Apple,** Lyft, AVL, **BMW,** Google, **BrightVolt,** JLR, BYD, **CATL, Clarios, Cummins, NIO,** SERES, **MAHINDRA AUTOMOTIVE NORTH AMERICA,** Custom Cells, Daimler, EaglePicher, **Samsung,** EnerSys, BYTON, **ENOVIX, Uber,** EnPower, EoCell, **Polestar, Canoo,** Factorialx, **FISKER,** First National Battery, **Fluence, Gogoro,** Gotion, CARESOFT, Group14, GS Yuasa, **Harley Davidson, Honda, Hyundai,** John Deere, LG, **MATHWORKS, Lion Electric, Mercedes Benz,** Milwaukee Tool, **Mitsubishi, Natron Energy,** Nissan, Panasonic, **Polaris, PolyPlus,** Porsche America, QuantumScape, **Robert Bosch, Rolls Royce,** SAFT, Sion Power, **SIONIC Energy, DUPONT,** Solid Power, Solid State Battery, **TRUMPF,** South 8 Technologies, **Lamborghini,** StoreDot, **DASSAULT SYSTEMES,** Teledyne, **Texas Instruments, Toshiba, Toyota, Triathlon Batterien, Volkswagen,** Volvo, **Yokohama,** AMPCERA, ASPEN AEROGELS, **Ferarri,** AVERY DENNISON, **BASF,** A123 Systems, ABB, **Daimler Truck North America,** Morgan Advanced Materials, SCANIA, **Total Energies,** Wevo

WHERE CHALLENGES ARE MET WITH SOLUTIONS

JOB TITLES CROSS SECTION 2023

Industry 4.0 Implementation Manager, Automotive EV/HV Product Development Engineer, **Design Manager,** Industry 4.0 Engineer, **Analyst-Digital Manufacturing** | Project Management, **Lead Cross-Functional Systems Engineering Teams,** Design Analysis Engineer, **CAE and Model Based Systems Engineer,** Business Development/Technology Manager, **Global Head of Cyber Security for Enterprise,** Cloud, **Engineering Manager - edrive Testing And Validation,** Future Mobility Research and Consulting, **Industry 4.0 and Digital Manufacturing Supervisor,** Engineering Specialist - Automation, **Powertrain Simulation Manager,** Ford Advanced EV Development Manager, **Software Engineer Leader,** Director Charging & Energy Services, **Data Tools for Design Innovation Manager,** Vice President Global EV Programs, **Global Technology Strategy,** Research and Advanced Systems Director, **Factory Automation,** Manufacturing Technology Team Leader, **Director Manufacturing Engineering Global Architecture,** Manufacturing Transformation Leader, **Chief Engineer – Manufacturing,** Operations Director, **Manufacturing Engineer Lead,** Director of Manufacturing Strategy, **Director Manufacturing Transformation,** Director - Global Vehicle Manufacturing Engineering, **Industry 4.0 Specialist,** Digital Manufacturing Supervisor, **Technical Leader Additive Manufacturing Research,** Digital Layout & Industry 4.0 Team Leader, **Senior IT Manufacturing Systems Development Supervisor,** Manufacturing Engineer, **Exec. Director Global Manufacturing Engineering,** Manufacturing Programs Chief Engineer, **Manufacturing Transformation Leader,** Director of Manufacturing, **IT Executive | Digital Transformation,** Manufacturing Team Lead, **Battery Assembly Manufacturing Team Leader,** Vice President Global EV Programs, **Lead Digitalization and Industry 4.0,** Global Digital Manufacturing Manager, **Digital Twin Lead,** Senior Innovation Engineer, **Plant Manager,** Assistant Plant Manager, **Operations Manager,** Director Global Manufacturing Quality, **Senior Vice President of Manufacturing,** Director of Manufacturing, **Vehicle Programs,** Director-Global Manufacturing IT, **Manufacturing Engineer,** Digital Manufacturing Engineering, **Industry 4.0**

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Artificial Intelligence	Automated Assembly Machines Systems	Motion Control Equipment
AR/VR and mixed reality	Automatic Identification and Data	Motors
Big Data Analysis cybersecurity	Collection/RFID	Optics and Lenses
Digitalization ERP Systems	Cables, Cable Assemblers	Parts Handling Equipment/Conveyors/
Integration platforms	Connectors Management Systems	Workholding
IoT	Cameras	Power Transmission, Actuators and
Machine Learning	Casters, Drive Wheelers	Mechanics
Predictive Maintenance	Computer/Storage/Data Systems	Remanufactured/Used Robots
Robotics	Controls, Drives and Amplifies	Robotics - Industrial
Process Automation	End-of-Arm Tooling	Robots - Mobile
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Consulting Services	Industrial IoT	Sensors/Sensor Integrated Systems
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System Integration - Robotics	Machine Tools/Equipment	Software - Vision and AI
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- Networking breaks, coffee and snacks. Hot buffet luncheon
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- All attendee evening drinks reception – open bar

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SUPER SAVER RATE
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