



event education guide

**SMART MANUFACTURING
EXPERIENCE**
technology. applied.

APRIL 30 - MAY 2, 2018
BOSTON CONVENTION CENTER
BOSTON, MASSACHUSETTS

Register Today!



Media Partners:



smartmanufacturingexperience.com/education

make your manufacturing smart

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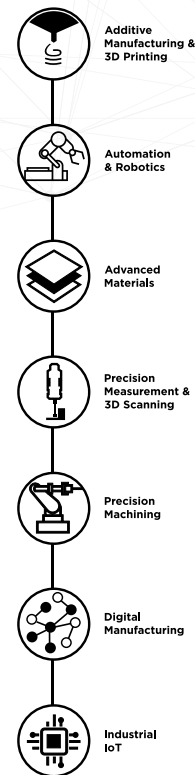
Smart manufacturing enables machines to talk to one another, control operations remotely, predict challenges and even share live data throughout the supply chain. By attending the **Smart Manufacturing Experience** you'll find solutions that can improve productivity, cut costs, increase energy efficiency and produce higher quality products. Smart factories hold the promise of enabling truly sustainable, efficient and custom manufacturing.

Welcome to the Smart Manufacturing Experience!

SMART MANUFACTURING DELIVERS A GREAT ROI

Manufacturers implementing smart manufacturing expect to see \$421 billion in cost reductions and \$493 billion in increased annual revenues for the next five years.

Source: 2016 Global Industry 4.0 Survey, PWC



Explore smart technologies that will advance your business

The **Smart Manufacturing Experience** provides practical solutions for applying the latest advanced manufacturing technologies that drive results. Discover practical, real-world solutions, using transformative technologies, that boost productivity, increase sales, improve efficiency and reduce costs.

This event is laser-focused on advanced manufacturing technologies including:

- Additive Manufacturing & 3D Printing
- Automation & Robotics
- Advanced Materials
- Precision Machining
- Precision Measurement & 3D Scanning
- Digital Manufacturing
- Industrial IoT/Big Data

Two Industry Leaders Working Together to Advance Manufacturing

SME and AMT - The Association For Manufacturing Technology, created the **Smart Manufacturing Experience** to support manufacturers as they make the transition into the fourth industrial revolution. We saw the need for an event that prepares the workforce for what's next in advanced technologies, connected technology, and automation. Our goal is to offer an interactive learning space for attendees to see and experience new applications.



Smart Manufacturing Experience Founding Partners

Mazak, Methods Machine Tools, The Robert E. Morris Company and IMTS 2018 - The International Manufacturing Technology Show have joined SME and AMT to host this event. These partners are leaders in advanced manufacturing, each representing solutions in additive manufacturing, digital manufacturing, automation and more to major manufacturers around the world.

Partnering with Mazak, Methods Machine Tools, The Robert E. Morris Company and IMTS ensures that the **Smart Manufacturing Experience** will deliver real solutions to manufacturers they can use today. They are committed to advancing manufacturing productivity, performance, and profitability using Smart Manufacturing technologies throughout the manufacturing value chain.



REGISTER TODAY!

Visit smartmanufacturingexperience.com/education and click on the REGISTER button

OR

Call 866.635.4692 and use Promo Code SE18DM3

event agenda

COMPLIMENTARY WITH EXPERIENCE ZONE REGISTRATION

ADDITIONAL REGISTRATION FEE REQUIRED

MONDAY, APRIL 30

- 8:30 AM - 12:30 PM | Workshop
OPTIMAL PRECISION MACHINING
Rick Schultz, FANUC America
- 8:30 AM - 12:30 PM | Workshop
NAVIGATING DIGITAL MANUFACTURING & DESIGN
Dennis Thompson, Equus Partners
- 8:30 AM - 12:30 PM | Workshop
FUNDAMENTALS OF ADDITIVE MANUFACTURING
Francisco Medina, Buffalo Manufacturing Works
- 8:30 AM - 12:30 PM | Workshop
GETTING STARTED WITH ROBOTICS
Bob Rochelle, Güdel Inc.
- 8:30 AM - 12:30 PM | Workshop
WHERE SMART MANUFACTURING HAPPENS—THE INTERSECTION OF THE DIGITAL THREAD AND IIoT
Conrad Leiva, CA, iBASEt
- 8:30 AM - 12:30 PM | Workshop
MTCONNECT TESTBED
Moneer Helu, NIST and Thomas Hedberg, NIST
- 1:00 - 2:00 PM | Keynote
TEN TIMES BETTER: MAXIMIZE PERFORMANCE THROUGH BIG DATA
Jeffrey Ma, Twitter
- 2:00 - 3:00 PM
KEYNOTE MEET AND GREET
with Jeffrey Ma
- 2:00 - 7:00 PM | EXPERIENCE ZONE (EXHIBITS) OPEN
- 2:00 - 7:00 PM | MIXED REALITY EXPERIENCE
- 2:30 - 3:15 PM | Founding Partner Presentation
HYBRID TECHNOLOGY: THE NEXT LEVEL OF MULTI-TASKING
Joe Wilker, Mazak
- 2:30 - 6:00 PM | LEARNING LAB
- 2:30 - 5:45 PM | KNOWLEDGE BAR - X1
- 2:30 - 5:45 PM | KNOWLEDGE BAR - X2
- 2:30 - 5:45 PM | KNOWLEDGE BAR - X3
- 2:30 - 5:45 PM | KNOWLEDGE BAR - X4
- 2:30 - 5:45 PM | KNOWLEDGE BAR - X5
- 3:30 - 4:15 PM | Panel Discussion
TRANSFORMING MANUFACTURING: THE JOURNEY TO INNOVATION
- 6:00 - 7:00 PM | EVENT FLOOR NETWORKING RECEPTION

TUESDAY, MAY 1

- 8:30 - 9:30 AM | Keynote
SMARTx TECH TALKS
Katie Linendoll, Global Technology Consultant
Wang Jin, MIT Sloan School of Management
Paul Manikas, Microsoft Corp.
Steven Taub, GE Ventures
- 9:30 - 10:30 AM
KEYNOTE MEET AND GREET
with Katie Linendoll
- 9:30 AM - 12:30 PM | STUDENT PROGRAM
- 9:30 AM - 6:00 PM
EXPERIENCE ZONE (EXHIBITS) OPEN
- 9:30 AM - 6:00 PM
MIXED REALITY EXPERIENCE
- 9:45 AM - 12:00 PM | Conference
MANUFACTURING WITH ADVANCED MATERIALS I
- 9:45 AM - 12:00 PM | Conference
THE KEY TO DIGITAL MANUFACTURING I
- 9:45 AM - 12:00 PM | Conference
ADDITIVE MANUFACTURING APPLICATIONS I
- 9:45 AM - 12:00 PM | Conference
PREPARE FOR AN AUTOMATED FUTURE I
- 9:45 AM - 12:00 PM | Conference
ADVANCES IN PRECISION MACHINING I
- 10:00 AM - 4:30 PM | LEARNING LAB
- 10:00 AM - 4:45 PM | KNOWLEDGE BAR - X1
- 10:00 AM - 4:45 PM | KNOWLEDGE BAR - X2
- 10:00 AM - 4:45 PM | KNOWLEDGE BAR - X3
- 10:00 AM - 4:45 PM | KNOWLEDGE BAR - X4
- 10:00 AM - 4:45 PM | KNOWLEDGE BAR - X5
- 1:00 - 1:45 PM | Founding Partner Presentation
AUTOMATION TRENDS FOR TODAY'S MANUFACTURING
John Lucier, Methods Machine Tools Inc
- 2:30 - 3:15 PM | Founding Partner Presentation
DYNAMICS OF CHANGE: DISRUPTIVE TECHNOLOGIES AND CNC MACHINERY
Loren Olson, The Robert E. Morris Co.
- 6:30 - 8:30 PM
SMART SOCIAL OFF-SITE NETWORKING RECEPTION

WEDNESDAY, MAY 2

- 8:30 - 9:30 AM | Keynote
ARTIFICIAL INTELLIGENCE-BUSINESS SYSTEMS AND PROCESSES THAT THINK FOR THEMSELVES
Jack Shaw, Technology Futurist
- 9:30 - 10:30 AM
KEYNOTE MEET AND GREET
with Jack Shaw
- 9:30 AM - 12:30 PM | STUDENT PROGRAM
- 9:30 AM - 3:00 PM
EXPERIENCE ZONE (EXHIBITS) OPEN
- 9:30 AM - 3:00 PM
MIXED REALITY EXPERIENCE
- 9:45 AM - 12:00 PM | Conference
MANUFACTURING WITH ADVANCED MATERIALS II
- 9:45 AM - 12:00 PM | Conference
THE KEY TO DIGITAL MANUFACTURING II
- 9:45 AM - 12:00 PM | Conference
ADDITIVE MANUFACTURING APPLICATIONS II
- 9:45 AM - 12:00 PM | Conference
PREPARE FOR AN AUTOMATED FUTURE II
- 9:45 AM - 12:00 PM | Conference
ADVANCES IN PRECISION MACHINING II
- 10:00 AM - 12:45 PM | LEARNING LAB
- 10:00 AM - 12:45 PM | KNOWLEDGE BAR - X1
- 10:00 AM - 12:45 PM | KNOWLEDGE BAR - X2
- 10:00 AM - 12:45 PM | KNOWLEDGE BAR - X3
- 10:00 AM - 12:45 PM | KNOWLEDGE BAR - X4
- 10:00 AM - 12:45 PM | KNOWLEDGE BAR - X5

More than an event—it's an interactive learning experience!

Attend **Smart Manufacturing Experience** to be immersed in a world of interactive learning, virtual reality hands-on technology demonstrations. Live presentations, numerous connecting points and visionary keynotes will deliver unparalleled understanding and know-how.

- **Keynotes** – industry and technology experts reveal smart manufacturing best practices and results
- **Workshops** – concurrent in-depth technical sessions prepare you to make the most of the Experience Zone exhibits
- **Conference** – Comprehensive case studies and real-world applications of transformative technologies that are already working for manufacturers
- **Knowledge Bars** – small group discussions providing opportunities for personal dialogue on specific smart technologies
- **Learning Lab** – presentations on trends and opportunities for implementing advanced manufacturing technologies
- **Mixed Reality Experience** – showcases the integration of machines, systems and data that drives Smart Manufacturing
- **Event Floor Reception** – a relaxed venue to engage with industry colleagues and share ideas
- **Smart Social** – an engaging social/networking event taking place at select prime locations around downtown Boston
- **Attendee Meet-Up Lounge** – comfortable seating area to plan your day, catch up with other attendees or take a break



Your competition is attending—add your company to this prestigious list

Major manufacturing companies have recognized the need to adopt smart manufacturing technologies to improve quality, lower costs and quickly adapt to changing market conditions. These are just a few of the companies that have already registered for the Smart Manufacturing Experience. Your company should be on this list!

3M Touch Systems	Kamatics
Apple Inc.	Lockheed Martin
AVX Tantalum	MIT
Barnes Aerospace	Parker Hannifin
Boeing	Portsmouth Naval Shipyard
BorgWarner	Pratt & Whitney
Center for Naval Metalworking	Raytheon Company
Cooper Standard	Savage Arms
Corning Incorporated	Seabrook Medical
Detroit Diesel	Smith & Nephew
Eaton Cummins	Stanley Black & Decker
Emerson	Tegra Medical
Ford Motor Company	Truck-Lite
GE Aviation	Toyota Tsusho America
GKN Aerospace	Unilever
GM	United Technologies Aerospace
Halliburton	U.S. Navy
Hasbro	Waters Corporation
Honeywell	Westinghouse Electric
Honda of America Mfg., Inc.	ZF Transmissions
IBM	
iRobot	
JTEKT Toyoda Americas Corporation	

included education opportunities

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keynotes

Attend these thought-provoking keynotes that explore how Big Data, smart manufacturing and artificial intelligence are revolutionizing the way we work, innovate and do business.

Keynote presentations are complimentary with your Experience Zone registration.

April 30, 2018 | 1:00 – 2:00 PM

**Ten Times Better: Maximize
Performance through Big Data**

Sponsored by

CHUBB®

Data, gleaned through technology, is not only supposed to help us do our jobs, but do them better. Sometimes, it can even make us ten times better than the average employee. Through the lens of his experiences in blackjack, pro sports consulting, and Hollywood, Jeffrey Ma discusses the importance of setting goals as well as tracking your progress and productivity along the way, and how gaming, analytics, and competitive tracking can lead to more useful, constructive feedback and more motivated teams and employees.



Jeffrey Ma

Senior Director of Business
Insights and Group Project
Manager, Twitter

SMARTx Tech Talks

Embracing the wildly popular TED Talks concept, The Smart Manufacturing Experience hosts a new and exciting format for the audience. The SMARTx Tech Talks will spotlight visionary leaders who motivate and inspire attendees via short inspirational talks on the topics of smart manufacturing, transformation, growth, advancement and expansion for the future of manufacturing. Join us to hear how these leaders are driving innovation to take their businesses to the next level.



Innovations in Technology

Katie Linendoll
Emmy Award-Winning TV Personality,
Writer, Technology Expert, Global
Technology Consultant



Practical Applications for Artificial Intelligence in Manufacturing

Paul Manikas
Senior Industry Solution Executive,
Microsoft Corporation



Cloud Computing in U.S. Manufacturing

Wang Jin
Postdoctoral Associate,
IDE MIT Sloan School of Management



Growing Innovative Companies

Steven Taub
Managing Director,
Advanced Manufacturing, GE Ventures

Artificial Intelligence: Business Systems and Processes That Think for Themselves

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Bank of America
Merrill Lynch

Intelligent systems are transforming business, commerce, and society. Self-optimizing production scheduling, autonomic supply chains, and self-configuring business ecosystems are just a few examples of intelligent systems that will shake the world.

In this presentation, Jack will cite case studies, real-world examples, and success stories that show how leading-edge businesses are using these technologies to cut costs, improve service, and promote innovation. Join us as he explains intelligent systems and what your organizations can do to plan for the most dynamic, breathtaking set of business technologies yet.



Jack Shaw
Technology
Futurist

DO YOU HAVE YOUR SMART STRATEGY IN PLACE?

65% of Digital Process Profit Leaders — those who increased profits by more than 5% last year by leveraging the IoT within their facilities and offices — have an IoT process strategy in place and implemented. In contrast, only 19% of all other manufacturers have a plan in action.

Source: John Brandt, The MPI Group, Industry Week, August 2017



Learning Lab

Hear expert presentations on trends, business cases and opportunities for implementing advanced manufacturing technologies in your operations and understand the impact of smart manufacturing on your business. Check smartmanufacturingexperience.com for the complete schedule of Learning Lab sessions.

Participating Companies:



Presented by:



Knowledge Bars

Attend these small group sessions that are designed to provide the opportunity to ask questions about your specific manufacturing challenges and get “the scoop” from industry experts in smart manufacturing technology areas. These sessions are presentation-free and are all about engaging with smart people, working through challenges and meeting your specific information needs. Check smartmanufacturingexperience.com for the complete schedule of Knowledge Bar sessions.

Sponsored by:



Mixed Reality Experience

See the integration of machines, systems and data that drives smart manufacturing. Virtual, augmented and mixed reality demonstrations bring technology to life in an immersive-learning setting. See live factory analytics, virtual machine demonstrations, and modeling and simulation live and in person.

Participating Companies:



Founding Partner Presentations

Monday, April 30 | 2:30 – 3:15 PM

HYBRID Technology: The Next Level of Multi-Tasking

Joe Wilker, Advanced Multi-Tasking Group Manager, Mazak



Multi-tasking technology was born in 1983 with the development of a machine tool capable of milling and turning within the same work envelope. Since then, multi-tasking has evolved to focus on advanced process driven solutions that minimize handling to increase precision through reduced set-up times and tolerance errors. Mazak HYBRID technology takes it a step further and pairs special process capabilities together in highly productive combinations never thought possible. Additive and subtractive processes come together with those such as integrated friction stir welding, direct metal laser sintering and hot wire laser deposition to name a few. Learn how Mazak HYBRID Multi-Tasking will change everything you've ever known about manufacturing.

Tuesday, May 1 | 1:00 – 1:45 PM

Automation Trends for Today's Manufacturing

John Lucier, National Automation Manager,
Methods Machine Tools, Inc.



Automation taking jobs is a popular headline, but what is the reality? Automation is filling jobs left open by the skills gap allowing our industry to prosper. This talk will focus on the current trends in manufacturing. Learn the popular processes to automate and the different forms of manufacturing automation; not all automation is about robots. Collaborative technology, including collaborative robotics and cost effective, high mix/low volume automation will be discussed. The presentation will conclude with a review of what to expect in labor savings and ROI when you implement automation in your production processes.

Tuesday, May 1 | 2:30 – 3:15 PM

Dynamics of Change: Disruptive Technologies and CNC Machinery

Loren (Lou) Olson, President, The Robert E. Morris Company



The manufacturing industry is both driver and agent of change. Additive manufacturing and 3D printing, advanced robotics, cloud computing and IIoT have matured from white paper topics to realities. How do successful manufacturers navigate change?

Since 1941, The Robert E. Morris Company has bridged relationships between technology suppliers and users and guided area manufacturers through the dynamics of change. Speakers will demystify disruptive technologies and discuss market-ready products including CNC machine tools with wholly integrated additive, subtractive and laser marking technologies; robotic loading/unloading systems; and fully networked production cells of intelligent CNC machine tools. Gain insights about how early adopters of emerging technologies are improving productivity, part quality and profitability. Join this group of industry insiders for a lively discussion and learn how successful manufacturers master the dynamics of change.

Smart Main Stage

The Smart Main Stage is the hub of networking events and is designed for impromptu meet-ups, discussions and catching up with colleagues. This area will be alive with activity including:

- Keynote Presentations
- Founding Partner Presentations
- Attendee Meet-Up Lounge
- Research & Development Panel Discussion

Event Floor Networking Reception

Monday, April 30, 2018 | 6:00 – 7:00 PM
Experience Zone Floor

The Smart Manufacturing Experience Networking Reception will offer attendees the ability to network with smart manufacturing thought leaders, collaborate on projects, meet exhibitors and mingle with the event attendees. This networking reception is complimentary with your registration.



education upgrade opportunities

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Monday, April 30, 2018 | 8:30 AM - 12:30 PM

Concurrent Workshops

Choose from several workshops covering concepts that will expose you to new smart manufacturing possibilities and advance your understanding of the technologies exhibited on the event floor.

PLEASE NOTE: All workshops take place Monday, April 30 from 8:30 AM - 12:30 PM and include lunch, notepad, pen and proceedings. Separate registration fee is required. See page 19 for pricing chart.

Note: Access to the Experience Zone Exhibits and all complimentary education on the event floor are included with your workshop registration.

SME reserves the right to make last-minute speaker and program changes. In the event of a cancellation, SME is not responsible for incidental expenses incurred by registered participants.

Optimal Precision Machining



Rick Schultz
Aerospace Program Manager, FANUC America

Due to certification requirements and production cycles, aerospace machining continues to use very old and inefficient techniques for programming and tool path design. This workshop walks the attendee through the mind-set and simple programming changes necessary to become more efficient, flexible, and significantly improve the overall part manufacturing process. Real examples of improvements made by different companies, willing to try new ideas, will be highlighted.

Fundamentals of Additive Manufacturing

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SLM
SOLUTIONS 



Francisco Medina
Principal Engineer, Additive Manufacturing, Buffalo Manufacturing Works

This workshop will address various aspects of additive, subtractive, and joining processes to form three-dimensional (3D) parts with applications ranging from prototyping to production for today's industries. Additive manufacturing (AM) technologies fabricate 3D parts using layer-based manufacturing processes directly from computer-aided-design (CAD) models. Learn about a variety of AM and other manufacturing technologies, their advantages, and disadvantages for production as well as some research challenges associated with using these technologies.

Navigating Digital Manufacturing & Design



Dennis Thompson
President and Managing Partner, Equus Partners

This workshop explores how various technologies can be applied and how this convergence is fueling digital manufacturing's endless potential and opportunities. Learn how digital manufacturing and design relates to product life cycle and how the digital thread ties it all together. This workshop will give you the tools to build a business case for adopting digital manufacturing in your company.

Where Smart Manufacturing Happens: The Intersection of the Digital Thread and IIoT



Conrad Leiva
Vice President, Product Strategy and Alliances, iBASEt

This workshop discusses the relation of product definition and 3D models flowing down from engineering systems into manufacturing process models and the execution of production. It explores the relation of data flowing from smart equipment into operations management layer of the ISA95 model and where the product verification task occurs. Discover how the data comes together and flows into higher levels of manufacturing and business intelligence for the organization.

Getting Started with Robotics

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 Fastems



Bob Rochelle
Manager, Güdel Inc.

This workshop is an introduction to the industrial robotics or flexible automation industry. Robot-based automation systems will be explored, including how the industry functions, why you should choose robot-based automation, principles of system integration, general principles of robot technology, the business case for automating, and calculating ROI, plus the common mistakes made in robot integration.

MTConnect Testbed



Moneer Helu, Mechanical Engineer, NIST
Thomas Hedberg, Research Mechanical Engineer, NIST

Digital manufacturing depends on data from a diverse set of industrial equipment on the factory floor. Attendees will connect to test platforms to see real manufacturing data using free, open-source tools suitable for real-world production implementations. Join us to learn more about uniform, robust communications, which are part of the necessary infrastructure for modern business systems, 21st century analysis, and decision-making, and walk away with confidence to project planning and deployment for digital manufacturing.

MANUFACTURING LEADS THE WAY IN IIoT ADOPTION

The manufacturing sector is leading the way in adoption of internet of things (IIoT) technologies with an 84% increase in number of year-over-year network connections.

Source: State of the Market: Internet of Things 2017 Report, Verizon



concurrent conference sessions

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Spend a day or two learning about real-world applications of transformative technologies that are working for manufacturing today.

PLEASE NOTE: Conference sessions include a lunch voucher, notepad and pen. Separate registration fee is required. See page 19 for pricing chart.

Tuesday, May 1, 2018

9:45 AM – 12:00 PM

Additive Manufacturing Applications I

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9:45 AM | Applications of Additive Manufacturing In Military Simulators Design

Robert Ghobrial, Lockheed Martin

10:20 AM | Hybrid Machining: The Intersection of Metal Removal and Additive Technologies

Michael O'Donnell, The Robert E. Morris Company

10:55 AM | Advantages and Performance of Today's Metal 3D Printers – Application Use Cases with Desktop Metal's Studio System

Ric Fulop, Desktop Metal

11:30 AM | SHAP3D: An Industry-Academia Collaboration for Additive Manufacturing Research

Christopher Hansen, University of Massachusetts Lowell

Advances in Precision Machining I

9:45 AM | A Collaborative Approach to Precision Machining Solutions

Robb Hudson, Mitsui Seiki USA, Inc.

10:20 AM | Smart Machining Trends with Abrasive Waterjets

Mohamed Hashish, PhD, Flow International Corporation

10:55 AM | Conditions in the CNC Machine Tool and Manufacturing Facility and their Effect on Precision Machining

Mark Perreault, Methods Machine Tools, Inc.

11:30 AM | Quick Turn Machining for Contract Manufacturing

Craig Young, Precision Technologies, a Benchmark Division

Manufacturing with Advanced Materials I

9:45 AM | Innovations in Grinding of Modern Materials

K. Philip Varghese, PhD, Saint-Gobain Abrasives

10:20 AM | Semiconductors to Single Crystal Materials with Pulsed Electrochemical Machining

Daniel Herrington, Voxel Innovations

10:55 AM | Machining Advanced Materials

Frank Nuqui, Aerospace Program Manager, FANUC America

Prepare for an Automated Future I

Sponsored by

8760 Fastems

9:45 AM | Automating the Factory Environment

Alex Ensminger, Software Engineer, RoboVent

10:20 AM | Manufacturing Execution Systems in a Robotic Environment

Ruben Mirensky, IMCO Associates, Inc.

10:55 AM | Why your Competitors are Using IO-Link!

Will Healy III, Balluff Inc.

11:30 AM | From Manufacturing Events to an Integrated Process – Integration as Competitive Advantage

David Suica, PE, Fastems LLC

The Key to Digital Manufacturing I

Sponsored by
SANDVIK
Coromant

9:45 AM | What Will the Digital Factory of the Future Look Like?

John Fleming, (retired), Ford Motor Company

10:20 AM | One Click, One Breath, One Motion, One Second

Andy Henderson, PhD, Praemo Inc.

10:55 AM | Transforming to On-Demand Distributed Manufacturing

William Sobel, VIMANA

11:30 AM | IoT, Big Data and your Operations, Keeping your Plant at the Sharp Edge of the Tool

Thomas Kurfess, PhD, PE, Professor and Husco Ramirez Distinguished Chair in Fluid Power and Motion Control, George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology

Wednesday, May 2, 2018

9:45 AM – 12:00 PM

Additive Manufacturing Applications II

Sponsored by
SLM
SOLUTIONS

9:45 AM | Operationalizing Additive Manufacturing to Enhance Warfighting Capabilities and Strengthen the Organic Industrial Base

James Zunino III, US Army RDECOM - ARDEC

10:20 AM | Additive Manufacturing of RF Systems

Erik Handy, PhD, SI2 Technologies, Inc.

10:55 AM | Evolution, Qualification and Latest Developments of Printed Hybrid Electronics

Rob Irwin, Molex

11:30 AM | Direct Digital Manufacturing for Enhanced Smart Manufacturing

Kenneth Church, nScript, Inc.

Advances in Precision Machining II

9:45 AM | Bringing the Power of the Q-Room to the Production Floor

Robert Wasilesky, Carl Zeiss Industrial Metrology, LLC

10:20 AM | Developing Agile, Customer Responsive, Vertically Integrated Manufacturing Systems in an AS9100 Fabrication Facility

Rich Peoples, Duotech Services

10:55 AM | Digital Manufacturing Applied for Machine Design - From Cloud to Floor in 3 Days

Etienne Lacroix, Vention

11:30 AM | High-Speed Axis Synchronization Technology: The Newest Innovation Redefining Gear Manufacturing

Will Terry, JTEKT Toyada Americas Corporation

Manufacturing with Advanced Materials II

9:45 AM | Laser Augmented Diamond Drilling of Hard, Brittle Materials

Eric Carlo, Western Michigan University

10:20 AM | Novel Nano Technology Chemical Vapor Deposition (CVD) Coatings

Mark Lawrence, SilcoTek Corporation

10:55 AM | Improving Cost Effectiveness of AFP Processing by Using a Lower Cost Material Form

Keith McConnell, Century Design

11:30 AM | Printing the Unprintable: Vat Photopolymerization of High-Temperature Polyimides

Viswanath Meenakshisundaram, Virginia Tech

Prepare for an Automated Future II

Sponsored by
8760
Fastems

9:45 AM | Traditional Robots vs. Collaborative Robots

Gary Bartz, ARC Specialties, Inc.

10:20 AM | Considerations For Applying Collaborative Robots in Manufacturing

James Cooper, Applied Manufacturing Technologies

10:55 AM | The Requirement for Automating High Powered Fiber Lasers

Brendon DiVincenzo, Bystronic Inc.

11:30 AM | Smarter Automation: The Power is in the Software

Carl Palme, ReThink Robotics

The Key to Digital Manufacturing II

Sponsored by
SANDVIK
Coromant

9:45 AM | The Connected Machine Shop— Building the Digital Thread

Bijal Patel, Sandvik Coromant
Richard Boyle, Sandvik Coromant

10:20 AM | Digital Connectivity, the IIoT and Tomorrow's iSMART Factory

Neil Desrosiers, Mazak

10:55 AM | A View of Industry 4.0 from the Trenches

Justin Ahmad, The Boston Consulting Group

11:30 AM | How to Revolutionize your Approach to Asset Performance Management and Operations

Sergey Patsko, PhD, GE Digital

explore smart manufacturing solution providers

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Discuss smart manufacturing solutions with these industry-leading companies

(As of March 2018)

SME LLC

A-B

Access Manufacturing Systems
ACI Technology Inc
Acme Manufacturing Co
Adaptive Control Solutions
Aethon
Aligned Vision
Allied Telesis Inc
Alpha Additive Manufacturing Technologies
Alpha Grainger
Manufacturing Inc
Amper Technologies Inc
Atology Inc
ATS Applied Tech Systems LLC
Autodesk Inc
Balluff Inc
Benchmark Electronics Inc
Big Kaiser Precision Tooling Inc
Brooks Assoc Inc

C-F

Capture 3D Inc
Caron Engineering Inc
CGTech

Cimquest Inc
CoveyCS
DataRobot
Dreamz Tech Solutions Inc
East Coast Metrology
ECi M1
ESPRIT/DP Technology Corp
FANUC America Corp
FARO Technologies Inc
Fastems LLC
Fisher Unitech
Fives Machining Systems Inc.
Flow International Corp

G-K

Gradient Lens Corporation
Haas Factory Outlet /
A Division of Trident
Machine Tools
Hainbuch America
Hangsterfer's Laboratories Inc
Hannsa Precision
Hexagon Manufacturing Intelligence
ICAM Technologies
IMTS
InspectionXpert Corporation
IPG Photonics
ITR Economics

Kairos Manufacturing Solutions
Keyence Corp of America
Koma Precision Inc

L-N

LMI Technologies
M Technologies
MACDAC / WIREFREE CNC
MachineMetrics
Markforged
Marubeni Citizen Cincom
Mastercam/CNC Software Inc
Mazak Corporation
Memex Inc

Methods Machine Tools Inc
Microsoft
Millennium Machinery
Mitutoyo America Corp
MTConnect
Nikon Metrology Inc
Nikola Labs
Nscript Inc

O-Z

Oden Technologies
OPTEL Group
PTC
R & D Technologies
Renishaw Inc

Rethink Robotics Inc
Royal Products
Scantube Inc
Siemens
SigmaTEK Systems LLC
Silcotek
SLM Solutions NA Inc
SME
Solidxperts Inc
Spring Technologies Inc
Star CNC Machine Tool Corp
Sugino Corp
Swoosh Technologies
The Robert E. Morris Co
THK America Inc
Thomson Industries Inc

Totyo Business Engineering U.S.A. Inc
Toyoda Americas Corp
Trak Machine Tools
TSUGAMI Rem Sales LLC
Tulip Interfaces Inc
Universal Robots USA Inc
Vention
VKS - Visual Knowledge Share
VRARA
WhosOnLocation
Xcentric Mold & Engineering
Yunsheng USA Inc
ZEISS Industrial Metrology
Zoller Inc

EXPERIENCE ZONE HOURS

Monday, April 30 | 2:00 PM - 7:00 PM

Tuesday, May 1 | 9:30 AM - 6:00 PM

Wednesday, May 2 | 9:30 AM - 3:00 PM

Tuesday, May 1, 2018 | 6:30–8:30 PM

Smart Social Networking Event

Join us for an engaging social/networking event taking place at select establishments around downtown Boston. Take a short walk to each of these unique stops in Boston's vibrant seaport district and enjoy signature hors d'oeuvres and a drink while networking with other Smart Manufacturing Experience attendees and exhibitors. Reconnect with old friends, make new contacts and meet others in the manufacturing community. Simply select this option during the event registration process.

PLEASE NOTE: This reception requires a separate registration fee. See page 19 for pricing chart.



COMPLIMENTARY WIFI



Service is available throughout the Boston Convention Center. Select BCEC Wireless Network in the Settings Menu on your Smartphone or tablet.

Barking Crab

Located on Boston's historic Fort Point Channel at the gateway to the Seaport District, The Barking Crab has become one of Boston's best-loved meeting and eating spots. Open for almost 25 years, this Boston landmark serves up your favorite seafood dishes all-year-round.



Committee

Committee is a high-energy eatery by Boston's waterfront where guests mix and mingle over Meze—a Mediterranean dining concept that encourages them to sample, share, and socialize. The space heightens the laid back yet electric vibe, with modern industrial design creating a vibrant scene where people constantly flow in and out.



Empire

Empire Restaurant & Lounge is the Seaport District's first Asian locale, located in the heart of Fan Pier. Empire transports you into the mystics of Asia with its stunning Imperial Chinese meets contemporary Asian ambiance. The space is bathed in bright turquoise, oranges and gold, and punctuated with intricate patterns and exotic Asian art. The sleek, modern space is designed to give guests an old world feel with a touch of Hong Kong mystery.



Tuesday, May 1 | 9:30 AM – 12:30 PM
Wednesday, May 2 | 9:30 AM – 12:30 PM

Student Program

Students will engage in the design of a Mars Rover to meet multiple missions:

Mission 1: Carry a payload over Mars rocky terrain.

Mission 2: Carry a payload over Mars sandy terrain.

Ambitious teams can test their skills at optimizing their Mars Rover designs for both missions. Student groups will have the opportunity to design, build and test their Mars Rovers to learn how wheel size and shape combine with a gear train to carry out the prescribed missions. Each team will be required to develop a team logo, and the most creative logo will receive recognition!



For more information or to register your school, please contact Dina Fattom at dfattom@sme.org or 313-920-3254.



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travel information

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Event Location

The Smart Manufacturing Experience is being held at:
Boston Convention & Exhibition Center
415 Summer Street
Boston, MA 02210



Visit smartmanufacturingexperience.com for travel information, driving directions and parking locations.

Flight Discount

Smart Manufacturing Experience is pleased to partner with Delta Airlines to offer potential discounts on round-trip airfare to Boston, Massachusetts. Visit smartmanufacturingexperience.com and click on the Hotel and Travel link to reserve your flight. Use meeting code NMRPG.

Please note:

- Eligible travel dates:
April 25 – May 7, 2018
- Airport: Boston Logan International Airport (BOS)
- Discounts apply to round trip only
- Not all fees are eligible for a discount
- Fare rules will determine eligibility
- Not valid with other discounts, certificates, coupons or promotional offers

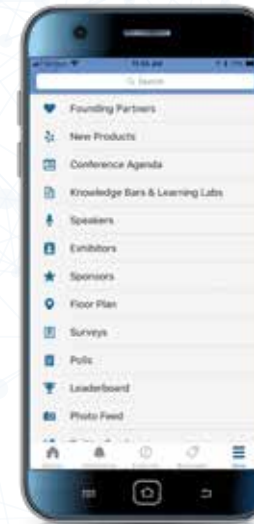
You may also call Delta Meeting Network at 1-800-328-1111,*  **DELTA** 
Monday – Friday, 7:00 AM – 7:30 PM (CT) and refer to Meeting Code NMRPG.

*Please note there is not a service fee for reservations booked and ticketed via our reservation 800-number.

Lodging

We have arranged discounted room rates with four area hotels. Visit smartmanufacturingexperience.com and click on the Hotel & Travel link in the top navigation bar for specific rates, policies and deadlines.

- Aloft Boston Seaport
- Element Boston Seaport
- Renaissance Boston Waterfront Hotel
- Westin Boston Waterfront



MOBILE EVENT APP

Smart Manufacturing Experience is featuring a mobile event App that puts the event experience at your fingertips. Use the App to check out the following:

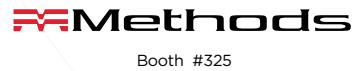
- Exhibitor list, including company descriptions and links to websites
- Interactive floor plan
- Complimentary keynotes, education and activities
- Conference and Workshops
- Speaker information and bios
- ...and much more

Download the Smart Manufacturing Experience App



thank you to our event sponsors

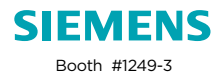
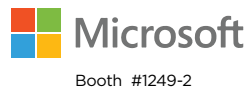
Founding Partners



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Media Sponsors



register now for the smart manufacturing experience!

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Visit smartmanufacturingexperience.com/education
and click on the **REGISTER** button

OR

Call **866.635.4692** and use **Promo Code SE18DM3**

Your **\$75 Experience Zone Package** includes access to the exhibits on the event floor, plus all the complimentary education and activities below. Register now to start your smart manufacturing implementation plan.

- **Exhibits** – more than 100 exhibitors showcasing the latest smart manufacturing technologies
- **Keynotes/SMARTx** – industry and technology experts discussing smart manufacturing best practices and results
- **Knowledge Bars** – small group discussions provide opportunities for personal dialogue on specific smart technologies
- **Learning Labs** – presentations on trends and implementing advanced manufacturing technologies
- **Mixed Reality Experience** – experience that showcases the integration of machines, systems and data
- **Event Floor Reception** – a relaxed venue to engage with industry colleagues and share ideas
- **Attendee Meet-Up Lounge** – comfortable seating area to plan your day, catch up with other attendees or take a break

Please Note: Smart Manufacturing Experience is a business event. You must be at least 18 years of age to attend.



New! Pick up your virtual bag

The **Smart Manufacturing Experience** is offering a Virtual Event Bag for your convenience. Simply visit smartmanufacturingexperience.com or the Mobile App and browse through the information provided by various exhibitors. Download the documents of interest to you instead of carrying them around the event. The virtual bag is available from 30 days before to 30 days after Smart Manufacturing Experience.

Registration Options & Pricing

	EXPERIENCE ZONE	PREMIUM EXPERIENCE ZONE	CONFERENCE EXPERIENCE: 1-DAY	CONFERENCE EXPERIENCE: 2-DAY	WORKSHOP EXPERIENCE	WORKSHOP PLUS 1-DAY CONFERENCE PACKAGE	ALL ACCESS EXPERIENCE
	\$75	\$125	\$295	\$540	\$350	\$595	\$840
Exhibit Floor	✓	✓	✓	✓	✓	✓	✓
Daily Keynote Presentations	✓	✓	✓	✓	✓	✓	✓
Onsite Networking Reception	✓	✓	✓	✓	✓	✓	✓
Knowledge Bars	✓	✓	✓	✓	✓	✓	✓
Learning Labs	✓	✓	✓	✓	✓	✓	✓
Main Stage Presentations	✓	✓	✓	✓	✓	✓	✓
Priority Keynote Seating		✓	✓	✓	✓	✓	✓
Meet & Greet with Keynote Speakers		✓	✓	✓	✓	✓	✓
Special Conference Gift		✓	✓	✓	✓	✓	✓
1-Day of Conference Sessions			✓	✓	✓	✓	✓
Lunch Voucher			✓	✓		✓	✓
Lunch Included					✓	✓	✓
1 Workshop					✓	✓	✓
2-Days of Conference Sessions				✓			
Off-Site Networking Reception	\$55	\$55	\$55	\$55	\$55	\$55	\$55

Discounts

SME members receive the FREE Experience Zone registration. Members receive a \$20 discount off all other pricing.

Save With Package Pricing! If you would like to attend the Full Conference or One-Day Conference and a Workshop, choose the All Access Experience or One-Day Conference plus Workshop Package price and **save as much as \$50**.

***Academic/Educators Pricing:** Qualified Academic/Educator employees will receive special pricing—20% off the list price. To **qualify for the reduced Conference and Workshop Fee**, register using the Academic/Educator registration button first. Once you have

registered, please provide a letter on university letterhead signed by the dean or registrar confirming status as a full-time faculty member. Please provide via email to bbonnell@sme.org.

***Student Pricing:** Special pricing for students—50% off—only available on conference pricing (not valid for workshops). Register using the Student Registration button first. Once you have registered, please provide a copy of your VALID student ID. Please provide via email to bbonnell@sme.org. Students are FREE for Basic Attendee Experience.



the future of manufacturing is yours.

APRIL 30 - MAY 2, 2018 | BOSTON CONVENTION CENTER
BOSTON, MASSACHUSETTS

REGISTER TODAY!

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