# Special Session

## Session CIE-23-1

**Tuesday, August 20**
**10:50AM–12:10PM**
**Malibu, 4th Floor**

**Industry-Academic Symposium Title/Theme: Making the Journey to Digital Engineering**

IT infrastructure for engineering has evolved in an adaptive emergent way for more than 30 years. We are now seeing the greatest disruption in business models and technology in more than a generation. For example, businesses are transforming from selling "products" to selling "products as services." New technologies and initiatives such as Internet-of-Things (IoT), analytics, edge computing, and digital twins are capturing mindshare. Use of artificial intelligence in engineering has resurfaced with hopes for breakthrough creativity and productivity. Many manufacturers are embracing the concept of next-generation digital platforms for engineering yet realizing the vision is proving more challenging than expected.

We encourage presenters from both Academia and Industry to share ideas and experiences making from the "status quo" to the next generation of digital engineering.

**Organizers:**

Symposium Organizer: Dr. Marc Halpern, P.E., Research Vice President, Gartner, Inc.

Symposium Co-Organizer: Professor Korhan Sevenler, Associate Professor, Department of Engineering Leadership, Rochester Institute of Technology

**Biographies**

**Marc Halpern**: is a Research Vice President at Gartner, Inc. focusing on design, engineering and product life cycle management strategies and software applications as an advisor to manufacturing and engineering companies. Prior to Gartner, Dr. Halpern worked had various roles as a consultant, analyst, and practicing engineer. He was one of the earliest contributors to the development of Ansys finite element software. He received his Ph.D., and MS. From the Civil engineering Department at Carnegie-Mellon University and his Sc.B. in Engineering from Brown University. During 2019, Dr. Halpern has been elected as an ASME Fellow.

**Korhan Sevenler:** worked 23 years in Xerox Corporation. He held several program management and operations management roles, including the Manager of Xerox Global Engineering Systems in Xerox Engineering Center, and Manager of Strategic Planning and Integration Architecture in Xerox Information Management organization. In his last position as the Director of Xerox Product Lifecycle Management (PLM), he led global PLM processes and systems at Xerox Corporation. These included CAD/CAM/CAE, Product Data Mgt (PDM), Requirements Mgt, Problem Mgt, Configuration and Change Mgt, Visualization, Supplier Portal, Critical Parameters Mgt (Systems Engineering), and Compliance and Sustainable Development. Earlier in his career, Professor Sevenler also worked at Battelle Memorial Institute as a Researcher and Principal Research Scientist for 11 years after finishing his graduate studies at Ohio State University. He received a BS in Mechanical Engineering from Boğaziçi University in Istanbul, Turkey. Professor Sevenler is a Fellow of ASME.

**Speakers and Presentations:**

**Marc Halpern P.E., Ph.D.**
Research Vice President, Manufacturing Advisory Service, Gartner, Inc.

**Engineering Modernization. The Good, The Bad, and Making the Ugly - Less Ugly**

**Abstract:**
Today's engineering infrastructure evolved over decades in an adaptive emergent way. While business leaders invest to achieve disruptive competitive advantage through engineering technology, this objective is more elusive than they anticipated. This presentation shares a root-cause analysis of the challenges of disruptive change and explores the system-of-systems thinking needed to orchestrate technology, people, and processes for continuous improvement.

**Peter Långsten**
CEO, Predict Change, Inc.

**Change Programs in Industry - Lessons and Trends after 10 years of Digitalization**

**Abstract:**
The last ten years have demonstrated previously unseen interest for innovating the infrastructure and way-of-working at large industrial corporations. Manufacturing companies compete for the unique opportunities in shifting paradigms for increased efficiency and the best positions to their customers. New processes, organizations and roles have emerged expediting and deepening this transformation launching complex and numerous business change programs that show great opportunities.

Yet, many of these programs fall short of expectations. Companies are challenged to find and maintain the definition of the scope and choice of the solution to achieve their stated purpose from initiation to delivery of increasing business value. Having supported leading international manufacturing companies to innovate their product information management infrastructure and leading major transformation projects for decades, the author discusses lessons and trends in the area.

# Panel Sessions

Experience shows that ability to manage non-technical strengths and challenges is the key differentiator highlighting management and leadership factors to maximize opportunities and avoid pitfalls. These factors are assessed with examples and current relevant trends are discussed.

**Biography:**
Peter Långsten is a civil engineer with Ph.D.-s in structural engineering and in numerical mathematics. He has worked with finite element stress analysis applications for power plants at ABB Atom in Sweden. Since the late '80's Dr. Langsten has been responsible for the design and execution of large corporate PDM (Product Data Management) and PLM (Product Lifecycle Management) projects at leading, international companies, as ABB, Bombardier, Tetra Pak and others. He has worked in more than 100 customer projects being responsible for meeting the sponsor's expectation on selected IT technologies as i.a. PLM, IB (Installed Base), EDM (Enterprise Document Management), ERP. Dr. Langsten is the lead author of a large number of comprehensive, independent strategy and project preparation, evaluation reports delivered in PLM, CAD, Digitalization (IoT) for engineering and manufacturing companies.

He has three decades of experience from large, international industrial companies' IT (especially PLM) innovation programs in Engineering, Design, Manufacturing, Supply, Sales, Service integrated with multiple systems as PLM, CAD, MES, and ERP.

Dr. Långsten is the founder and (during 1993-2016 CEO) of one of the leading Swedish PLM consulting companies, FiloProcess AB.

**Michael Yost**
Outreach AdvisorCESMII - the Smart Manufacturing Institute

**Change Programs in Industry - Lessons and Trends after 10 years of Digitalization**

**Abstract:**
Digitization efforts are in full flight not only in Engineering but also in Manufacturing/Operations. Are these interdependent efforts co-existing, and are they strengthening each other? Mike Yost will explore where CESMII - the United States' national institute on Smart Manufacturing - is focusing to make the accessibility of information to/from plant Operations as seamless and valuable as possible to Manufacturing enterprises. Mike will also address the cultural and technological barriers CESMII is working to remove.

**Biography:**
Mike Yost brings over 30 years of industrial, commercial and management experience to his role as Outreach Advisor at CESMII - The Smart Manufacturing Institute. Most recently, he spent 8+ years leading MESA International to educate manufacturers on the role and value of Smart Manufacturing - experience he leverages to lead CESMII's outreach efforts.

Mr. Yost has specialized in the Smart Manufacturing, Manufacturing Execution (MES), Manufacturing Intelligence (EMI) and Operations Management software arenas since 1999. He has strong startup experience and has held various leadership roles in automation and industrial software businesses, including GE's Proficy Software business, Activplant Corporation and Rockwell Automation. He holds a B.S. in Industrial Engineering from the Pennsylvania State University and lives in Cleveland, Ohio, U.S.A. with his wife and five children.

**Dustin Mayfield**
CESMII - Business and Engineering Systems Operations Manager, Saratech, Inc.

**Adopting IoT and Augmented Reality to Meet Business Goals**

**Abstract:**
Internet-of-Things (IoT) and Augmented Reality (AR) have generated great excitement across engineering-intensive industries. Delivering business value with these technologies depends on aligning the technologies to the business objectives. This session will describe how companies have successfully implemented IoT and AR and what experience has taught us about best practices for implementing them.

**Biography:**
For the past 2 years, Dustin Mayfield has been a Business and Engineering Systems Operations Manager at Saratech, Inc., a well-respected reseller and services firm for modernizing engineering and Product Lifecycle management technologies. Prior to Saratech, Dustin gained experience with engineering and PLM technologies by providing support for existing and new PTC customers at Tech-30, I PTC reseller. Dustin also has experience as an R&D Intern while achieving his Bachelor of Science in Mechanical Engineering at the University of Colorado, Boulder.