Fab Management Forum

M. Woittennek
Vice President Business Unit Wide-Bandgap
X-Fab, Dresden, Germany

Biography
Coming Soon

References

Welcome Remarks

L. Altimime
President
SEMI Europe, Berlin, Germany

Abstract
Coming Soon

Biography
Laith Altimime, as President of SEMI Europe, leads SEMI's activities in Europe and the Middle East and Africa (EMEA). Altimime has P&L responsibility as well as ownership of all Europe region programs and events, including SEMICON Europa. He is responsible for establishing industry standards, advocacy, community development, expositions, and programs. He provides support and services to SEMI members worldwide that have supply chain interests in Europe. He manages and nurtures relationships with SEMI members in the region and globally as well as with local associations and constituents in industry, government, and academia. Altimime has more than 30 years of international experience in the semiconductor industry. Prior to joining SEMI in 2015, He held senior leadership positions at NEC, KLA-Tencor, Infineon, Qimonda, and imec. Altimime holds an MSc from Heriot-Watt University, Scotland.

References

Topic Coming Soon

M. Horstmann
General Manager & Senior VP
GlobalFoundries, Berlin, Germany

Abstract
Coming Soon

Biography
Dr. Manfred Horstmann is General Manager and Senior Vice President at GlobalFoundries (GF) and has led the company's European manufacturing operations since October 2020, including the Dresden site, one of the world's most advanced and successful semiconductor manufacturing facilities.
With nearly 30 years of experience in research, technology development, and semiconductor manufacturing, Dr. Horstmann is a leading voice for industrial semiconductor applications, European chip sovereignty, and Physical AI. Under his leadership, GlobalFoundries is investing a double-digit billion-euro amount in the expansion of its Dresden Fab - The SPRINT project is considered a European benchmark project for scalable, subsidized semiconductor capacity. As a physicist, Dr. Horstmann combines deep technical expertise with a strategic vision for the future of the European technology industry. The Dresden site employs more than 3,200 people from 47 nations, reflecting GlobalFoundries' strong international presence and commitment to innovation.

References

Coming Soon

J. O'Donnell
Sales Team Manager
VAT Group, St.Gallen, Switzerland

Abstract
Coming Soon

Biography
Coming Soon

References

Winning in the EU: Margin & Complexity Over Volume

O. Tal
CEO
The MAX Group, Alpine, NJ, United States of America

Abstract
European fabs cannot outspend the industry's volume leaders on capital. Leading-edge manufacturers reinvest a large share of their revenue into capacity, a level of spending few companies can sustain, and fewer still can sustain year after year. For most of the industry, including most European fabs, trying to compete this way is not realistic.

This talk presents a different strategy. Fabs in the EU do not need to win on volume. They can win on margin instead, running high-mix, high-complexity work where customers pay for reliability and precision rather than the lowest cost per chip. European specialty manufacturers already follow this model, and it comes with a fraction of the capital intensity.

Choosing this strategy is the easy part. Running it well is not. High-mix, high-WIP environments are unforgiving of weak operational discipline, and the fabs that get it wrong lose the very margin advantage they set out to capture.

This talk draws on field results from directly supporting over 200 fabs globally to unpack what separates fabs that capture the margin advantage from those that lose it to their own complexity, and leaves attendees with a pointed question: is your fab built to compete this way, or just positioned to?

Biography
Oded Tal founded the MAX Group in 1999 and serves as CEO. Under his leadership, MAX has grown into the leading provider of management, operations, and engineering services to the semiconductor industry. He has also held executive roles for MAX clients navigating M&A, including CEO of TSI Semiconductors, where he led its transformation and sale.

Before founding MAX, Tal held various positions in the semiconductor and automotive industries in the United States and Israel. After serving in the Israeli Air Force, where he taught piston engine maintenance, he began his career at Computest Automotive Test Equipment in development and operations management. He has served on the CS Mantech technical committee and board of directors, along with other commercial and NGO entities, and currently sits on the board of directors of Enablence Technologies.

Tal holds a PhD in industrial engineering from Louisiana State University, where his research focused on hidden losses in automated semiconductor manufacturing. He also holds an MEM in engineering management from Ohio State University and a BS in industrial engineering, with a focus on manufacturing, from the University of New Haven.

References

From AI Demand to Fab Reality: Investment, Capacity, and Manufacturing Outlook

C. Tseng
Sr. Director
SEMI, Milpitas, United States of America

Abstract
AI is reshaping the semiconductor growth cycle and pushing manufacturing investment to a significantly higher level. However, the impact extends well beyond leading-edge logic. Memory expansion, technology migration, advanced packaging, and continued investment in mature-node and specialty manufacturing are broadening the next fab investment cycle.

This presentation will examine SEMI's latest outlook for global fab investment, equipment spending, installed capacity, and technology migration, highlighting how AI-driven demand is translating into manufacturing requirements across logic, DRAM, NAND, and specialty technologies. It will also look at the continued importance of 200mm and smaller-wafer manufacturing, where power, analog, compound semiconductors, MEMS, and other specialty applications continue to support substantial investment.

The presentation will conclude with a regional perspective on Europe, examining how new fab investment, supply-chain resilience initiatives, and Europe's strengths in automotive, industrial, power, and specialty semiconductor manufacturing position the region within the next global investment cycle.

Biography
Clark Tseng is Senior Director of Market Intelligence at SEMI, where he leads the development and execution of global market intelligence strategies covering the semiconductor manufacturing supply chain. He oversees SEMI's market research portfolio and global research partnerships, providing analysis and forecasts on fab investment, capacity, equipment, materials, and semiconductor manufacturing trends.

Clark has extensive experience analyzing the semiconductor industry across foundry, IDM, memory, fabless, and OSAT markets, with a particular focus on manufacturing investment, technology transitions, and regional supply-chain dynamics.

Before joining SEMI, Clark held strategic and analytical roles at leading technology companies. At MediaTek, he served as Deputy Director of the Computing, Connectivity, and Metaverse Business Group, providing market intelligence and competitive analysis across computing, connectivity, automotive, and emerging technology markets. Previously, he was Division Manager for Strategy and Business Development at Qimonda, where he led market and competitive intelligence activities for the Asia-Pacific region. He began his career as an analyst at IDC, covering semiconductor, flat-panel display, and telecommunications markets.

Clark holds a Bachelor of Business Administration and a Bachelor of Arts in International Relations from National Chengchi University in Taiwan.

References

J. Recklies
Executive Vice President Frontend
Infineon, Munich, Germany

Biography
Coming Soon

References

Challenges of Digital Transformation in an Established Semiconductor Factory

J. Jentzsch
Infineon Technologies Dresden AG & Co. KG,
Dresden, Germany

Abstract
Through a digital transformation project at Infineon's Dresden site, our goal is to implement a coordinated, holistic digitalization strategy for the site. This involves fundamentally rethinking the organization, processes, and collaboration. The focus is not only on the technical implementation of individual projects, but rather on supporting employees through the transformation phase by further developing their work methods and adapting and introducing new business processes.

Biography
Julia Jentzsch has been with Infineon Dresden since 2011. After holding positions in industrial engineering, implementing automation projects, and maintenance manager, she has led the Digital Transformation Dresden department since 2025. Her focus is on the successful implementation of digital transformation project at Infineon Dresden.

References

Coming Soon

A. Matteoda
VP - Business Human Resources Front-End Manufacturing
STMicroelectronics, Milan, Italy

Abstract
Coming Soon

Biography
Coming Soon

References

Coming Soon

J. Behnke
General Manager Smart Manufacturing
INFICON Inc., Syracuse, United States of America

Abstract
will be announced later

Biography
Mr. Behnke has over 40 years of semiconductor industry experience. As the GM of INFICON's FPS Product Line and Head of its IMS Marketing team, John leads a global team that develops and deploys Smart Manufacturing software and hardware solutions which improve factories performance. INFICON's comprehensive Digital Twin of a factory enables advanced Factory Scheduling, optimized WIP movement and other advanced capabilities.

He is also a Co-Chair of the Semi North America Smart Manufacturing Chapter as well as a founding member of Semi's Smart Global Executive Committee.

Prior to his current role at FPS John served as: the President of Novati Technologies, SVP and GM of the Semiconductor Group at Intermoleculor, CVP for Front End Manufacturing and Tech Transfers at Spansion and Director of Operations at AMD's Austin Fab 25

References

From Insights to Impact: Simulation-Enabled Determination of Actionable Fab Enhancement Measures

P. Lendermann
Chief Business Development Officer
D-SIMLAB Technologies Pte Ltd, Singapore, Singapore

K. Behrens
Robert Bosch Semiconductor Manufacturing Dresden GmbH, Dresden, Germany

Abstract
Bosch's 300 mm Dresden semiconductor fab is characterized by a highly diverse mix of ASICs, MOSFETs, and MEMS products in ramp up. This creates a production environment in which equipment and process releases as well as performance improvements constantly reshape factory capacity and performance. In such an environment, accurate prediction of wafer output and cycle time is challenging.
In this presentation, we will describe how fab simulation overcomes this challenge by providing a digital twin of the dynamic production environment that can not only predict future performance but also explain it. By revealing the process steps, equipment groups, and operational constraints that limit factory performance, it makes current and future bottlenecks transparent. This enables derivation of actionable insights. Identified bottlenecks directly translate into targeted improvement measures whose impact on wafer output and cycle time can be quantified before implementation. Measures with the highest operational benefit can be prioritised accordingly. As such, by connecting forecasts, bottleneck identification, and actionable measures, fab simulation becomes the key enabler of continuous operational improvement. In this way simulation evolves from a forecasting tool into a decision support system that systematically drives wafer output growth and cycle time reduction throughout the fab ramp up.
In the presentation, we will also describe how this has been realized jointly by Bosch and D-SIMLAB through the deployment of the *D-SIMCON Dynamic Capacity and Material Flow (DCMF) Planner*, the flagship module of the AI-enabled *D-SIMCON Digital Twin* suite for Semiconductor Manufacturing, and the kind of benefits that have been achieved so far.

Biography
Peter Lendermann is a Co-Founder and serves as the Chief Business Development Officer of D-SIMLAB Technologies, a Singapore-headquartered company providing AI-enabled, simulation-based decision support solutions for Capacity Planning and Production Flow Optimisation to Semiconductor Manufacturing companies. Prior to this he worked at the Singapore Institute of Manufacturing Technology where he led related R&D activities until spinning them off into D-SIMLAB. Peter has been engaged in the field of production logistics, supply chain management and related decision support technologies and solutions since the early 1990's. He holds a PhD in Physics from Humboldt University in Berlin (Germany) and an MBA in International Economics and Management from SDA Bocconi in Milan (Italy).

Korbinian Behrens specialises in capacity planning and fab optimization at the Bosch semiconductor fab in Dresden, Germany. Responsible for fab simulation in a 300 mm high-mix manufacturing environment, he develops simulation-based decision support capabilities for capacity planning, production flow optimisation and operational performance improvement. His focus is on applying simulation and data-driven methods to support manufacturing decisions and identify improvement opportunities across semiconductor production. He holds a German Diploma in Business Information Systems.

References

From Fragmented Data to Resilient Fabs: AI-Augmented Engineering for Europe's Semiconductor Future

A. Varin
High-Tech Manufacturing Product Manager
Spotfire, Product Management, Göteborg, Sweden

A. Chimera
Industry Solution Lead
Spotfire, Göteborg, Sweden

Abstract
Europe's semiconductor industry is entering an era defined by geopolitical uncertainty, supply chain pressures, rising manufacturing complexity, and an urgent need to improve competitiveness. In this environment, fab performance is not only a matter of equipment, process technology, or capacity. It increasingly depends on how fast engineering teams can turn complex, fragmented manufacturing data into trusted decisions.

Today, yield, quality, process, equipment, test, wafer, and operational data often live across separate systems, tools, and teams. Engineers spend too much time moving between applications, reconciling data, rebuilding context, and repeating analysis before they can act. As fabs become more automated and data-rich, this fragmentation becomes a strategic risk: if something goes wrong, the same automation that increases productivity can also increase the volume of defective material produced before the issue is detected, understood, and contained.

This presentation will explore a future in which industrial AI & analytics becomes a connected decision environment for semiconductor manufacturers. Rather than replacing engineers with AI, companies need to focus on augmenting engineering expertise with contextual analytics, domain-specific intelligence, statistical guidance, wafer-centric representations, and AI-assisted investigation. This approach helps engineers ask better questions, move faster across data domains, identify patterns earlier, and make decisions with confidence.

Using Spotfire as an example of this vision, the session will discuss how visual analytics, advanced analytics, wafer-level analysis, scalable data access, and AI-assisted workflows can come together to support the next generation of fab management. The focus will not be on a product roadmap, but on broader perspectives: How software can help European fabs become more resilient, more adaptive, and more competitive while keeping human expertise at the center of manufacturing decisions.

Biography
Arnaud is the High-Tech Manufacturing Product Manager for Spotfire, with a focus on industrial investigations, data visualization, and semiconductor manufacturing use cases.
Since joining Spotfire in 2013, Arnaud has worked closely with customers, frontline engineers, and scientists to understand complex analytical workflows and translate them into product capabilities that help engineering and operations teams make better-informed decisions. He currently leads Spotfire's semiconductor manufacturing product investments, including wafer-centric analytics and yield and quality-improvement workflows. His work focuses on helping fabs connect fragmented data domains and tools, accelerate engineering investigations, and bring advanced analytics, visual exploration, and AI-assisted workflows into large-scale manufacturing environments.

References

Hidden Costs, Visible Gains: How Sub-Fab Thermal Intelligence Drives Uptime, Energy Savings, and Sustainable Operations

M. Joyner
Sales Executive Expert, Semiconductor
Watlow Electric Manufacturing Company, St. Louis, United States of America

Abstract

Driving Fab Uptime, Sustainability, and Operational Resilience Through AI-Enabled Thermal Analytics for Sub-Fab Systems

Event/Format: Fab Management Forum at Semicon Europa 2026

Company: Watlow Electric Manufacturing Co.

Presenter: Mark Joyner

E-mail: mark.joyner@watlow.com

Presentation: Oral Presentation

As semiconductor fabs continue to scale advanced manufacturing operations while facing increasing pressure to improve uptime, energy efficiency, sustainability, and operational resilience, greater visibility into sub-fab thermal systems has become critical. This presentation demonstrates how fab-level thermal analytics and connected monitoring technologies can help semiconductor manufacturers identify inefficiencies, predict failures earlier, optimize maintenance strategies, and improve overall fab performance.

Presentation Format: Fab Management Forum Technical Session

Motivation

Modern European semiconductor fabs rely heavily on Advanced Process Control (APC), Fault Detection and Classification (FDC), and fab-level analytics to improve yield and productivity. However, many thermal systems in the sub-fab and utility layers such as exhaust heating, abatement, forelines, gas delivery, and nitrogen heating are typically monitored only through local controller alarms and periodic maintenance. Despite operating outside the main process chambers, these systems have a direct impact on equipment uptime, process stability, energy consumption, safety, and environmental compliance, yet they often fall outside the scope of traditional fab-level monitoring.

As a result, issues such as temperature and power drift, clogging or deposition in exhaust systems, sensor degradation, leaks, and wiring faults are frequently detected only after they lead to process excursions, unplanned downtime, or environmental risk. At the same time, European fabs face increasing pressure to reduce energy use and CO2 emissions while maintaining high-volume production in alignment with EU semiconductor and sustainability objectives. This work was motivated by the combined challenges of uptime risk, latent thermal-driven variability, and limited visibility into the energy and health performance of sub-fab thermal assets.

This case study examines how systematic, sub-fab level thermal monitoring can complement existing APC and manufacturing analytics to support both competitiveness and sustainability in European semiconductor manufacturing.

Scope and Objectives

The work combines expertise in thermal systems engineering, semiconductor manufacturing, and data analytics to investigate how high-resolution thermal data from sub-fab systems can be transformed into actionable operational insights. Data was collected from industrial heaters, SCRs, and control panels using connected controllers and supplemental monitoring points. The dataset included temperatures, setpoints, power consumption, electrical resistance, and controller health indicators, streamed into a standardized analytics pipeline.

The analytics framework targets five key classes of failure and inefficiency modes that are relevant to production sub-fab environments and can be characterized using fab-level thermal monitoring:

Thermal drift identified through long-term deviations in power-to-temperature response.

Clogging and deposition effects in abatement and exhaust systems, detected via changes in temperature uniformity and power behavior; in one system, this enabled extending maintenance intervals from two weeks to twelve weeks.

Heating faults and post-maintenance anomalies, such as mis-wired or degraded zones, identified through correlated power and temperature trends.

Sensor and controller degradation, detected through abnormal thermal or power behavior prior to protective

shutdowns.
Energy inefficiencies, quantified through power trends linked to insulation loss, configuration errors, or drifted setpoints.
The case study presents production examples and use cases illustrating several classes of failure and inefficiency and demonstrates how the same physics-informed methods can generalize across additional modes. The objective is to convert raw thermal signals into actionable information for engineering teams without duplicating existing Manufacturing Execution System (MES) or Advanced Process Control (APC) dashboards, while providing Application Programming Interface (API) access that exposes system-level data through a unified interface.

Core Innovation

The core contribution of this work is a thermal analytics framework tailored specifically to semiconductor sub-fab systems. Rather than treating thermal data as generic IoT signals, the approach incorporates physics-informed features, including zone-to-zone balance, thermal response behavior, and electrical-to-thermal relationships.
Key characteristics include early detection of heater and Silicon Controlled Rectifier (SCR) degradation, engineering-oriented outputs such as health indicators and fault precursors, and a low-disruption deployment model leveraging existing controller infrastructure. Results are exposed through standard interfaces to enable integration with fab analytics platforms. The data pipeline is designed to be secure, scalable, and compatible with evolving cybersecurity requirements.

Collaboration & Ecosystem Fit

The proposed framework is designed to complement existing fab analytics, APC, and FDC infrastructures, enabling collaboration between fabs, equipment suppliers, and control system providers. Standardized data access and APIs support joint development with R&D partners and facilitate reuse across multiple European fabs operating similar sub-fab architectures. By improving visibility into energy and health performance of utility systems, the approach aligns with European semiconductor and sustainability initiatives aimed at reducing energy consumption, emissions, and operational risk across the manufacturing ecosystem.

Benefits and Outlook

The case study demonstrates measurable benefits, including reduced unplanned downtime, improved energy efficiency, and increased confidence in process stability. The framework is designed to scale across repeatable sub-fab system architectures using standardized industrial communication protocols, enabling deployment without hardware redesign while maintaining disciplined data models and integration practices.
Over the next 3 - 5 years, the approach can evolve toward tighter integration with control systems through edge-based analytics and selective closed-loop actions, such as guided setpoint adjustments or power balancing within validated safety limits.
Demonstrated using Watlow and Eurotherm industrial control platforms, the methodology is transferable to other controller ecosystems that support common industrial protocols, supporting the long-term goal of competitive, resilient, and environmentally sustainable semiconductor manufacturing in Europe.

Biography

Mark Joyner is a seasoned semiconductor industry professional with over three decades of experience spanning engineering and commercial roles. Originally from London, England, he began his career in the industry in 1989 and has since built deep expertise at the intersection of advanced thermal technologies and wafer fabrication.
In his current role at Watlow, Mark leads Sales and Account Management across Europe, working with wafer fabs to deploy high-performance thermal solutions that enhance process stability, operational reliability, energy efficiency, and equipment uptime across fab and sub-fab environments.
Mark holds an MSc in Molecular Electronics from Cranfield Institute of Technology. He lives in Edinburgh, Scotland, with his wife and son.

References

Coming Soon

F. Wohlfart
Global Communications Manager
Siemens, Nuremberg, Germany

Abstract
Coming Soon

Biography
Coming Soon

References

Accelerating Fab Performance with Connected Intelligence

K. Munipella
Vice President, Digital Enablement Group - Applied Global Services
Applied Materials, San Francisco, United States of America

Abstract
The next wave of semiconductor manufacturing performance will be driven not only by technology innovation, but also by the ability to transform data into actionable intelligence. This session examines how connected data, AI-driven insights, and automation are reshaping fab operations and enabling faster, more informed decision making. Through industry perspectives and practical examples, the presentation highlights the opportunities and challenges of building a connected manufacturing environment that can improve agility, accelerate learning, and create sustainable competitive advantage.

Biography
Coming Soon

References

Toward Autonomous Manufacturing: The Path from AI-Assisted Analytics to "Human in the loop" Agentic AI

S. Tropsa
Seeq Corporation, Sandy, United States of America

Abstract

As AI begins to meaningfully integrate into manufacturing operations, many companies are looking to get beyond deploying a basic chat bot. LLM Models are also advancing far quicker than they can be vetted for security concerns. In this session, Seeq will show how the Seeq Analytics and AI platform enables manufacturers to roll out scalable, trustable agentic AI workflows that are user customizable but purpose built for manufacturing environments. In practice, Intel has scaled the Seeq Platform and Agentic AI integrations within their ecosystem across their fabs to implement AI workflows allowing for faster time to detection as well as resolution for a given anomaly detected in the software, saving an estimated 7.5 million dollars through the platform roll out.

Biography

Sean Tropsa began his career as an engineer in the semiconductor manufacturing industry, where he developed expertise in analyzing large data sets with an emphasis on root cause analysis and process optimization. In his current role as the Head of Technical Solutions, Growth Markets, Sean leverages this background to help subject matter experts in the Semiconductor Industry apply Seeq to derive actionable insights from their data to meet sustainability goals, while improving reliability, yield, and quality. Sean holds both BS and MS degrees in Chemical Engineering from Arizona State University.

References

Coming Soon

S. Knopp
CTO & Co-Founder
Planimize, Vienna, Austria

Abstract
Coming Soon

Biography
Coming Soon

References

M. Enzelberger-Heim
Fab Manager
Texas Instruments, Freising, Germany

Biography
Coming soon

References

SiC Update: Technology Changes, Market Outlook & Order Trends

B. Marchetti
Vice President Engineering Wide Band Gap
Semiconductor
Bosch, Reutlingen, Germany

Abstract
Coming soon

Biography
Coming soon

References

New Collaborations, Materials & Market for Photonics

S. Ertl
Senior Vice President & General Manager
ams OSRAM, Bavaria, Germany

Abstract
Coming Soon

Biography
Coming Soon

References

Europe’s Independent Wide-Bandgap Foundry Service - From Customer Needs to Industrial Scale

A. Fischer
Director Sales EMEA
X-Fab, Erfurt, Germany

Abstract
The growing demand for advanced power electronics is reshaping industries ranging from AI infrastructure and data centers to renewable energy, industrial automation, and aerospace. As innovation accelerates, the ability to industrialize new technologies quickly and reliably becomes a key competitive advantage.
This presentation explores how independent foundries, strategic partnerships, and manufacturing excellence are helping bridge the gap between innovation and high-volume production. It highlights the role of collaboration, quality-driven processes, and scalable manufacturing ecosystems in supporting the next generation of power semiconductor technologies and strengthening Europe's position in the global semiconductor landscape.

Biography
Coming Soon

References