

OUR KNOWLEDGE –
YOUR ADVANTAGE



camLine forum 2018

+ User Group Meetings



HILTON DRESDEN // GERMANY
19 – 20 // SEPTEMBER 2018



camLine forum

September 19, 2018

09:00 – 19:00

08:15

Reception and Coffee

Foyer

Morning Session

09:00

Welcome

Congress Saal I

09:15

Market Trends

Congress Saal I

Entegris' mission is to offer unique performance and yield enhancing process solutions for the most advanced manufacturing environments worldwide.

Our primary market is the semiconductor industry. Our business model is centered around close collaboration with industry technology leaders as we develop advanced materials and contamination control solutions to increase next-generation semiconductors' performance, cost and reliability.

As the industry continues to test the limits of Moore's law, learning cycles in the industry ecosystem are shorter, R&D costs are rising and the process windows for high volume manufacturing have become tighter. The need for speed and greater rigor in our innovation and manufacturing processes required a major shift. We'll describe our journey to define and establish these best-in-class practices and how it impacted our systems, culture and everything in between.

Bertrand Loy

President and CEO

Entegris, Inc., USA

09:45

Company Wide SPC Program Replacement with LineWorks SPACE

Congress Saal I

With fabs coming from various mergers and acquisitions, a lot of different SPC practices and software packages for quality control were used in ON Semiconductor's manufacturing sites. After an internal benchmark study, in 2015, ON decided to deploy the SPC module LineWorks SPACE to all ON Semiconductor manufacturing plants. The presentation will go over the project to migrate fully running fabs to LineWorks SPACE SPC system, the benefits the program generated, and the lessons learned from this program for ON.

Fred LeRoy

Director Operations Management

ON Semiconductor, Belgium

Quality Assurance

10:15

Coffee Break

Foyer

Innovation Efficiency

Advanced Planning Scheduling

OUR KNOW

Implementation of a Recipe Management System in the Back End and Test Manufacturing Department **Congress Saal I**

11:00

In this presentation, we will describe the journey Micron took towards our vision of automation for the back end (BE) assembly and test manufacturing departments. To achieve our vision, we determined we needed to enhance several factory system components with the ultimate goal of achieving auto delivery and auto run environment. The Recipe Management (RM) was the one critical factory system that needed to be improved and aligned. We will discuss the process we took toward BE automation with the selection of the RM system, the challenges we faced, the benefits achieved from this effort, and enhancement ideas to improve the Recipe Management System (RMS).

Monte Watson
Director, MCT BE Automation
Micron Technology, Inc., USA

LineWorks Machine Maintenance Solution **Congress Saal I**

11:30

Discover the latest developments of camLine LineWorks Machine Maintenance Solution (MMS) that offers a comprehensive, flexible, and reliable turnkey solution for machine state monitoring and tracking to every maintenance activities. Learn how LineWorks MMS can help your company to streamline work processes and improve workflow from a single point of access to machine state monitoring, preventive maintenance scheduling, events tracking, OEE reporting, and other more.

Rockson Kiang
Business Development Manager
camLine Pte Ltd, Taiwan

How to Reveal a Six Sigma Project from LineWorks SPACE Data **Congress Saal I**

12:00

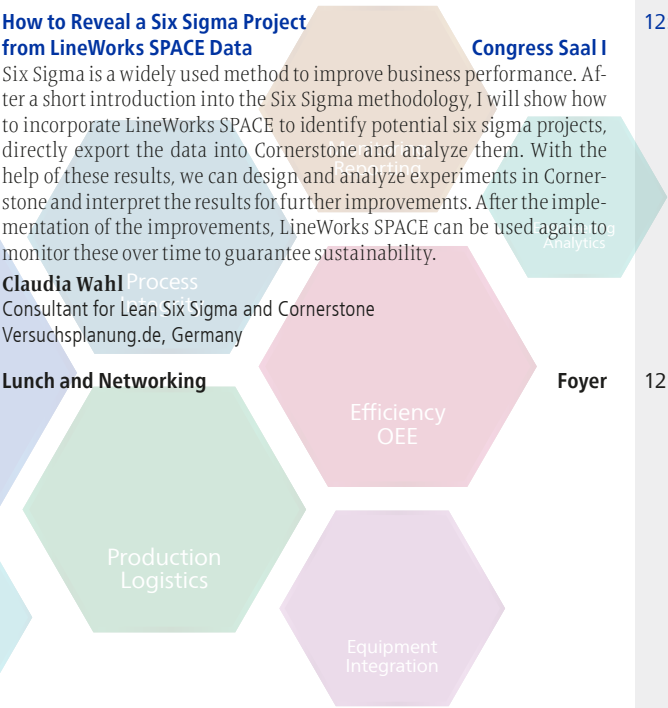
Six Sigma is a widely used method to improve business performance. After a short introduction into the Six Sigma methodology, I will show how to incorporate LineWorks SPACE to identify potential six sigma projects, directly export the data into Cornerstone and analyze them. With the help of these results, we can design and analyze experiments in Cornerstone and interpret the results for further improvements. After the implementation of the improvements, LineWorks SPACE can be used again to monitor these over time to guarantee sustainability.

Claudia Wahl
Consultant for Lean Six Sigma and Cornerstone
Versuchsplanung.de, Germany

Lunch and Networking

Foyer

12:30



Afternoon Session

14:00

Enabling Automated Troubleshooting with LineWorks SPACE eCAP at Micron F10

Congress Saal I

We will present use cases of how LineWorks SPACE eCAP and DB Explorer enable extensive automated troubleshooting and subsequent disposition and closure of eCAP instances. We describe how DB Explorer is being used to query manufacturing databases for fault detection, R2R, and measurement systems to perform basic investigations upon OOC trigger. Any abnormalities thus found will trigger further human interventions. We also use DB Explorer to read off the engineering database which houses our automated diagnostic results and thus provides our engineers with deep dive investigations on process or tool drifts to perform further troubleshooting and dispositions..

Kien Hoong Fong

SPC Senior Manager

Micron Technology, Inc., Singapore

14:30

SARA – Standard Automated Replenishment Application

Congress Saal I

SARA stands for Standard Automated Replenishment Application. A successful story that we have built together, Continental Automotive and camLine. This is the solution that we intend to release over 70 locations all over the world. And that we consider as a first brick for our Industry 4.0 in the area of logistics and MES (Manufacturing Execution System) that will grow with fleet management, geolocalization, integrated storage, and transportation system. SARA is a fully integrated solution for material replenishment that completes the camLine portfolio. The main functionality of SARA is an automated call to a warehouse for material to be delivered to the production lines. Calls are based on material consumption for current and future productions. It leads to a reduction of material handling effort and reduction of used space.

Eric Thomas

MES team leader

Continental Automotive France SAS, France

15:00

Multidimensional Approach to Evaluate the Fatigue Strength of Glass Fiber Reinforced Polyamides

Congress Saal I

As one of the world leading automotive suppliers, ZF Friedrichshafen AG put a focus on the use of fiber-reinforced plastics to reduce the overall weight of vehicles. Hydrophilic polymers such as Polyamides are challenging the fields of design, qualification, and testing. Depending on the atmospheric environment, water can be absorbed or emitted by components which are made of polyamide and in consequence of this, a change of geometric dimensions and mechanical properties is a result. Furthermore, other parameters such as test frequency, transient sample temperature, and mean stresses have to be carefully considered in the experimental procedure and the evaluation. The 2-dimensional S-N-curves are often not constructive and there must be an n-dimensional approach. For this purpose, a new promising approach has been developed in the Central R&D of ZF Friedrichshafen AG, which allows a more precise view of the lifetime behavior of glass fiber reinforced polyamide in a multidimensional space.

Dr. Andreas Linnemann

Processes and Validation Strategy, R & D Center

ZF Friedrichshafen AG, Germany

Coffee Break

Foyer

15:30

**Smart Manufacturing with IoT Devices
in Traditional Industries**

Congress Saal I

16:15

Eisen-Schmid GmbH & Co. KG in Hausach is one of the leading medium-sized steel trading companies in the south of Germany. The range of supplied products includes quality steel, bar and bright steel, special steels, stainless steel, tubes, and sheets. Their customers come from different industries. The construction industry is just as important as the automotive industry.

In order to meet the increasing demands of their customers about process and quality data and to increase the plant efficiency, the management decided in 2017 to use InFrame Synapse MES for the sawing and chamfering production area. As a major challenge, older carbide circular sawing machines from different manufacturers without common equipment interfaces had to be linked to the MES. The solution was implemented by using IoT devices on production-relevant switching contacts of the saws. OEE characteristic values can now be displayed on the InFrame Synapse MES dashboards on the manufacturing floor, and time-based production performance reports are generated for the operations management.

Bernd Mik

Director Operations

Eisen-Schmid GmbH & Co. KG, Germany

SmarDe's@Work –

Smart Devices in Production Area

Congress Saal I

16:45

Smart Devices (such as Smart Phones and Smart Watches) offer many options to support production processes, such as optimization or worker assistance. So far, neither implementation recommendations nor standardized interfaces exist. The presented project aims at usefully utilizing Smart Devices in the production area. In the foreground stands the connection of different production participants, such as workers, machines and information systems. The right combination of software and hardware through interactive and intuitive information processing supports the work preparation as well as the actual production and thereby generates efficiency along with raising optimization potentials.

Robert Müller

Scientific Assistant for Manufacturing Efficiency

Fraunhofer IPA, Regenerative Production, Germany

Summary and Final Words

Congress Saal I

17:15

Heinz Linsmaier

President and CEO

camLine Holding AG, Germany

Demo Sessions

Foyer

17:30

Get-Together and Networking

Inside Melia Dresden (VEN Restaurant)

19:00

Exchange ideas and have interesting discussions with attendees and camLine experts. Do not miss this opportunity for informative talks in a laid back atmosphere.

<https://www.ven-dresden.de>

- 08:15 **Reception and Coffee** **Foyer**
- Morning Session**
- 08:55 **Welcome** **Congress Saal I**
- 09:00 **Implementing LineWorks SPACE from Scratch** **Congress Saal I**
Statistical Process Control (SPC) is an indispensable tool to ensure the quality and stability of manufacturing processes in a modern semiconductor fab. Vishay Siliconix Itzehoe GmbH replaced the SPC-System integrated in its MES Promis by LineWorks SPACE as it offers greater flexibility, better clarity, and fast analysis tools.
Dr. Andreas Gondorf
APC Engineer
Vishay Siliconix Itzehoe GmbH, Germany
- 09:30 **What's New in LineWorks SPACE 7.2** **Congress Saal I**
This session gives an overview and live presentation of the features added in LineWorks SPACE version 7.2
Nils Knoblauch
Product Manager LineWorks SPACE, camLine GmbH, Germany
- 10:15 **The LineWorks SPACE – Cornerstone Interface Part 1** **Congress Saal I**
Retrieving, reshaping, and correlating LineWorks SPACE data
Nils Knoblauch
Product Manager LineWorks SPACE, camLine GmbH, Germany
- 10:30 **Coffee Break** **Foyer**
- 11:00 **LineWorks SPACE Road-map and Voting** **Congress Saal I**
This session will present the road-map for LineWorks SPACE 8 and the actual feature wish list collected from customers for LineWorks SPACE. camLine will introduce these features to the audience and offer a voting session to prioritize their realization.
Nils Knoblauch
Product Manager SPACE, camLine GmbH, Germany
- 12:15 **Lunch and Networking** **Foyer**

Afternoon Session

<p>The LineWorks SPACE – Cornerstone Interface Part 2 Congress Saal I</p> <p>The demonstration will focus on analyzing the extracted data in terms of a root cause analyses using new features of Cornerstone like the Multi-Category and Multi-Vari Chart. Leveraging a Machine Learning Method (Random Forest) seamlessly by the revised R integration enhances the interactive data handling via brushing with statistical analyses.</p> <p>Dirk Surmann DoE Consultant, camLine GmbH, Germany</p>	13:15
<p>Sensor Adaptation Based on Multivariate Methods Congress Saal I</p> <p>Heidelberger Druckmaschinen develops digital printing machines. The distance between the substrate and the print heads must not be below a critical level, as otherwise the print heads may be damaged. By using additional statistics in Cornerstone, the potential to improve the quality of the sensor for sufficient measuring process capability is estimated.</p> <p>Andreas Henn Senior research engineer for quality methods, measurement technology, test technique, and qualification Heidelberger Druckmaschinen AG, Germany</p>	13:45
<p>Outlook onto Cornerstone 7.2 and Beyond Congress Saal I</p> <p>Kanglin Chen Product Manager Cornerstone, camLine, Germany</p>	14:15
<p>Coffee Break Foyer</p>	14:45
<p>Handling Challenging DoE Situations with Cornerstone Congress Saal I</p> <p>Cornerstone's strength is the support of the design engineer to set up an experimental design and to stay focused on the engineering application without the need to be an expert in statistics.</p> <p>Dr. Theo Wember DoE Consultant, Versuchsplanung.de, Germany Prof. Dr.-Ing. Stefan Schreiber Faculty of Mechanical Engineering, UAS Würzburg-Schweinfurt, Germany</p>	15:15
<p>Introduction of camLine Academy and Consulting Congress Saal I</p> <p>Dr. Dirk Ortloff Department Manager, camLine GmbH, Germany</p>	15:45
<p>Cornerstone Roadmap, Discussion, and Voting Congress Saal I</p> <p>This talk will give perspectives and insights into the future directions. Furthermore, major initiatives and functional revisions will be described and aligned with the audience through discussion and voting.</p> <p>Dr. Dirk Ortloff Department Manager, camLine GmbH, Germany</p>	16:00
<p>Get-Together, Networking, and Demo Session Foyer</p>	16:45



Participants

- Manufacturing decision makers
- Project, quality, and production managers
- R&D technology development experts
- IT representatives involved in data processing and analyses for process, quality, and production engineering

The attendance at the seminars is free of charge.

Scope

In the two-day event, camLine, along with leading manufacturing partners, will demonstrate how manufacturing application visions are supported by specific software solutions and considerations. You will observe first-hand the presentation of application case details from various industrial manufacturers and their ongoing cooperative efforts with partner camLine. Development highlights of camLine's sophisticated LineWorks Suite, InFrame Synapse, XperiDesk, and Cornerstone software products will also be presented for discussion.

Networking

Ample time will be available for attendees to interact directly with all speakers, senior camLine technical staff, and colleagues from your industry. Refreshments and a buffet lunch will be provided for all attendees.

Venue

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