Making the Business Case for Industry 4.0 / Smart Manufacturing

Place: Fraunhofer institute Stuttgart, Germany
Private Tour: TRUMPF

AIMS OF THE WORKSHOP
At the end of the seminar, participants will be able to identify and evaluate potential Industry 4.0 entry points for their own company and to initiate the first necessary steps towards implementation.

PRACTICAL MASTERCLASS
led by recognized experts from Fraunhofer Institute on the application of the Industry 4.0 in manufacturing

KEY TOPICS
• Fourth industrial revolution - Benefits and risks for manufacturing companies
• Application scenarios (use cases)
• Industry 4.0 Readiness Check: hands-on guide for exploring Industry 4.0 opportunities in your business
• Migration scenarios out of existing production and towards industrial production 4.0 – 7-step model for implementation
• Guided tour and explanation of Industry 4.0 concept realizations in IPA/IFF application center and by manufacturing companies.

BENEFITS OF ATTENDING
• Gain in-depth knowledge from up-to-date case studies, real-life examples and best practices
• Explore opportunities for your own company with the guidance of highly recognized experts
• Network with your industry peers
• Save time by taking part in a non-vendor-driven training which brings together solution-oriented professionals
• Enjoy a congenial atmosphere and great interactivity in a group of no more than 20 participants.

Organized by:
Industry Insights
Stuttgarter Produktionsakademie Fraunhofer IPA
About your prominent trainers:

**Felix Georg Müller**

Felix Georg Müller is Manager of Autonomous Manufacturing System Optimization at Fraunhofer IPA, leading research in Production Systems 4.0 at Fraunhofer IPA’s Industry 4.0 Application Center. His expertise lies in the optimization of production planning systems and in the design of intelligent manufacturing systems in research and development projects for industrial partners. He also specializes in intelligent analysis systems for connected production lines and the development of related algorithms, which has led to the filing of several patents over the past 2 years. He has also been leading research for various manufacturing companies in autonomous factory operation, self-optimizing production systems, and intelligent quality control systems. In 2016, Felix Müller co-authored the Fraunhofer IPA study which maps the current needs of Industry 4.0 in 270 companies and whose results are being used in Fraunhofer IPA’s Industry 4.0 Application Center.

**Dr. Paul Thieme**

Dr. Paul Thieme is member of the group “IT Applications and Services for Production” at the Fraunhofer IPA Competence Center DigITools for Production. His research fields include the organizational impact of Industrie 4.0 and the opportunities for business models and optimization in the internal workflows. His special focus is on the measurement of the process performance in the production as well as in the administration to improve the entire efficiency and effectiveness. Before Paul Thieme came to Fraunhofer he worked many years in the automotive industry and for the German Society for Quality Management (DGQ). He is lecturer at the University of Stuttgart and other international Universities.
### DAY 1

**08:30** Registration, coffee, distribution of training handouts

**09:00** WELCOME AND INTRODUCTION TO THE SEMINAR

**09:05** KEY TECHNOLOGIES AND DRIVERS OF INDUSTRY 4.0
- What are the core concepts and driving ideas of Industry 4.0?
- Enabling technologies in the factory of the future
- Introduction of new concepts for production IT
- Ways of Bringing the Internet of Things into production

**10:00** COFFEE BREAK

**10:30** HANDS-ON WORKSHOP: ASSEMBLY TASK
- Process optimization with Industry 4.0
- Lean principles as an integral part of implementing Industry 4.0
- Supporting assembly process with IT
- Generating data to create transparency
- Tracking and tracing apps.

**12:45** LUNCH

**13:30** TRUMPF DITZINGEN PRIVATE FACTORY TOUR

**16:00** COFFEE BREAK

**16:15** HOW TO CREATE AN INDUSTRY 4.0 ROADMAP WITH A TECHNOLOGY FOCUS
- 7-step methodology to introduce Industry 4.0 in production processes
- How to create a roadmap of activities
- Exploring areas for potential
- Methods to identify use cases
- Implementation of use cases and evaluation

**17:30** CONCLUSION OF DAY 1

### DAY 2

**09:00** WELCOME AND INTRODUCTION TO DAY 2

**09:15** CASE STUDY - DESIGN OF INTELLIGENT MANUFACTURING SYSTEMS: INDUSTRY EXAMPLES OF STEP-BY-STEP PROCESSES FOR DESIGNING NEW OR UPGRAADING EXISTING SYSTEMS THE “SMART WAY”
- Identification of target smart data
- Analysis of potential opportunities and definition of project objectives
- Implementation of prototypes
- Pitfalls and bottlenecks of implementation
- Generated added-value and ROI

**10:45** COFFEE BREAK

**11:00** APPLICATION CENTER INDUSTRY 4.0: WALKING TOUR AND PRESENTATION BY DIFFERENT DEMONSTRATORS
- Smart production model
- Upgrading standard production systems with smart features
- Future models of production.

**12:30** LUNCH BREAK

**13:15** HUMANS IN FOCUS: INDUSTRY 4.0 TO IMPROVE MANUFACTURING WORK
- Industry 4.0 and the role of humans – intelligent objects and humans decide together
- Impact on work, task organization and qualification
- Manufacturing work of the future
- New opportunities of social media at shop-floor level
- Use Case “KapaflexCy” – challenge, concept and success

**15:45** SUCCESSFUL IMPLEMENTATION OF INDUSTRY 4.0 APPLICATION
- Involvement and commitment of important stakeholders
- Alignment of IT implementations on user demands and process optimization
- Agreement on rules for Industry 4.0 applications
- Role-playing game

**16:45** CONCLUSION OF DAY 2

**17:00** Expected end of the seminar