VDI

3rd International VDI Conference 2019

Maintenance

Fit for Future with Intelligent Asset Management

September 10-11, 2019, Antwerp, Belgium

Keynote:
Rolls Royce

- Understand how to make the most of your Data
- Learn from different Case Studies how to implement Predictive Maintenance
- Find out which Technologies will be Game changing
- Gain insights of new Business and Service Models
- Panel: 5G enabling Smart Production & Smart Maintenance?

+ Parallel Conference: Automation & Digitization of Cranes
+ Workshop: Data driven Asset Management
+ Workshop: Obsolescence – Manage the Inevitable
+ Evonik Site Visit

Meet international Experts from:

ABB   accenture   AHORNER & INNOVATORS   algorithmica technologies   fero labs   Fraunhofer IFF

JETEK ENGINEERING   LemnisQ Energize for success   LULEÅ UNIVERSITY OF TECHNOLOGY   ROLLS ROYCE   senseye   STORK A Fluor Company

An event organized by VDI Wissensforum GmbH
www.vdi-international.com/ 02KO017019

8:00 Registration & Welcome Coffee

10:00 Chair's Welcome and Opening Address
Markus Ahorner, CEO Ahorner & Innovators GmbH, Germany

I. Smart Maintenance: From fail and fix to prevent and predict

Opening Keynote

10:15 What is smart Maintenance? A Step toward Reliability
- Smart Maintenance means to prevent and predict failures at all times
- Visionary leadership to create a vision for company and its employees
- Guiding principles that encourage accountability, excellence, respect and integrity
- Innovative business model that adopts reliability concept
- Reliable data and easy access to data

Abdul Alami, B.Mech Eng, P.Eng, Consultant, Jetek Engineering - Alberta, Canada

10:45 Master Data for smart Maintenance
- Asset and performance management
- Asset management structure and criticality of the asset
- Maintenance of asset concepts
- Managing and consistency of the data
- Maturity of the organisation for Smart Maintenance

Piet Colle, AMT, Consultant, STORK, Belgium

11:15 Machine Learning in industrial Asset Management
- What is white-box machine learning and how does it benefit industrial manufacturing?
- How can we utilize machine learning to increase our operational bottom-line
- Case study: Predicting remaining useful life of large heat exchangers

Tim Eschert, Application Engineer, Fero Labs GmbH, Germany

11:45 Networking & Coffee Break

12:15 Predictive Maintenance to match the Scale of Industry 4.0
- How Industry 4.0 and AI is helping industrial companies to achieve scalable Predictive Maintenance
- Why other alternatives are not feasible
- Real-world case studies of how leading manufacturers like Nissan have saved millions in unplanned downtime

Carsten Maas, Senior Pre-Sales Engineer, Senseye, UK

12:45 Predictive Maintenance in various Industries
- How to look for Predictive Maintenance advantages in your organization
- How to start a Predictive Maintenance project
- Examples of how predictive maintenance can help organizations to realize savings, increase throughput speed or enrich customer experiences

Roland Rine, Solution Sales Executive on Data-driven Innovation, Big Data & Analytics, Oracle, The Netherlands

13:15 Lunch

14:45 Predictive Maintenance on Compressors and Gas Turbines
- Necessity to analyze all sensors as a whole
- Machine learning uses recurrent neural networks to model compressors and gas turbines
- Models can detect problems with far higher accuracy than condition monitoring
- MAN case study compressor and gas turbine

Randolph Sternberg, Sales Director, algorithmica technologies Inc., USA

15:15 Dynamic modelling of Paper Mill Rotor for bearing Life Estimation
- Increasing uptime of paper mill machines
- Simulation of bearing forces using a dynamic model
- Predict bearing life for maintenance optimization

Dr. Florian Thiery, Senior Researcher, Luleå University of Technology, Sweden

15:45 Networking & Coffee Break

II. Adjust your Organization to the Technologies

16:15 Digital Supporting Systems for transferring experiential Knowledge in the Steel Industry
- Knowledge management
- Documentation of experiential knowledge
- Integration to shopfloor processes
- Change process

Dr. Tina Haase, Business Unit of Measurement and Testing Technology / Senior Research Scientist, Fraunhofer Institute for Factory Operation and Automation IFF, Marie Werkhausen M.Sc., Learning & Transformation Concepts / Doctoral Candidate, thyssenkrupp Steel Europe AG, both: Germany

16:45 Is your Organization ready for Change? Using the six Batteries of Change to boost your Change Success Rate
- Successful change management requires a holistic approach, taking rational and emotional elements into account at all levels of the organization
- Change management is energy management - there are six major sources of energy (batteries) that can drive or inhibit change in your organization
- Be aware of the energy drainers and restore balance
- Change requires leadership of top, middle and low level managers

Geert Letens, PhD CPEM, Founding partner, LemnisQ, Belgium

17:15 Conference chair's closing remarks

17:30 End of conference day one

18:00 Get-together
At the end of the first conference day we kindly invite you to use the relaxed and informal atmosphere for in-depth conversations with other participants and speakers.

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Maintenance

09:00 Chair's Welcome and Opening Address
Manuel Meister, Director of Management Consulting, Accenture AG, Switzerland

III. Game changing Technologies

09:15 How Technology is transforming Maintenance and Overhaul Operations
- Examples of how technology is shaping the future of services
- Services 4.0: Moving Industry 4.0 in Maintenance and Overhaul Operations
- How technology will ultimately shape the future product

Keynote

Dr. Dimitris Triantafyllidis CEng MIMechE, Chief of Emerging Technologies, Rolls Royce, UK

09:45 Use cases of enriching machines, locations and processes with AR/VR solutions
- AR-App for ABB: Explaining industry solutions through a layer of virtual machines and data at HMI 2019
- VR-Showcase: Training of chemical factory maintenance
- AR-App for PWC: Enriching an office complex with a virtual information layer
- SAP: Processvisualization along the Digital Value Chain - from Design to Operate

Thomas Mann, CEO, framefield GmbH, Germany

10:15 Panel Discussion
5G enabling Smart Production and Smart Maintenance?
- Cloud technologies, Ethernet Time-Security Networking (TSN) & wireless 5G radio
- Potential and risks of these technologies
- Internal and external requirements
- Business cases for maintenance
- Possibilites to manage the transformation

10:45 Networking & Coffee Break

IV. New Business and Service Models

11:15 Disruptive Service - The Game of the Future
- Service management solution
- Disruptive technologies
- How to develop a more comprehensive offering
- Customer cases

Urban Hofstroem, Principal Director – Head of Industry X.0 Product Support & Aftersales, Accenture AG, Switzerland

11:45 Digitalized Expertise – Data-driven Service Solutions using advanced Data Analytics
- Leverage data from industrial plants and machines to increase the availability and productivity of processes
- Integrate engineering domain expertise as prior knowledge into the design and training process of analytics/machine learning models
- Use cases: Wear part analysis & lifetime prognosis using pattern recognition, Quality prediction & process optimization using artificial neural network

Dr. Sophie Wei, Head of Data Analytics, thyssenkrupp Industrial Solutions AG, Germany

12:15 Advanced Digital Asset Management - A Simple Digital Twin to Provide a Jump Start for Smart Maintenance
- The task: What Advanced Digital Asset Management (ADAM) means
- The objective: Why ADAM will enhance your smart maintenance approach
- The practical use: Strategic advantages and operational benefits of ADAM for maintenance, risk and life-cycle management
- The technology: A simple but effective architecture for getting started with ADAM
- The implementation: How ADAM can easily be realized

Markus Ahorner, CEO, Ahorner & Innovators GmbH, Germany

12:45 Lunch

13:45 Exclusive Site visit to Evonik

Only 40 participants are eligble to participate. First-come, first-served. Bus transfer there and back. Additional registration needed. Please see the registration form on the last page!

16:15 End of conference day 2 (depending on the traffic)

International VDI Workshop 1

Obsolescence – Manage the Inevitable

Workshop Chair:
Dr. Wolfgang Heinbach, Managing Director, German Machine Parts GmbH & Co. KG, Stuttgart, Chairman Component Obsolescence Group Germany

Date and Venue:
September 12, 2019, Antwerp, Belgium

Time:
09:00 - 16:00

Key Topics
- Anything will reach the end of its life cycle and is no more available
- Obsolescence: Products needed are no more available or are unsuitable for the desired application due to changes
- Obsolescence management and the reduction of business risks
- Life cycle management and the forecast of obsolescence
- Product discontinuation notices: processing life cycle information
- Standards, methods and tools: Benefit from experience
- Implementation of obsolescence management: use what works

Aims & Objectives
Obsolescence comes mostly unexpected and too late to start any reasonable countermeasure. In particular electronic products are subject to short life cycles and early obsolescence. Learn how to manage obsolescence as a manufacturer or user of products. There are standards and proven management methods how to plan the life cycle, predict the end of life and to manage obsolescence with reactive and proactive approach. With proven methods and processes a basic obsolescence management (OM) can be implemented in a reasonable time frame. OM offers several ways to control, predict and manage the obsolescence of products – for both sides, manufacturers and users. Within this workshop, you get an overview about the different options to tackle obsolescence and receive practical advice how to introduce OM in your company and supply chain.

Workshop Content
- Obsolescence – definition, standards and terms
- The impact of obsolescence – costs and risks
- Basics of obsolescence management
- The importance of product change notifications within the supply chain
- Life cycle management and life cycle status
- Implementation of obsolescence management

International VDI Workshop 2

Data Driven Asset Management

Workshop Chair:
Timothy Kaufmann, Business Development Director Intelligent Technologies, IoT and Industry 4.0, Alexandra Altermann, Business Development Manager Industry 4.0, both: SAP Deutschland SE & CO KG

Date and Venue:
September 12, 2019, Antwerp, Belgium

Time:
09:00 - 16:00

Key Topics
- Key challenges in asset management today
- How to do asset collaboration between manufacturer and operator
- The platform dilemma as one of the key challenges
- The Role of the digital twin
- Semantic asset models to describe the digital twin
- Use cases and value proposition for next gen asset management
- How should an IT/OT reference architecture look like
- The importance of ecosystems to overcome the challenges

Aims & Objectives
In order to increase e.g. the availability of assets like a factory in the discrete industry or a plant in the process industry the goal is often to move from fixed maintenance to dynamic intervals. To achieve this, it's no longer enough to just look at the maintenance processes of the asset operator. Data-driven maintenance concepts are needed in collaboration between the operator, the manufacturer of equipments and components that are installed in the assets and external service providers that perform maintenance tasks. The digital twin and a semantic asset data model play an integral part to integrate IoT data as a basis for maintenance. Ecosystems in different industries are created and need to be supported depending on the operator's industry. The workshop deals with concepts, use cases, the value drivers and the value proposition, the technical architectures and the do's and don'ts.

Workshop Content
- Definition of data driven asset management
- The roles in the new asset management
- Examples for the key challenges
- Use cases and examples
- The value proposition
- Definition of the digital twin and semantic asset data model
- IT/OT reference architecture and data flow
- The choice of the right ecosystem

Exhibition / Sponsoring

If you want to meet with and reach out to the first-rate experts attending this VDI conference and to powerfully present your products and services to the well-informed community of conference participants, please contact:

Lukas Flohrschütz
Project Consultant Exhibition & Sponsoring
Phone: +49 211 6214-916
Fax: +49 211 6214-97 916
Email: flohrschuetz@vdi.de

Supporting Experts

Dipl.-Ing. (TU) Markus Ahorner CEO, Ahorner & Innovators GmbH, Germany

Prof. Aditya Parida Ph.D. Professor, Lulea University of Technology, Sweden

Dr.rer.-pol. Ralf Gitzel Principal Scientist, ABB AG, Germany

Manuel Meister Director - Management Consulting, IIoT & Analytics, Accenture AG, Switzerland

Become a speaker

Become a speaker at our international VDI Automation Conferences. Make yourself known in the industry and discuss best practice examples with other international experts. We are looking for speakers on: Maintenance, Automation & Digitization of Cranes, Automated and Autonomous Driving, Innovative Sensor Technologies, Sensor Data Processing & AI and Cyber Security for Vehicles.

Please submit your topic to:
Julia Basedau
Product Manager
International Business
Phone: +49 211 6214-194
Email: basedau@vdi.de

Terms and Conditions

Registrations: Registrations for conference attendance must be made in writing. Confirmation of your registration and the associated invoice will be mailed to you. Please do not pay your conference attendance fee until you have received our invoice and its invoice number to be stated for transfer. Belgian VAT directives apply. Please state your VAT-ID with your registration.

Conference venue
Crowne Plaza Antwerp
A. gerard Le Grellelaan 10l
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HRS
Das Hotelportal

You will find more hotels close to the venue at www.vdi-wissensforum.de/hrs

Hotel room reservation: A limited number of rooms has been reserved for the benefit of the conference participants at the Crowne Plaza Antwerp.

Please refer to "VDI Conference". For more hotels: www.vdi-wissensforum.de/hrs

VDI Wissensforum service package: The conference package includes the conference documents (online), beverages during breaks, lunch and the get together on September 10, 2019.

Conference attendance conditions and terms: By way of your registration you accept the conference attendance conditions and terms of VDI Wissensforum GmbH as binding. Any cancellation of your registration must be made in writing. We will charge you only an administrative fee of € 50.00 plus Belgian VAT if you cancel your registration earlier than 14 days ahead of the conference date.
Any cancellation that reaches us after this deadline will entail the conference attendance fee as stated in our invoice to be charged in full. The date of the post office stamp of your written cancellation will be the decisive criterion. In that case, we will gladly mail you the conference documents on request. Subject to agreement, you may name a substitute participant. Individual parts and sections of conferences and seminars cannot be booked. You will be informed without delay if an event has to be cancelled for unforeseeable reasons. In that instance, you will be entitled only to a refund of your conference attendance fee if already paid. We reserve the right to exchange speakers and/or change the program sequence in exceptional cases. In any case, the liability of VDI Wissensforum GmbH is restricted exclusively to the conference attendance fee.

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Registration

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Yes, I will participate as follows:

Participation Fee + VAT   Package Price

☐ **VDI Conference 10.-11.09.2019**   and/or   ☐ **Workshop 12.09.2019**   and/or   ☐ **Workshop 12.09.2019**   and/or   Conference + 1 Workshop € 2370 (Please tick the boxes)
(02KO017019) **€ 1690**   (02ST917001) **€ 950**   (02ST920001) **€ 950**

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