

VDI

International VDI Conference 2017

Gas Turbines

Strategies in Times of Renewable Energy

October 25 – 26, 2017, Amsterdam, The Netherlands

- Impact of the European Energy Transition
- Current and future Role of Gas Turbines in the Energy Market
- Challenges for Gas Turbines in View of technical Flexibility
- Perspectives of Grid Providers
- Influence of Renewable Energy on the Market for Gas Turbines
- Innovations in Turbine Technology

+ International Best Practices

+ Panel Discussion

Meet international experts from:



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

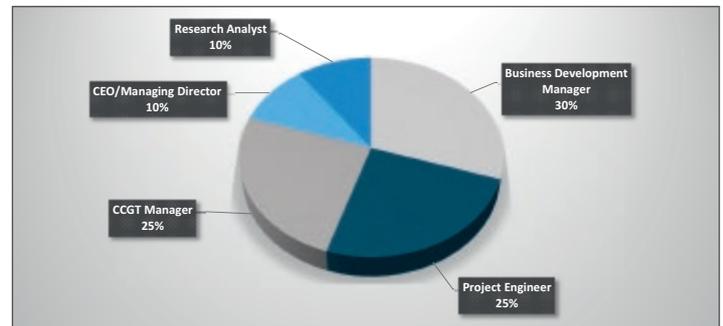


About us



The Association of German Engineers (VDI) is one of the largest technical-scientific associations in Europe. Throughout the years, the VDI has successfully expanded its activities nationally and internationally to foster and impart knowledge about technology-related issues. As a financially independent, politically unaffiliated and non-profit organization the VDI is recognized as the key representative of engineers both within the profession and in public.

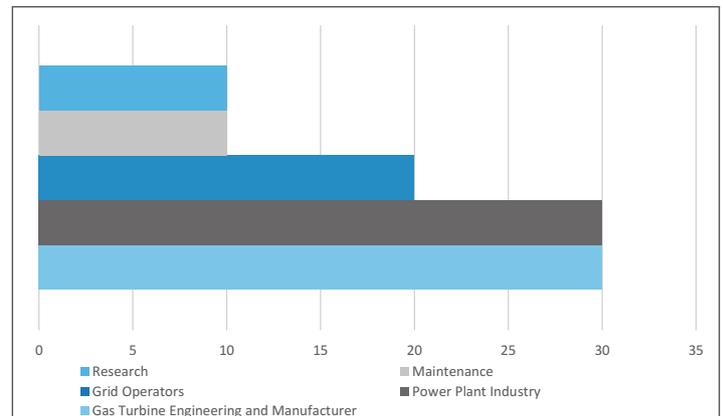
Expected Participants according to Functions



Official Partner



Expected Participants according to Industries



10:00 Registration & welcome coffee

10:30 Chair's welcome and opening address

Conference chair: Prof. Dr.-Ing. Prof. Jörg Seume, Head of the Institute of Turbomachinery and Fluid Dynamics, Leibniz Universität Hannover, Germany

I. Markets, Grids and Policy

10:45 Current and possible Future Developments in Energy Trading

- Main developments in European energy trading
- Current consequences of the (RES) energy transition
- What future relevant developments could be expected

Jan van Aken, MBA, Secretary General, EFET, The Netherlands

11:25 Changes to the Regulatory Framework – The “Clean Energy for All Europeans” Package

- Clean energy package
- Proposed changes of the regulatory framework
- Adaptation to flexible markets
- Limiting state interventions
- More cross-border cooperation

Dr. Oliver Koch, Deputy Head of Unit Wholesale Markets, Electricity & Gas, EU Commission, Belgium

12:05 Effects of Carbon Charges in Power Systems with high Wind Power Penetration and a heavy Reliance on natural Gas Generation

- Overview of technical interactions of wind and gas in power systems
- Study of historical power market trends in terms of wind and gas interactions
- Analysis of the possible effects of carbon charges on wholesale electricity prices in a power system heavily reliant on natural gas

Aoife Foley, Ph.D., Professor, School of Mechanical & Aerospace Engineering, Queen's University Belfast, UK

12:45  Lunch

13:45 Challenges in European Electricity Grids through the Energy Transition

- Increasing need for flexibility
- Role of network codes/guidelines
- Ancillary services
- Further developments on the future electricity market design

Alexander Dusolt, Market Advisor, ENTSO-E AISBL, Belgium

14:25 Evolution & Role of Gas Turbines in the Energy Mix today: Towards the Era of Flexibility

- Enhanced fuel flexibility: Capability of burning higher hydrogen content in fuel
- Flexible operation for grid stabilization
- Mobile power units for flex and fast power supply
- Flexible asset management

Kumar Karamveer Singh, Technology Program Manager, Siemens Industrial Turbomachinery Ltd., Distributed Generation, Sweden

II. Gas Engines, Gas Turbines and Combined Cycle Power Plants

15:05 Industrial Gas Turbines for clean and flexible Power

- Part load operation
- Digital services such as life monitoring
- Fuel flexibility (power to gas)

Dr.-Ing. Sven-Hendrik Wiers, Vice President Gas Turbines, co-authors: Dr.-Ing. Ulrich Orth, Head of Gas Turbine R&D and Dr. Detlef Viereck, Product Management Gas Turbine, all: MAN Diesel & Turbo SE, Germany

15:45  Networking & coffee break

16:15 Combined Heat and Power Plant in Kiel

- Project introduction (need for a new plant)
- Special challenges of the project
- Requirements of a modern CHP plant

Andreas Halberschmidt, Graduate Engineer, Commercial Project Manager, Stadtwerke Kiel AG, Germany

16:55 Advancements in H Class Gas Turbine combined Cycle Power Plants

- HA gas turbine portfolio and multi-generation product plan
- HA gas turbine validation milestones
- HA commercial status and overview of projects in execution
- Focus on EDF Bouchain 9HA combined cycle plant – First HA machine in commercial operation – Reached world record combined cycle efficiency
- Next steps – Path to reach combined cycle efficiency > 65%

Laurent Cornu, M.Sc., 9HA.01 Product Line Manager, General Electric, France

17:35 Panel Discussion: Gas Turbines in CCGT Plants

Chair: Prof. Dr.-Ing. Jörg Seume, Leibniz Universität Hannover

Panelists:

Dr.-Ing. Sven Hendrik Wiers, MAN Diesel & Turbo SE, Germany

Andreas Halberschmidt, Stadtwerke Kiel AG, Germany

Laurent Cornu, M.Sc., General Electric, France

18:05 End of conference day one



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.

Panel Discussion

III. Technical Solutions

08:30 Gas Turbines for a Renewable World

- Key gas turbine economic and technical drivers in a renewable market place
- Operational flexibility technologies and example implementation
- Fuel flexibility technologies and example implementation
- Gas Turbine performance and maintenance enhancement of existing equipment

Peter Stuttaford, Ph.D., Director Product Engineering, PSM – Ansaldo Energia Group LLC., USA

09:10 Innovations in small Scale Gas Turbines

- Introduction to the IRG2 – Gas Turbine process and the technical view
- Comparison towards the existing technologies
- Future possibilities

Matti Malkamäki, M.Sc., Managing Director, co-author: Toni Hartikainen, R&D Manager, both: Aurelia Turbines Oy, Finland

09:50 Enhancement of Fuel Flexibility of industrial Gas Turbines by Development of innovative Combustion Systems

- Renewable energy
- Development of new combustion chamber for hydrogen combustion
- Dry low NOx (DLN) mirco-mix combustion principle

Dr.-Ing. Nurettin Tekin, Project Manager, co-author: Dipl.-Wirt.-Ing. Shahrad Adjili, Sales Engineer, both: Kawasaki Gas Turbine Europe GmbH, Germany

10:30  Networking & coffee break

11:00 The Pathway Forward for Gas Turbines in a Decarbonized Europe

- Changes in energy policy in Europe
- Challenges in operating gas-fired power plants profitably
- Best suitable types of gas-fired power plants to cover the transition period
- Carbon lock-in discussion
- Power-to-gas-to-power-approach

Dr.-Ing. Michael Ladwig, President of EUTurbines, Director Scientific Collaboration Europe, GE Power, Switzerland



IV. Case Studies

11:40 Gas Turbines in a sustainable Energy System: Improvement of flexible Operation

- Increase of renewable power requires increased flexibility from gas turbine installations
- Gas turbine based installations, both combined heat and power and combined cycles well equipped for flexibility
- Flexibility can be further improved by smart part load schemes. Examples for combined heat and power installations will be given.

Prof. Sikke Klein, Professor Gas Turbines, Mechanical Engineering (3ME), TU Delft, The Netherlands

12:20  Lunch

13:20 The excellent Capabilities of Gas Turbine Cogeneration Plants to balance fluctuating Power Production from Renewables

- Description of the power market situation
- Technical possibilities of gas turbine cogeneration plants
- Balancing solutions and reference cases

Norbert Hönings, Director Solution Design & Business Development, E.ON Energy Projects GmbH, Germany

14:00 Energy Transition and Gas Turbines in Finland

- Energy transition in Finland
- Role of gas turbines in transition
- Requirements for gas turbines from Finland's perspective

Aki Grönman, Dr.Sc.Tech. Associate Professor, Lappeenranta University of Technology, Finland

14:40 Biofuels for Aviation, the first Step on the Path to make Gas Turbines greener

- Is there a long term future for gas turbines running on fossil fuels?
- Why gas turbines aviation fuels?
- Processes to produce gas turbine fuels from biomass
- Current status

Ramboll

15:20 Conference chair's closing remarks

15:30 End of conference

International VDI Workshop

Industrial Internet of Things (IIoT) for Power Plants

Workshop Chair:

Juha Kaario, Chairman of the Board, Newelo Oy, Finland

Date and venue:

October 24, 2017

Amsterdam, The Netherlands

Time:

10:00 – 17:00

CONTENT

Industrial IoT (IIoT) has a potential of improving Power Plant status monitoring and providing new tools for analysing the operations. Typically, IIoT solutions can be retrofitted to the existing systems and the basic sensors are relatively cheap to deploy even in larger scale. Prior to the IIoT deployment it is important to ensure that the key operational processes are already handled digitally and to understand which processes can benefit from status monitoring, sensor information, analyses and potential remote configurations. The workshop will provide information on mobile and digital work processes deployed in utility sectors as well as introduce the basics of IIoT technology, including sensors, platforms and analytics options.

The high-level introduction to the technology topics will be highlighted with real case studies of how customers have improved transparency of their work processes in preventive and corrective maintenance, including examples of exiting data visualisations used in the customer cases. The audience will be encouraged to bring forth and present their use cases, as IIoT solutions require in depth understanding of what is measured, observed and controlled.

Introduction

- Digital and mobile work processes in utility sectors
- IIoT technologies and solution options

Case Studies

- Collecting and using field information in work management
- IIoT experiments in Power Plants and field systems

Further aspects

- Discussion: Needs for IIoT solutions in Power Plants
- What is the relevance of contextual external information, e.g. weather information
- Potential effects of regulation and market changes

Contributions 5–15 minutes are appreciated



International VDI Conference 2017

Industrial Maintenance

Data Analytics, Predictive Maintenance and Smart Services

Date and venue:

November 28–29, 2017
Munich, Germany

Renowned speakers will present their results on the following topics:

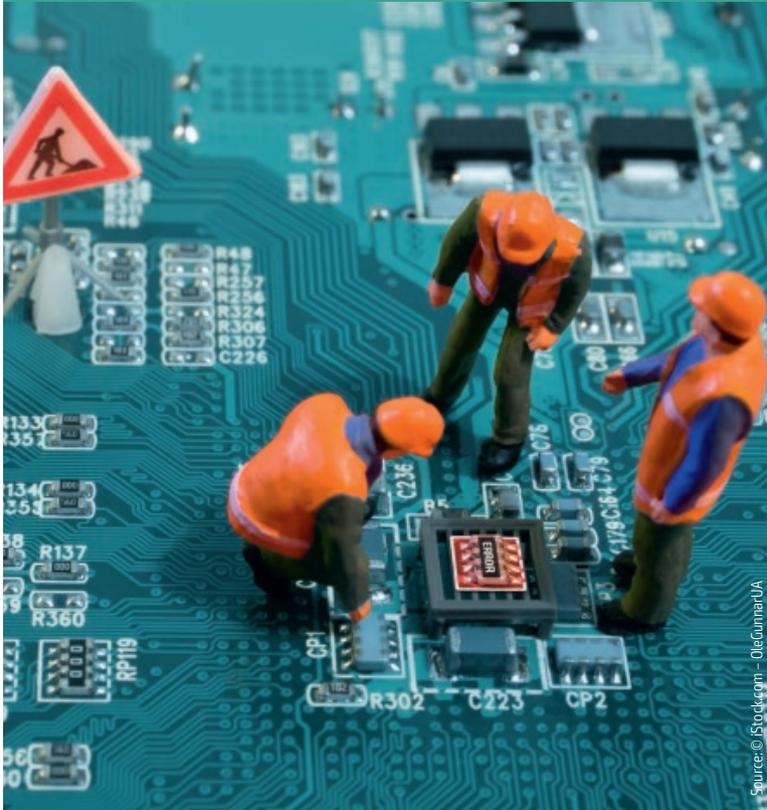
- Big Data Analytics
- Mobile Maintenance
- IT Shopfloor Security
- Asset Management
- Smart Services

www.vdi-international.com/maintenance

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International VDI Conference 2017

Drones

Industrial Applications

Date and venue:

November 28–29, 2017
Munich, Germany

Renowned speakers will present their results on the following topics:

- Overview of Regulations worldwide
- Best Practice for Inspections
- Implementing UAVs in your Business
- Safety & Security
- Future Business Models

www.vdi-international.com/drones

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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:

Isabella Busch

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Become a speaker

Become a speaker at our international VDI Energy Conferences. Make yourself known in the industry and discuss best practice examples with other international experts. We are looking for speakers on: IT Security for Power Plants, Renewable Energy.

Please submit your topic to:

Katrin Lennartz

Product Manager
International Business Development
Phone: +49 211 6214-125
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Registration

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. Dutch VAT directives apply. Please state your VAT-ID with your registration.

Conference venue

Park Inn by Radisson Amsterdam City West
La Guardiaweg 5
1043 Amsterdam, The Netherlands
Phone: +31 620 166822
Email: reservations.amsterdam.west@rezidorparkinn.com



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 Park Inn by Radisson Amsterdam City West, reservations.amsterdam.west@rezidorparkinn.com. 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 October 25, 2017.

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 Dutch 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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Gas Turbines

VDI

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Yes, I will participate as follows:

Participation Fee + VAT

VDI Conference 25.-26. October 2017
(06K0960017) € 1,590

Workshop 24. October 2017
(06ST972001) € 850

Package Price
(conference and workshop) € 2,190

Personal VDI members + VAT

VDI Conference 25.-26. October 2017
(06K0960017) € 1,490

Workshop 24. October 2017
(06ST972001) € 800

Package Price
(conference and workshop) € 2,040

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