



Future of Energy 4.0: Artificial Intelligence and Operational Efficiency

June 20th–21st 2019
Amsterdam,
the Netherlands



FEATURED

- Driving the Energy and utility industries toward the decarbonized, distributed and digital Europe
- Optimizing generation efficiency: yield optimization with Artificial Intelligence
- Predict the Unpredictable: Using AI to forecast and make energy-saving decisions
- Observing equipment and detecting failures via AI
- Developing AI supply chain management strategies
- Evolution of operational technology for energy sector: Energy 4.0 Revolution
- Capturing the future of energy and utilities with IoT
- Leveraging advanced machine learning (ML) and deep learning (DL) algorithms

SPEAKERS:

Aidan O'Sullivan
Head of Energy and
Artificial Intelligence
Research Group
UCL Energy Institute
CHAIRMAN

Carl Fehres
Vice President for
Corporate
Engineering Data
NATIONAL OILWELL
VARCO

Qaiser Hassan
Data Scientist/ Machine
Learning Engineer,
Exploration Applications
Services Department
SAUDI ARAMCO

Sébastien Gourvénec
Deputy R&D Program
Director / Data Science &
Artificial
Intelligence
TOTAL

Dr. Maurizio Pilu
Vice President,
Digital Innovation
Lloyd's Register

Vitaly Elichev
Senior Production
Technologist, Global
Technology and Innovation
WINTERSHALL

Martin Ruane
Programme Director,
Robotic Process
Automation Lead
ENGIE

Abhinav Priyadarshi
Business Manager, Intelligent
Operations
WOOD PLC.

Christian Zaugg
CSO
ALPIQ DIGITAL

Michal Hodinka
Enterprise IT Architect
INNOGY

Rohit Patwardhan
Engineering
Consultant
SAUDI ARAMCO

Stefan Schmidt
Associate Partner, Global Head of
Operations & Lean Practice
INNOGY CONSULTING

Diego Comina
Chief Product
Officer
VR-MEDIA/KIBER

Lloyd's Register (Silver Sponsor)



We started out in 1760 as a marine classification society. Today, we're one of the world's leading providers of professional services for engineering and technology – improving safety and increasing the performance of critical infrastructures for clients in over 75 countries worldwide. The profits we generate fund the Lloyd's Register Foundation, a charity which supports engineering-related research, education and public engagement around everything we do. All of this helps us stand by the purpose that drives us every single day: Working together for a safer world

VR Media (Bronze Sponsor)



VR Media Srl is a company operating in the sectors of Virtual and Augmented Reality, developing innovative hardware/software products and solutions devoted to Companies and Research Centers. VR Media products are commonly used in the Industrial sector, for technical personnel training and for advanced after sales services, as well as research activities and VR applications development by universities, hospitals, and research centers.

08:30 Registration

09:00 Opening address

09:10 Optimizing system efficiency: generation scheduling with Artificial Intelligence (AI)

- Can AI lead to better decision making in system operation and grid management
- Reducing the role of the balancing market through AI Supporting an increased penetration of renewable generation through AI for stochastic scheduling
- Balancing energy management and energy optimization

by Aidan O'Sullivan
Head of Energy and Artificial Intelligence Research Group
UCL Energy Institute

09:55 Using Deep Learning and Remote Sensing to automatically monitor oil and gas assets

- Potential of using multispectral imagery from various fast growing satellite constellations
- Deep Convolutional Neural Networks (DCNN) with higher accuracy
- Revolution in High Performance Computing (HPC) complementing DL algorithms
- Improving assets monitoring without human interface - Minimizing the efforts and cost in applications such as:
 - o Oil Spill Detection
 - o Pipelines Corrosion/ Leak Detection
 - o Chemical spill detection
 - o Oil Tanks Monitoring

by Qaiser Hassan
Data Scientist/ Machine Learning Engineer, Exploration Applications Services Department
SAUDI ARAMCO

10:40 Coffee Break – Ice-breaking session

11:10 Collaboration: the key ingredient to adoption of AI?

- Debunking AI myths
- Why are there barriers to AI adoption?
- How can collaboration help: LR's perspective
- Working with the startup ecosystem and The LR Safety Accelerator
- Example in AI in human safety, maintenance, operational risk

by Dr. Maurizio Pilu
Vice President Digital Innovation
Lloyd's Register

11:55 Monitoring productivity and detecting failures via AI

- Taking the advantage of mass of data
- Preventing failures through Machine Learning and Artificial Intelligence
- Fighting back against production outages
- Mixing domain expert knowledge and AI
- Keeping an eye on unit operations
- Deploying real-time AI in industrial environments

by Sébastien Gourvénec
Deputy R&D Program Director / Data Science & Artificial Intelligence
TOTAL

12:40 LUNCH

13:40 Value creation through Energy AI for industry and utilities

- Impact and challenges from the changing energy markets networks
- Opportunities and use-cases for connected energy
- Scalable technology backbone: IoT, data and automation
- Beyond energy: synergies with predictive maintenance and process automation

by Christian Zaugg
CSO
ALPIQ DIGITAL

14:25 Shaping the energy industry with operational excellence, systemic change & digital solutions

- Presentation will take you on a journey how our company transformed from one of the largest fully integrated utilities in Europe to an innovate, customer centric business
- It shares insights into our New Way of working program, combining classical operational excellence, systemic change and digitization approaches
- Our approach is focusing on sustainability and continuous improvement
- It is based on one of the oldest philosophies and one of the most impactful one, putting the customers at the heart of the organization
- Leadership and people development have been crucial success factors, making this change happen

by Stefan Schmidt
Associate Partner, Global Head of Operations & Lean Practice
INNOGY CONSULTING

15:10 Coffee & Networking Break

15:40 How AI and the Field Service Engineer will converge

- From insight to action.. The Human Factor is still important
- The future of the Field Service Engineer
- How can I bring AI to people in the field?
- Challenges to bring AI in the field

by Diego Comina
Chief Product Officer
VR-MEDIA/KIBER

ROUND TABLE PANEL DISCUSSION

16:25 The Convergence of Humans, AI, Digital Transformation & Operational Excellence

- How AI, Big Data and Blockchain enhance our operational efficiency & maximize our performance?
- What are some of the most common barriers to Digital Innovation faced by organisations, and how can they best overcome them?
- Can early adoption lead to waste of time & money when the future is so unpredictable & technology is ever changing?
- Collaborative and more start-up culture is being implemented by various companies, what more needs to be done?
- Discussing current challenges, risks and future of the energy industry

Speakers of the Day

17:10 End of Day One – Closing word from the Chairman

08:45 Morning coffee

OPENING ADDRESS

09:10 Evolution and future of operational technology for energy sector: Energy 4.0 Revolution

- "Digital Twins": Need for solutions and services at various stages of development
- Connected design-build-operate model increases safety/efficiency and reduces risk/liability.
- Intelligent data analytics and visualization: Real time analytics on streaming data.
- Current stage of technology and future of digitalization.

by Abhinav Priyadarshi

Business Manager, Intelligent Operations
WOOD PLC.

09:55 Embracing a data and AI ecosystem - an OEM's digital journey

- Why AI now and the impact it will have on industry
- Predicting failure of equipment with ML
- Optimizing drilling with AI
- Contributing to an ecosystem of data and operational analytics

by Carl Fehres

Vice President for Corporate Engineering Data
NATIONAL OILWELL VARCO

10:40 Coffee Break – Ice-breaking session

11:10 Driving Efficiency using RPA and Data Analytics across ENGIE UK

- Examine how ENGIE are using RPA and Data Analytics to improve operational efficiency
- Key drivers for a successful programme

by Martin Ruane

Programme Director, Robotic Process Automation
Lead
ENGIE

11:55 ML & Production operations: lessons learnt and way forward

- Approaches and practical examples of ML application for production operations
- Key ingredients of success
- What works good & potential traps
- Challenges, as we understand them now....

by Vitaly Elichev

Senior Production Technologist,
Global Technology and Innovation
WINTERSHALL

12:40 LUNCH

ROUND TABLE PANEL DISCUSSION

13:40 How can energy businesses benefit from AI and Big Data

- Implementing Big Data strategies for energy efficiencies
- Discovering synergy of Big Data with AI to improve business processes
- Streamlining the emergence of Big Data and HTAP (Hybrid Transaction/ Analytics processing) systems Balancing demand and supply in combination with Big Data and IoT

Speakers of the Day

14:25 Improving Operational Efficiencies using AI: Digital Transformation at Saudi Aramco

- Overview of the Saudi Aramco Digital Transformation Roadmap and Journey
- Applications of AI for Operational Analytics – taking AI to the Edge
 - Machine Learning for Faster Technology Deployment
 - Image Analytics at the Edge using Deep Learning
 - Predictive Maintenance using Machine Learning
- Future Directions

by Rohit Patwardhan

Engineering Consultant
SAUDI ARAMCO

15:10 Coffee & Networking Break

15:40 How to add machine learning to your applications today

- The digital and data journey at innogy
- Make machine learning work in your applications right now using the AWS
- Driving retention and revenue with machine learning and advanced analytics

by Michal Hodinka

Enterprise IT Architect
INNOGY

ROUND TABLE OPEN DISCUSSION

16:25 Improving operational efficiency and reliability

This session is an open discussion, where delegates can interact in the conference room and discuss various topics and network.

17:10 Closing word from the Chairman and End of the Conference