Future of Energy 4.0: Artificial Intelligence and Operational Efficiency Virtual & In-Person Forum

BILDERBERG Garden Hotel Amsterdam

20TH–21ST MAY 2021 Amsterdam, the Netherlands

SPEAKERS:

Aidan O'Sullivan
Associate Professor Energy and AI
UCL Energy Institute
CHAIRMAN

Christian Jacobsson
Vice President Data Science & Analytic
Fortum

Ala Ben Abbes
Digital Transformation Project Manager
EDF

Burcu Alkan
Integration Planning Director
SOCAR Türkiye

Carl Fehres
Vice President for Corporate Engineering Data
NATIONAL OILWELL VARCO

Vitaly Elichev
Senior Production Technologist, Global Technology and Innovation
WINTERSHALL

Giacomo Silvestri
Group Digital Strategy, Innovation & Portfolio Management
ENI

Erlend Fjøsna
Head of Digital Partnering, Corporate, CDO Core team
TechnipFMC

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

Martin Ruane
Programme Director, Robotic Process Automation Lead
ENGIE

Eva Hornyak
Process Information Expert
MOL Group

Rohit Patwardhan
Engineering Consultant
SAUDI ARAMCO

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

Abhinav Priyadarshi
Business Manager, Intelligent Operations
WOOD GROUP PLC.

Gregory Arnold Executive Vice President **The National Organization of Technology Exploration and Delivery (NOTED)**

David Hartell
EVP, Developments, Operations & Production
New Age (African Global Energy) Limited

Thursday, 20th of May 2021

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
Associate Professor Energy and AI
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:
  - Oil Spill Detection
  - Pipelines Corrosion/ Leak Detection
  - Chemical spill detection
  - 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 The Eni Digital transformation Strategy & Experience: Governance, Innovation & Lessons learnt

- Key highlights on overall Eni digital agenda: key goals, areas of intervention and key figures
- How Eni build its Digital Agenda: process & governance
- How Eni structure & manage its Digital innovation process: start ups management and technology partnerships
- Lessons learnt after 3 years of digital journey

by Giacomo Silvestri
Group Digital Strategy, Innovation & Portfolio Management
ENI

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

by Christian Jacobsson
Vice President Data Science & Analytic
Fortum

14:25 TBA

by Gregory Arnold E
xecutive Vice President
The National Organization of Technology Exploration and Delivery (NOTED)

15:10 Coffee & Networking Break

15:10 Predict the Unpredictable: Using AI to forecast and make energy-saving decisions

- Analyzing role of weather forecasts: power forecasting for future
- Why power forecasting is beneficial?
- Improving prediction systems' performance and modelling through AI
- Consumption and production forecasting in combination through digital innovation

by Burcu Alkan
Integration Planning Director
SOCAR Türkiye

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

Friday, 21st of May 2021

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 GROUP 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

15:50 Enabling consumers' foresight through predictive machine-learning algorithms

- Analysis through predictive machine learning technology
- Adopting AI-powered energy optimization tools
- Automating the grid: developing a system to predict demand patterns
- Predicting customer usage and production capacity whilst using a predictive segmentation technique

byAla Ben Abbes
Digital Transformation Project Manager
EDF

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

FUTURE of ENERGY 4.0 Artificial Intelligence and Operational Efficiency Virtual & In-Person Forum

20-21 of May 2021 Amsterdam, The Netherlands

AIOE FORUM.

REGISTRATION CODE: *AI24*

Please complete this form, scan and send to:

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