Subsea Condition Monitoring

for Predictive Failure & Maintenance

with CENSIS & DATALAB

Tuesday 25 April 2017

The Village, Prime Four, Kingswells, Aberdeen

NSRI
National Subsea Research Initiative

10:00

Introduction & Welcome

10:10

The size of the prize: our performance in terms of subsea equipment failures

Gordon will outline some statistics on the most prolific failure types experienced in subsea oil and gas systems, sourced from operators.

Gordon has been working in the Subsea sector since 1994 initially offshore on Diving vessels and more recently in an engineering capacity. Gordon has a first class degree in Mechanical Engineering, PhD and MBA from the Robert Gordon University.

In a work capacity after returning from offshore roles he has spent 10 years with IMES group and 10 years with Subsea 7. In both organisations he has be in some way or form involved with the development and commercialisation of value adding Technology. Presently he is the Project Director of the National Subsea Research Initiative (NSRI).

Gordon Drummond
Project Director
NSRI

10:30

How "Smart Data" has become the new "Big Data"

Mike will describe how control system signatures have been used to diagnose fault conditions and the cost impact that have resulted.

Michael Reuss-Newland began his career in the Subsea Oil and Gas Industry working for Kvaerner Oilfield Products Ltd in 1998. Working both onshore and offshore he gained an insight into the type of issues that occur with a Subsea Control System and the data available within the Subsea Control System that could help with diagnostics. Leaving Kvaerner in 2006, he jointly founded the company Obsidian Engineering Consultants Ltd. In Obsidian he developed the concepts, techniques and software for data analysis and early failure prediction. Michael have been working with Wood Group since 2011 where he has continued to develop the techniques for Data Analysis and Early Failure Prediction, providing engineering support to a number of operators and assets.

Mike Reuss-Newland
Lead Controls Engineer
Wood Group

Gavin is the Research, Development and Innovation Manager at Wood Group. He has worked with Wood Group since 2003 and has over ten years of experience in research, engineering and software development for offshore structural analysis. He has been involved in major developments of Wood Group's flagship FEA software, Flexcom, as well as developments of DeepRiser (an engineering tool for drilling riser analysis). He has also led the development of a number of on-board Riser Management Systems for planning and managing riser operations on-board drilling and well intervention vessels. Gavin currently works with the Digital Solutions team within Wood Group supporting a wide range of research activities including the application of data analytics techniques to the oil and gas industry.

Gavin Rogers
Research, Development &
Innovation Manager
Wood Group

11:00

Sensory Systems, Existing Subsea Capability, and the Opportunity for development

Rachael will introduce the innovation centre CENSIS and detail the state of the art in terms of sensing.

Rachael's technical background is in materials biodeterioration and laser and LED based environmental sensing. Her broad area of interest is sensing technologies for the oil and gas, marine and subsea sectors. A specialist in IP and technology transfer Rachael has over 10 years' experience in the set up and management of collaborative R&D projects, contracts, technology licensing and university spin out company development. She understands the technical and commercial challenges from both sides of the fence as an academic researcher and as a co-founder in a technology start up.

Prior to joining CENSIS Rachael left a postdoctoral research post at RGU to explore the riskier side of technology commercialisation and co-founded a technology start up with an offshore and subsea sensing focus. She left after a few years to return to academia as a member of the research commercialisation team at the University of Aberdeen, managing five of the 10 academic teams that successfully spun out of Aberdeen during her time there. Rachael's expertise is underpinned by applied academic research in environmental science, laser spectroscopy and optics-based sensing of materials. She holds a PhD in soil pollution microbiology from the University of Aberdeen.

Rachael Wakefield
Business Development
Manager
CENSIS

Mark's career spans commercial and academic R&D in micro electro mechanical systems (MEMS), optics and instrumentation. He has first hand experience of new product introduction and the challenges of incorporating new technologies into the commercial environment.

Prior to joining CENSIS, Mark held senior roles in design and product engineering of new MEMS products and capabilities for the optical telecommunications sector. He then moved on to the Institute for System Level Integration, to deliver innovation support for the emerging UK MEMS sector. As ISLI CEO he drove the integration of wireless and MEMS streams, alongside electronic systems, to deliver new capabilities to companies using Scottish, UK and EU funding mechanisms.

Mark Begbie
Business Development
Director
CENSIS

11:30

Data analytics and Intelligence, Existing state of the art, what might it bring to subsea Integrity Management

Duncan will introduce the innovation centre DATALAB and detail the state of the art in terms of data capture, storage and analytics.

With an engineering background and a MBA from the University of Southampton, Duncan has over 20 years industry experience in the UK and Internationally. With large and small company experience, including start-ups Duncan has latterly been working in the Oil and Gas Industry based in Aberdeen. With Data Lab, Duncan is responsible for Business Development in the North of Scotland.

Duncan Hart
Business Development
Manager
RGU DATALAB

Sarah Keynes
Senior Programme
Manager (Innovation)
NERC

12:00

NERC Funding opportunities to support monitoring

Sarah will discuss how NERC will invest up to £3.5m in innovation projects focused on developing innovative monitoring approaches for the infrastructure, oil & gas and offshore renewable energy sectors.

NERC is the largest public funder of environmental science in the UK, investing over £300 million each year in cutting-edge research, training and innovation. As an organisation, NERC has a number of flexible mechanisms that translate research to address specific business issues, and provide access to relevant scientific knowledge, data and tools. Sarah leads for NERC in developing programmes and strategic interactions with key businesses in relation to energy (focusing on oil & gas and renewable energy sectors) to ensure that investments in innovation and translation, research and facilities provide maximum benefit for the economy and for society in this area.

Prior to joining NERC, Sarah worked in environmental consultancy, specialising in commercial environmental sustainability and Environmental Impact Assessments (EIA) project management.

12:20
Lunch

12:45
Table Workshops

Workshops where groups of delegates discuss subject matters with a view to identifying gaps and development opportunities.

14:30
Coffee & Networking

15:00
Wash-up and review of ideas from tables

15:45
Who's doing what?

Are there any collaborations that can be formed of companies wishing to work with the innovation centres to progress development?

16:00
ENDS