International Association of Drilling Contractors



ART Committee Meeting

3 May 2018

9 – 11 am

NRG Center Room 702 1 NRG Parkway Houston, TX 77054

Minutes

The IADC Advanced Rig Technology (ART) Committee convened a special event for its 3 May meeting, which was held at the 2018 Offshore Technology Conference.

The theme was "Data Visualization, Security, and Interconnectivity: A Paradigm Shift for Drilling".

Robin Macmillan, NOV, IADC ART chair, welcomed the participants, and outlined the vision for the event: This meeting of the IADC ART Committee, conveniently located at the 2018 Offshore Technology Conference, is envisioned as a discussion of key trends that are driving a paradigm shift for the drilling industry. Topic leaders (listed below in the agenda) will present their ideas in this new data-driven world, the challenges they are designed to address, and how these concepts are being received by the industry. The audience will join in for discussion on each topic. The take away will be a new and deeper understanding of the trends that can help make our industry more efficient and effective – and the threats we must work to overcome.

Mike Killalea, IADC, outlined IADC's antitrust policy.

In turn, the leaders of each topical area made presentations and discussed content with the audience.

- <u>Topical Area One: "Automation in Drilling: Automated Mud Logging and Beyond": Dave</u> **Tonner, Diversified Well Logging LLC**
- Topical Area Two: "Augmented Reality (AR): A Paradigm Shift for Training & Field Support": Claudio Pineda, e-cubed
- <u>Topical Area Three: "Blockchain Smart Contracts Are Creating the Commercial Internet":</u> **Andrew Bruce, DataGumbo**

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• Topical Area Four: "Cybersecurity: Threats and Solutions": Nina Tvedt, Secure-NOK

At the end of the event, Trenton Martin, Transocean, IADC ART Committee Vice Chair, gave a wrap up and announced future meetings:

The next ART Committee meeting will be <u>18 June</u> in Copenhagen, Denmark, in conjunction with <u>IADC World Drilling 2018</u>.

The <u>IADC ART Conference</u> will be held 11-12 September in Austin, TX. The conference will be preceded on <u>10 September</u> by an ART Committee meeting.

During May, the ART BOP Controls Subcommittee meets on <u>22 May</u>, and the ART Drilling Controls Systems Subcommittee meets on <u>24 May</u>.

There being no further business, Mr Martin adjourned the meeting.

Attendance:

First Name	Last Name	Company Name
Nathan	Moralez	ВР
Michael	Netecke	CAMERON, A SCHLUMBERGER COMPANY
Andrew	Bruce	DATA GUMBO LLC
Maxine	Aitkenhead	DATA GUMBO LLC
Aaron	Swanson	DIVERSIFIED WELL LOGGING
Dave	Tonner	DIVERSIFIED WELL LOGGING
Linda	Hsieh	DRILLING CONTRACTOR MAGAZINE
Claudio	Pineda	ECUBED
Sarah	Kern	HELMERICH & PAYNE INTERNATIONAL DRILLING CO.
Mike	Killalea	IADC
Fionn	Iversen	IRIS
Ebrahem	Salem	MISSOURI UNIVERSITY OF SCIENCE & TECHNOLOGY
Dalton	Buchanan	MISSOURI UNIVERSITY OF SCIENCE & TECHNOLOGY
Alex	Goodwin	NABORS
Robin	Macmillan	NATIONAL OILWELL VARCO
Robert	Van Kuilenburg	NOBLE DRILLING US INC
Usama Bin	Rehman	PAKISTAN PETROLEUM LIMITED

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Hani	Ibrahim	QUANTICO ENERGY SOLUTIONS
Nina	Tvedt	SECURE-NOK LLC
Daniel	Liu	SGV INTERNATIONAL, LLC
Trenton	Martin	TRANSOCEAN
David	Tonner	WEATHERFORD
Robert	Ziegler	WEATHERFORD