Digital Energy Conference and Exhibition 2009

Houston, Texas, USA 7-8 April 2009

ISBN: 978-1-61567-026-0

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2009) by the Society of Petroleum Engineers All rights reserved.

Printed by Curran Associates, Inc. (2009)

For permission requests, please contact the Society of Petroleum Engineers at the address below.

Society of Petroleum Engineers P. O. Box 833836 Richardson, Texas 75083-3836

Phone: (800) 456-6863 Fax: (972) 952-9435

books@spe.org

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2634

Email: curran@proceedings.com Web: www.proceedings.com

Table of Contents

1	An IOC's Experience in Implementing Digital Oilfield Technologies James M. Hacker, SPE, ExxonMobil Upstream Research Co.
12	Changing the Operation of Oil and Gas Fields From "Harvest" to "Process" Mode Ron Cramer, Shell Global Solutions, and Joel Roger, Weatherford
26	The Fully Integrated Workflow: The Integration of Business Processes with People and Digital Technologies Brian J. Crockett, Science Applications International Corporation
32	Employee Knowledge: Instantly Searchable Joel Hoffman, Occidental of Elk Hills, Inc.
36	The Digital Asset: Connecting People, Technology, and Processes in a Collaborative Environment Jeff Grable, SPE, Bill Sanstrom, SPE, and Glenda Wylie, SPE, Halliburton Energy Services
52	Experiences Using Lagosa to Improve Production Operations and Gas Marketing Performance John D. Hudson, Shell Global Solutions (US), Inc.
60	Data Driven Surveillance and Optimization Ron Cramer, KC. Goh, Mike Dolan, and Charlie Moncur, Shell Global Solutions Us Inc.
70	Viability Study of Implementing Smart/Intelligent Completion in Commingled Wells in an Australian Offshore Oil Field M. Nadri Pari, SPE, Iran Petroleum University of Technology, and A.H. Kabir, SPE, Curtin University of Technology
79	Realizing Value from Real Time Well Monitoring In Greenfield Assets David R. Feineman, BP America
87	4D: From Mainstream to Main Street Stewart A. Levin, SPE, Halliburton Energy Services
91	Combining Value-Based Computer Functionality and an Organizational Change Approach to Deliver a Useful Solution to Users: The Case of Operating Procedures on Alaska's North Slope <i>P. Floyd, RWD Technologies</i>
101	The E&P Balanced Scorecard: Becoming a Strategy Focused OPCO Driven by Performance Sandeep Kadam and Christopher Fonseca, SPE, Tata Consultancy Services
114	The Promise and Challenges of Digital Oilfield Solutions—Lessons Learned From Global Implementations and Future Directions Sathish Sankaran, Jose Lugo, Ankur Awasthi, and Gerardo Mijares, Halliburton

Table of Contents continued

127	Using Integrated Operations Centers Kennth Landgren, Jean-Pierre Lhote, and Jean-Claude Vernus, SPE, Schlumberger
131	What Lessons Can Digital Oilfield Practitioners Learn From Defence Initiatives Such as Network Enabled Capability? Michael Popham, SPE, BAE Systems, and Tony Edwards, SPE, Stepchange Global
140	Exercises in Distributed Tactical Decision-Making in Advanced Collaborative Environments P.S. Bayerl and K. Lauche, TU Delft; M. Crichton, People Factor Consultants Ltd.; and S. Sawaryn, SPE, and A. Deady, SPE, BP
150	15 Real-Time Evaluation of Pressure Transients: Advances in Reservoir Monitoring C. Contreras, SPE, S. Bodwadkar, SPE, and A. Kosmala, SPE, Schlumberger
161	Creating a New Workflow for Integration of Business Processes Between Well Engineering and Subsurface Data Management J. Eade, Halliburton
170	Effective Use of LEO Satellites for Well Data Collection Robert McCoy, Baker Hughes Centrilift
178	Automated, "By Exception" Well Surveillance: A Key to Maximizing Oil Production Peter Schipperijn, SPE, Chevron Energy Technology Company; Raymond Thavarajah, SPE, and Ana Simonato, SPE, Chevron North America Exploration and Production Company; and Mohsen Mehdizadeh, SPE, Science Application International Corporation (SAIC)
183	Anomaly-Driven Engineering Empowered by a Central Surveillance Center J.M. Brutz, SPE, Shell Exploration and Production Company
190	Getting Data to Drilling and Completions Teams and Vice Versa S.J. Sawaryn, A. Deady, N. Whiteley, and C. Critchley, BP Exploration; L. Brown, EDS; and N. Gibson, Kongsberg Intellifield
203	E&P Operational Innovation With Real-Time Collaboration and Exception Management Mohammed A. Al-Hamad, Saudi Aramco, and Celestine S. Vettical, Perfomix, Inc.
213	A Systematic Approach to Well Integrity Management Alex Annandale, Marathon Oil UK, and Richard Conway and Simon Copping, Expro
220	Evolution of Collaborative Work Environments - Are We Ready for It? Kent Gryskiewicz, Science Applications International Corporation, Collaborative Work Environment Capability Delivery Manager and Ronald Knoppe, Shell International Exploration and Production, Research and DevelopmentCollaborative Work Environment Capability Development Leader
228	A Workflow-Based Approach to Real-Time Production Optimization Sebastiano Barbarino, SPE, and José Alvarez, SPE, Merrick Systems, Inc.; and Miguel Angel Lozada, SPE, and Felipe Diaz, SPE, Pemex

Table of Contents continued

232	WITSML Real-Time Inter-operability Testing J.G. Pickering, SPE, and N. Whiteley, BP; J. Rochford, SAIC; and K. Sheil and J. Lowe, PA Consulting
242	Strategic Decision Making in the Digital Oil Field B. Jafarizadeh, SPE, and R.B. Bratvold, SPE, University of Stavanger
247	Subsurface Support Centre: A Hub for Communication of Knowledge S. Løwén, B.E. Nygård, S. Østensen, and T. Lund, StatoilHydro
255	Drilling Operations Centers: A History of Functionality and Organizational Purpose—The First Generation J. E. Booth, SPE, Booth Consulting
262	Integrated Business Processes in Production Operations Stéphane Lauzon and Gene Broadway, SAP
268	A Successful Approach in Integrating People, Process, and Technology Inside Collaborative Environments: A Practical View of Challenges and Lessons Learned D. Derenzi, Accenture; P.S. de Sousa, S.A. de Oliveira, and M.A.N. Herdeiro, Petrobras; and J.R. Albernaz and A. Valadares, Accenture
278	Integration Is About People Rufina Lameda, SAIC, and Frans van den Berg, SPE, Shell
283	Cost Optimization Programs in Software Asset Management Signe Marie Stenseth, Vice President, OpeniT, Inc.
288	Strategies for Training Digital Petroleum Engineers Iraj Ershaghi, SPE, University of Southern California; Donald Paul, SPE, University of Southern California and Energy and Technology Strategies, LLC and Mehrzad Mahdavi, SPE, Schlumberger