

# CERAWEEK 2017

innovation  
agora in review  
@CERAWEEK

*Innovation, technology, and the energy future*

Coming March 5–9, 2018



<https://ceraweek.com/agora>



**Agile, autonomous, and additive: Reshaping the global energy supply chain** (from left) **Ric Fulop**, CEO & Co-Founder, Desktop Metal; **Jon Hirschtick**, CEO & Co-Founder, Onshape; **Paul Bonner**, VP, Consulting & Analytics, Connected Home, Honeywell; **John Larson** (Chair, back to camera), VP, Big Data & Analytics, Technology, IHS Markit; and **James Bellingham**, Ph.D, Director, Center for Marine Robotics, Woods Hole Oceanographic Institution



**Agora Link**

**Exploration Pod:**

**Babur Ozden**, Founder & CEO, Maana

# LAUNCH

Our inaugural Innovation Agora @ CERAWEEK established a unique community focused on the great transformation underway in technology and its impact on the energy future. The Agora featured a range of programs and experiences designed to stimulate new thinking and explore future pathways across the energy landscape. Technologies ranged from IoT and digital to e-mobility, robotics, 3-D printing, and connected homes—creating a powerful vision and unique voice for technology at CERAWEEK.

Among the 70+ speakers were leading thinkers from start-ups, traditional energy companies, investors, and academics. The Innovation Agora @ CERAWEEK offered an immersive experience with new formats, including:

- **Studios in the Round**—dialogues between thought leaders and the audience;
- **Exploration Pods** featuring technology thought leaders and Energy Innovation Pioneers;
- **Discovery Showcases**, including prototypes, demonstrations, and virtual and augmented reality. These ranged from the factory of the future to connected homes to a virtual visit to Mars; and
- **Agora Link**, a relaxed gathering spot for conversations; collaboration; and locally roasted, barista-served coffee.

We thank our Agora partners for their vision, commitment, and contributions to the launch of this CERAWEEK initiative. We also appreciate the many delegates who made the Innovation Agora part of their CERAWEEK 2017 journey.



**Daniel Yergin**

Co-Chair, CERAWEEK &  
Vice Chair, IHS Markit



**James Rosenfield**

Founder and Co-Chair, CERAWEEK;  
Senior Vice President, IHS Markit





# STUDIO IN THE ROUND

# SESSIONS

## Topics

- **Agile, autonomous, and additive:** Reshaping the global energy supply chain
- **AI, machine learning, and energy:** An explosive combination
- **Energy Innovation Pioneers:** Leveraging start-ups to meet the challenges of the new energy landscape
- **Energy Innovation Pioneers:** Powering lower costs through innovation
- **Man + machine:** The changing workforce
- **Models of innovation:** Strategies for growth
- **Next city:** Power and mobility in the metropolis
- **Next door:** The connected home of the future
- **Next grid:** Will the real digital power grid please stand up?
- **Putting carbon to work:** Leapfrogs for carbon capture, utilization, and storage (CCUS)
- **Ride hailing and driverless technology:** Oil's friend or foe?
- **Today's reality?** The digital oilfield



Putting carbon to work:  
Leapfrogs for CCUS





# DISCOVERY ▶ SHOWCASES

- ContextCapture 3D modeling software | **Bentley Systems, a Siemens Strategic Partner**
- Drones, tethered unmanned aerial vehicles | **CyPhy Works**
- Energy in the extreme: Mars | **ABB**
- Hive | **Centrica**
- Industrial IoT with augmented reality | **Emerson**
- Knowledge platform and analytics | **Maana**
- Panoramic power | **Centrica**
- Smarter pumping for crude oil pipelines: Optimizing performance through data analytics | **Siemens**
- Virtual reality training techniques | **Honeywell**
- YuMi, the world's first truly collaborative robot | **ABB**



Hive | Centrica showcase



Virtual reality training techniques | Honeywell showcase



HE Shri Dharmendra Pradhan, Minister of State for Petroleum & Natural Gas, India, explores industrial IoT with augmented reality | Emerson showcase



Smarter pumping for crude oil pipelines: Optimizing performance through data analytics | Siemens showcase



Energy in the extreme: Mars | ABB showcase



YuMi, the world's first truly collaborative robot | ABB showcase



Drones, tethered unmanned aerial vehicles | CyPhy showcase

# EXPLORATION

## PODS

- A data-driven approach to equipment maintenance of offshore platforms | **Siemens**
- A machine learning-enabled, design-for-economics framework for 3D printing drill bits | **Rice University**
- Additive manufacturing: Unlocking your highly engineered solution | **Emerson**
- Agile design powered by Cloud CAD | **Onshape**
- An integrated platform for digitalization of the power industry | **KEPCO**
- Autonomous ocean-bottom seismic services | **Magseis** (Energy Innovation Pioneer)
- Blockchain technology: The coming digital revolution | **IHS Markit**
- Digital roadmap: Disrupt or be disrupted | **Accenture Strategy**
- Disrupting oil and gas exploration and production with advanced micro-sensors | **Rice University**
- Distributed energy integration platform | **Opus One Solutions** (Energy Innovation Pioneer)
- Emergency response workshop | **Honeywell**
- Emissions-free, natural gas power system | **NET Power**
- High-efficiency ceramic power generator | **Atrex Energy**
- Hive, workshop: How to drive innovation from within a big business | **Centrica**
- Hybrid technology for semi-trailers | **Hyllion** (Energy Innovation Pioneer)
- Innovation by design: Engineering heat transfer for refinery energy efficiency | **Hexxcell**
- Internet of Things-enabled pipeline integrity monitoring solutions | **Rheidiant** (Energy Innovation Pioneer)
- Journey to outer space: High energy management stakes in the harshest environment | **NASA**
- Knowledge platform for industrial assets and processes | **Maana** (Energy Innovation Pioneer)
- Long-duration metal-air storage | **Fluidic Energy** (Energy Innovation Pioneer)
- Nanotechnology 3.0: Transformative applications for the oil and gas industry | **Rice University**
- Nanotechnology-Enabled Water Treatment (NEWT): A vision to address grand challenges at the water-energy nexus | **Rice University**
- Performance monitoring of high-voltage power line using fiber optics | **Omnisens**
- Project OptiWatt | **Energy Market Authority, Singapore**
- Robots, data, and autonomy: The subsea revolution | **Woods Hole Oceanographic Institution**
- Scaling predictive analytics for distributed production assets | **Azima DLI**
- Smart airside energy efficiency | **Aircuity**
- Tethered drones for secure missions | **CyPhy Works** (Energy Innovation Pioneer)
- The role of gas in a distributed energy future | **Centrica**
- Uberization of onshore: What if the well was the customer? | **Accenture Strategy**
- Utility-scale solar robotic installation platform | **Alion Energy** (Energy Innovation Pioneer)
- Voice control in the home—The post-app era of managing the connected home | **Centrica**
- Water markets in the Permian Basin and beyond | **Sourcewater**
- Who's afraid of the big, bad cloud? | **ABB**





# GROUND BREAKERS

- **Josh Adler**, Founder & CEO, Sourcewater
- **Qasem Al Kayoumi**, Manager, ADNOC Technical Centre
- **Dr. Pedro Alvarez**, George R. Brown Professor of Engineering, Rice University
- **Lak Ananth**, CEO & Managing Partner, next47, Siemens
- **Atul Arya**, SVP & Business Leader, Energy, IHS Markit
- **Dr. Aydin Babakhani**, Assistant Professor, Rice University
- **James Bellingham** Ph.D., Director, Center for Marine Robotics, Woods Hole Oceanographic Institution
- **Jeffrey Billingham**, VP, Business Development, IHS Markit
- **Paul Bonner**, VP of Consulting & Analytics, Connected Home, Honeywell
- **Tom Bonny**, Managing Director, Accenture Strategy
- **Adam Boyle**, Director, Global Additive Manufacturing Operations, Emerson
- **Bill Brown**, CEO & Co-Founder, NET Power
- **Jeremy Carlson**, Senior Analyst Automotive Technology Group, IHS Markit
- **Vivek Chidambaram**, Managing Director, Global Digital Lead, Accenture Strategy
- **Francesco Coletti**, Director & CTO, Hexxcell
- **Bryan Cox**, Director of Transmission & Distribution Operations, Avista
- **Lisa Davis**, Member of Management Board & CEO, Siemens Energy
- **Tom de Vleesschauwer**, Senior Director Automotive Transport & Mobility Practice Leader, IHS Markit
- **Daniel E. Diehl**, CEO, Aircuity
- **Dan Domeracki**, VP, Government and Industry Relations, Schlumberger
- **Claudio Facchin**, President, Power Grids, ABB
- **David Farr**, CEO, Emerson
- **Michael Foreman**, Former Astronaut, NASA
- **Ric Fulop**, CEO & Co-Founder, Desktop Metal
- **Adeeb Gharzouzi**, Senior Manager, Digital Practice, Accenture Strategy
- **Helen Greiner**, Founder & CTO, CyPhy Works
- **Dr. Alec Gruss**, Principal Data Scientist, Digital Factory, Siemens
- **Ahmed Hashmi**, Global Head of Upstream Technology, BP
- **Thomas Healy**, Founder & CEO, Hyliion
- **Dr. C. Fred Higgs III**, John and Ann Doerr Professor of Mechanical Engineering, Rice University
- **Jon Hirschtick**, Co-Founder & CEO, OnShape
- **Idar Horstad**, CEO, Magseis
- **Jim Hughes**, Chair, Eos Energy Storage



- **Burt Hurlock**, CEO, Azima DLI
- **Andrew Icken**, Chief Development Officer, City of Houston
- **Judson Jacobs**, Senior Director, Upstream Technology & Innovation, Energy, IHS Markit
- **Mateo Jaramillo**, Former VP, Tesla Energy
- **Phil Jarrell**, Director Product Development, Honeywell Chemicals
- **Guido Jouret**, Chief Digital Officer, ABB
- **Mark Kingsley**, President & CEO, Alion Energy
- **Susan Kish**, Agora Curator, CERAWEEK, IHS Markit
- **Roger Kranenburg**, Senior Director, Global Power & Innovation, IHS Markit
- **Eric Krauss**, Global Product Director, Connected Home, Accenture Digital
- **Geoffroy Lacoïn**, CEO, Omnisens
- **John Larson**, VP, Big Data & Analytics, IHS Markit
- **Sudeep Maitra**, Global Director, Strategy, Centrica
- **Karthish Manthiram**, Assistant Professor, Department of Chemical Engineering, MIT
- **Paul Markwell**, VP, Energy, IHS Markit
- **Charles McConnell**, Executive Director, Energy and Environment Initiative, Rice University
- **Antonio Merlo**, Professor, Dean of the School of Social Sciences, Rice University
- **Edward Mills**, VP, Global HSE, Honeywell
- **Bill Morelli**, Senior Research Director, IT & Networking, IHS Markit
- **Yaacov Mutnikas**, EVP, Financial Markets Technology, IHS Markit
- **Murat Ocalan**, Founder & CEO, Rheidiant
- **Dan Oginsky**, EVP & Chief Administrative Officer, ITC Holdings
- **Babur Ozden**, Founder & CEO, Maana
- **Dr. Matteo Pasquali**, Professor of Chemical Engineering, Rice University
- **Rob Powelson**, President, NARUC
- **Steve Scharnhorst**, CEO, Fluidic Energy
- **Carolyn Seto**, Director, Upstream Technology and Innovation, Energy, IHS Markit
- **Stig Olav Settemsdal**, Global Head, Portfolio Management & Innovation, Offshore Solutions, Siemens
- **Gary Simon**, President & CEO, Atrex Energy
- **Anders Sjoelin**, NA Lead, Power Grids Division, ABB
- **Cory Steffek**, Managing Director, Aramco Energy Ventures
- **Jay Timmons**, CEO, National Association of Manufacturers
- **Eugene Toh**, Director of Policy and Planning, Energy Market Authority, Singapore
- **Roy Vella**, VP/GM, Connected Home NA, Centrica
- **David Victor**, Professor & Co-Director, Laboratory on International Law and Regulation, University of California, San Diego
- **Matt Wheatley**, VP, Sales & Commercial, NA Distributed Energy, Centrica
- **Joshua Wong**, Founder & CEO, Opus One Solutions
- **Kim Dae Young**, General Manager, KEPCO
- **Stephen Zoepf**, Executive Director, Center for Automotive Research, Stanford

## Innovation Agora Partners

ABB | Accenture | Centrica | Emerson  
Honeywell | Rice University | Siemens  
Stanford Natural Gas Initiative



### About IHS Markit

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