The Offshore Technology Conference (OTC) events around the globe, including OTC Asia, are brought to you by 13 sponsoring non-profit academic, scientific and professional organisations dedicated to the advancement and diffusion of scientific and technological knowledge of offshore resources and related environmental matters.

Income from this event is invested back into these sponsoring organisations’ programmes that will provide opportunities for industry professionals to enhance their professional and technical competence, and to promote education in areas to continue to help advance the offshore energy industry.
Corporate sponsorship and exhibition income from this event is invested back into industry through OTC’s 13 sponsoring organisations’ programmes for its multidisciplinary members worldwide and the wider energy industry, such as training, technical journals and educational programmes.

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<tr>
<th>CORPORATE SUPPORTING ORGANISATION</th>
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<td>The Next Wave and High School Student STEM Event (Co-Sponsor)</td>
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ASIA’S PREMIER OFFSHORE ENERGY EVENT

Founded in 1969, the Offshore Technology Conference (OTC) organises the world’s foremost events for the development of offshore resources in the fields of drilling, exploration, production, and environmental protection. The flagship OTC is held annually in Houston, Texas, U.S.A.

The first OTC Asia was held in 2014. OTC Asia’s vision and goal is to fulfil OTC’s mission to promote and further the advance of scientific and technical knowledge of offshore resources and environmental matters. Furthermore, OTC Asia aims to:

• Meet the demand for technical information to support the growth of the offshore oil and gas industry in Asia.
• Provide opportunities for industry professionals and their employers to share their applied technologies and best practices with other producing areas in the world.
• To create opportunities to institute and strengthen intersociety collaboration and cooperation with member societies based in Asia.
OTC ASIA 2018 IN NUMBERS

- **19,003** Unique Attendees
- **1,451** C-Suite Executives and Government Officials
- **239** Sponsors and Exhibitors
- **18** NOCs and IOCs
- **5,274** Participating Organisations
- **71** Countries Represented
- **30+** Hours of Networking and Business Opportunities
- **15+** Hours of High-Level Industry Dialogues

**ATTENDANCE BY REGION**

- **Asia** 94.80%
- **Middle East** 0.94%
- **Europe** 2.38%
- **Africa** 0.33%
- **North America** 1.51%
- **Latin America** 0.04%

**ATTENDANCE BY JOB FUNCTION**

- **Business / Strategy / Economics** 17.74%
- **Downstream and Petrochemicals** 3.09%
- **Drilling and Completions** 7.07%
- **Education** 4.08%
- **Gas and Pipelines** 4.64%
- **Geoscience** 3.24%
- **HSE / Security / Social Responsibility** 2.13%
- **IT / Data / Analytics** 2.48%
- **Maintenance and Integrity** 4.03%
- **Naval and Marine** 2.07%
- **Power Generation and Transmission / Regasification** 0.74%
- **Production and Operations** 7.71%
- **Projects and Assets** 6.87%
- **Purchasing and Procurement** 3.91%
- **Reservoir** 1.67%
- **Sales / Marketing / Communications** 14.46%
- **Others** 14.07%

97.1% rated OTC Asia as good to excellent
93.1% would recommend OTC Asia to their colleagues
89.1% plan to participate in future OTC Asia events
88.4% said it was valuable to attend OTC Asia
OTC ASIA 2018 IN NUMBERS

CONFERENCE

- 1,670 Conference Delegates
- 442 Speakers
- 76 Conference Sessions
- 293 Technical Presentations
- 242 Presenting Organisations

EXHIBITION

- 218 Exhibitors
- 5,360 m² Net SGM of Exhibition Space
- 8 National Pavilions

DEVELOPMENT PROGRAMMES

- The Next Wave
  A Programme for Young Professionals
- University R&D Showcase and Challenge
- High School Student STEM

- 1,876 University and High School Students
- 149 Educational Institutions

RECOGNITION PROGRAMMES

- Spotlight On New Technology
- Distinguished Achievement Awards
OTC BOARD OF DIRECTORS

The Board of Directors is responsible for the operational stewardship of the event, to ensure that OTC’s mission is upheld.

Members of the OTC Board are appointed to four-year terms by their respective society or organisation. The OTC Board includes 14 representatives, 12 from OTC’s sponsoring organisations and two from OTC’s endorsing organisations. The two principal officers, the Chairman and the Vice Chairman, are elected for two-year terms by the Board during their annual meeting.

CHAIR

Wafik Beydoun
Society of Exploration Geophysicists

VICE CHAIR
Cindy Yeilding, American Association of Petroleum Geologists

MEMBERS
Norman Carnahan, American Institute of Chemical Engineers
Jerry Carroll, Institute of Electrical and Electronics Engineers, Oceanic Engineering Society
Doreen Chin, American Association of Mechanical Engineers
Galen Cobb, Petroleum Equipment & Services Association
João De Luca, Brazilian Petroleum, Gas and Biofuels Inst.
Pauł Jones, Society of Petroleum Engineers
Mark Kalman, The Minerals, Metals & Materials Society
Steve Leverette, Society of Naval Architects and Marine Engineers
Brian Miller, American Society of Civil Engineers
Charles L. Morgan, Society for Mining, Metallurgy and Exploration
Chuck Richards, Marine Technology Society
Bodley Thornton, International Association of Drilling Contractors

OVERSIGHT COMMITTEE

The Oversight Committee consists of representatives from OTC’s Sponsoring Societies. The Oversight Committee, along with the Advisory Committee, is responsible for providing oversight for the Conference Programme Committee and OTC management for the overall implementation of plans under the direction of the OTC Board.

CHAIR
Neil Kavanagh
Woodside Energy Ltd.
Society of Petroleum Engineers

MEMBERS
Stephen McDowall, Marine Technology Society
Zhijun Jin, China National & Chemical Corp. (SINOPEC) Research & Development; American Association of Petroleum Geologists
John Halkyard, Deep Reach Tech Society of Naval Architects and Marine Engineers
Galen Cobb, Halliburton; Petroleum Equipment & Services Association
Jerry Carroll, Institute of Electrical and Electronics Engineers, Oceanic Engineering Society
Sateesh Dev, MODEC Offshore Production Systems (S) Pte. Ltd.; American Association of Mechanical Engineers
Arthur Cheng, National University of Singapore; Society of Exploration Geophysicists
Fong Nyuk Loon, TechnipFMC; American Society of Civil Engineers
Arnis Judzis, University of Utah; American Institute of Chemical Engineers
Andrew Spowage, Wood Group; The Minerals, Metals & Materials Society
The Advisory Committee consists of senior stakeholders in the Asia Pacific region from national oil companies (NOCs), international operators and service companies. The role of the committee is to provide advice and counsel to the OTC Asia organising committees regarding the planning and development of the event.

**CHAIR**

Tan Sri Wan Zulkiflee Wan Ariffin
President & Group CEO
PETRONAS

**MEMBERS**

Visal Leng, President, Asia Pacific, Baker Hughes, a GE company
Mark Langston, General Manager, Reservoir Management, Chevron Asia Pacific Exploration & Production
Wang Dongjin, Vice President, China National Petroleum Corp. and President, PetroChina
William Bullock, President, Asia Pacific & Middle East, ConocoPhillips
Mustaffa Kamal bin Abu Bakar, Chief Operating Officer, Dialog Group Bhd.
Edward Graham, Chairman & President, ExxonMobil Exploration & Production Malaysia Inc. and Chairman, ExxonMobil Subsidiaries in Malaysia
Joe Rainey, President – Eastern Hemisphere, Halliburton
Brian Trulove, Senior Vice President, Offshore, Hess
Kenneth Pereira, Managing Director, Hibiscus Petroleum Bhd.
Kenji Akiyoshi, Executive Director, Member of the Board, Oil & Gas Upstream Business Unit, Japan Oil, Gas and Metals National Corp.
Hisao Tatsumi, Senior Vice President, JX Nippon Oil & Gas Exploration Corp.
Roger Jenkins, President, Murphy Oil Corp.
Shashi Shanker, Chairman and Managing Director, Oil & Natural Gas Corp.
Ayman Asfari, CEO, Petrofac
Datuk Mohd Anuar Taib, Executive Vice President & CEO, Upstream, PETRONAS
Sampon Vorvuthipornchai, CEO, PTT Exploration & Production Public Co. Ltd.
Tan Sri Dato’ Seri Shahril Shamsuddin, President & Group CEO, Sapura Energy Bhd.
Shah Hakim Zain, Group CEO, Scomi Group Bhd.
Ramadan Mansour, Vice President, South & East Asia, Schlumberger
Datuk Iain Lo, Chairman, Malaysia and Vice President, New Business Development, Asia, Shell
Christophe Malaurie, President, Asia Pacific, TechnipFMC
Javier Rielo, President & CEO, Total E&P Asia Pacific
Lance Marklinger, President, Global Sales, Weatherford
CONFERENCE

“Through a dynamic exchange of thoughts on the achievements and aspirations of the region and the industry, the conference intends to showcase Asia’s contributions to a thriving energy market and its potential to flourish beyond what it is today.

Tan Sri Wan Zulki/f_lee Wan Arif/f_in
President and CEO, PETRONAS

”
CONFERENCE ATTENDANCE

Showcasing Asia as a centre of excellence in providing innovative technology and cost-efficient solutions to the offshore energy industry

1,670 Conference Delegates
76 Conference Sessions
442 Speakers

10 engaging country and panel discussions
10 focused country sessions
44 multidisciplinary technical sessions
293 interactive technical presentations and dialogues
141 knowledge sharing ePoster presentations
5 timely special sessions

98.6% rated the conference as good to excellent
90.1% rated the technical programme as good to excellent
CONFERENCE ATTENDANCE

BY REGION

Asia 86.41%
Middle East 4.09%
Europe 4.09%
Africa 1.75%
North America 3.06%
Latin America 0.60%

TOP 10 COUNTRIES

- Malaysia
- Thailand
- Singapore
- USA
- Indonesia
- India
- Australia
- Japan
- China
- South Korea

BY PRIMARY BUSINESS

- 4.19% Consulting
- 39.28% Exploration and Production
- 6.47% Government / Regulators
- 3.17% Manufacturing / Original Equipment Suppliers
- 0.06% Telecommunications
- 4.55% Education
- 0.54% Finance / Insurance / Legal
- 0.66% Hardware / Equipment
- 0.72% Marine Services and Shipping Logistics
- 1.74% Unmanned/Remote/Autonomous Systems and Vehicles/Drones/Robotics (Surface/Aerial/Underwater)
- 9.76% Engineering / Construction
- 1.56% Geosciences
- 1.08% IT and Software Development
- 19.94% Oilfield Services
- 6.28% Others
CONFERENCE ATTENDANCE

BY JOB TITLE

- C-Level Executive: 9.34%
- Senior Management / Head of Department / Custodian: 33.89%
- Manager / Supervisor / Foreman: 27.61%
- Staff / Executive / Administrator: 28.38%
- Student: 0.78%

BY JOB FUNCTION

- Business / Strategy / Economics: 20.84%
- Downstream and Petrochemicals: 1.80%
- Drilling and Completions: 12.34%
- Education: 3.41%
- Gas and Pipelines: 1.98%
- Geoscience: 11.08%
- HSE / Security / Social Responsibility: 2.04%
- IT / Data / Analytics: 1.02%
- Maintenance and Integrity: 2.34%
- Naval and Marine: 1.81%
- Production and Operations: 8.50%
- Projects and Assets: 11.44%
- Purchasing and Procurement: 1.02%
- Reservoir: 8.56%
- Sales / Marketing / Communications: 5.65%
- Others: 6.17%

From one edition to the other, the response has been great. It reflects the significance of the industry in this region. We have a very well developed oil and gas service and equipment industry and OTC coming to Asia is quite significant. It provides the industry a platform to showcase, not only its capabilities, but also the products and services it is able to offer, not only for this region but also to expand outside of the region.

Robby O’Sullivan
Front End Technical Manager, Asia Pacific
TechnipFMC

“I’ve attended quite a number of technical sessions and panel sessions, I think for where the industry is at the moment, the programme has captured exactly the positioning of the industry, coming out of a downturn and moving into a transition.”
OPENING CEREMONY AND KEYNOTE ADDRESSES

The opening ceremony took place on the afternoon of Tuesday, 20 March. The session hosted by Tan Sri Wan Zulkiflee Wan Ariffin, OTC Asia Advisory Committee Chair, and President and Group Chief Executive Officer, PETRONAS, welcomed over 2,000 people. The audience witnessed the official opening of the OTC Asia 2018 edition and also heard remarks from Wafik Beydoun, Chairman, OTC Board of Directors.

Tan Sri Wan Zulkiflee Wan Ariffin
OTC Asia Advisory Committee Chair and
President and Group Chief Executive Officer
PETRONAS

“Asia continues to position itself as a dynamic and vibrant market where rapid economic and demographic growth will sustain demand for oil, gas and petroleum products in Asia in the foreseeable future. However, it is imperative for us to continue to be vigilant in maintaining cost discipline and drive for efficiency. This must remain a priority to future-proof the industry... I believe that investments in technology are crucial in sharpening the competitive edge of an organisation. We need to accelerate the pace of technological investments in order to overcome current and future industry challenges.”

Wafik Beydoun
Chairman
OTC Board of Directors

“OTC Asia reflects the region’s position as a global provider and user of technology where cultural and geographic diversity foster collaboration and innovation. This event showcases Asia’s achievements, its aspirations, and the important technological developments that the region needs to stay robust and resilient in the shifting global energy market.”

Today, we are seeing the prices as well as the industry’s activity momentum gaining strength, and we would like to hope that this period of recovery only means a very promising and optimistic future. Therefore, the next challenge is to pursue the right business and operational models to ensure sustainability and viability of the industry.”
The executive plenary featured Neil Duffin (President, ExxonMobil Production Company), Rajesh Kakkar (Director Offshore, ONGC), Datuk Mohd Anuar Taib (EVP & CEO, Upstream, PETRONAS), Andy Brown (Upstream Director, Shell), Khaled Al Mogharbel (President, Eastern Hemisphere, Schlumberger), and Doug Pferdehirt (CEO, TechnipFMC).

Expounding on the conference theme “Excellence in Asia” with a focus on how to remain resilient and responsive to a dynamic energy market, the distinguished panel of leaders discussed how best practices and norms need to be fully evaluated whilst seeking fit-for-purpose, affordable and innovative solutions. Spotlights were on key lessons learnt, new and effective approaches to adopt, and how best can the industry adapt to the new oil price environment.

Population growth and GDP growth goes hand-in-hand. World population is going to grow to 9 billion by 2040, and Asia is going to grow to 4 billion people. The drive and need for growth in the oil and gas, and renewable sectors are not going to satisfy the energy need for the various industries. Hence we need to transform the industry, run the industry differently. Collectively, the industry needs to change its mindset by bringing all - digital, data, new technology into play, and that is the new energy industry that we are going to see moving forward.

Neil Duffin
President
ExxonMobil Production Company (EMPC)

Rajesh Kakkar
Director, Offshore
ONGC

Datuk Mohd Anuar Taib
Executive Vice President & CEO, Upstream
PETRONAS

I think the first and foremost important thing is, as we grow we become very rigid in our thinking. So if we actually have to collaborate and get some meaningful outcome, first of all, we need to change our mindset. I think there can be collaboration at different levels, it can be in terms of technology, human resources sharing, anything.

Over the past three years we have seen resiliency, a lot of collaborative efforts to reduce costs, there are a lot of new techniques, new technologies that get discovered to make the industry more efficient, and different kinds of contracting. These are things that the industry have done to remain relevant and potentially be a more vibrant industry in the future.
Standardisation and collaboration are needed in the oil and gas industry so supply chain can provide a better service.

We need to stop boxing ourselves, starting with the commercial model. We need to be more flexible, to be more efficient and be lean in business in addition to leading the exploration and technology front.

Fundamentally, we have to change our behaviour... We need to willingly make a commitment to our clients, what we can do to continue to innovate, to drive down the cost curve, to continue to drive change.
Today, we are transforming ourselves through digital transformation, not just digital innovation… To encourage innovation, we need to tear down silos, encourage in-person communications.

The next wave of automation is well underway. Rapid advances in robotics, sensing, machine vision, deep learning, voice recognition, analytics, and artificial intelligence mean that machines are increasingly able to perform tasks formerly done by humans. Every company must totally rethink its labour strategy. Both blue- and white-collar jobs are at risk. In the next decade, most workers will be managed by algorithms. Teams of the future will be made up of humans, robots, and algorithms working together.

The cloud is a safe place to play.

Today, we are transforming ourselves through digital transformation, not just digital innovation… To encourage innovation, we need to tear down silos, encourage in-person communications.
Panel sessions featured business leaders and industry experts who engaged in insightful dialogues on current industry issues and shared knowledge and best practices in key areas of concern.

**SESSION TOPICS**
- The Sum is More than Its Parts – Balancing Cost, Quality, Reliability, Safety and Sustainability
- Strategy Review – Reshape and Regain Market Competitiveness
- Revolutionary Evolution - The Impact of Big Data on Offshore Energy
- Applications of Technologies from Other Industries to Oil and Gas
- The Energy Paradigm
- Better for Longer - Asset Integrity and Life Extension
- Decommissioning - The New Era
- Talent and Performance Management in Oil and Gas

As we move out from the traditional contract environment of being told what to do, we take on more responsibilities, we have a greater share of ownership, and because of that ownership we create more value.

It is no longer a question of whether we need to reshape to regain competitiveness. The question is how and what should we do. It is through integrated approaches, necessity for new and fast technological advancements and be open for collaboration.

The pitch by the fund manager is that the industry can provide good return to investors. The mantra has switched from growth in 2014 to the emphasis of cash flow and sustainability through the down cycle.

To survive, the industry has to adapt to the new reality, come together and initiate collaboration and partnership with host companies, regulators, service providers, partners to continue harnessing and supplying the world with energy.
What will enable us to embrace industry 4.0? It is through digital transformation. If we don’t go through digital transformation, we become obsolete.

The revolution in unconventional oil and gas has really changed our assumption about the sources of hydrocarbon and how quickly it can be developed to meet growing demand. The abundance of fossil fuels has altered the pricing environment for the foreseeable future.

Expand your thinking of what a Rigs-to-Reefs programme can be. Is there an opportunity for the jacket to keep integrating in the marine environment?
Nor Hazileen Madros  
**CEO**  
PETRONAS Leadership Centre

Liane Smith  
**VP Digital Solutions**  
Wood

C. Susan Howes  
**Vice President Engineering**  
Subsurface Consultants & Associates, LLC

Wijnand Moonen  
**Vice President, Business Development, Southeast Asia, Managing Director**  
Sky Futures (Malaysia) Sdn. Bhd.

Hazli Sham Kassim  
**Senior General Manager, Integrated Hyrdocarbon Management, MPM**  
PETRONAS

Stefan vos de Wael  
**General Manager Shell Energy Global Integration**

D.J. Schuld  
**Operations Director – Consulting/Asset Integrity Services, Continental Europe, Middle-East, India & Asia**  
Lloyd's Register

Zahari Abdul Razak  
**Group Technical Advisor, GTA and Civil and Structural Discipline**  
PETRONAS

Stuart Smith  
**CEO**  
NOPSEMA

Niels Dijksman  
**Rejuvenation and Decommissioning Manager**  
Brunei Shell Petroleum

Hasliza Othman  
**Senior General Manager, Resource Development, MPM**  
PETRONAS

Inge A Van Coppenolle  
**Human Resources Manager, Asia Pacific**  
ExxonMobil Asia Pacific Private Pte. Ltd.

Stig Adolfsen  
**Regional Director – Asset Integrity**  
Fugro Singapore Marine APAC

Ahmed Ibrahim  
**Vice President Digital Sales – APAC**  
Baker Hughes, a GE company

Aly Hakam  
**Area Manager**  
Chevron

Ravikumar Jeevarathinam  
**Vice President Technology & Innovation**  
Lloyd's Register

Nabeel Ahmed  
**Middle East North Africa & Asia Pacific HR Director**  
Halliburton

Tristan J. Aspray  
**Vice President, Asia Pacific, Middle East**  
ExxonMobil Exploration Company

Raphael Guentherl  
**Vice President, Software Technology & Solutions**  
Schlumberger

Nigel Lees  
**Senior Vice President**  
Wood

Aravind Kaniappan  
**Sales and Commercial Director, APAC**  
Baker Hughes, a GE company

Vinit Verma  
**Manager, Data & Analytics**  
ExxonMobil Information Technology

Norman Ingka  
**Technical & Process Safety Manager**  
Shell

Barry Headridge  
**General Manager Life of Field, Subsea Services, APAC**  
TechnipFMC

Julie Morgan  
**Chief Flow Assurance Engineer**  
Woodside Energy Ltd.

Arnold Volkenborn  
**Managing Director, APAC Lead for Accenture Strategy Energy**  
Accenture

Bartholomew Jukui  
**End of Field Life BOM/D&R Owner**  
Sarawak Shell Bhd.

Christopher Do  
**President & CEO**  

Clay Harter  
**CTO - Oil and Gas**  
Bahtwan CyberTek a TIBCO Partner

Robert Shoup  
**Chief Geologist**  
Subsurface Consultants & Associates, LLC

Dr. Deva Ghosh,  
**Professor in Geophysics, Head of Centre of Seismic Imaging**  
Universiti of Teknologi PETRONAS

Allan R. Magee  
**Professor**  
National University of Singapore
Country sessions provided in-depth coverage of the latest oil and gas developments in Asia and beyond. In addition to country briefings that included market outlook, investment climate and opportunities, these sessions also highlighted industry and technological advancements in recent and on-going major projects.

**COUNTRIES**

- **Australia**
- **India**
- **Indonesia**
- **Japan**
- **Malaysia**
- **Myanmar**
- **South Korea**
- **Sri Lanka**
- **Thailand**
- **Netherlands**

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**Australis Hatakeyama**
Deputy General Manager, Technical Department 1, Division 1
JX Nippon Oil & Gas Exploration Corporation

**Yudo Dwinanda Priaadi**
Senior Advisor for Strategic Planning
Ministry of Energy and Mineral Resources Republic of Indonesia

**Supalak Parn-anurak**
Director of Planning Division
Department of Mineral Fuels of Thailand

**Zaw Aung**
Director General, Oil & Gas Planning Department
Ministry of Electricity & Energy Myanmar

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*For the oil and gas industry, a sustainable development scenario is the key to survival. Even in the sustainable development scenario, gas demand will be much higher than oil and coal in 2040.*

*If there is regulation that is blocking or hampering your investment in Indonesia, we want to listen and do the best we can do. We want to work together with you to make your investment in Indonesia easier than before.*

*The gas demand will be strong for the next 20 years, even though the government has plan to curb the growth. Meanwhile the supply from new fields is limited, our domestic supply currently has reached its maximum capacity. In the near future, the challenge is how to prolong field life to maintain domestic supply as long as possible. A huge investment will be put in new technologies to enhance the fields’ productions and reserves.*

*We are considering increasing regional cooperation by expanding the grid interconnection and pipeline network to neighbouring countries to share power supply.*
The global LNG market is expected to grow at around 5% on a year-on-year basis, or 290 mtpa in 2017 to 530 mtpa in 2030, which is a gross increase of 240 mtpa.

How can we make the best, in order to sustain production that’s in the plateau, extend the life of the fields and satisfy the country’s ever increasing demand in terms of energy?

It is estimated that 75% of India’s hydrocarbon reserves are yet to be discovered, and of the proven reserves, only 5% (oil) and 3% (gas) have been exploited.

The government of Sri Lanka has made plans to launch a mini licensing round commencing this year (2018). Also, Sri Lanka has plan to conduct a major licensing round in 2019.
We need to fill the underutilised capacity and improve our position both internally and externally for export. A lot of that is going to be through brownfield modification, tie-backs and opportunities to use existing facilities we have abandoned.

What we now see is because of low oil prices and increased competition. This is now getting an impetus from the industry that wasn’t there before. It is no longer a luxury to cooperate, it is a necessity to cooperate. We are already starting to see the early signs across the sectors of more cooperation to unleash that value and bring down the cost and be competitive to extract new volumes in Australia.

In Netherlands, there are some 250 small fields, onshore and offshore, currently in production. They increasingly become more complex as they mature. If we are not careful, some of those reserves will become stranded. So the challenge is to even production in stranded reserves.

For the first 3 months of 2018, we have a few oil and gas related projects in the pipeline with an expected investment worth RM1.8 billion. This emphasises Malaysia’s role as a strategic location for oil and gas industry players.

There is a large youthful population in Myanmar that provides a labour force that is very attractive to foreign investors.
Special sessions included project and technology sessions which featured new and emerging technologies, and highlighted projects that had new or significant technological achievements.

SESSION TOPICS

- FLNG – Charting a New Course
- Autonomous Operations in Offshore Oil & Gas Industry – Opportunities and Challenges
- Plugging and Abandonment Technology – Supplier and Service Industry’s Response to P&A Liabilities in Oil and Gas
- Deepwater Projects
- Technologically Challenged Fields
Technical sessions provided industry professionals the opportunity to present their technical expertise, and share best practices and case studies with industry peers. It served as a platform for presenters and the industry to hone their knowledge through an active exchange of ideas.

**SESSION TOPICS**

- Alternative/Offshore Renewable Energy
- Asset Integrity
- AUV/ROV Assisted Operations
- Big Data in Design and Operations
- Brownfield Development
- Cementing
- Decommissioning and Abandonment
- Deepwater Designs and Station Keeping
- Deepwater Wells Technology
- Developing Insights in Governance, Standards and Guidelines
- Digital Applications
- Drilling and Completions Case Studies
- Drilling Fluids and Geomechanics
- Drilling Bottom Hole Assembly and Bit Technologies
- Emerging Geophysical Technologies
- Facilities Engineering
- Floating Systems
- Flow Assurance
- FLNG
- Gas Production from Hydrates: Well and Reservoir Issues
- Gas Production from Hydrates: Simulation Studies of Flow and Geomechanics
- Gas Production from Hydrates: Supporting Experimental Studies
- Geotechnical and Geohazards
- High CO₂ and Contaminated Fields
- HSE and Critical Operations
- Installation and Construction
- IOR/EOR
- Managed Pressure Drilling and Under Balanced Drilling
- Marginal Fields
- Materials, Corrosion and Inspection
- Metoceans and Hydrodynamics
- Oil and Gas Environmental Protection
- Pipeline
- Play-Based Exploration and Basin Studies
- Reducing Exploration and Development Risks
- Reservoir Characterisation
- Reservoir Management and Surveillance
- Reservoir Modelling
- Riser Systems
- Sensors and Measurement Systems
- Subsea Processing, Flowlines and Umbilicals
- Unconventional
- Well Completions and Tubular Technologies
An ePoster is an electronic version of the traditional poster, presented in digital format. ePoster authors shared their technical studies via stations provided at event. This format offers an informal, interactive and instant environment for knowledge transfer.

**KNOWLEDGE SHARING ePOSTER SESSIONS**

- **21** ePoster Stations
- **120+** technical presentations
PROGRAMME COMMITTEE

CHAIR
Mazuin Ismail
PETRONAS

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS (AAPG)
CHAIR
Robert Shoup, Subsurface Consultants & Associates, LLC
VICE CHAIR
Mark Tingay, Critical Stress Geomechanics
MEMBERS
Chengzao Jia, PetroChina Company Ltd.
Mark Hearn, Independent
Allan Filipov, EMGS Asia Pacific
Clare Barker-White, IHS Markit
John Jong, JX Nippon Oil & Gas Exploration Co
Wan Ching Low, PETRONAS
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Sharifudin Salahudin, Sutera Energy Solutions
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Elie Daher, United Safety
Paco Vieira, Weatherford
Thomas Ng, Weatherford
RECOGNITION PROGRAMMES
Distinguished Achievement Award for Individuals
Simon Ong for his contributions to the offshore sector. During his career, he advocated a regional engineering headquarters in Kuala Lumpur for Shell’s Projects & Technology business, which paved the way for high value careers for young individuals in technology and innovation, providing technical solutions to the oil and gas industry and managing projects from design, fabrication to start-up.

Ong also spearheaded the entry into the deepwater arena for Malaysia and the region by delivering Gumusut-Kakap and Malikai.

It is an honour to be selected to win this inaugural award. It is very much a reflection of the recognition to the individuals who have contributed to the industry. Of course, I alone am not the only person that helped develop this capability in Malaysia. So I can say that I am very excited and very proud to represent my colleagues and all those who have helped make this industry competitive and competent.

Special Citation
Datuk Abdullah Karim for his outstanding leadership and key role in delivering the PFLNG Satu project.

I feel proud, honoured and privileged to be given a lot of credit by the industry.

Distinguished Achievement Award for Companies, Organisations and Institutions
PETRONAS for their ground-breaking PFLNG Satu project.

PFLNG Satu is the world’s first floating Liquefied Natural Gas (LNG) facility, which unlocks small stranded gas fields which were previously uneconomical to monetise.

Currently moored 180km offshore in the Kanowit Field in Sarawak, Malaysia, PFLNG Satu completed commissioning and achieved its first cargo in April 2017, successfully proving the concepts, technology and processes used to adapt natural gas liquefaction for an offshore environment.

Special Citation
Michael Utsler for his achievements as a technical pioneer, inspiring leader and dedicated mentor. Some of Utsler’s key achievements include championing LNG as a marine fuel and serving as President of the BP Gulf Cost Restoration Organisation.

It’s truly an honour and a privilege to be recognised by your peers and by your industry. It’s an industry that I’ve been a part of for 40 years and it’s one that I take great pride in being able to represent and be in service of supporting its successes.
OTC Asia recognises innovative technologies with the Spotlight on New Technology® Awards. This recognition programme is exclusively for OTC Asia exhibitors. The programme recognises the latest and most advanced technologies from the region that are leading the industry into the future.

AWARD RECIPIENTS

- ConocoPhillips, producer of Compressive Seismic Imaging
- Halliburton, producer of Quasar Trio™ M/LWD Triple Combo Service
- Halliburton, producer of WiFire™ Acoustic Firing Head
- NGL Tech, producer of Low Pressure-Condensate Recovery System (LP-CRS)
- NGL Tech, producer of Sep-iSYS™ Cyclonic Sand Removal System (CSRS)
- Schlumberger, producer of Pulsar, Multifunction Spectroscopy Service
- Schlumberger, producer of SpectraSphere Fluid Mapping-While-Drilling Service
- TechnipFMC, producer of In-Service Riser Inspection System (IRIS) Technology
- Weatherford, producer of HeatWave™ Extreme Service
- Weatherford, producer of WFX0™ Openhole Gravel Pack System
EXHIBITION

“

We see that South East Asia is one of the growing regions in the world and we believe that here at OTC Asia is one of the most important scenes to be on and we see it as helpful in developing further into the region.

"
Showcasing the latest innovations and services to develop offshore energy resources

OTC Asia received positive feedback from exhibitors, strengthening its place as a vital venue to showcase the latest innovative technologies and services reinvigorating the energy sector. OTC Asia would like to thank all exhibitors for their feedback and participation this year.

239 exhibitors and sponsors from 21 countries

98.1% of exhibitors rated the value of exhibition as fair to excellent
95.6% of exhibitors plan to exhibit in 2020

EXHIBITORS BY PRIMARY BUSINESS

- 3.34% Consulting
- 14.21% Exploration and Production
- 1.84% Government / Regulators
- 18.43% Manufacturing / Original Equipment Suppliers
- 0.66% Telecommunications
- 1.18% Education
- 0.46% Finance / Insurance / Legal
- 1.90% Hardware / Equipment
- 2.75% Marine Services and Shipping Logistics
- 0.52% Unmanned/Remote/Autonomous Systems and Vehicles/Drones/Robotics (Surface/Aerial/Underwater)
- 15.21% Engineering / Construction
- 0.39% Geosciences
- 0.90% IT and Software Development
- 21.69% Oilfield Services
- 16.52% Others
EXHIBITION

- 86.2% of exhibitors met with existing clients and partners
- 82.5% of exhibitors were satisfied with the visibility of their company at OTC Asia
- 93.6% of attendees visited the exhibition
- 96.6% of attendees rated the exhibition as good to excellent

EXHIBITORS BY JOB FUNCTION

- Business / Strategy / Economics: 20.98%
- Downstream and Petrochemicals: 1.52%
- Drilling and Completions: 9.05%
- Education: 0.52%
- Gas and Pipelines: 4.98%
- Geoscience: 0.98%
- HSE / Security / Social Responsibility: 1.11%
- IT / Data / Analytics: 0.92%
- Maintenance and Integrity: 2.16%
- Naval and Marine: 1.64%
- Power Generation and Transmission / Regasification: 1.25%
- Production and Operations: 6.49%
- Projects and Assets: 3.80%
- Purchasing and Procurement: 0.79%
- Reservoir: 0.46%
- Sales / Marketing / Communications: 34.89%
- Others: 8.46%

EXHIBITORS BY JOB TITLE

- C-Level Executive: 12.07%
- Senior Management / Head of Department / Custodian: 25.44%
- Manager / Supervisor / Foreman: 33.80%
- Staff / Executive / Administrator: 26.69%
OTC Asia offers great opportunities for a diverse range of energy professionals to make new connections.

**TOP 10 COUNTRIES**

<table>
<thead>
<tr>
<th>Country</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
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<tr>
<td>Singapore</td>
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<tr>
<td>Thailand</td>
<td><img src="image" alt="Thailand" /></td>
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<tr>
<td>USA</td>
<td><img src="image" alt="USA" /></td>
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<tr>
<td>South Korea</td>
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<tr>
<td>Australia</td>
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<td>Indonesia</td>
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<td>India</td>
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<tr>
<td>Japan</td>
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<tr>
<td>China</td>
<td><img src="image" alt="China" /></td>
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</table>

**BY PRIMARY BUSINESS**

<table>
<thead>
<tr>
<th>Business Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consulting</td>
<td>7.21%</td>
</tr>
<tr>
<td>Geosciences</td>
<td>1.73%</td>
</tr>
<tr>
<td>Marine Services and Shipping Logistics</td>
<td>4.49%</td>
</tr>
<tr>
<td>Government / Regulators</td>
<td>1.66%</td>
</tr>
<tr>
<td>Hardware / Equipment</td>
<td>2.59%</td>
</tr>
<tr>
<td>OilField Services</td>
<td>19.19%</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>0.50%</td>
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<tr>
<td>Engineering / Construction</td>
<td>20.93%</td>
</tr>
<tr>
<td>Exploration and Production</td>
<td>15.53%</td>
</tr>
<tr>
<td>IT and Software Development</td>
<td>2.58%</td>
</tr>
<tr>
<td>Unmanned/Remote/ Autonomous Systems and Vehicles/ Drones/ Robotics (Surface/Aerial/Underwater)</td>
<td>0.57%</td>
</tr>
<tr>
<td>Finance / Insurance / Legal</td>
<td>1.43%</td>
</tr>
<tr>
<td>Manufacturing / Original Equipment Suppliers</td>
<td>9.15%</td>
</tr>
<tr>
<td>Others</td>
<td>10.75%</td>
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</tbody>
</table>

**BY JOB TITLE**

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-Level Executive</td>
<td>7.64%</td>
</tr>
<tr>
<td>Senior Management / Head of Department / Custodian</td>
<td>24.04%</td>
</tr>
<tr>
<td>Manager / Supervisor / Foreman</td>
<td>23.58%</td>
</tr>
<tr>
<td>Staff / Executive / Administrator</td>
<td>35.13%</td>
</tr>
<tr>
<td>Student</td>
<td>9.61%</td>
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</tbody>
</table>

**BY JOB FUNCTION**

<table>
<thead>
<tr>
<th>Function Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business / Strategy / Economics</td>
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</tr>
<tr>
<td>Downstream and Petrochemicals</td>
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</tr>
<tr>
<td>Drilling and Completions</td>
<td>7.07%</td>
</tr>
<tr>
<td>Education</td>
<td>4.08%</td>
</tr>
<tr>
<td>Gas and Pipelines</td>
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<tr>
<td>Geoscience</td>
<td>3.24%</td>
</tr>
<tr>
<td>HSE / Security / Social Responsibility</td>
<td>2.13%</td>
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<tr>
<td>IT / Data / Analytics</td>
<td>2.48%</td>
</tr>
<tr>
<td>Maintenance and Integrity</td>
<td>4.03%</td>
</tr>
<tr>
<td>Naval and Marine</td>
<td>2.07%</td>
</tr>
<tr>
<td>Power Generation and Transmission / Regasification</td>
<td>0.74%</td>
</tr>
<tr>
<td>Production and Operations</td>
<td>7.71%</td>
</tr>
<tr>
<td>Projects and Assets</td>
<td>6.87%</td>
</tr>
<tr>
<td>Purchasing and Procurement</td>
<td>3.91%</td>
</tr>
<tr>
<td>Reservoir</td>
<td>1.67%</td>
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<tr>
<td>Sales / Marketing / Communications</td>
<td>14.46%</td>
</tr>
<tr>
<td>Others</td>
<td>14.07%</td>
</tr>
</tbody>
</table>
Official Tour of the Exhibition

Following the Opening Ceremony on the afternoon of Tuesday, 20 March, industry leaders and VIPs toured the exhibition, led by Tan Sri Wan Zulkiflee Wan Ariffin, OTC Asia Advisory Committee Chair, and President and Group Chief Executive Officer of PETRONAS and Wafik Beydoun, Chairman, OTC Board of Directors.
The OTC Asia 2018 exhibition also included special features such as the OTCafé and Laman Asia where attendees could network, participate in giveaways, relax, enjoy artisanal coffee, and experience the diverse flavours of Malaysia.
DEVELOPMENT PROGRAMMES

“What I really like is the session where we bring young professionals – the future of our industry – into OTC Asia. Many people from different countries and organisations will face very similar challenges in their day-to-day lives. To collaborate and learn from one another and hopefully this network will grow as they grow in terms of seniority in the industry.”

Datuk Mohd Anuar Taib
Executive Vice President & CEO, Upstream
PETRONAS
Rethinking Energy: Adapting to Disruptive Forces in the Oil and Gas Industry

The Next Wave programme is tailored for energy professionals under the age of 36 or with less than 10 years working experience in the energy industry. This programme offered participants an opportunity to network with seasoned professionals, learn about pressing challenges and opportunities in the industry, and receive guidance on how to make the most of their careers.

The programme featured:

- **183** Participants
- **48** Organisations
- **12** Countries
- **18** Speakers
- **64** Roundtable Discussions
- **1** Keynote
- **1** Panel
- **1** Ice Breaker Activity
- **9** Hours of Networking

The Next Wave programme is a programme designed for young professionals with the idea of making sure that people with diversity of thought come together and find answers for some of the pressing questions that are challenging young professionals in today’s energy industry.

Alex Hali
OTC Asia The Next Wave Chair
Consultant Engineer
FM Global

“...”
We’re actually at a very exciting time in the oil and gas industry. What we see is the convergence of having both deep mastery and agility. What this means is as an oil and gas industry we’re still expected to have very good, very deep functional knowledge, so the requirement to have deep mastery around specific functional capabilities is critical... But at the same time we’re seeing this change to be agile across different skills.

Farehana Hanapiah
Head, Human Capital Management
PETRONAS
The University R&D Showcase and Challenge programme provides universities the opportunity to share their research and development projects relevant to the offshore energy resource industries, and collaborate with industry professionals to develop innovative ideas to address challenges facing the offshore energy industry.

111 Participants from 28 Organisations & 8 Countries

69 Innovative Ideas Developed during the Challenge

8 Countries
- Malaysia
- Singapore
- Thailand
- USA
- Australia
- Nigeria
- India
- Japan

Universities
- Chulalongkorn University
- Curtin University
- Dehradun Institute of Technology University
- Kyoto University
- National University of Singapore
- Suranaree University
- University of Petroleum and Energy Studies
- University of Western Australia
- Universiti Teknologi MARA
- Universiti Teknologi PETRONAS
UNIVERSITY R&D SHOWCASE AND CHALLENGE

Participating universities worked with industry professionals and mentors during a challenge programme to address the topic **How Can We Make Future Offshore Developments More Cost Competitive in the Global Energy Market?**

Universities pitched their solutions to a panel of judges for a chance to win USD5,000 in funding to further research and development. The winning solution was “Poseidon: An Autonomous Structural Health Monitoring System for Offshore Structures” by Universiti Teknologi PETRONAS (UTP).

As the challenge winner, UTP will need to develop a prototype of the project within 6 months and provide monthly reports on the project’s progress. UTP will return to OTC Asia in 2020 to present the latest on Poseidon and share their experience with the next group of University R&D Showcase and Challenge participants.

Collaboration is key to the future of our industry. Not only within the industry, but also when working with academic institutions. The OTC Asia University R&D Showcase and Challenge provides universities and industry a unique opportunity to discuss real-world problems, develop potential solutions, and receive face-to-face feedback on those ideas. It’s an invaluable way to come up with innovative ideas to disrupt the way we work.

Neil Kavanagh
OTC Asia Oversight Committee Chair and
Chief Technology Manager
Woodside Energy Ltd.
The High School Student STEM (Science, Technology, Engineering and Mathematics) programme is aimed at the next generation of offshore energy professional and their educators. This workshop offers the opportunity for high school students and teachers to engage and gain valuable insight into the industry.

This programme believes in the importance of giving teachers the tools they need to comfortably teach students on energy choices and careers. Hand-on activities provide educators with interactive, age-appropriate experiments using basic household items that illustrate energy concepts within the industry. The experiments are inexpensive and can easily be done in the classroom with their students.

The workshop is structured for students 16 years of age. The programme included expert speakers, hands-on activities, an Industry Panel Session, and an exhibition-technology tour. Students can use these opportunities to learn about how energy makes an impact on our everyday lives and career opportunities in the offshore energy industry.

Edward Graham
Chairman
ExxonMobil Exploration and Production Inc.

The world faces many challenges today, and fundamentally, most of those have a technology challenge associated with them. We fundamentally believe that STEM - Science, Technology, Engineering and Mathematics - will not only provide the future staff that we need to meet future challenges, but also creates an educated society that will help us figure out how to solve global challenges that we are going to face as a society.
PARTICIPATING SCHOOLS

- Jabatan Pelajaran Negeri Terengganu
- Khalifah Model Secondary School
- Kolej Tunku Kurshiah
- Kolej Yayasan Saad
- SM Agama Majlis Agama Islam Wilayah Persekutuan
- SM Istiqaas Yayasan Terengganu Besut
- SM Jenu Kebangsaan Chong Hwa Setapak
- SM Sains Selangor
- SM Sains Sultan Mahmaid
- SMKA Durian Guling
- SMKA Sheikh Abdul Malek
- SMK Tengku Lela Segara
- SMK Bukit Jalil
- SMK Dato’ Razali Ismail
- SMK Lembah Bidong
- SMK Rantau Petronics
- SMK Subang Utama
- SMK Taman Setiawangsa
- SMK Tengku Intan Zaharah
- SMK Vivekananda
- Taylors International School Kuala Lumpur

SPEAKERS

- Hazizi Hassan, Tapis Asset Manager, ExxonMobil
- Nurul Hannah Abdul Ghafar, Explorationist, Murphy Oil
- Professor Haji Mohd Ekwan Haji Toriman, Deputy Vice Chancellor, Research and Innovation, Universiti Kebangsaan Malaysia
- Moderator: Elida Bustamam, former TV3 presenter

Out our younger generation in a Malaysian context is very important because culturally many of us are not exposed or aware of the oil and gas industry. Having programmes such as STEM, allows young Malaysians to have an impression of what the oil and gas industry is, and therefore they can make an informed decision with regards to their future.

Andrew Chan Jon Kit
Senior Geophysicist, Subsurface Asset
Murphy Oil
Various ancillary programmes were organised in conjunction with OTC Asia 2018 to provide further business opportunities for networking. These programmes were organised by OTC Asia stakeholders from the Malaysia Task Force and trade commissions.

**International Sourcing Programme (INSP)**

The International Sourcing Programme (INSP) coordinated by the Malaysia External Trade Development Corporation (MATRADE) in conjunction with the recent Third Offshore Technology Conference Asia 2018 recorded RM154.84 million.

MATRADE said the INSP involved the participation from 52 Malaysian companies and 22 foreign buyers from 12 countries, including those from ASEAN, South Asia, the Gulf, Africa and the United States.

“There were 169 pre-arranged business meetings coordinated during the two-day event,” it said in a statement Friday.

The foreign buyers were mainly looking for surface equipment, flow control, pipeline system and equipment, control systems, pump and compressors, safety equipment, well control systems, communication equipment and services, power generation, pressure vessels and services in drilling, oil and gas exploration, land transportation, training and consultancy.

Deputy Chief Executive Officer, Wan Latiff Wan Musa reminded both Malaysian companies and foreign buyers to play their role in following up on the business negotiations, as it may take between two or three years to conclude a transaction.

MATRADE will continue to support and encourage Malaysian oil & gas companies to explore and expand their business activities in the international arena.

The agency’s next activity will be participation in the Offshore Technology Conference (OTC) in Houston, from April 30-May 3 and the event which provide a good platform for Malaysian companies to exchange ideas, discuss on potential collaboration and promote their branding in the United States.

This will be followed by an INSP in conjunction with the 4th Malaysian Oil & Gas Services Exhibition & Conference, Export Acceleration Mission to Baku (Azerbaijan) and Almaty (Kazakhstan) alongside participation in the Abu Dhabi International Petroleum Exhibition and Conference.

Malaysia’s exports of O&G products in 2017 were valued at RM142.34 billion. The key exports were petroleum products, liquefied natural gas and crude petroleum.

**MALAYSIA TASK FORCE**

The Malaysia Task Force is made up of stakeholders in Malaysia, such as the national oil company, PETRONAS, the International Conference and Exhibition Professionals (iCEP), and government agencies including the Kuala Lumpur City Hall (DBKL), the Malaysia External Trade Development Corporation (MATRADE), the Malaysian Investment Development Authority (MIDA), the Malaysian Oil & Gas Services Council (MOGSC), and the Malaysia Petroleum Resource Corporation (MPRC).

The objective of the Task Force is to manage Malaysian interests, in order to ensure the event meets the needs of the local industry, and promote Malaysia as a regional hub for oil and gas services by arranging ancillary programmes to complement OTC Asia.
OTC ASIA 2018 IN PHOTOS
OTC ASIA 2018 IN PHOTOS
A Closing Session for OTC Asia 2018 took place on the afternoon of Friday, 23 March. Datuk Mohd Anuar Taib, Executive Vice President and Chief Executive Officer, Upstream of PETRONAS extended his appreciation to all the committee members, speakers, delegates, exhibitors, students and volunteers - as well as sponsors and supporters - for making the third edition of OTC Asia a resounding success.

The session also included a symbolic passing of the baton from Tan Sri Wan Zulkiflee Wan Ariffin, OTC Asia Advisory Committee Chair, and President and Group Chief Executive Officer of PETRONAS to Wafik Beydoun, Chairman, OTC Board of Directors to signify the return of OTC to Houston.
SAVE THE DATE

OFFSHORE TECHNOLOGY CONFERENCE ASIA

24 - 27 March 2020
Kuala Lumpur, Malaysia
An OTC Event

Other OTC Events

www.otcasia.org  |  #otcasia  |  #derrickandsoo