



Product & Services:

Real-Time Operations Services (RTOC)

Well Planning & Engineering

Malaysia's First Real Time Operations (RTOC) company. Excellent track records. Expanding our RTOC portfolio domestically and internationally.

OUR HUMBLE BEGINNING

I-RTOC PROVIDER

- ❖ *With a humble beginning in 2016*, EFTECH has become Malaysia's First RTOC Company having served PETRONAS Wells operations since 2016 until present.
- ❖ *EFTECH maintains an outstanding service delivery* and performance in PETRONAS Wells with strong performance rating.
- ❖ *EFTECH strengthens* its RTOC portfolio by winning Shell RTOC contract in 2018. Once again, the performance and service delivery has set at the highest standard.
- ❖ *EFTECH continues to expand* its RTOC portfolio by setting its footprint in Mubadala Petroleum for the upcoming drilling campaign.
- ❖ *With PETRONAS, Shell & Mubadala Petroleum* are being served by EFTECH, it has positioned a Malaysian company as the leader in local RTOC drilling industry.



OUR I-RTOC FOOTPRINT



A LOCAL COMPANY GOES INTERNATIONAL

For over 5 years leading the RTOC services in Malaysia, EFTECH are expanding our RTOC portfolio both domestically and internationally. We are serving 3 major clients in Malaysia including **PETRONAS Carigali**, **PETRONAS International**, **Shell** and **Mubadala Petroleum**. With the trust and support from PETRONAS, we are currently supporting and monitoring RTOC operations in **Iraq**, **Gabon**, **Myanmar**, **Turkmenistan**, **Mexico**, **Indonesia**, **Brunei**, **Suriname** and **Brazil**. We are also expanding our scope of services in Shell by supporting their international operations in Australia. We will continue to make the nation proud.



OUR CLIENTS:



HALLIBURTON



A LOCAL COMPANY GOES INTERNATIONAL



PETRONAS

- Provision of Combined RTD & RTO Services, PETRONAS Carigali Sdn. Bhd. Provision of RTD & RTO, PETRONAS Carigali Myanmar (Hong Kong) Limited
- Provision of Real Time Drilling, Halliburton Iraq (PETRONAS Carigali Iraq Holding BV) Provision of RTD Services, PETRONAS Carigali (TURKMENISTAN) SDN BHD
- Provision of RTD Services, PETRONAS Carigali Indonesia
- Provision of Combined RTO & RTD Services, PC Carigali Mexico Operations (PCCMO)
- Provision of RTD Services, Petronas Suriname



PETRONAS

SHELL

- Provision of Wells Engineering Consultancy Services, Sarawak Shell Berhad, Package A – Drilling Performance Optimization Services (SPOC), Sarawak Shell Berhad.



MUBADALA

- Provision of Real Time Monitoring Intervention & Visualization



OTHERS

- Real Time Operations Monitoring & Well Planning, Gold Petrol Myanmar

OUR I-RTOC SERVICES

OUR INTEGRATED SERVICES



1. PRE-JOB SIMULATION & ANALYSIS

- Predrill Engineering Modelling
- Drilling Analysis Report
 - ✓ Detailed analysis
 - ✓ Max/min flowrate and hydrations
 - ✓ Max WOB
 - ✓ Buckling Point
- Roadmap Modelling
 - ✓ Torque & Drag, ECD
- Roadmap calibration



2. DATA AGGREGATION & DISPLAY

- Data Aggregation from all 3rd parties on the rig site.
- Web-Based Real-Time Operation display.
- Alarm & Notification.
- Offset Well Comparisons.
- Rig site CCTV



3. 24/7 REAL TIME MONITORING & INTERVENTION

- Surface & Downhole Drilling Parameter monitoring
- Report abnormally during operation to mitigate & prevent using flag severity.
- Real Time Formation Evaluation
- Plan vs Actual Trend based on Pre-Drill Analysis
- 3-6 hours operation update to stakeholders.



4. DRILLING OPTIMIZATION & PERFORMANCE ANALYSIS

- After Action Review
 - ✓ Study failure event
 - ✓ Drag Chart analysis
 - ✓ Optimization Opportunities
- Performance Analysis & Benchmarking
- Knowledge Sharing to all stakeholders

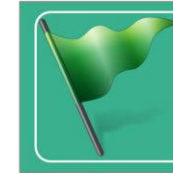
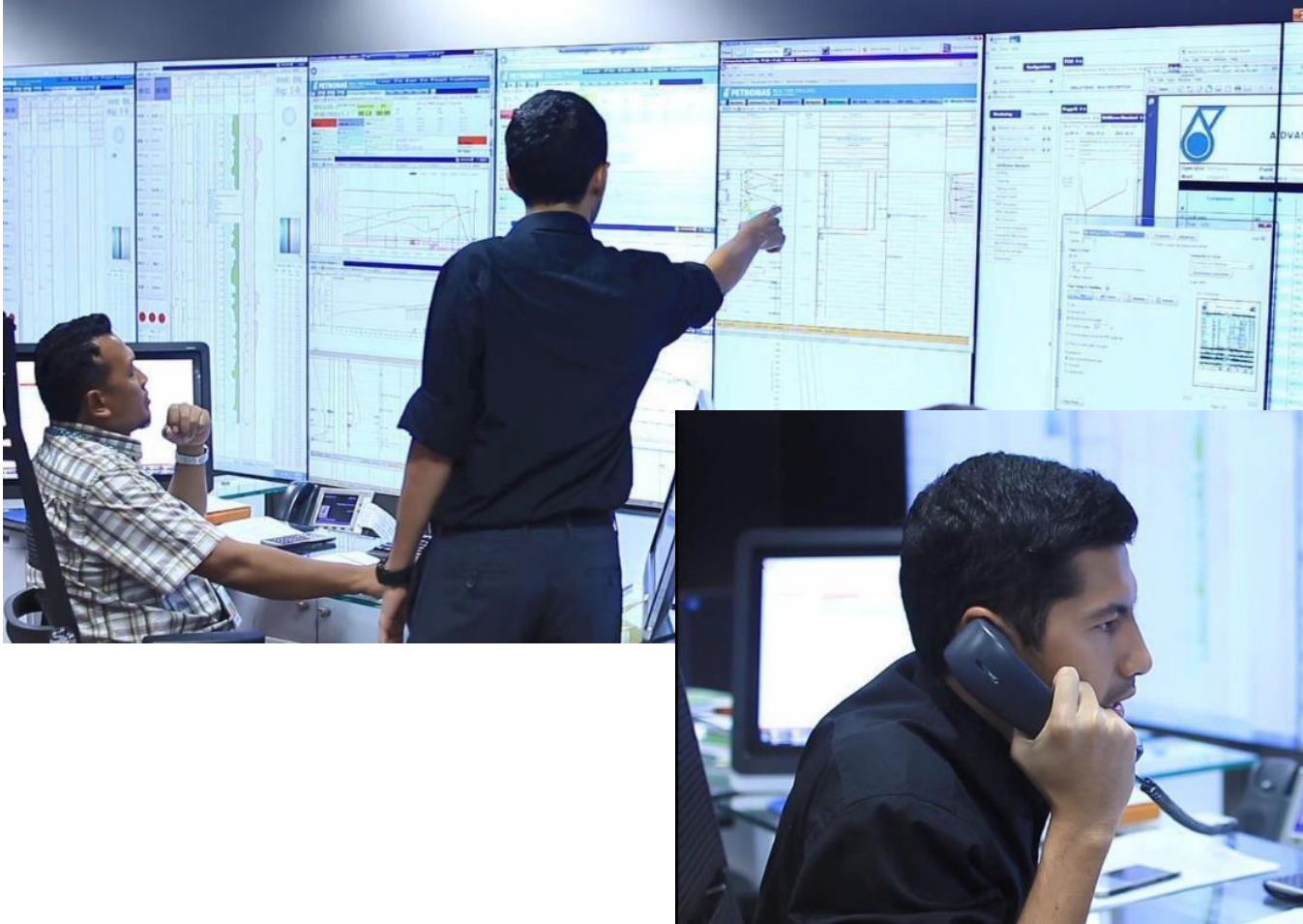


5. DATA ARCHIVING

- Proper data archiving for all reports being produced during the drilling campaign.

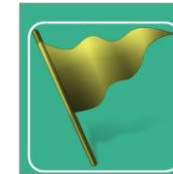
OUR I-RTOC SERVICES

REAL-TIME MONITORING & INTERVENTIONS



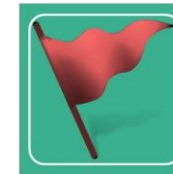
Green Flag

No critical impact on operation.
QAQC/ Regular Updates.



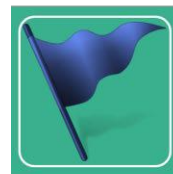
Yellow Flag

Current practices are likely to negatively impact operation within hours.



Red Flag

Current practices will surely have an immediate impact on operations.



Blue Flag

Change that has / will have a positive impact on operations.

Monitor real-time operation and intervene upon seeing issues using the flag system.

OUR I-RTOC SERVICES

DATA AGGREGATION, VISUALIZATION & SOFTWARE APPLICATION



1. Manage & monitor real-time data streaming from the rig site to town through VSAT* via high technology software for every drilling campaign. *"VSAT : very small aperture terminal"*
2. 24/7 maintaining RTO data quality and data transmission to software applications via WITSML protocol for monitoring & intervention purposes.
3. Perform troubleshooting in the event of data streaming failure and keep project team updated regarding the data availability.
4. Rig up & rig down RTO equipment prior and after job commence for both domestic & international project.
5. As admin to grant RTO access, customize real time monitoring template & provide coaching to project team on how to navigate the RTO application via mobile or web-based application. In addition, act as source of information centre & Real Time Data Archiving.

