

GE
SMART
ASIA 2018



Locate
#Locate18



WHEN

9 – 11 APRIL 2018

WHERE

ADELAIDE, AUSTRALIA

[CLICK HERE TO KNOW MORE](#)



PETRONAS

GeoSmart Asia 2017

Real Meshing Data in Oil & Gas Engineering Field

Robert Toba Siahaan
Sr Khairul Faizi B M Taib

Plenary 1: Spatial Analytics & Business Intelligence
22 August 2017
Putrajaya International Convention Centre, Malaysia

© 2017 PETROLIAM NASIONAL BERHAD (PETRONAS)

All rights reserved. No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise) without the permission of the copyright owner.

Malaysia at a Glance

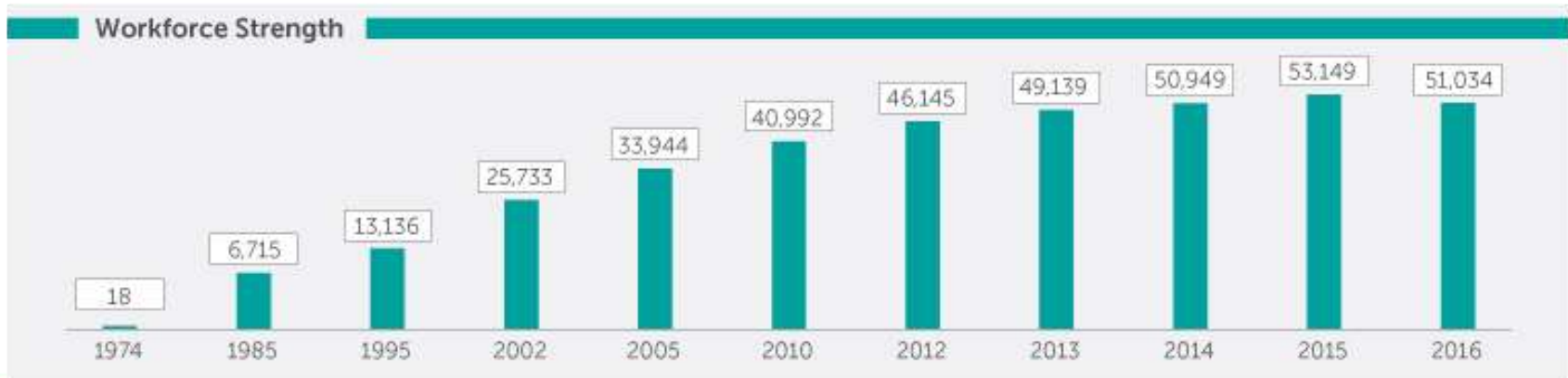
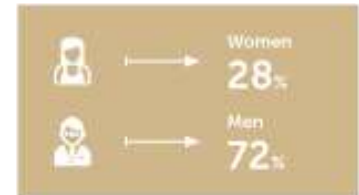
A Nation of Wondrous Diversity

- Malaysia consists of Peninsular Malaysia, and the states of Sabah and Sarawak on the island of Borneo.
- Population: Approx. 28 million people in **a melting pot of races and cultures**.
- Covering 329,758 square km area - landscape features coastal plains rising to forested hills and mountains, the highest of which is **Mount Kinabalu at 4,095.2 metres**.
- A **gastronomical paradise** and home to colourful festivals.
- **PETRONAS Twin Towers**: recently accorded **Asia's Top 10 Landmarks** by Trip Advisor - Traveller's Choice Awards.

Proven Economic Resilience

- 2016 **GDP Growth of 4.5%**
- On track with New Economic Model: **High income** status by **year 2020**
- **Private-Public** investment ratio: 65:35

PETRONAS at a Glance



Real Meshing Data in Oil & Gas Engineering field
Group Technical Data, PD&T, PETRONAS
Robert Toba Siahaan, Sr. Khairul Faizi M Taib

PETRONAS Technology

Unlocking New Opportunities

PETRONAS Technology is the world's preferred oil and gas technology with the objective to unlock new opportunities and potential through tirelessly providing technological breakthrough which proven after successful deployment within PETRONAS to contribute to not only for the oil and gas industry but also to the world.

Provided the
**Winning Formula to the
F1 World Champions of 2014,
2015 & 2016**



**Changing the landscape
of the LNG industry with
PETRONAS Floating Liquefied
Natural Gas: PFLNG Satu**



Seeing better than others via
cutting-edge **Geoimaging
technology**



PETRONAS
Open

Real Meshing Data in Oil & Gas Engineering field
Group Technical Data, PD&T, PETRONAS
Robert Toba Siahaan, Sr. Khairul Faizi M Taib

©Petroliam Nasional Berhad (PETRONAS) 2017

A photograph of a rocky stream flowing through a dense, lush green forest. The water is clear and cascades over moss-covered rocks. The surrounding vegetation is thick and vibrant green.

A Commitment to Sustainability

Nature's Medicine Chest

Partnering with local authorities in the conservation efforts of Imbak Canyon in Sabah, spanning 30,000 hectares, a treasure trove of 600 species of flora and fauna.



PETRONAS
Open

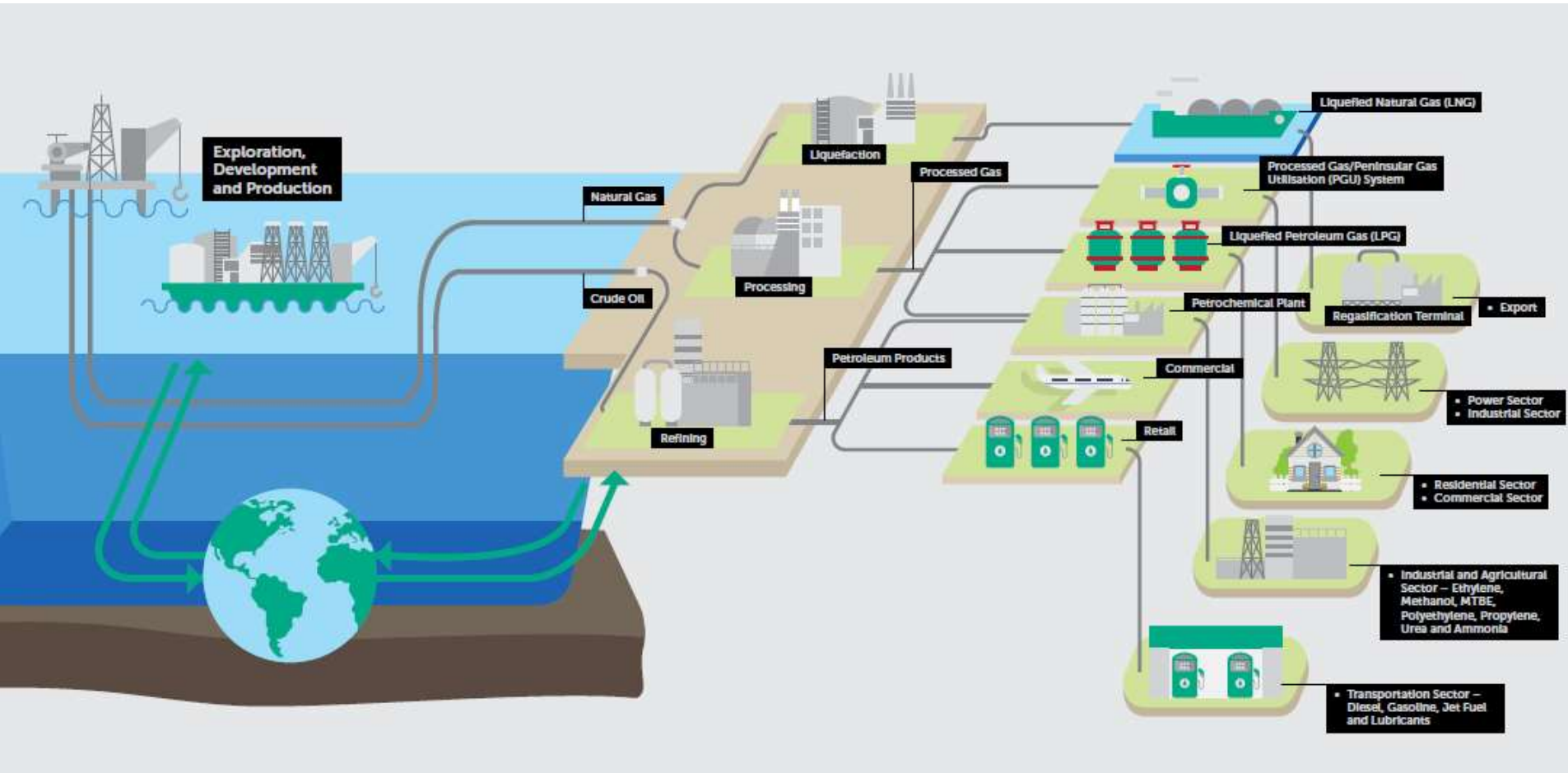
Real Meshing Data in Oil & Gas Engineering field
Group Technical Data, PD&T, PETRONAS
Robert Toba Siahaan, Sr. Khairul Faizi M Taib

©Petroliam Nasional Berhad (PETRONAS) 2017

Presentation Outline

1. Oil & Gas Value Chain
2. Sustaining Oil & Gas Industry
3. PETRONAS Web GIS Solution
4. Morphing Big Data
5. Spatial Analytic Tools
6. Conclusions

PETRONAS is an Integrated Organisation across Oil & Gas Value Chain



Source: PETRONAS Annual Report 2016

PETRONAS is continuously improving efficiency



Source: PETRONAS Annual Report 2016

Our wealth of engineering data will be used to ramp up efficiency

Business Requirement

- Optimised our resource : Right equipment, right quantity, right place at the right time

Current State

- Dispersed data across multiple business legal entities
- Multiple storage at various locations
- Multiple Data Types

Proposed Solution

- Centralised Equipment Database with digital view of equipment demography
- Data-driven Decision via Analytics

PETRONAS Web GIS Solution

PETRONAS

HOME TRAINING NEWS ABOUT CONTACT ADMINISTRATOR

Emmelia Azli Bt Ayub @ Abd Rahim (GTD/PD&T)

WEB GIS ARCGIS DESKTOP PORTAL HELP DESK

Malaysia

ALL DOMAINS | EXPLORATION AND PRODUCTION | HEALTH, SAFETY, SECURITY AND ENVIRONMENT |

Health, Safety, Security and Environment
Explore Health, Safety, Security

PETRONAS Regional Suitability Mapping (PRSM™)
PETRONAS Regional Suitability

Maritime Surveillance System
Explore PETRONAS integrated maritime information system that

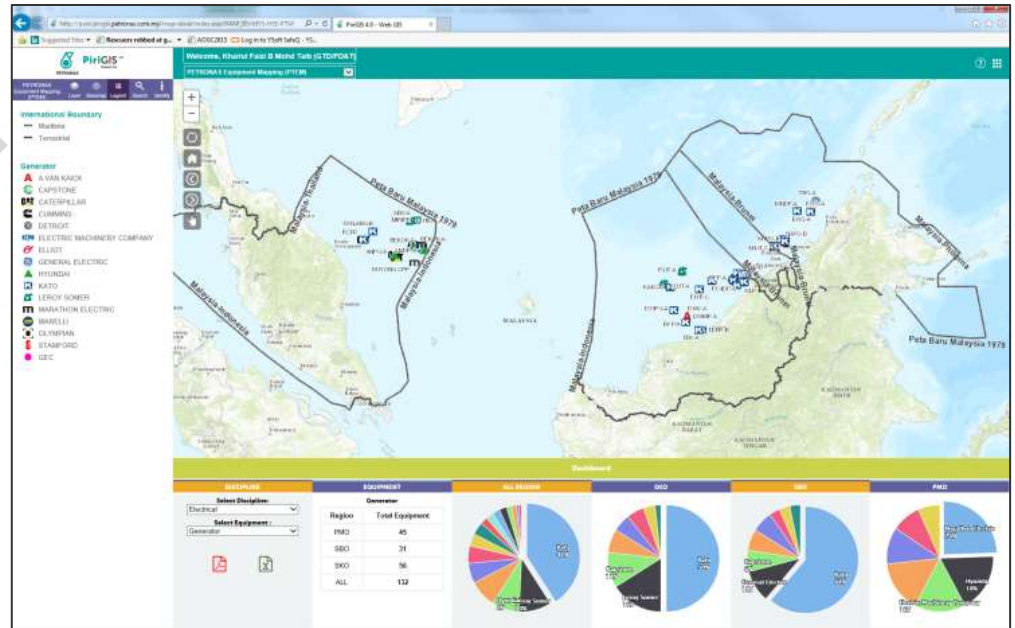
PETRONAS Equipment Mapping (PTM)
PTM is the one-stop-center of

Morphing Big Data into Business Intelligence to uncover insights

PETRONAS Technical Equipment Mapping (PTEM)

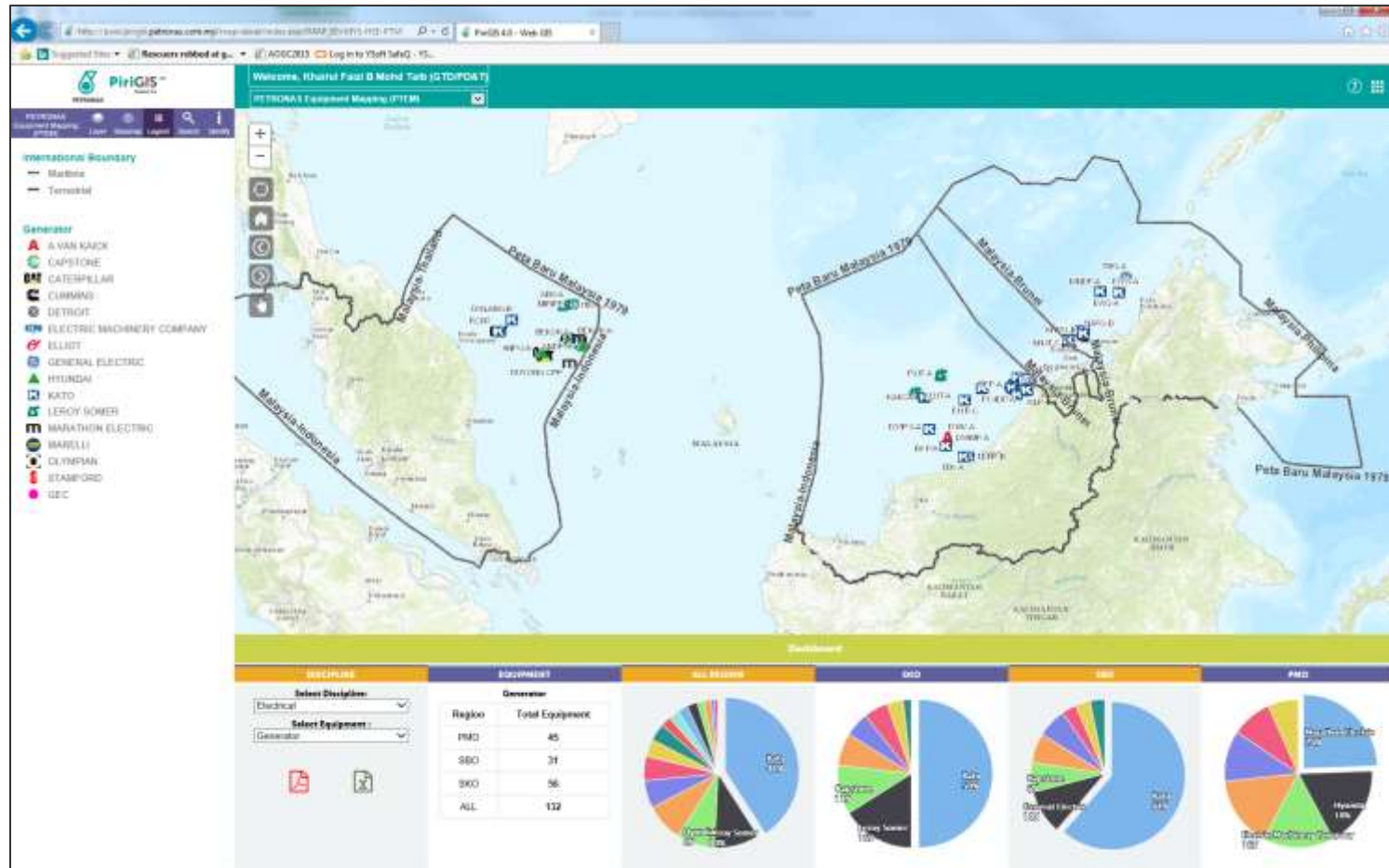
Data Spatial and Tabular

Spatial Analytics
Combination of Analysis & Visualisation



PETRONAS Web GIS Solution

Introducing PETRONAS Technical Equipment Mapping (PTEM)



Overview of PETRONAS Technical Equipment Mapping (PTEM)
Map View

Analytic Tool for Data Driven Decision



Approved Manufacturer List
(AML)



Company Proposed
Scheme (CPS)



Virtual Smart Supply Base
(VSSB)



PETRONAS Integrated Price
Agreement (PIPA)



Unit Maintenance Cost (UMC)



Total Cost of Ownership
(TCoO)



Materials Purchase
Optimisation (MPO)

GIS evolved beyond Traditional Cartography into Business Intelligence & Analytics



Reduce Capital Expenditure



Reduce Spares



Increase Cost Savings



PETRONAS



Thank you



PETRONAS

Backup

Moving Forward

Spatial Analytics is helping Oil & Gas Engineering Field in managing technical data adding more value to business:

1. Improve business process and simplification workflow.
2. Create confidence, accountability and trust of engineering data.
3. Assist business to make better decision efficiently from procurement and asset management perspectives.
4. Able to generate prediction and forecasting for business intelligence.