



PETRONAS

GeoSmart Asia 2017

Determining Geospatial Data Policy in Addressing Big Data Challenges

Sr Khairul Faizi B M Taib
Robert Toba Siahaan

Pre-conference Seminar:

Policy Intervention for Collaboration, Partnerships and Information Sharing

21 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

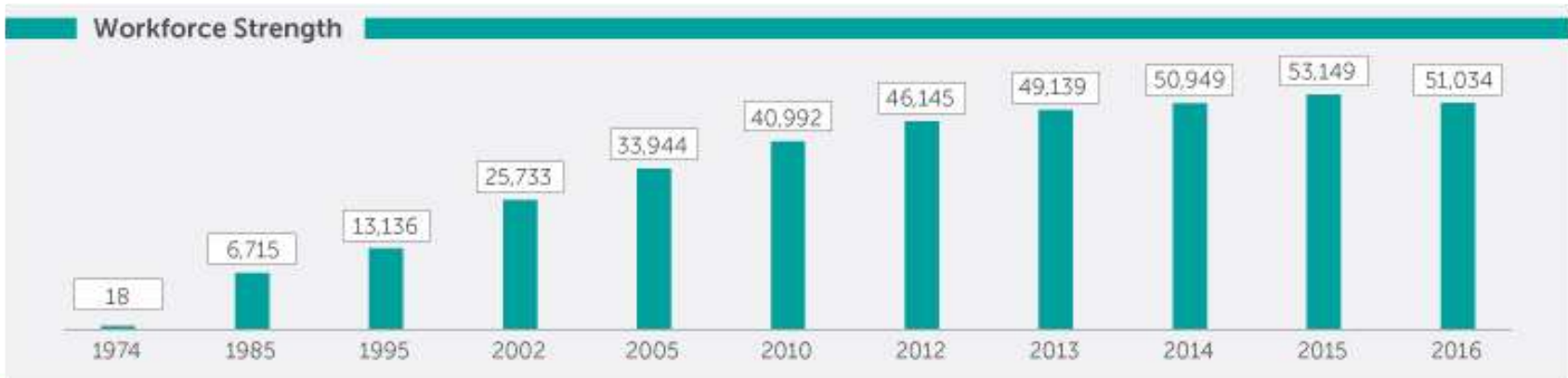
A Nation of Wondrous Diversity

- 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



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**



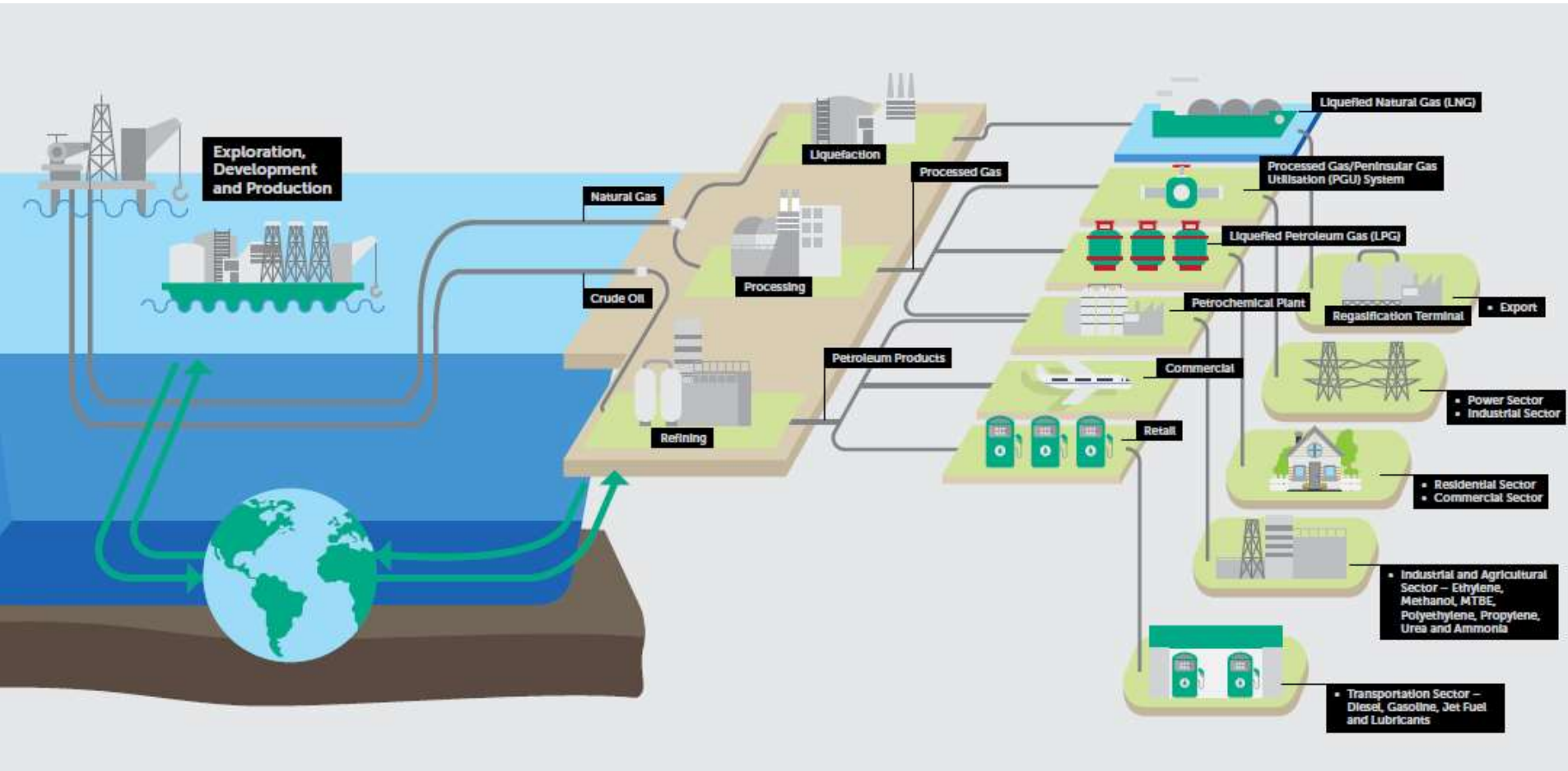
A lush tropical forest with a rocky stream flowing through it. The water is clear and cascades over mossy rocks. The surrounding vegetation is dense and green, with various types of trees and plants. The overall scene is vibrant and natural.

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 is an Integrated Organisation across Oil & Gas Value Chain



Source: PETRONAS Annual Report 2016

Life of Field - Upstream Activities



Big Data Challenges

Seismic



Well



Pipeline



Platform



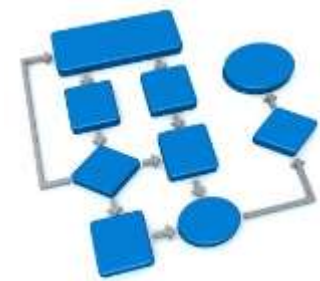
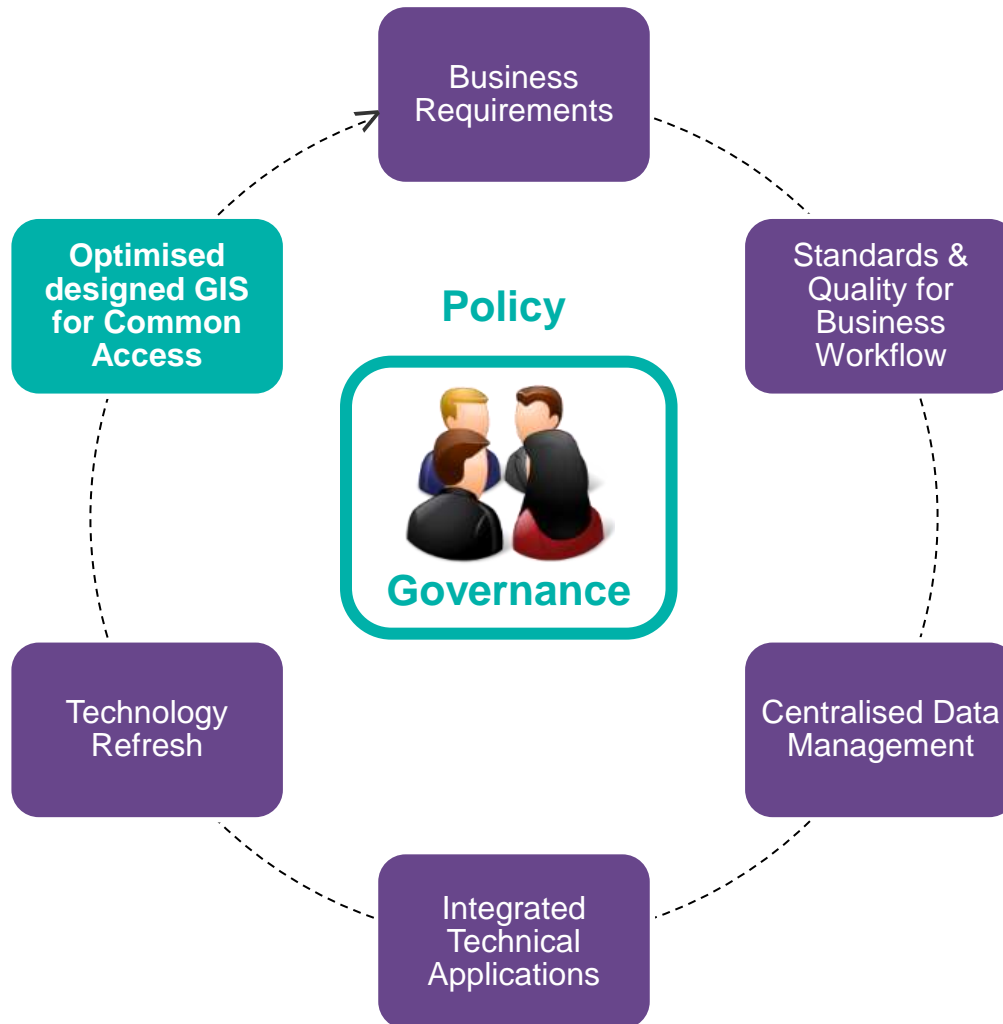
Production



Some Big Data Challenges

- 1. Upstream dataset is voluminous and complex, processing it with traditional data applications are demanding, timely and costly.**
- 2. Standardised multiple data and format into applications especially from proprietary data format.**
- 3. It is difficult to drive insights from unstructured data lying in multiple applications without matured and affordable Artificial Intelligence and Deep Learning.**
- 4. Sustaining compliance to data standards, policy and guidelines.**

Why Policy is Required?



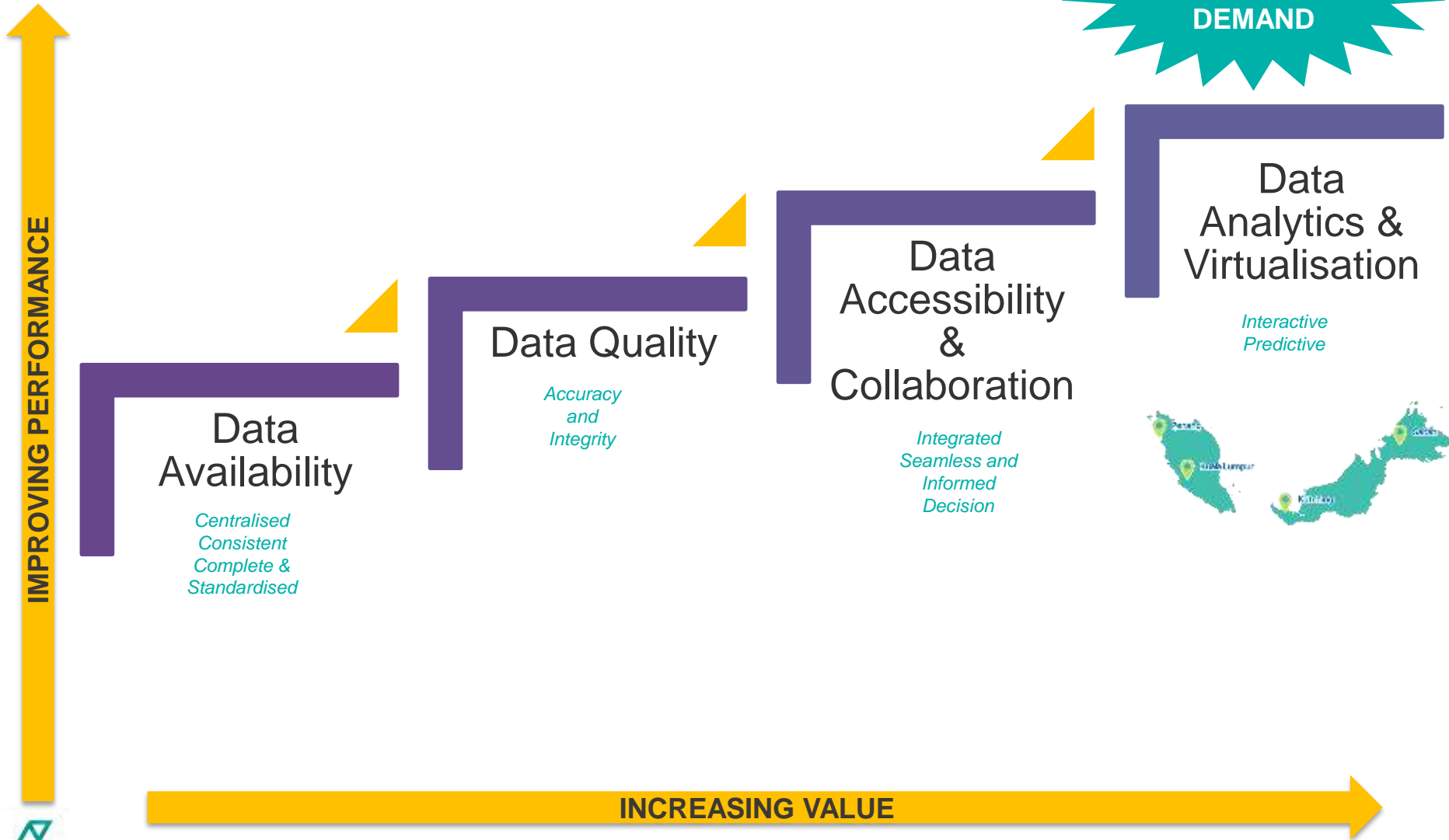
Policy Methodology

1. Identify requirements or organisation needs.
2. Benchmark against industry best practices.
3. Develop business workflows.
4. Standard implementation.
5. Update requirements.

Article from "The Management of Oil Industry Exploration & Production Data by Steve Hawtin"



Policy Determination



Some of PETRONAS' Policies and Guidelines

PPGUA – PETRONAS Procedures and Guidelines for Upstream Activities

PTS – PETRONAS Technical Standard

Technical Data Framework

Technical Data Guideline & Workflow



Policy Benefits



1. **Enable trusted data to users.**
2. **Maximise operational efficiency. Example; meeting geohazard risk – Sensors on drills indicating abnormal pressure readings help to predict and avoid risk of catastrophic failure.**
3. **Ensure data integrity and availability for the business through integration and reduction of overall man-hour cost.**
4. **Improved spatial modeling and analysis leading to more findings of predictable outcomes and better well planning.**
5. **Improved market forecasting to better determine when exploration and production could be viable.**

Conclusions

Geospatial Data Policy will help in business improvement by:

- 1. Assist business to make data driven decision more efficiently.**
- 2. Improve simplification of business process.**
- 3. Provide instruction and guidance for streamline business process.**
- 4. Create confidence and trust in data and information.**
- 5. Increase the accountability of business and organisation.**
- 6. Support spatial analytics and business intelligent.**
- 7. Easy handling and manageable Big Data.**

POLICY



Thank you

