



25th world gas conference
"Gas: Sustaining Future Global Growth"

Building Skilled Workforce in Oil & Gas Industry – A Shared Future

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Kuala Lumpur, Malaysia



Patron



Host



Host Sponsor



OVERALL OBJECTIVE



Sharing of PETRONAS' experiences in building skilled work-force to meet PETRONAS business agenda and support Malaysia to become the regional education and learning hub for the Oil and Gas industry.



- **A TRIP DOWN MEMORY LANE – SMALL STEPS TO A GIANT LEAP**
- **THE BIG PICTURE – MALAYSIA & PETRONAS AGENDA**
- **SWEATING ASSETS & RESOURCE MONETIZATION, LEARNING AND CAPABILITY BUILT THROUGH STRATEGIC ALLIANCE**
- **SHARING THE PIE OF SUCCESS**
- **FUELLING TRANSFORMATION - A BRIGHTER FUTURE**

A TRIP DOWN MEMORY LANE – DARING PROPOSITION FROM REGULATOR TO AN ACTIVE INTEGRATED PLAYER HAS CHANGED THE COMPANY’S LEARNING & CAPABILITY LANDSCAPE



1980s
Beginning of Downstream & Petrochemical Projects



2011 86th in F500

1983
MLNG 1st Shipment flagged off from Tg Kidurung



PETRONAS CARIGALI



1980 & 1981
PCSB 1st Appraisal Well - Duyong (Gas) and Dulang (Oil)



2007 The new 7-Sisters



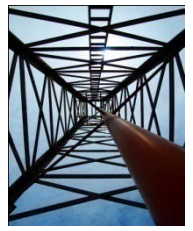
1990s International Ventures



LAWS OF MALAYSIA
REPRINT
Act 144
PETROLEUM DEVELOPMENT ACT 1974

1974 PETRONAS Incorporated

1976 2 PSC with SHELL & 3 PSCs with ESSO



1910
Grand Oil Lady of Miri
GoM Concession

Shadowed Expats and Experts in Technical Area

Began to lead in Technical Areas

Building & Exporting Talents

1981 ILPP set-up [now known as INSTEP]

1989 PERMATA Established [now known as PLC]

1997 UTP Incepted & Acquired MISC; own stake in ALAM, 2004

2011 Education Transformation

Source :
A Vision Realised by Paddy Bowie 2001,
Corporate Information 2011, Team Analysis

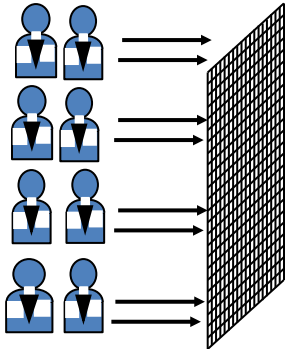
LEARNING AND CAPABILITY DEVELOPMENT BEGINS FROM SCHOLARSHIPS AND CONTINUES THROUGHOUT STAFF CAREER - SELECTION BASED UPON MERITOCRACY

Pre-Employment

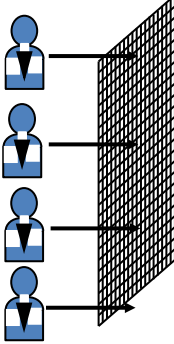
In Employment

PETRONAS Educational Route

Primary and Secondary Students



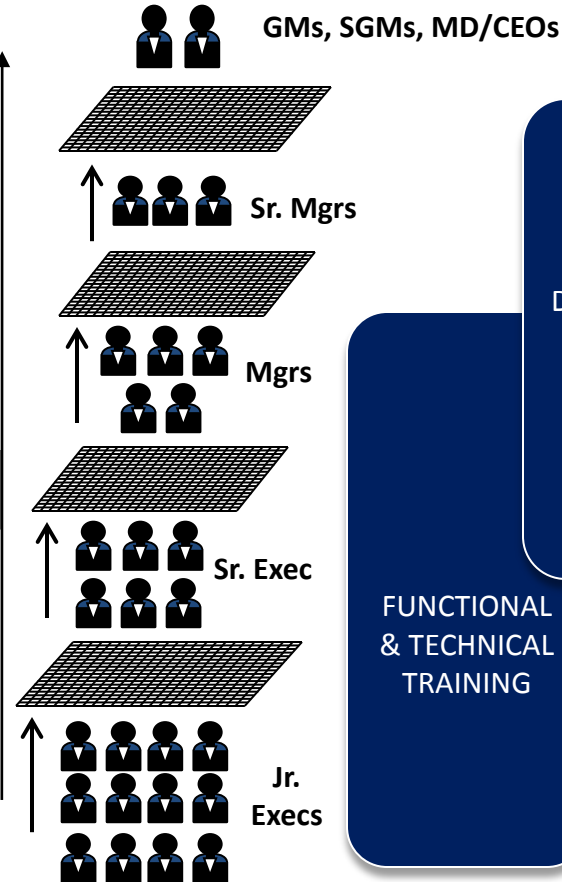
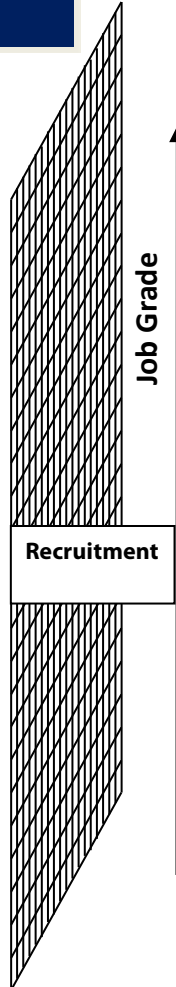
Scholars



Graduating Scholars



TERTIARY EDUCATION



FUNCTIONAL & TECHNICAL TRAINING

STAFF DEVELOPMENT PROGRAMS (MASTER or PhD)

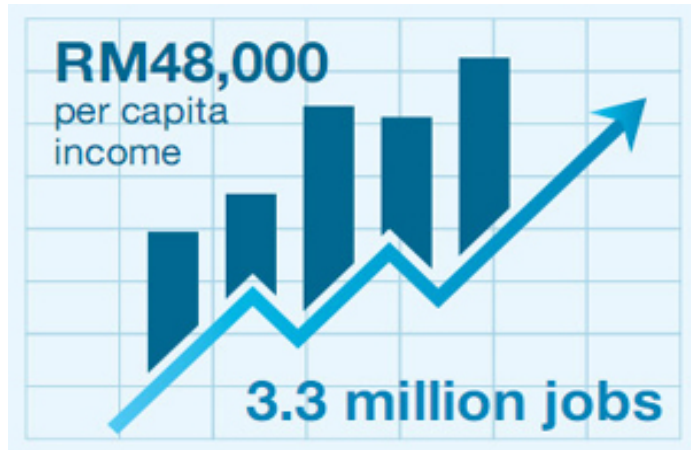
LEADERSHIP & MANAGEMENT TRAINING

MENTORING, COACHING & ON-THE-JOB

← Awareness → ← Nurture → ← Harness → ← Condition and Upskill →

Talent identification and development process at different phases for Learning and Capability Development

PETRONAS STRATEGIES FIT TO MALAYSIA AGENDA - TODAY'S BIG PICTURE. IT FURTHER COMPELS PETRONAS LEARNING & CAPABILITY TO TRANSFORM



12 National Key Economic Areas Entry (NKEA)

131 Entry Point Projects (EPP)

12 EPP for Oil, Gas & Energy NKEA

1

Enhanced Oil
Recovery

2

Small Field
Development

3

Intensifying
Exploration
Activities

4

Regional Oil
Storage &
Trading Hub

5

Unlocking
Premium Gas
Demand

Source :
ETP, A Roadmap for Malaysia, PEMANDU GoM, 26 Oct 2010

STRATEGIC PARTNERSHIP VIS-À-VIS BUSINESS & CAPABILITY DEVELOPMENT ...

- E.G. ENHANCED OIL RECOVERY; BOLD & AUDACIOUS GOAL TO SWEAT THE ASSETS



EOR to contribute

166 kbd in

2020



Source :
ETP, A Roadmap for Malaysia, PEMANDU GoM, 26 Oct 2010



reimagining energy™

&

Schlumberger

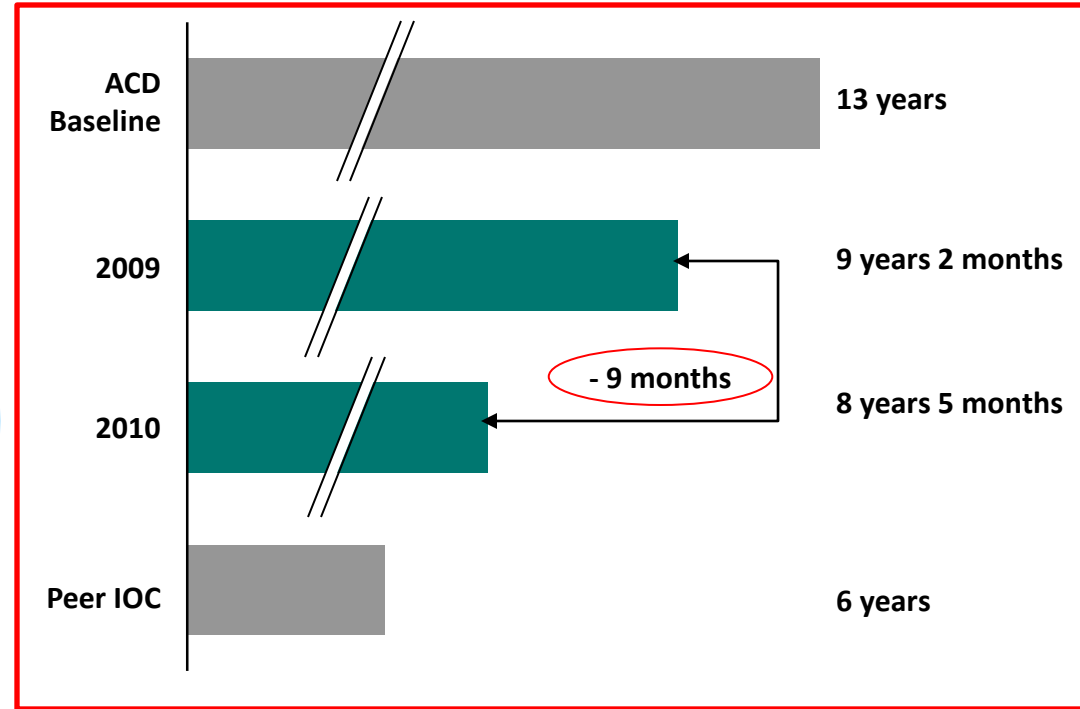
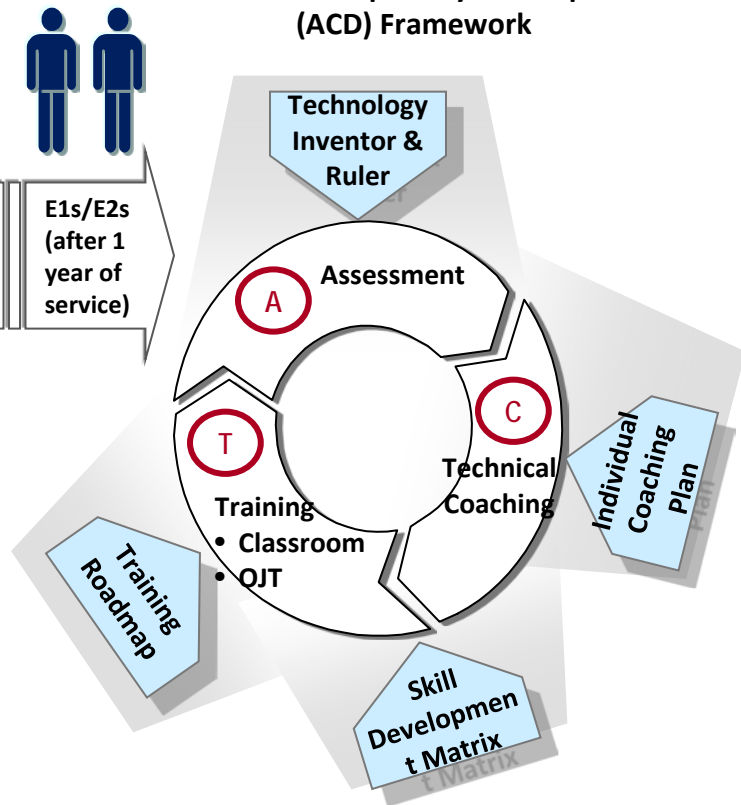
Scope of Collaboration

- Jointly collaborate in projects and building technical experts and technology in Enhanced Oil Recovery Focus Area
- Undertake the design, development and delivery of capability development and education activities conducted at PETRONAS' learning institutions.
- Attachment to intensify capability building and sharing of best practices for HR & Technical professionals

Together with partners , PETRONAS intensified its commitment – not only financial investment, but also commitment to building of skilled workforce - to bring additional resources for Malaysia's power and industrial needs


PETRONAS AND PARTNERS ASPIRE TO REPEAT SUCCESS OF OTHER EARLIER COLLABORATION E.G. ACCELERATED CAPABILITY DEVELOPMENT TO REDUCE TIME TO AUTONOMY (TTA)

Accelerated Capability Development (ACD) Framework



 PETRONAS Dual Career Path

 Time to Autonomy (TTA) for Top Quartile of Technical Skill Groups

 Baseline and Target Analysis during ACD diagnostic phase in 2006


Technical Professional or Technical Managers

STRATEGIC ALLIANCES WITH MULTIPLE PARTNERS TO STRENGTHEN LEARNING AND CAPABILITY OFFERING FOR OWN AND EXTERNAL WORKFORCE, FUTURE AND IMMEDIATE



Scope of Collaboration

- Jointly undertake the design, development and delivery of capability development and education activities conducted at PETRONAS' learning institutions.
- Promote the proof of concept and sustainable curriculum design at PETRONAS' learning institutions to meet the business requirement

Development of a competent and highly skilled workforce through strategic partnership and collaboration via



Knowledge Transfer



Research & Development



Attachments for Tech. & Bus. Skill Groups



Student Sponsorship & Internship

LEARNING AND CAPABILITY DEVELOPMENT STRATEGIC ALLIANCES HAVE CONTRIBUTED TO THE INCREASE OF PARTICIPATION FROM BUSINESS PARTNERS IN UTP ...



UNIVERSITI
TEKNOLOGI
PETRONAS
engineering futures

Level	No Staff
Prof Chair	3

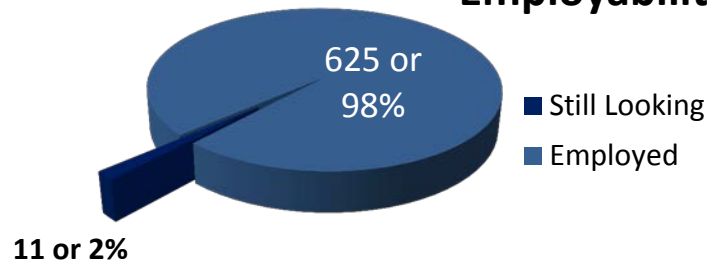
Ongoing



Committed



Employability



- ### Industry Linkages & Aligned
- Research & Development
 - Professor Chairs
 - Student Internship & Sponsorship
 - In Kind Contributions

PREVAILING FEATURES EMBEDDED IN THE STRATEGIC ALLIANCES

- KEY SUCCESS FACTORS



Leadership Team

Championed by respective P&L or Functional Heads & Dedicated Steering Committee



Focus

Progress monitored and measured



Learning and capability development pursued aligned to meeting business agenda and goals



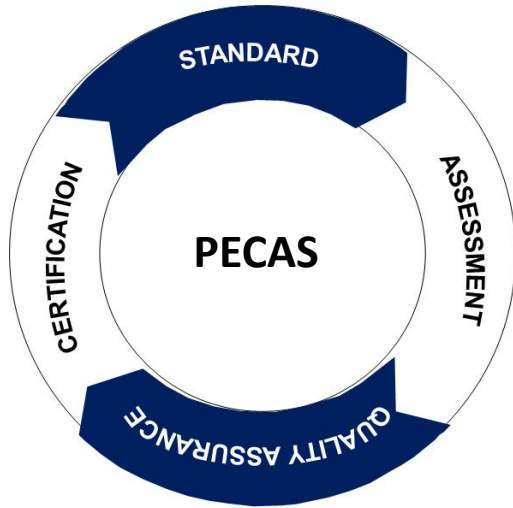
Approach to learning and capability development is comprehensive covering both technical (hard) and behavioral (soft) competencies



Support systems are provided in every step of the way.

SHARING PIE OF SUCCESS

- GoM TO PURSUE PETRONAS POSS AND ASSESSMENT FOR STANDARD NOSS DESIGN



STANDARD

- PETRONAS Occupational Skill Standard (POSS)
 - Job Profile
 - Task Profile

ASSESSMENT MODULE

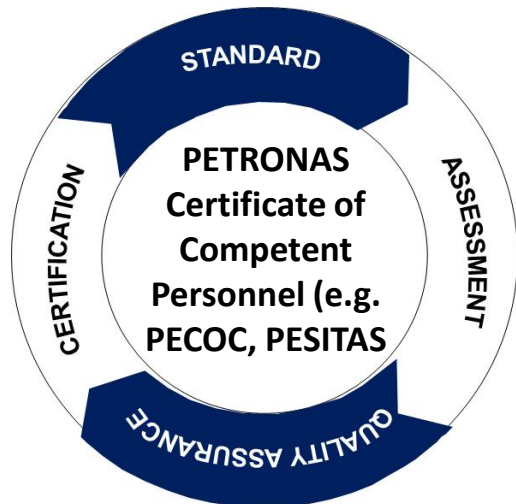
- Assessment Modules
 - Knowledge, Process and Product Evidence

GoM through MoHR is to adopt PECAS POSS and Assessment as the National Occupational Skill Standard (NOSS) for development and progression of workforce in Malaysia Oil, Gas & Energy industry

PETRONAS COMPETENCY-BASED ASSESSMENT or PECAS



To develop competent PETRONAS operators and technician via training and assessment



To develop certified competent Chergeman, Boiler and Internal Combustion Engine

INSTEP
INSTITUT TEKNOLOGI PETROLEUM PETRONAS

INSTEP is recognized assessment & training institute by GoM Energy Commission, Department of Environment (DOE) and Department of Occupational Safety & Health (DOSH)

PETRONAS LONG TERM ASPIRATION

- A REGIONAL EDUCATION AND LEARNING HUB

Key dimensions required

Academic Positioning

- Accomplished teaching faculty with strong credentials
- World class learning facilities
- Industry recognized curriculum

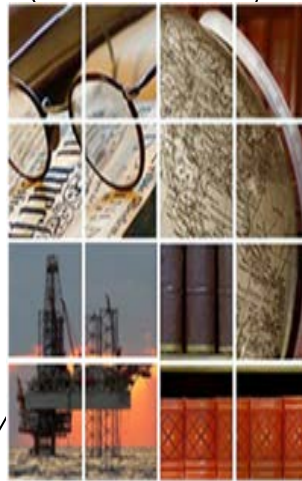
R&D Stewardship

- Knowledge leadership in specific areas
- Attract high levels of funding
- Attract top researchers

Industry Engagement

- Ensures that R&D curriculum addresses real industry problems
- Strong funding support

REGIONAL



*EDUCATION
& LEARNING
HUB*

What does it mean ?

1

Centre of learning excellence

- State-of-the-art learning facilities
- Robust curriculum design whilst maintaining niche focus area (known for signature programs)
- Diverse faculty representation
- Multi national “graduates” with high marketability

2

Well-networked institutions

- Synergistic linkages between each learning units – i.e. deep collaboration in strategic areas
- Strategic collaboration with external learning institutions

3

Strong Oil & Gas industry support

- Strong corporation/industry – academic collaboration via grant/funding/sponsorship
- Externally well-linked to industry efforts

4

Commercial outcome for some Learning Unit

INDUSTRY STAKEHOLDERS & INSTITUTIONS TO COME TOGETHER AND BUILD THE REQUIRED SKILLED WORKFORCE FOR THE INDUSTRY

THE INDUSTRY

PETRONAS

O&G Industry
Players

Other Partners
(refer *)

A REGIONAL



**EDUCATION
& LEARNING HUB**
(for the Oil & Gas Industry)

THE INSTITUTIONS

Serve as a prime lever in industry talent development



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ALAM
AKADEMI LAUT MALAYSIA
MALAYSIAN MARITIME ACADEMY

INSTEP
INSTITUT TEKNOLOGI PETROLEUM PETRONAS



R&D
Stewardship

Academic
Positioning

Industry
Engagement

* E.g. Government Agencies, Other Learning Institutes or Industry Players, etc.

Involvement and support from the industry is vital to be on the right course.

Come together, right now ...to be able to build the required skilled workforce for the industry

Thank you

Thank you

