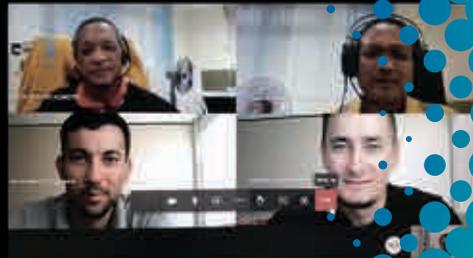
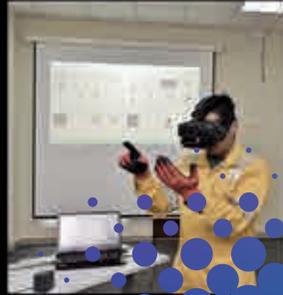


40

The Inspiring Years and
Beyond





The cover page features a journey line of Institut Teknologi Petroleum PETRONAS (INSTEP)'s learners' transformative experience from being fledgling learners to becoming equipped professionals. It also symbolises INSTEP's aspiration in shifting towards the renewable energy space.



Scan here for
the interview

“

Wherever our alumni go,
they become ambassadors
of PETRONAS and INSTEP.

”

Idris Ibrahim

Chief Executive Officer

PETRONAS Technical Training Sdn Bhd (PTTSB)

Foreword

In 1981, the idea of setting up a technical training centre was mooted to provide PETRONAS with skilled technical workforce. Registered as PETRONAS Technical Training Sdn Bhd (PTTSB), Institut Teknologi Petroleum PETRONAS (INSTEP) is a homegrown training centre that has made a name for itself as an internationally recognised technical learning solutions partner. Today, we have customers and learners from over 35 countries, and have produced more than 130,000 job-ready technical workforce serving in refinery and petrochemical plants, and production platforms across the globe.

2021 marks 40 years of our existence. To commemorate how far we have come to reach this great milestone, we have published this coffee table book as a memento of our journey, contributions, and achievements. This book serves as a testament to our commitment in enriching the energy workforce and the communities around us. It is as much for us and our alumni as it is for anyone with a passion for the energy sector and for transforming our future for

the better. INSTEP mirrors PETRONAS in many ways. When PETRONAS shifted its purpose, we reflected it in our Winning Aspiration, so our visions and missions are aligned. We imbue PETRONAS Shared Values and mindset into our trainings to empower our learners and equip them with the skills of tomorrow, so they are prepared to take on the industry. Wherever our alumni go, they become ambassadors of PETRONAS and INSTEP.

We have pushed through and overcome many hurdles, accomplishing many more remarkable feats as an institute. We have expanded our horizons to reach international communities and brought to life the world's first, groundbreaking Upstream Downstream Training Plant (UDTP). The institute, our instructors and our learners have won various awards over the years, elevating INSTEP's name and status each time. We will continue to enable our workforce, champion technology acceleration and strive for a sustainable future. This is only the beginning.

**Happy 40th anniversary, INSTEP.
Let's continue to excel to greater
heights in the next 40 years.**

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Chapter **1**

It Begins With
a Purpose





“

This book is as much for us and our alumni as it is for anyone with a passion for the energy sector and for transforming our future for the better.

”

Idris Ibrahim

PETRONAS **Statement of** **Purpose**

**A progressive energy and solutions partner
enriching lives for a sustainable future.**





Scan here for the interview



“

PETRONAS' Statement of Purpose is deeply ingrained in INSTEP's business model and aspirations.

”

Tan Sri Wan Zulkiflee Wan Ariffin
*Former President and
Group Chief Executive Officer
PETRONAS*

Tan Sri Wan Zulkiflee embarked on his journey with PETRONAS as a process engineer involved in the development of several gas processing plants. In this role, he was part of the pioneering group of line trainers, who taught INSTEP's first batch of operators in the 80s. Reflecting on INSTEP's transformation over the years, he notes that its purpose has always been clear and noble - to serve the needs of PETRONAS, and the nation. When INSTEP opened its doors to an international audience, it played a more important role in supporting PETRONAS' business expansion needs overseas.

On PETRONAS' 45th anniversary, Tan Sri Wan Zulkiflee and the leadership team thought it was an opportune time to revisit the company's vision and mission. This discussion led to the Statement of Purpose - "A progressive energy and solutions partner enriching lives for a sustainable future". This string of 12 words serves as PETRONAS' rallying call, resonating with the workforce on every level.

A statement that, Tan Sri Wan Zulkiflee states, is echoed in INSTEP's own purpose and Winning Aspiration - "A progressive solutions partner enriching energy workforce for a sustainable future". Guided by this, the institute connects talents to technical competencies and nurtures the potential in every person to enrich the global energy workforce. Like PETRONAS, it is also dedicated to preserving the sustainability of our environment and our future.

INSTEP has carved a strong name and brand for itself. Moving forward, it must continue to push for digitalisation and innovation. Faculty members must be equipped and well-versed in technology and digital advancements, in order for INSTEP to maintain its position and reputation as an all-rounded innovative training institution.

INSTEP At a Glance

Winning Aspiration

A progressive solutions partner enriching energy workforce for a sustainable future

Value Propositions



Accelerated
Competency
Development
Through
Experiential
Learning



Industry and
Technology
Driven
Technical
Learning
Solutions



Customised
Learning
Solutions



International
Certification



Capability
Caretaker

Focus Areas



Becoming
a Solutions
Partner



Nurturing
Partnerships



Enriching
Energy
Workforce



Enriching
Lives



Championing
Sustainable
Future

Academies

- Exploration and Production
- Process and Analytical
- Mechanical and Inspection
- Instrumentation
- Health, Safety and Environment
- Electrical

Our Profile Today

210
staff

capable of handling and
addressing your needs

Our Profile Today

130,000
technical workforce

serving in more than 30 PETRONAS
and non-PETRONAS plants,
and 100 platforms around the world

1:15
instructor-learners
ratio

creating an effective
learning environment

Programmes

Bridging Programmes

- Technical Energy Enrichment Programme (TEP), previously known as Petroleum Technology Programme-1 (PTP-1)
- Customised Programme (Engineers and Technicians)



Professional Development Programmes

- Skill Group Training
- Upgrading Training
- Customised Programme (Engineers and Technicians)
- Health, Safety and Environment (HSE) Programme

1,700
learners' capacity
per year

training on a 200-acre campus
with integrated facilities

60
instructors

with over 35 years of
oil and gas technical
training experience

20
principal
instructors

with vast industrial
experience in module
development and
enhancement

210
staff

capable of handling and
addressing your needs

Assessment and Certification Programmes

- PETRONAS Competency-Based Assessment System (PECAS)
- Competency Training (Statutory and Others)
- Base Line Assessment



40 Years of Trust, Triumphs and Going Beyond







Clients

Growing demand from domestic and international clients including oil and gas majors



ExxonMobil **Schlumberger**



Note: The list of clients and countries displayed above are not exhaustive.



Global Presence

Developing skilled technical workforce with talents hailing from different countries around the globe



Algeria



Australia



Azerbaijan



Bangladesh



Bhutan



Bosnia and Herzegovina



Brunei



Colombia



Cuba



Ecuador



Egypt



Equatorial Guinea



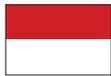
Ethiopia



Gabon



Ghana



Indonesia



Iraq



Japan



Morocco



Mozambique



Myanmar



Oman



Pakistan



Papua New Guinea



Paraguay



Senegal



Singapore



South Korea



South Sudan



Sri Lanka



Sudan



Tajikistan



Thailand



Timor Leste



Togo



Turkmenistan



Uganda



Uzbekistan



Vietnam



Awards and Recognitions

Global Getenergy Award 2019
Localisation Award

Global Getenergy Award 2016
Education and Training Provider of the Year

OPITO Employers Award 2015



Human Resources Minister Award 2014
Best Training Provider in Malaysia



Outstanding Peer Learner Award 2016 - 2019



Malaysian Society for Occupational Safety and Health Gold Class 1 Award 2017 and 2018



Human Resources Development Award 2017
Data Analytics Category



Pearson BTEC Outstanding Award 2016



Pearson BTEC Centre of Excellence 2015



Partnerships and Alliances



Department of Occupational Safety and Health



Honeywell



VELESTO energy



Accreditations and Certifications



Department of Occupational Safety and Health



Chapter **2**

Pioneering
New Frontiers





“

One of my fondest memories in PETRONAS was my affiliation to INSTEP, ensuring that it continues to remain relevant today and tomorrow.

”

Dato' Raiha Azni Abd Rahman

*Former Senior Vice President, Group Human Resource Management, PETRONAS
Former Board Chairman, PETRONAS Technical Training Sdn Bhd (PTTSB)*



Scan here for
the interview



“

**INSTEP is among
PETRONAS' key
contributions to the
growth of human capital
development in the
oil and gas industry.**

”

Dato' Raiha Azni Abd Rahman

As the Board Chairman of PTTSB and Senior Vice President of PETRONAS Group Human Resource Management, one of Dato' Raiha's focuses at that time was to transform INSTEP's offerings and learning experience to meet the evolving industry landscape and demand for skilled talents.

Institut Teknologi Petroleum PETRONAS (INSTEP) is among PETRONAS' key contributions to the growth of human capital development in the oil and gas industry. Over the years, its purpose shifted from developing PETRONAS' technical workforce to including other local and international talents, providing the right skills and mindset for the global oil and gas industry.

As PETRONAS continues to grow and expand, INSTEP has stepped up its role as PETRONAS' technical learning solutions partner to ensure a sustainable pipeline of skilled talents for the industry. Besides technical skills, the institute puts great emphasis on equipping and certifying its learners with the essential skills in health, safety and environment (HSE). Learners are trained to be vigilant of potential risks and hazards, and are equipped with the right skills, knowledge and mindset to uphold strong HSE practices at the workplace.

The advancements of digital technology necessitated INSTEP to level up its learning through the adoption of experiential and virtual learnings that simulate real life experiences for enhanced learning retention. Having realised this, Dato' Raiha led a transformation effort that culminated in the launch of the Upstream Downstream Training Plant (UDTP) in 2014. This state-of-the-art facility and never-before-seen ability to simulate actual upstream and downstream plant scenarios attracted interest from the global industry players. This milestone became a major turning point for INSTEP, forever changing the game of technical training.

Dato' Raiha hopes that INSTEP continues to break boundaries and exceed possibilities in training oil and gas talents in Malaysia and around the world.

Phase 1
1981 - 1991



Foreseeing the impending manpower shortage, particularly at the technician level, my team was tasked to set up a technical training centre. That was when Sekolah Latihan Teknikal was born.



Datuk Rosti Saruwono
*Former Head of Technical Training
PETRONAS*

Sekolah Latihan Teknikal is first built temporarily at Jalan Kota Lama and Ladang, Terengganu before officially starting its establishment in the small town of Batu Rakit, Terengganu to fulfill PETRONAS' rising technical workforce demand.





The year it all started...

1981

Sekolah Latihan Teknikal is established

Two temporary campuses of Sekolah Latihan Teknikal are set up to train PETRONAS' technical workforce. The campus in Jalan Kota Lama trains the first batch of 18 field assistants, while the other campus in Ladang trains gas processing plant operators.





Datuk Rosti Saruwono

*Former Head of Technical Training
PETRONAS*

In the early 1980s, PETRONAS, as the custodian of Malaysia's national petroleum resources, began building production and processing facilities in areas where oil and gas activities were booming in the country. This created a rise in demand for skilled operators and technicians.

That was when Datuk Rosti and his team stepped in to establish the Sekolah Latihan Teknikal.



Note: This photo was not taken during his tenure at Sekolah Latihan Teknikal.

Establishing an in-house technical training centre gave PETRONAS full ownership and flexibility in developing learners according to its requirements before absorbing them into the workforce upon their training completion.

Starting from scratch, PETRONAS' technical experts were actively involved in developing

the training programmes, from designing the curriculum and choosing specialised training equipment to providing on-the-job training and assessing training performance. With these customised programmes, the learners' transition to their job environment became more seamless.



Zainal Abidin Alang Kasim

*Former Manager
Institut Latihan Perindustrian
Petroleum (ILPP)*

When Malaysia's oil and gas industry started growing steadily in the 80s, there was a huge gap in local manpower development as most of the locals then were largely involved in non-oil and gas industries. Thus, the technical workforce in PETRONAS' operations was mostly comprised of foreign skilled personnel. Aspiring to grow with the nation, PETRONAS then placed a greater emphasis on developing local talents and hiring 70 per cent of its workforce from the local community.



The facilities of Sekolah Latihan Teknikal at the time were limited. So, to cater for the local manpower demand, Zainal and his team came up with a proposal to expand Sekolah Latihan Teknikal into a technical training institute. This led to the permanent establishment of Sekolah Latihan Teknikal in Batu Rakit, which was then renamed as Institut Latihan Perindustrian Petroleum (ILPP).

Zainal believes people are the backbone of the company.

He strongly advocated for people development, believing it was essential to upskill the instructors so they can transfer the right knowledge and skills to learners. From time to time, Zainal would send instructors to renowned training institutes in Italy, Canada and other well-developed countries to gain overseas exposure and experience. Upon completion of their overseas assignments, the instructors adopted and adapted these experiences to ILPP's programme design, development and implementation.

19 **83**

ILPP receives Prime Minister's courtesy visit during construction

The rising demands in technical training necessitate Sekolah Latihan Teknikal's base expansion to a permanent campus in Batu Rakit, named ILPP. During construction, ILPP receives a courtesy visit from the Prime Minister, Dr Mahathir Mohamad, who is intrigued by ILPP's talent development agenda in the oil and gas industry.

19 **85**

ILPP trains Dulang project technicians

ILPP caters for the growth of industry requirements relating to the Dulang project by accelerating the competency development of the technicians.

19 **83**

1988

1987



The Menteri Besar of Terengganu officiates ILPP

The Menteri Besar of Terengganu, YAB Dato' Seri Amar DiRaja Haji Wan Mokhtar Ahmad, witnesses the celebratory moment for PETRONAS, making a strong commitment to accelerating the human capital development for Malaysia's oil and gas industry.



ILPP trains the first batch of learners in the PETRONAS Apprenticeship Scheme

PETRONAS Apprenticeship Scheme is a two-year pre-employment technician training programme, that follows a standard syllabus and runs on the mode of two semesters a year in March and September. The first semester involves delivering common subject knowledge while the second and third semesters allow learners to specialise into their selected disciplines. Prior to this, all programmes were structured according to the needs of each PETRONAS operating unit.



Yusof Muhammad

*Former Manager
Institut Latihan Perindustrian
Petroleum (ILPP)*

As the Manager of ILPP, Yusof dedicated his time to enhancing the existing training programmes in the areas of skill upgrading and 6G welding.



Since its establishment, ILPP has trained many gas technicians, operators and field assistants to support PETRONAS' operations. It also began to customise skill upgrading courses to cater for the growing need for field assistants. As ILPP steadily grew, it continued to fulfill PETRONAS' aspiration of preparing a job-ready technical workforce which was largely composed of the ILPP alumni.

ILPP's continual achievements in local manpower development led to its collaboration with Institut Kemahiran MARA (IKM) in setting up a similar technical training centre in Sarawak to train and upskill the local manpower in the region as part of PETRONAS' Corporate Social Responsibility (CSR).

1991

1990



ILPP opens a temporary branch in Kerteh

ILPP opens a branch in Kerteh to meet the demands of the thriving industry in the area. The branch would cease its operations in 1992 after demands are fulfilled.

1991



ILPP sets up Oil and Gas Centre in Sarawak

With the boom in Sarawak's oil and gas industry, ILPP is requested to set up a technical training centre in Kuching. This allows the centre to collaborate with IKM and bring its signature programme, PETRONAS Apprenticeship Scheme, to Borneo.



Phase 2 1992 - 1999



In an effort to strengthen and expand ILPP as a technical training institute, the ILPP team enhanced the programme design and development, upgraded the training facilities and accommodation, and recruited experienced instructors.

ILPP steadily firms its stance by collaborating with external partners to strengthen its position as a technical training institute, as well as providing multi-skills training to enhance its offerings to learners.



Mohd Kamil Ismail
Former Senior Manager
PETRONAS Management Training Sdn Bhd (PMTSB)



19 **92**

PETRONAS Management Training Sdn Bhd (PMTSB) is incorporated

ILPP receives the mandate to operate as a company together with PETRONAS Management Training Centre (PERMATA) to ensure the cost-effectiveness of running the training operations. Both entities, formerly under Human Resource Management (HRM) custody, are now part of PETRONAS' business operations.

19 **94**

ILPP collaborates with IKM to engineer the 6G welding programme

With the shortage of skilled manpower to handle projects like the Peninsular Gas Utilisation, PETRONAS tasks ILPP with designing an advanced training programme as part of PETRONAS' CSR efforts. ILPP collaborates with IKM branches in Sungai Petani, Jasin and Pekan, culminating in the launch of the 6G welding programme.

19 **92**

1997

1995



ILPP launches 6G welding programme at the Terengganu Skills Development Centre (TESDEC)

ILPP collaborates with TESDEC to launch the welding programme at the ILPP campus. In 2000, ILPP transfers the required equipment and facilities to TESDEC, enabling the centre to fully conduct the programme on its own.



ILPP welcomes its first female intake

A leadership drive that encourages female technicians to work in plants motivates ILPP to change its entry requirements to include female learners. This is a significant step towards diversity and inclusion in ILPP as well as the oil and gas industry as a whole.



Mohd Kamil Ismail

*Former Senior Manager
PETRONAS Management Training
Sdn Bhd (PMTSB)*

During the transition of ILPP into INSTEP, the oil and gas industry was experiencing a rapid advancement in technology. It saw PETRONAS fostering strong collaborations with oil and gas giants like BASF and Conoco, among others at the time. Kamil had a clear vision in mind to expand the technical training institute to remain competitive and relevant in the industry. Embracing a "people first" mindset, he sent instructors overseas to learn the best practices in reputable institutes and apply these learnings to ILPP training programmes.



After having upskilled the instructors, Kamil assessed the centre's existing facilities. This led to an upgrade of all the facilities and equipment. Under Kamil's leadership, BASF sponsored a distillation column to furnish the process laboratory in ILPP and sent ILPP instructors to be upskilled overseas. In return, ILPP instructors trained BASF technicians at the centre.

Kamil elevated ILPP's fame and status, inspiring PETRONAS Carigali Sdn Bhd (PCSB) to set up an ILPP-like training centre in Khartoum, Sudan.

1998



PETRONAS Technician Training Scheme (PTTS) transitions from single skilling to multi-skilling

Reflecting to this change, PTTS, previously known as PETRONAS Apprenticeship Scheme, ensures learners not only specialise in a selected discipline, but also be equipped with basic skills in other non-specialised disciplines.



ILPP registers as a Private Higher Educational Institution (PHEI) under Ministry of Education

ILPP registers as PHEI with the plan to offer a diploma programme.

ILPP collaborates with BASF to train its technicians

PETRONAS and BASF's joint venture to commission a new plant creates a new demand for skilled technical workforce and opens new doors of collaboration for manpower training between ILPP and BASF.

Phase 3 2000 - 2010



INSTEP spreads its wings to support PETRONAS' growth and expansion in the international arena while developing local talents in countries where PETRONAS operates.



INSTEP's name makes references to **technical knowledge and technology**, while the word 'IN' symbolises the **institute's position being constantly in and ahead of industry trends**.



Mohd Akhir Abd Rashid
*Former General Manager
PETRONAS Management Training Sdn Bhd (PMTSB)*





Mohd Akhir Abd Rashid

*Former General Manager
PETRONAS Management Training
Sdn Bhd (PMTSB)*

Akhir was one of the pioneers in establishing the PETRONAS Competency-Based Assessment System (PECAS) — a recognised, robust system in assessing technical personnel's competency, for which INSTEP was certified as the awarding body. INSTEP's competency-based training programme equips PETRONAS staff and contractors with the abilities to deliver day-to-day operational and maintenance tasks, contributing to the industry's safety and operational excellence.



2000 - 2005

A firm believer that multi-skilling begets efficiency and competency, Akhir introduced the concept to PECAS and effectively changed the PETRONAS Operational Skill Standard (POSS) requirements for technical personnel. In response to this change, PTTS revised their curriculum, and thus enabled learners to be specialised in their respective disciplines and equipped with basic skills in other non-specialised disciplines. For instance, a mechanical technician will be well-equipped with the skills to assist on matters relating to instrumentation during plant shutdown.

In 2000, Akhir was directly involved in the rebranding of ILPP as INSTEP, suggesting the word “IN” which symbolises the institute being in trend with industry standards.

The rebranding resulted in the institutionalisation of technical training which saw technical experts get exposed to a teaching environment while instructors are able to experience working in plants. This renewed their technical knowledge and soft skills, further spurring their personal and professional development.



ILPP renames itself as INSTEP

The expansion of ILPP over the years calls for the team to reexamine and redefine ILPP's purpose and future as a technical training institute. The team decides to rename ILPP as INSTEP, which includes the word "technology" and symbolises INSTEP's enhanced role as the custodian for all technical training in PETRONAS.



Sudan National Petroleum Corporation (Sudapet) visits INSTEP

Sudapet visits INSTEP to understand more about INSTEP's offerings, facilities, and training programmes.

2000

2003

2002



INSTEP trains Petrovietnam technicians

INSTEP provides petrochemical training to new technicians from Petrovietnam.



Suruhanjaya Tenaga certifies INSTEP as a centre for chargemen training

The certification for chargemen training enables INSTEP to meet rising demands and deliver high quality programmes to produce competent workforce that is compliant with Suruhanjaya Tenaga requirements.

INSTEP becomes PECAS awarding body

INSTEP is responsible for training competent assessors to evaluate technicians' competencies.



Mohd Zazali Salim

Former Senior Manager
*PETRONAS Management Training
Sdn Bhd (PMTSB)*
1993 – 1996

Former General Manager
*PETRONAS Management Training
Sdn Bhd (PMTSB)*
2005 – 2010

As the Senior Manager of PMTSB in 1993, Zazali founded ILPP's first base in Kuala Terengganu alongside Datuk Rosti and Zainal Abidin, where he dedicated his time and effort into developing the first-ever field assistant training programme.



When Zazali returned in 2005 as a General Manager under PMTSB, he discovered that the PETRONAS operating units preferred a shorter training duration. With this in mind, Zazali quickly introduced a shorter one-year programme called the Oil and Gas Technician Training Programme (OGTTP), or later known as Petroleum Technology Programme-1 (PTP-1). This programme was well-received by the operating units and at the same time, Zazali rebranded PTTS as PTP-2 to cater for the rising technical workforce demands.

In just a short period of time, Zazali's efforts helped INSTEP bounce back from having low intakes to accommodating over 1,500 learners on campus.



INSTEP sets up a training centre in Sudan

As a PETRONAS CSR initiative, INSTEP establishes a technical training centre to develop the local people in Sudan. In 2010, INSTEP hands over the ownership and the operations of the centre to the people of Sudan.



INSTEP signs agreement with PETRONAS Carigali Turkmenistan Sdn Bhd (PCTSB)

INSTEP sets up a technical training centre in Turkmenistan with a proper technician training programme. Since 2005, INSTEP has trained over 400 Turkmens in four batches to support PETRONAS' operations in Turkmenistan.

2004

2006

2006



INSTEP launches OGTTT

With PTTS receiving a low number of intakes, INSTEP designs a shorter one-year technician training programme called OGTTT. It aims to bridge the gap between school studies and POSS requirements by having learners undergo six months of classroom and practical training, and another six months of on-the-job training. Later, OGTTT is renamed as PTP-1.



INSTEP sets up a technical training centre in Turkmenistan

INSTEP runs a training centre in Kiyarly, Turkmenistan to develop competent local production talents to support PCTSB operations. Some of the graduates eventually become instructors at the training centre, transferring their knowledge and skills to new learners.

2009



INSTEP receives a visit from a Sudanese minister

The Minister of Higher Education and Scientific Research, His Excellency Peter Nyot Kok, visits INSTEP and its facilities before the training programme commences.



INSTEP launches diploma programme

With the PHEI status renewed, INSTEP officially launches the three-year pre-employment technician training programme for secondary school leavers. The diploma programme is named as PTP-3.



Phase 4 2011 - 2020



Apart from its core business of training future-ready workforce for PETRONAS, INSTEP also ventures into new horizons, steps out from its comfort zone, and levels up its playing field to explore new frontiers, thus solidifying its role as a technical learning solutions partner.



With the establishment of UDTP, the first-of-its-kind training plant in the world, INSTEP's playing field is widened, offering enhanced experience via experiential learning.



Wan Azhar Lotfi Wan Yusof
*Former Chief Executive Officer
PETRONAS Technical Training Sdn Bhd (PTTSB)*





Juniwati Rahmat Hussin

*Former Vice President of Education
PETRONAS*

*Former Board Chairman
PETRONAS Technical Training
Sdn Bhd (PTTSB)*

Juniwati had a front row seat in witnessing INSTEP's 40-year transformation. While it was first established to fulfill PETRONAS' rising demand for technical expertise, the institute has grown into a trusted technical learning solutions partner and has developed over 100,000 skilled members of the global technical workforce. The incorporation of PTTSB in 2011 further fuelled the growth of INSTEP, especially in the international arena, where its quality of technical training was recognised by numerous international accreditation bodies.



As a strong advocate of hands-on training, Juniwati strongly supported the establishment of UDTP when it was first proposed. She foresaw its importance in creating a safe, real plant environment for learners to perform hands-on training while gaining the experience of problem-solving in real world scenarios. Under her guidance, INSTEP ventured into blended learning, enabling learners to perform virtual simulation prior to practical training. This breakthrough learning style coupled with perfect play of technology helped shorten the training period and enhance learning retention.

To Juniwati, INSTEP does not only serve the oil and gas industry, but the energy industry as a whole. As a silent prime mover in human capital development, its contribution has been immense.



PTTSB is incorporated

As INSTEP and PERMATA continue their growth towards being more specialised, with PERMATA gearing towards management and INSTEP becoming a renowned technical training institute, INSTEP is henceforth being managed by PTTSB.



INSTEP sets up Kimanis Petroleum Training Centre (KTC) in Sabah

As a PETRONAS CSR initiative, INSTEP sets up KTC in Sabah with the purpose of developing the capabilities of the Sabahan workforce in the oil and gas industry. KTC has produced more than 150 technical personnel with 100 per cent employment rate upon graduation.

2011

2012

2011



INSTEP receives first intake of Production Operation Training (POT) from Iraq

Under PETRONAS' talent capability development programme, INSTEP designs a 15-month technical training programme to develop Iraqi personnel. Since 2011, INSTEP has trained more than 300 Iraqis to support PETRONAS' operations in Gharraf, Iraq.



INSTEP launches Safe System of Work (SSoW) Training Skid

The establishment of SSoW Training Skid showcases the strong collaboration between INSTEP and its industry partners to cater for Permit-to-Work training requirements, enabling learners to simulate real plant scenarios on skid.

INSTEP trains the first batch of Upstream Operation Induction Programme (UOIP)

UOIP, an idea initiated by PCSB, aims to accelerate the capabilities of young engineers with a structured development training programme.



Wan Azhar Lotfi Wan Yusof

*Former Chief Executive Officer
PETRONAS Technical Training
Sdn Bhd (PTTSB)*

As the first Chief Executive Officer of PTTSB, Wan Azhar had a clear vision for INSTEP to take on a more global, industry-focused and customer-centric path.



INSTEP began proactively developing customised programmes for non-PETRONAS clients, both domestically and internationally. The shift in its business model drove INSTEP to be more responsive to customers' needs and exceed their expectations. INSTEP's customer-focused mindset further flourished sustainable value for both customers and learners.

Under Wan Azhar's leadership, efforts to elevate INSTEP's status as an international technical training institute gave birth to the idea of establishing a live training plant, UDTP.

Despite being presented with many challenges, including financial constraints, Wan Azhar was determined to make UDTP a reality. He garnered support from PETRONAS and fostered strong partnerships with various industry partners to bring down the cost to a reasonable level. The establishment of UDTP in 2014 marked a historical moment for INSTEP, broadening its capabilities and services to better develop the global technical workforce.



INSTEP trains ExxonMobil technicians from Papua New Guinea (PNG)

Highly confident in INSTEP's capabilities, ExxonMobil sends close to 80 technicians from PNG to be trained on Liquefied Natural Gas (LNG) facilities.



INSTEP customises bridging programme for PTT Exploration and Production (PTTEP)

PTTEP requests INSTEP to develop local talents for its upstream operations in Myanmar.

INSTEP conducts Talisman Customised Technician Training Programme

INSTEP trains two batches of technicians for Talisman's upstream operations in Malaysia.

2013

2013



INSTEP builds its groundbreaking training plant, UDTP

The idea of establishing a one-of-a-kind training plant came about when INSTEP decided to enhance its niche offerings via experiential learning. UDTP is capable of simulating real plant scenarios in a safe environment, where the learners' problem-solving skills are put to test.

2014



INSTEP launches UDTP and drilling rig

The state-of-the-art facility provides real plant experiential learning to train job-ready engineers and technicians. Furthermore, INSTEP collaborates with UMW Drilling Academy, later known as Velesto Driling Academy, to establish the NAGA 100 land drilling rig and offer a series of accredited courses.

The Game Changer

UDTP simulates real upstream and downstream plant scenarios to enhance the competency of learners through hands-on training and experiential learning. It allows room for error, enabling learners to understand those errors prior to performing operational and maintenance tasks at live plants safely and efficiently.



Why UDTP?

Simulates plant scenarios in a safe environment



Tests and pilots innovative technology



Deploys technology at any time



Optimises cost in technology deployment



What can you do at UDTP?

Experiential Learning

Equipment familiarisation
Plant turnaround



Technology Deployment

Technology readiness assessment
Pilot project
Vibration study



Competency Development

Competency-based assessment



Plant Facilities

UDTP has two fully operational upstream training platforms, replicating actual offshore production platforms, and a downstream training unit, replicating actual crude refinery processes.

Upstream Facilities

- Central Control Room
- Well System (Production and Injection)
- Well Testing
- Separation System
- Crude Stabilisation System
- Gas Compression System
- Gas Dehydration System
- Produced Water Treatment System
- Pumping System
- Pigging System
- Flare/Vent System
- Drain System



Upstream Flow Medium and Process Parameters

Flow Medium

- Nitrogen
- Non-Volatile Mineral Oil
- Water

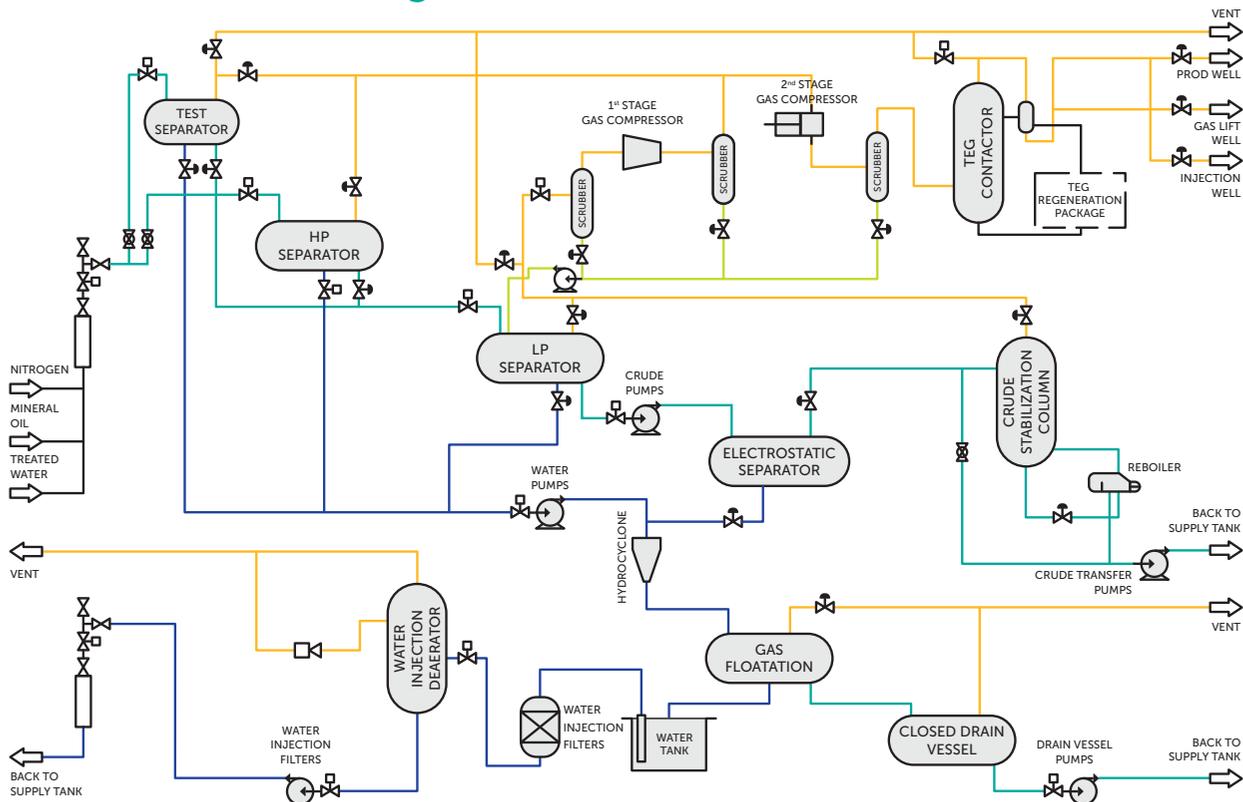
Design Basis

- Pressure: 7 - 12 barG
- Temperature: 15 - 120 degrees Celsius

Process Parameters

- Oil Flowrate: 1,500 bpd
- Water Flowrate: 1,500 bpd
- Water-Cut: 50% (max)
- Gas Flowrate: 0.5 MMscf/d
- Gas/Oil Ratio: 333.33 scf/bbl

Upstream Process Flow Diagram





Chandramohan Saminathan

*Former Chief Executive Officer
PETRONAS Technical Training
Sdn Bhd (PTTSB)*

Chandramohan came to INSTEP amid challenging times — its flagship programme, PTP-1, experienced a significant reduction in the number of intakes and training budgets were slashed by oil and gas companies. Without missing a beat, Chandramohan looked to turn the tide through strategic branding and marketing efforts to reach even more countries.



The INSTEP Experiential Business Networking (IEBN) event, hosted in 2017, was one of the most successful branding and marketing initiatives which saw INSTEP capturing the attention of oil and gas industry delegates from over 35 countries. These events led to a significant increase in revenue, attracting multiple customers from Oman, Japan, Iraq, etc., and increasing the number of repeat customers by three to four times.

Under Chandramohan's stewardship, INSTEP bagged numerous global and national awards. Every one of INSTEP's instructors was certified by the Business and Technology Education Council (BTEC) — a first in the institute's history.

2014



INSTEP is accredited as a BTEC-approved centre

This accreditation allows INSTEP to deliver high quality BTEC Level 2 and 3 programmes based on BTEC's requirements.

2015



INSTEP becomes the world's first Offshore Petroleum Industry Training Organisation (OPITO) qualification centre

INSTEP collaborates with OPITO to adapt INSTEP's long-term technician training programme to OPITO's standard and requirements. OPITO certifies INSTEP as the first technical training centre in the world to deliver OPITO qualifications in technician training.

2014

2015

2015



INSTEP launches Liquid Metering Training Skid (LMTS)

INSTEP collaborates with SIRIM to offer certified training for operators. The LMTS facility enables learners to perform simulation on fluid flow measurement.

INSTEP launches virtual learning and Distributed Control System

INSTEP's blended learning enables learners to perform simulation in a safe environment prior to practical training.



INSTEP customises Plant Operation Training for Nghi Son Refinery and Petrochemical from Vietnam

INSTEP trains shift supervisors for plant start-up.

INSTEP customises training for Bangladesh Petroleum Exploration and Production Company Ltd (BAPEX)

INSTEP trains the technical workforce of BAPEX to close their competency gaps.

2015



INSTEP customises training for Korea Gas Corporation (KOGAS)

INSTEP trains the technical workforce of KOGAS in the areas of midstream and downstream.

2016



INSTEP launches Pigging Test Loop

INSTEP establishes the Advanced Pigging Operation Certification Scheme, which certifies competent personnel to perform pigging operations at its Pigging Test Loop.

2015

2017

2016



PETRONAS President and Group CEO visits INSTEP

PETRONAS President and Group CEO, Tan Sri Wan Zulkiflee Wan Ariffin makes his first engagement with INSTEP staff upon taking the helm of PETRONAS. This engagement is part of his tour around PETRONAS' east coast operations.



INSTEP customises training for INPEX Corporation (INPEX) from Japan

INSTEP trains INPEX engineers, focusing on essential process safety practices in the oil and gas industry. INSTEP's "omotenashi" (customer-centric) service wins INPEX's confidence that they recommend Mitsubishi and Mitsui to send their engineers for technical training at INSTEP.



Industry experts convene at IEBN

In collaboration with Getenergy, INSTEP hosts the IEBN event – a strategic branding and marketing avenue that gathers industry experts from all over the world to experience INSTEP's capability in technical training and its world-class facilities.



INSTEP enriches the Middle East's energy workforce for their sustainable future

A group of well-known Middle Eastern oil and gas companies entrust INSTEP as their preferred technical learning solutions partner to develop their local talents. INSTEP has enriched more than 500 members of the Middle Eastern energy workforce for operations and maintenance in new plants and tank terminals.

2017

2018

2018



INSTEP conducts BTEC Assessor Training and Certification for EJADA Project

This project is funded by the European Union and is under implementation by Ernst and Young to upgrade the training and development of Iraqi staff entering the oil and gas industry. INSTEP has delivered this competency-based assessment training to almost 100 Iraqi learners in five batches under this EJADA project.



INSTEP and ExxonMobil Malaysia celebrates tenth anniversary of strategic partnership

Since 2008, INSTEP has been a trusted partner of ExxonMobil Malaysia in training technicians for its operations. When the industry experienced a downturn in 2016, INSTEP re-skilled their excess information technology personnel to become production operators. This strategic partnership has generated over 300 skilled technical personnel.

2018



**INSTEP customises PTP
for Oil Search Limited
(OSL) engineers**

This one-year training programme provides industry specific knowledge to OSL's engineering graduates from PNG.

2019



**INSTEP organises International
Association of Drilling
Contractors (IADC) Health,
Safety, Environment &
Technology (HSE&T) Asia
Pacific Conference and
Exhibition**

A congregation of over 100 multi-disciplinary delegates from across Asia, Europe and USA exchange insights and learnings on operational efficiency improvements.

2018

2019

2019



INSTEP signs agreement with Sarawak Petchem

This agreement requires INSTEP to design and develop a one-year training programme for 120 technicians and operators for Sarawak's methanol plant in Bintulu.



INSTEP customises on-the-job training for Institut National du Pétrole et du Gaz (INPG) Master Programme

INSTEP ventures into West Africa and develops a strategic partnership with INPG from Senegal by training six learners from the first batch for 22 weeks as part of their Petroleum Engineering Master Programme.

2019



INSTEP organises Cultural Night

With the theme "Embracing Diversity and Enriching Lives in Unity", INSTEP's Cultural Night gathers 350 learners of different nationalities from all around the world.

2019



INSTEP signs agreement with Brunei Fertilizer Industries Sdn Bhd (BFI)

INSTEP trains more than 150 learners for six months to support the operations and maintenance of Brunei's new ammonia and urea plant.

2019

2019



Two learners win the Pearson BTEC Outstanding Learner Awards 2019

INSTEP's commitment in delivering BTEC qualifications leads to its international learners winning the substantial award.

INSTEP wins the Localisation Award in Global Getenergy 2019

The Award recognises INSTEP's progressive pursuits in contributing towards the human capital development and technical competency building of local talents.



INSTEP customises training programme for Gabon

As part of the Production Sharing Contract commitment between PETRONAS and the Gabonese government, INSTEP signs an agreement with PETRONAS Carigali Gabon Upstream S.A. (PCGUSA) to provide a one-year customised training programme for 18 Gabonese learners from the Directorate General of Hydrocarbons.

20



INSTEP strives to become the Technology Acceleration Enabler

INSTEP partners with PETRONAS and industry players to develop and test the latest technology solutions in the energy industry. The most notable achievement from the collaboration is INSTEP's UDTP being the testbed for the feasibility study of Malaysia's first 5G project for the oil and gas industry.

20



INSTEP becomes the first to implement food composting in PETRONAS

Committed to PETRONAS Sustainability Development Agenda, INSTEP implements food composting technology which converts food waste into bio organic compost and INSTEP aims to compost around 36.5 tonnes of food waste annually.

Smart Energy Efficiency (SEE) CAPEXLESS Project reduces carbon dioxide emissions

This project involves retrofitting light emitting diodes (LED) and high mast lightings which reduces 283 tonnes of carbon dioxide per year.

20

2020

20



INSTEP launches Hall of Fame (HOF)

INSTEP aims to rejuvenate visitor experience by transforming its lounge area to a guided walkway, showcasing INSTEP's 200-acre campus, its 40 years of transformational journey, Virtual Reality technology, as well as PETRONAS' leading edge technology and inventions.



INSTEP launches Virtual Instructor-Led Training (VILT)

During Malaysia's Movement Control Order (MCO) due to COVID-19, INSTEP goes virtual by rolling out VILT within 30 days. The programme allows learners to continue to be upskilled from all locations and ensures competent management of day-to-day operations. As of October 2020, INSTEP has delivered more than 300 programmes, upskilling over 2,900 learners, with an average programme rating of 4.46/5.00.

Learning and Technology

Experiential/ Interactive Learning



- Practical workshop
- Simulation
- On-the-job training

Collaborative Learning

- Group project
- Case study
- Scenario based



Lecture-Based Learning



Face-to-face classroom session

Futuristic Learning

INSTEP is committed to preparing the global workforce of tomorrow as it continues to progress towards being a digitally-enabled learning organisation. This is why INSTEP puts great care and emphasis on embedding futuristic learning methods into its courses.



Virtual Reality (VR)



Virtual Instructor-Led Training (VILT)



Live Demonstration



Augmented Reality (AR)



Simulator

Mission Impossible: VILT in 30 Days from Mid-March

Swiftly adjusting to the new norm, INSTEP has navigated its way through a tough pandemic by providing digital learning solutions via VILT to support its learners and customers virtually, when physical training was restricted during MCO.

With the pandemic restricting movements and threatening safety, INSTEP progressively transforms learning experience and remains committed to helping its learners and customers grow and reach their full potential during the unprecedented time.



> 50%
new content customised
to enhance virtual
learning experience



Instructor-learner
experiences strengthened
while the world is
on standstill

4.46
Average Rating



Learning success despite
physical distancing

Why VILT?

Cost Effective

Value added offerings with
significant reduction in
original training fees



Interactive

Live virtual engagement
with live instructors
through various means



State-of-the-Art

Multi-mode
delivery techniques
(verbal, vocal and visual)



Guided

Personalised guidance by
instructors during online
and offline activities



Chapter **3**

The Passion of
Our People





“

The core engine behind the progress we make is the human capital, our people.

”

Tengku Muhammad Taufik
President and Group Chief Executive Officer
PETRONAS



Scan here for
the interview

“

INSTEP plays a pivotal role in shaping agile, adaptable, enterprising and growth-oriented individuals in future-proofing talents.

”

Tengku Muhammad Taufik

PETRONAS' greatest and most important asset is its people. This statement is often repeated by Tengku Muhammad Taufik, as he focuses on retooling the human capital equation as one of the immediate deliberate steps needed for PETRONAS to survive its current challenges. Institut Teknologi Petroleum PETRONAS (INSTEP), as PETRONAS' technical learning solutions partner, embodies PETRONAS' aspiration towards retooling and upskilling human capital to develop talents with the required technical skills and knowledge to meet industry challenges and standards as we navigate this period of energy transition.

INSTEP also continues to play a part in elevating competency development in countries where PETRONAS operates such as Iraq and Turkmenistan. To date, INSTEP has produced over 130,000 competent technical workforce for operations and maintenance in more than 30 plants and 100 platforms globally.

In its efforts to future-proof talents, INSTEP plays a pivotal role in providing technical training and instilling the generative culture and mindset that helps shape talents into agile,

adaptable, enterprising and growth-oriented individuals, which is why its programmes are customised and have carved out a niche to serve the current and future needs of PETRONAS' operations.

As renewable energy and sustainability play a more prominent role in the global energy equation, Tengku Muhammad Taufik commends INSTEP for shifting its focus to create modules on renewable energy and incorporate elements of sustainability in existing modules to meet rising demand. Further aligning with PETRONAS' Sustainability Development Agenda and its net zero carbon emissions by 2050 aspiration, INSTEP actively dedicates itself towards shaping a greener campus, while committing to improving the environment and the quality of life of its surrounding community.

Finally, in his reflections on the future of INSTEP, he notes that digital fluency and competency are must-haves in this day and age. Therefore, INSTEP must transition into the digital space in order to reach out to a wider, more global workforce and better equip them with a digital mindset allowing them to be better equipped for the future.



Dato' Wan Mohd Hasnan Abdullah

General Manager
*East Coast Economic Region
Development Council (ECERDC)*

Dato' Wan clocked 33 years in PETRONAS before retiring early 2020. He has personally witnessed the transformation of INSTEP from a small, homegrown training centre to being revered and recognised by oil and gas companies around the world.



When INSTEP was first established, its training modules were customised from scratch by those who had minimal experience in the industry and now, despite facing challenges and constraints in its initial years of establishment, INSTEP has since established itself as a full-fledged training and solutions provider. Apart from upskilling and reskilling working professionals, it has also bridged countless green talents to become competent personnel, most of whom came from underprivileged families that were sponsored by PETRONAS and absorbed into its workforce.



The values generated by INSTEP are sustainable and long-lasting.



Learners who come to INSTEP do not just develop functional skills, they are also equipped with the right soft skills and mindset. Many of the pioneering batch of INSTEP even returned to train and mentor their juniors, while some continued to work overseas in international oil and gas majors.



Datuk Ir Abdul Rahim Haji Hashim

*Vice Chancellor
Universiti Malaya*

In the late 70s, PETRONAS entrusted Datuk Rahim to produce a training master plan that ensures a steady pipeline of technical workforce. He took the project on with gusto and developed a robust capability development system that measures the technical personnel's competency and charts a clear development path for them to close their competency gap. This system is one-of-a-kind in the world that involves internal and external industry experts as assessors to evaluate the technical personnel's knowledge, skills and experience.



“

INSTEP is not just about training, it also centres around human development and people capability, continuously providing added value and channeling a sustainable talent pipeline.

”

INSTEP embeds PETRONAS capability development system in its end-to-end training design to ensure the technical workforce becomes fully competent with less supervision at work within a shorter training period.



Wan Zulfakrurazi Wan Abd Majid

*Manager, Maintenance Academy
PETRONAS Technical Training
Sdn Bhd (PTTSB)*

“

Before my retirement, I wish to contribute more and help shape INSTEP into a well-known brand for sustainability development and manpower training in renewable energy.

”



One of Wan Zulfakrurazi's major involvements with INSTEP was his collaboration with GIATMARA to conduct a feasibility study on local manpower requirements and establish a training centre in Khartoum State, Sudan when PETRONAS had its first venture there in 2004.

"When I saw the PETRONAS logo, I saw manpower development," an impressed Sudanese minister said to Wan Zulfakrurazi upon seeing the centre's sophisticated training facilities. It was indeed a successful manifestation of PETRONAS' investment in human capital development and INSTEP's localisation efforts in countries where PETRONAS operates.



To Wan Zulfakrurazi, the biggest turning point for INSTEP was its deployment of short and structured professional development courses in 1995 called Professional Development Programme. Prior to that year, the institute only offered long-term training programmes. Today, the Professional Development Programme remains one of INSTEP's highest in-demand programmes, capable of upskilling technical competencies of both engineers and technicians in a shorter period of time.



Moh Ariffin Abd Ahaling

***Manager, Programme and
Facilities Management
PETRONAS Technical Training
Sdn Bhd (PTTSB)***

To Moh Ariffin, INSTEP was the starting line that led to all his achievements today. The turning point came when he was accepted into the PETRONAS Apprenticeship Scheme in 1990 which was a dream come true given the financial difficulties he faced in his pursuit of higher education.

With more than 25 years of experience in PETRONAS, Moh Ariffin now heads the Kimanis Petroleum Training Centre (KTC) in Sabah. He expresses that PETRONAS has given a lot of opportunities to its staff by encouraging them to explore different areas of expertise to bring further value to their career. He was among those selected to pursue the Graduates Certificate in International Management in 2013.



Reminiscing about his trainee days, Moh Ariffin remembers feeling nervous and excited as it was his first time travelling far from home. He fondly recalls his instructors' enthusiasm in teaching and picks out Wan Zulfakrurazi as an instructor who was always kind and ready to lend a helping hand. Fate reconnected the pair after 26 years when Moh Ariffin became Wan Zulfakrurazi's subordinate at KTC. As the centre's first head, Wan Zulfakrurazi contributed immensely to setting up the training centre and developing the Sabahan workforce. With the baton now passed on to Moh Ariffin, he sees his position as a means of giving back to the community and nurturing young Sabahans to be competent technical personnel.



Today, KTC has produced over 150 graduates with 100 per cent employment rate.

“
PETRONAS' investment in accelerating the capabilities of Sabahan youth through INSTEP is a true reflection of its Statement of Purpose.





Abdul Manaf Tahir

*Former Head of Academy
PETRONAS Technical Training
Sdn Bhd (PTTSB)*

Before Manaf became an INSTEP instructor, he was a PETRONAS operational frontliner in the 80s and 90s. During this period, he observed a remarkable transition in the technical workforce, from being reliant on expatriates to being locally self-sustaining — a period of change that was a result of PETRONAS and INSTEP’s efforts to develop competent local talents and cater for the rising demand in Malaysia’s oil and gas industry.



“

INSTEP is instrumental to the localisation efforts in building competent workforce for Malaysia and other countries, too.

”

Manaf's passion in people development brought him to Kiyarly, Turkmenistan when PETRONAS Carigali Sdn Bhd (PCSB) expanded its operations in 2004. Entrusted as the project lead, his team conducted a feasibility study on the local manpower requirements and established a technical training centre in the country. Amid several challenges and constraints, the team successfully trained the first batch of 40 Turkmen learners to support PETRONAS' operations in Turkmenistan. Today, the Kiyarly training centre has trained four batches of over 400 Turkmen.



Begench Artykov

*Offshore Installation Manager
PETRONAS Upstream Turkmenistan*

Wanting to follow in his father's footsteps in the oil and gas industry, Begench was fascinated by PETRONAS' operations in the Caspian Sea and longed to join its technical workforce. At the age of 25, he got accepted into a two-year programme at INSTEP and experienced some difficulties at first as he could only speak a few English words.

Before Begench embarked on his technical training at INSTEP, he underwent a three-month preparatory English course, which built up his communication skills and language proficiency.



Regardless of level or position, he was impressed with how everyone at INSTEP could easily communicate with each other, which was a marked difference from his previous work experience.



The years I spent at INSTEP were some of the best, not only of my career, but my life as well. The skills and friends I gained there are invaluable.



The technical training focused on hands-on training and scenario-based group projects, which were critical to Begench who was in training to become a mechanical technician. Even though it has been over ten years since he graduated, he still remembers all the lessons and experiences he had at INSTEP, which have helped him tremendously in his offshore assignments.

Now, as an Offshore Installation Manager who supervises over 70 staff, Begench believes INSTEP is important for countries where PETRONAS operates to upskill and train the technical fraternity to operate facilities on their own without having to rely on expatriates.



Saniah Omar

Manager, P-ICE Specialist
 PETRONAS Chemicals Group Berhad
 Transformation Office

"Abang, I want to join ILPP (later known as INSTEP)!" Saniah was firm with her decision to join the PETRONAS Apprenticeship Scheme in 1997, even though her family did not support her decision to forego her university degree studies for a certificate course at INSTEP.

Saniah became one of only ten female learners out of 400 during her two-year course at INSTEP. Having first felt awkward, she bravely took it as a challenge and learnt to engage and work alongside her male peers. This valuable experience at INSTEP helped her adjust quickly to the male-dominated oil and gas industry when she joined PETRONAS' technical workforce as an instrumentation technician in 2000.



The learning experience at INSTEP moulded her into a strong woman with great adaptability skills and capability to handle multiple projects and roles. From being a technical trainee at INSTEP, Saniah's tremendous growth in handling different roles and commitment to excel at her tasks saw her rise to become a manager in 2014. Now, she is part of the team leading the company-wide organisational transformation.



“

As a petite woman working in the oil and gas industry, things might seem difficult at first, but I have learnt at INSTEP that by having a 'can do' attitude, nothing is impossible.

”



Siti Norbaya Yahya

*Instrument Technician
PETRONAS Gas Berhad,
Gas Processing Santong and Export Terminal*

To realise her dream to pursue a career in PETRONAS, Siti Norbaya applied to INSTEP as her stepping stone. After failing the first two admission interviews, she refused to give up and successfully passed her third interview, granting her a spot in the instrumentation trade of Petroleum Technology Programme-1 (PTP-1) at INSTEP. Since then, a new chapter began for Siti Norbaya.

Being one of the few female learners in a sea of male learners and having no prior background in instrumentation, Siti Norbaya initially struggled through her studies.



However, the support from her instructors and fellow learners helped her to cope and grow further, and she eventually bagged the Chief Executive Officer (CEO) Award for being the best student of her batch at the 2015 convocation.

Soon after, she joined PETRONAS Gas Berhad as one of the few female instrumentation technicians where she continues to excel and proactively volunteers for projects to support other PETRONAS operating units and, at the same time, gain exposure and experience.



Her passion and hard work proved that a female can perform just as well as - or even better than - her male peers when it comes to technical performance.



My dream is to join INSTEP again as an instructor to help develop more competent technical personnel for the future.





Mohd Zamri Abu Bakar

*Manager, Competency Assessment Management
PETRONAS Technical Training
Sdn Bhd (PTTSB)*

“

It was INSTEP that developed me, and now it's time for me to give back to society through INSTEP.

”

Zamri credits PETRONAS and INSTEP for his colourful career journey where he undertook a variety of roles, and became well-equipped with multiple skill sets.

Having graduated from one of the first few pioneering batches of the PETRONAS Apprenticeship Scheme in the late 1980s, Zamri returned to INSTEP after seven years of working as a mechanical technician.



Always willing to upskill and develop himself, he enrolled into diploma and degree studies with full support from INSTEP, and all his hard work came to fruition when he became appointed as the PETRONAS Competency-Based Assessment System (PECAS) manager at INSTEP in 2012.

Under his stewardship, he contributed to strengthening INSTEP's competency-based assessment system and helped to elevate INSTEP's status as a globally recognised world-class solutions partner in technical training after receiving accreditation from Business and Technology Education Council (BTEC) and Offshore Petroleum Industry Training Organisation (OPITO).



In 2016, he took on the role of business development manager and reached out to customers and learners, notably in the Middle East regions where he successfully entered into an agreement with Oman Oil Refineries and Petroleum Industries Company (ORPIC) and Oman Gas Company (OGC) to send over 150 Middle Eastern learners to INSTEP for human capital development.

A proud PETRONAS staff and INSTEP alumnus, Zamri notes that INSTEP always strives to motivate and challenge its staff to become better in developing local talents.



Mustafa Dheyaa Abdulkareem

*Production Technician
PETRONAS Upstream Iraq*

When Mustafa received a call about being a recipient of the Pearson BTEC Outstanding Learner Awards 2019, he beamed with pride. Mustafa is among the 300 competent Iraqis that INSTEP has trained since 2011 to support PETRONAS' operations in Gharraf, Iraq, and the first international learner to have bagged the prestigious Pearson award.



“

Learning at INSTEP was beyond my expectations. Within 15 months, I gained a lot of technical knowledge and skills, which gave me a great head start in my own career.

”

The knowledge and skills taught at INSTEP gave all the Iraqi learners an added advantage in their work. Besides imparting technical skills and knowledge, the instructors at INSTEP also

ingrained in the learners the Health, Safety and Environment mindset, coupled with PETRONAS Shared Values and Cultural Beliefs, which came in especially useful when the Iraqis embarked on their career journey with PETRONAS.

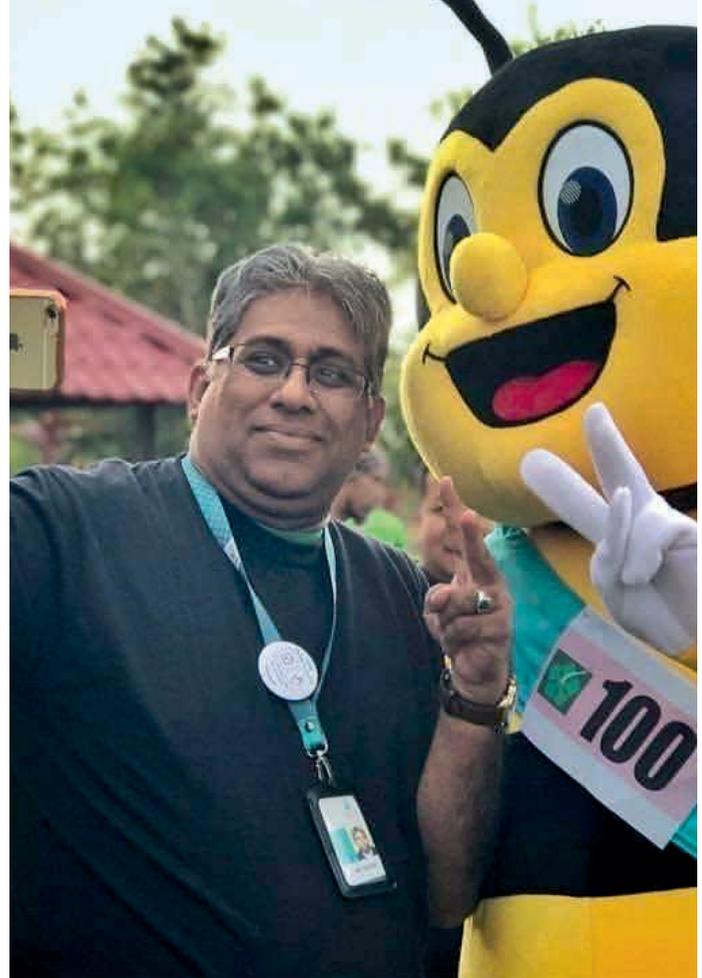
Mustafa is grateful for PETRONAS' contribution in developing the lives of the local community of Gharraf. It has supplied clean water, built the roads and most importantly, it has invested in developing local talents to enrich the Iraqis' lives for their sustainable future.



Mohd Kabir Noordin

Head of Manufacturing
PETRONAS Chemicals Group Berhad

In his early years at Melaka Refinery, Kabir was one of the key people to initiate a collaboration with INSTEP to develop PECAS training for the technical personnel in PETRONAS. An advocate of human capital development, he made sure the workforce in plants undergo thorough technical training of the highest standards.



“

It is crucial for us to run our plants in a safe and reliable manner, hence INSTEP has always been my top choice for technical training. My staff do not only learn technical skills and knowledge, but they also share their learning experiences with their colleagues.

”

A strong believer of INSTEP's capabilities, Kabir takes great pride in seeing how INSTEP has grown to serve not only domestic industry players but also international markets like Oman, and Iraq. When INSTEP requested to provide real plant working experience to its learners, he was more than happy to accommodate the local and international learners at real plants in PETRONAS Gas Berhad (PGB), Malaysia Liquefied Natural Gas (MLNG) and Melaka Refinery. This greatly showcases how supportive the PETRONAS operating units are in being part of INSTEP's contribution to prepare job-ready talents for the global oil and gas industry.



Jay Aquino

*Training Manager
Oil Search Limited (OSL)*

As OSL's training manager, Jay had a few training centres in mind. However he became impressed by INSTEP's facilities, curriculum and instructors at the INSTEP Experiential Business Networking (IEBN) 2017 and immediately chose INSTEP as OSL's go-to training centre as it met their manpower development requirements.



One thing that distinguishes INSTEP from our in-country training is the combination of comprehensive technical training and professional growth from the foreign experience.



Part of OSL's mission is to develop the local capabilities to support its operations in Papua New Guinea (PNG) and since 2018, OSL has sent three batches of its learners to INSTEP for training, from control room operators to

engineering graduates and apprentices. By sending his trainees abroad, Jay saw that it led to a profound change in their personal and professional development growth. The learning experience also empowered them to adopt the best practices in other companies and the highest standards in the industry, further pushing them to greater heights.

Jay continues to engage with INSTEP and plans to send his trainees for instrumentation training as those are limited in PNG. The strong training collaboration with OSL in empowering PNG talents saw INSTEP bagging the Localisation Award at Global Getenergy 2019.



Lim Kian Chuan (Carol)

*Manager, Learning Consultant
International
PETRONAS Technical Training
Sdn Bhd (PTTSB)*

With over nine years of designing and delivering experiential and competency-based learning at INSTEP, Carol actively made her classes fun and interactive during her time as an electrical instructor. She adopted various effective learning methodologies to help the learners better absorb information during her sessions.

Carol taught learners from different nationalities and cultural backgrounds. With each of them, she dedicated her time and effort to help them get accustomed to cultural differences and supported their intellectual, moral and social growth.



She closely guided every learner through the lessons, ensuring no one was left behind. Her passion in people development saw her extending support to her learners beyond formal learning hours by bonding with them in outdoor activities. Her warm personality inspired her learners to be more passionate in learning.

In enhancing the existing learning methodology, Carol stepped up to initiate and promote digital learning by pioneering the Virtual Reality (VR) and Augmented Reality (AR) projects at INSTEP, which created enhanced learning opportunities for learners to practise hands-on training in a safe environment.



INSTEP does not just provide a platform for learners to learn, it also gives me the opportunity to learn and develop my capabilities as a certified BTEC instructor to deliver accredited programmes at the forefront.





Aida Abdul

*Clerk, Health, Safety and Environment Academy
PETRONAS Technical Training Sdn Bhd (PTTSB)*

“

I joined INSTEP in 1983 when it was just two years old, and together, we have grown to become the best versions of ourselves.

”



Aida's 37 years with INSTEP saw her handling multiple job scopes in various departments and partaking in many development programmes offered by PETRONAS which moulded her from a once young and timid girl to a confident woman who can talk in front of hundreds. Being a mother of six, she is grateful of the benefits INSTEP gives its employees as it helps her raise her children in a safer and more stable environment.

As one of the earliest and longest serving female employees, Aida witnessed the drastic transformation INSTEP undertook to bounce back from the economic downturn of the



late 90s. The institute stepped out of its comfort zone and opened its doors to international learners and customers, invested in world-class facilities, and established the Upstream Downstream Training Plant (UDTP), the first of its kind in the world.

An advocate for Corporate Social Responsibility (CSR), Aida has volunteered in many CSR programmes under INSTEP which has continuously enriched its local community by providing aid to those in need, while promoting educational and environmental sustainability.



Dullah Abdul Rahman (Pok Ali)

*Fishmonger
Batu Rakit*

“

INSTEP's 40 years of establishment in Batu Rakit enriches the lives of local community and economy.

”



Dullah, better known as Pok Ali, is a friendly fishmonger who grew up in the peaceful *kampung* of Batu Rakit. Ever since INSTEP set up base in the 80s, Pok Ali has witnessed, firsthand, the growth and evolution of his hometown.

Popular among the INSTEP staff for his pleasant demeanour and fresh supply of fish, Pok Ali has even become lifelong friends with some of them.

One such customer-turned-friend is Zainaldin, a local boy who later grew and joined INSTEP before going on to serve PETRONAS. He is one of many living examples of PETRONAS fulfilling its commitment to enriching lives.

Corporate Social Responsibility (CSR)

Enriching 10,000 Lives and Counting



Ihya Ramadan

An annual programme during Ramadan with a series of CSR programmes to contribute to neighbouring institutes, the general public as well as less fortunate children.



Sekampit Beras, Sekilo Gula

An event organised every Ramadan to collect and distribute essential goods to underprivileged families in the community.



Back to School Programme

An annual year-end CSR programme to fund students in the Kuala Nerus area to buy their school uniforms, books and stationeries before the new school term commences.



Vocational Institution Sponsorship and Training Assistance (VISTA)



A PETRONAS CSR programme that supports human capital development by providing the opportunity for students from selected institutions to undergo hands-on training under the supervision of INSTEP's instructors.

Majlis Sentuhan Kasih

An annual event organised every Ramadan to uplift the spirits of underprivileged children during festive seasons by bringing them to shop in preparation for Hari Raya Aidilfitri.



Relief for Our Superheroes

A CSR programme that took place during the COVID-19 outbreak where INSTEP provided resources to frontliners who sacrificed their time and risked their lives to serve the country.



Chapter **4** / **Progressing
Beyond
Tomorrow**





“

In this new energy era, INSTEP will play a significant role in reskilling today's workforce to support the new energy market and future business demands.

”

Farehana Hanapiah

*Vice President, Group Human Resource Management, PETRONAS
Board Chairman, PETRONAS Technical Training Sdn Bhd (PTTSB)*



Scan here for
the interview

“

INSTEP is committed to shaping an empowered, agile and enabled workforce as a long-term sustainable talent pipeline for the industry.

”

Farehana Hanapiah

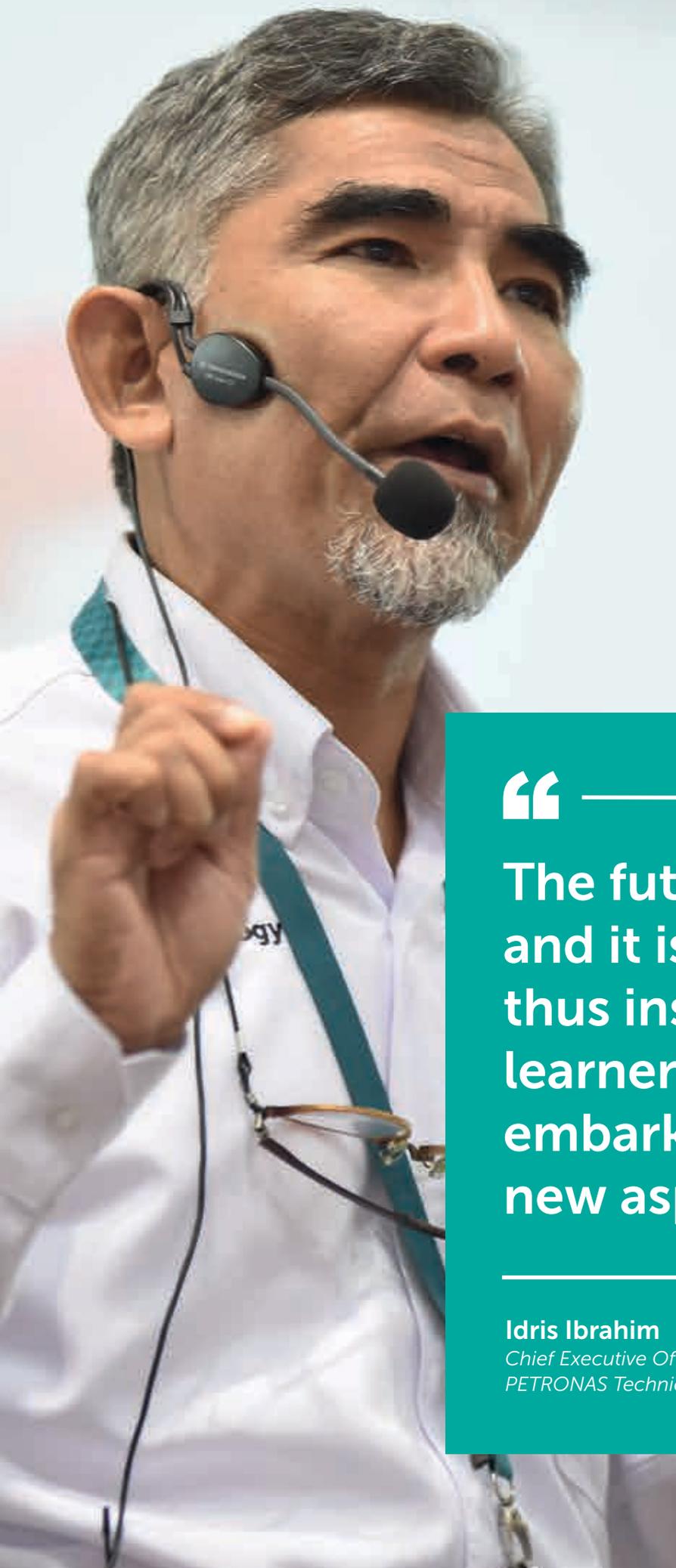
Investing in human capital development will continue to be one of the key focuses for PETRONAS moving forward. The organisation has embarked on efforts to retool its human capital and ensure the workforce is well positioned to simultaneously run and grow the business beyond the traditional oil and gas industry. Thus, there is a need to accelerate the shift in culture, mindset and capabilities for talents to thrive and progress in a fast-evolving business landscape. This is where INSTEP, being PETRONAS' technical learning solutions partner, will play a significant role in preparing and equipping talents to achieve this aspiration.

One of the main elements to retooling the human capital equation is rethinking the talent journey for a more empowering, agile and enabling talent experience that allows the workforce to self-drive their career development while contributing to business results. Various solutions and tools are being developed that will enable talents to find opportunities that match their capabilities and push their potential for a more fulfilling career. A key component to this will be the promotion of self-driven learning and development. By integrating PETRONAS' human capital initiatives and its experience, INSTEP will continue to

deliver quality learning solutions to shape future-ready talents for the global energy industry.

Meanwhile as the industry's demand for talent continues to grow and expand, INSTEP will need to be agile and constantly innovate its learning design and delivery. Not surprising when Malaysia's Movement Control Order (MCO) was announced, INSTEP swiftly responded by rolling out the Virtual Instructor-Led Training (VILT) to upskill technical workforce virtually to ensure competency in managing day-to-day operations. To date, the institute has upskilled more than 2,900 learners through VILT, proving INSTEP's capability as a digitally-enabled learning organisation.

Coupled with the rapidly evolving industrial technology advancements, having the right environment to test and ensure readiness of the technology for deployment has always been a concern. This is an opportunity for INSTEP to actively collaborate with more research centres to test and develop technology for deployment by utilising its existing world-class facilities especially its Upstream Downstream Training Plant (UDTP), as it provides a safe ecosystem that is perfect for this purpose.



“

The future has come,
and it is here now,
thus instructors and
learners alike must start
embarking towards this
new aspect of energy.

”

Idris Ibrahim

Chief Executive Officer

PETRONAS Technical Training Sdn Bhd (PTTSB)

As PETRONAS gears itself towards new, green energy resources and the rapidly changing current, so must INSTEP. The future has come, and it is here now, thus instructors and learners alike must start embarking towards this new aspect of energy.

In navigating the future, INSTEP has three growth strategies. One part of which involves honing our role in sustainable value development wherein we shape learners into becoming industry-ready, empowered and enabled individuals. Often seen as a reliable technical learning solutions partner, INSTEP always inculcates a generative culture mindset in its learners so they uphold safety and operational excellence in the industry. With INSTEP being recognised by the Department of Occupational Safety and Health (DOSH) as a self-regulation body, this allows learners to strengthen their foundation to be competent and self-regulated in their day-to-day work.

Its second growth plan is in actively becoming a technology acceleration enabler. INSTEP partners with PETRONAS and industry players to provide a testbed for the latest technology in the industry, with UDTP being a prime example of a testbed used for studying Malaysia's first

5G project for the oil and gas sector. Furthermore, the institute often collaborates with external partners to customise fit-for-purpose training programmes that help develop the latest industry solutions and benefit the energy industry as a whole.

Lastly, to support PETRONAS' net zero carbon emissions by 2050 aspiration, INSTEP is transitioning into a sustainable space by proactively safeguarding the environment and greening its campus. In advocating for zero food wastage and supporting green energy, INSTEP is the first within PETRONAS to implement an in-campus food composting technology that converts food waste to bio organic compost, reducing carbon dioxide emissions by 10,262 kg per year. It continues to go above and beyond by venturing into renewable energy offerings, with a solar farm projected to be fully commissioned at INSTEP in 2021. With several other initiatives in its sustainability development agenda, INSTEP proves that it is not just providing technical training, but that it cares about nurturing a mindset of sustainability in its people.

Guided by its Winning Aspiration, INSTEP is committed to co-creating a sustainable future and delivering sustainable value for all its stakeholders.



“

The quest for sustainability will always be an essential part of PETRONAS' agenda, aligned with our Statement of Purpose to become a progressive energy and solutions partner enriching lives for a sustainable future.

”

Tengku Muhammad Taufik
President and Group Chief Executive Officer
PETRONAS



INSTEP is committed to co-creating a sustainable future and delivering sustainable value for all its stakeholders.



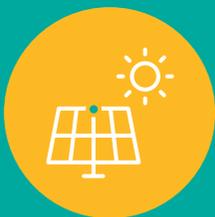
Sustainable Value Development

- Generate and channel sustainable value development to talents, organisations, industries, and the national and international arenas.
- Shape empowered, agile and enabled talents to accommodate current and future industrial needs.



Technology Acceleration Enabler

- Provide testbed to develop and test the latest technology solutions in the energy industry.
- Pioneer customisable blended learning solutions to shape digitally fluent and future-ready workforce.



Sustainability Corroborator

- Safeguard the environment and be proactive in greening the campus.
- Shift towards renewable energy to future-proof the institute and align with PETRONAS' growth strategy.



INSTEP

Going Beyond

In its passionate pursuit of progress, INSTEP has become more resilient, agile and courageous, while continuing to persevere and take risks in dealing with the ever-evolving and unpredictable energy industry.

Entering its 40th year in the industry, INSTEP has become even more well-equipped with the courage to act and step up into the new normal. It will continue to innovate with a customer-focused mindset and ignite limitless possibilities in technical competencies, while paving its journey towards becoming...

“

A progressive solutions partner enriching energy workforce for a sustainable future.

”

A Few Words from the Staff of INSTEP

The success stories written over the span of 40 years would not be achievable without the endless support and trust from the winning INSTEP team, who come together as one, in transforming “what could be” into “what is”.



“

Our staff are passionate and dedicated people who are committed to developing talents fit for the world. Our people are our best asset.

”

Idris Ibrahim



"INSTEP is THE centre of excellence for advanced technology."

Hairul Azhar Samian
Executive (Instructor –
Maintenance Academy)
2013 – current (7 years)



"Congratulations, INSTEP. Be resilient in maneuvering the next chapter!"

Khairudin Abu Samah
Manager (Plant Operation)
2008 – current (12 years)



"INSTEP is and will always be passionate in delivering endless learning opportunities for everyone."

Khairul Anuar Mohd Arshad @ Kay
Executive (Change Management)
2010 – current (10 years)



"Persevere in building stronger networks with global partners!"

Mohd Amirul Azeem Ghazali
Executive (System Management)
2019 – current (1 year)



"A momentous 40th Anniversary, INSTEP. Soar higher to sustainable possibilities!"

Muhammad Asri Omar
Manager (Marketing and Sales)
2019 – current (1.5 year)



"INSTEP, an organisation that is as great as the people working in it"

Muhammad Shamil Zulkipli
Executive (Programme
Leader – Mechanical)
2017 – current (3 years)



"May INSTEP always stay relevant and successful."

Muhammad Zawawi Zani
Executive (Marketing)
2014 – current (6 years)



"Keep honing that competitive edge, INSTEP!"

Mariam Hassan
Secretary (CEO's Office)
1995 – current (25 years)



"Let's continue to build people up and exceed limits."

Zawawi Zaliah
Manager (Principal Instructor –
Maintenance Academy)
2010 – current (10 years)



"This is where it ALL begins. INSTEP, go above and beyond!"

Nur Hana Haris Lim
Executive (Marketing)
2018 – current (2 years)



"Let's continue to advocate for sustainability in the coming years!"

Ramlah Abdul Rahman
Non-Executive (Finance
and Accounts)
2013 – current (7 years)



"Keep on amplifying more positive value to the nation!"

Siti Rashidah Juhari
Executive (Instructor –
Maintenance Academy)
2010 – current (10 years)



"Continue soaring to greater heights!"

Huang Khai Lin @ Karen
Former Executive (Branding
and Communications)
2018 – 2021 (2 years)



"May INSTEP stand tall and become the leading learning organisation in the world!"

Mohamad Noor Solehin Sulaiman
Former Executive (Programme
Leader – Exploration and Production)
2017 – 2020 (3 years)



"Never stop accelerating human capital development for the energy industry."

Arwani Abdullah
Manager (Programme
Management – Customised and
Assessment and Certification)
1997 – current (23 years)



"I hope INSTEP becomes the brand of choice for energy training."

Nur Fadila Mohd Kamal
Former Executive (Branding
and Communications)
4 years

The poem describes a persona who grows with INSTEP and proudly uses the teachings they have learnt as a tool to help build the nation.

INSTEP - Bermulanya di sini

Di sini...
Segalanya bermula
Ku merangkak
Ku bertatih berpaut pada bonda
Cuba terus cuba
Jatuh lagi cuba lagi

Kini ku dewasa
Dengan rahmat ilmu yang ku timba
Terbang di pelusuk benua
Tabur bakti harumkan negara

Di sini segalanya bermula
Peluh keringat timba ilmu
Jadi bekalan jadi pedoman
Ku terbang gah melata
Bukan berbangga mendabik dada
Tapi penuh syukur nikmat ilmu Illahi
Yang ku kutip di sini...

Bumi hijau mahsul ini
Ayuh kita jaga, ayuh kita teroka, ayuh kita semai
Benih-benih teknorat
Harapan negara
Bertabur ke pelusuk benua
Di sini segalanya bermula...

By Jailani Ismail
Manager (Principal Instructor - Maintenance Academy)
PETRONAS Technical Training Sdn Bhd (PTTSB)

List of Abbreviations

1	AR	Augmented Reality
2	BAPEX	Bangladesh Petroleum Exploration and Production Company Ltd
3	BFI	Brunei Fertilizer Industries Sdn Bhd
4	BTEC	Business and Technology Education Council
5	CEO	Chief Executive Officer
6	CSR	Corporate Social Responsibility
7	DOSH	Department of Occupational Safety and Health
8	HOF	Hall of Fame
9	HSE	Health, Safety and Environment
10	IADC	International Association of Drilling Contractors
11	IEBN	INSTEP Experiential Business Networking
12	IKM	Institut Kemahiran MARA
13	ILPP	Institut Latihan Perindustrian Petroleum
14	INPEX	INPEX Corporation
15	INPG	Institut National du Pétrole et du Gaz
16	INSTEP	Institut Teknologi Petroleum PETRONAS
17	KOGAS	Korea Gas Corporation
18	KTC	Kimanis Petroleum Training Centre
19	LMTS	Liquid Metering Training Skid
20	LNG	Liquefied Natural Gas
21	MCO	Movement Control Order
22	MLNG	Malaysia Liquefied Natural Gas
23	OGC	Oman Gas Company
24	OGTTP	Oil and Gas Technician Training Programme
25	OPITO	Offshore Petroleum Industry Training Organisation
26	ORPIC	Oman Oil Refineries and Petroleum Industries Company
27	OSL	Oil Search Limited
28	PCGUSA	PETRONAS Carigali Gabon Upstream S.A.
29	PCSB	PETRONAS Carigali Sdn Bhd
30	PCTSB	PETRONAS Carigali Turkmenistan Sdn Bhd
31	PECAS	PETRONAS Competency-Based Assessment System
32	PERMATA	PETRONAS Management Training Centre
33	PGB	PETRONAS Gas Berhad
34	PHEI	Private Higher Educational Institution
35	PMTSB	PETRONAS Management Training Sdn Bhd

List of Abbreviations

36	PNG	Papua New Guinea
37	POSS	PETRONAS Operational Skill Standard
38	POT	Production Operation Training
39	PTP	Petroleum Technology Programme
40	PTTEP	PTT Exploration and Production
41	PTTS	PETRONAS Technician Training Scheme
42	PTTSB	PETRONAS Technical Training Sdn Bhd
43	SEE CAPEXLESS	Smart Energy Efficiency CAPEXLESS
44	SSoW	Safe System of Work
45	Sudapet	Sudan National Petroleum Corporation
46	TEP	Technical Energy Enrichment Programme
47	TESDEC	Terengganu Skills Development Centre
48	UDTP	Upstream Downstream Training Plant
49	UOIP	Upstream Operation Induction Programme
50	VILT	Virtual Instructor-Led Training
51	VISTA	Vocational Institution Sponsorship and Training Assistance
52	VR	Virtual Reality



Scan here
for website



Scan here
for virtual tour



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