

Chief executive under fire from local outfits over bid process

PETRONAS chief executive Shamsul Azhar Abbas found himself the target of a hate campaign in the months leading up to the recent election, when the Malay Economic Action Council (MTEM), which represents 63 Malay businesses, called for his resignation on the grounds of failing to protect local interests, writes Tan Hwee Hwee.

MTEM accused Petronas of sidelining bumiputera companies — bumiputera are essentially Malays or descendants of indigenous peoples of Sabah and Sarawak — but instead gave priority to foreign parties bidding for the same contracts.

Political heavyweight and ex-prime minister Mahathir Mohamad has, in turn, sought to appease MTEM by calling on Petronas to keep to its founding principle of assisting local companies, especially the bumiputeras.

Petronas subsequently held discussions with MTEM, but whether the two parties reached a consensus remains unclear.

Petronas' executive vice president of exploration and production Wee Yaw Hin did not comment directly when questioned by Upstream.

However, Wee says Petronas has maintained its vendor development programme in place since 1993, to groom small and medium-sized manufacturers and self-operated providers into competitive and resilient entrepreneurs.

These vendors are awarded base contracts, which provide a foundation for growth, but are monitored closely according to an agreed set of key performance indicators.

Wee stresses all 52 vendors on board are competing on "a level playing field without assistance from Petronas".

Petronas has not released any official breakdown of the contracts awarded since 2010 to local players.

However, a local business newspaper, citing data released from Petronas for 1981 through 2005, says bumiputeras have won 41% of the contracts tendered during the period.

One local industry veteran tells Upstream bumiputeras' share stands at around one third today.

The percentage may have dwindled somewhat, but Petronas has few options but to go international to fast-track domestic developments, given the capacity constraints at home, according to industry sources.

Already in different phases of tender for 2013 are five central processing platforms for Sepat, Samarang, Block SK 316 fields, the Baram Delta gas gathering project and the Hess-operated North Malay basin group of gas fields.

So far in Malaysia, only Malaysia Marine Heavy Engineering (MMHE) and SapuraKencana are capable of handling these central processing platforms, which range between 10,000 tonnes and 17,000 tonnes apiece.

Two of these five central processing platforms — Sepat and SK 316 — are also being tendered under front-end engineering and design contests, which will roll over to turnkey contracts. These contracts will require collaboration between local fabricators — such as of MMHE and SapuraKencana — and engineering outfits.

With engineers running on short supply both locally and abroad, Petronas is compelled to open up the tenders to players outside Malaysia, in the hope of securing the required resources at competitive prices.

Supply is also running short on rigs in the near-term, but Malaysia has managed to secure more drilling units as compared to neighbouring Indonesia, by taking on a more flexible approach to local content, according to drilling sources.

Petronas does not specify outright local content in its tenders — unlike in Indonesia — but there is no mistaking its preference for local participation, especially for the transfer of know-how to Malaysia.

So while Technip and MMHE have been officially awarded the Malikai tension leg platform through an international tender, there are suggestions national interest in developing local capabilities has definitely played a part in the contracting process.

The general consensus is also — despite MTEM's allegations — that Petronas has limited and will continue to limit participation in certain projects that can be carried out locally among local contractors.

Shamsul has officially announced he will step down in 2015, but this should not be interpreted as Petronas bending to MTEM's demands.

As far as seasoned Malaysian veterans go, the message is clear — to ensure their long-term survival bumiputeras need to build up their capacities in as much as international players have to demonstrate their willingness to help develop local industry.



Influence: former Malaysian prime minister Mahathir Mohamad Photo: AFP/SCANPIX

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Five more deep-water fields are expected on stream by 2016

OF THE seven deep-water developments in Malaysia, two have started production, while five others are expected to come on stream by the end of 2016, writes Tan Hwee Hwee.

The country boasts South-East Asia's first spar development and looks set to add another regional first when a semi-submersible production unit lined up for the Shell-operated Gumusut-Kakap field development off Sabah enters operation.

Gumusut-Kakap was brought into production in late 2012 using an interim crude evacuation system involving a tie-in to the floating production, storage and offloading vessel at the Murphy-operated Kikeh field, which hosts Malaysia's first spar development and was brought on stream in 2007.

Gumusut-Kakap will produce up to 25,000 barrels per day of oil from two wells through the FPSO tie-in.

The full-field development will begin late this year or in early 2014, with the start-up of the 40,000-tonne production semisub now in final stages of construction at Pasir Gudang-based Malaysia Marine Heavy Engineering.

Delivery of the production semisub was set back by several years, partly because of design revisions resulting in adjustments to the topsides weight.

The semisub is now scheduled to sail away this quarter from MMHE

and expected to be fully commissioned within six to eight months.

Despite the heat from the Gumusut-Kakap delays, Shell has gone ahead to award the Malikai tension-leg platform — yet another Malaysia first — to MMHE and the Malaysian unit of France's Technip.

The move has drawn criticism within the international contracting community, but Upstream understands the Malikai project partners have drawn on the lessons learnt from Gumusut-Kakap.

Instead of providing detailed design support on a subcontract basis, Technip has come on board as a project partner for the Malikai TLP.

Construction on the TLP will begin after the Gumusut-Kakap scheduled load-out from MMHE this month.

Gumusut-Kakap will produce on average 135,000 bpd after the full-field development is complete.

Malikai TLP is designed to process up to 60,000 bpd of oil and 1.4 million cubic feet per day of gas.

Shell was targeting for first oil from Malikai in 2014, but this is set to slip into 2015 on the back of a protracted tender process for the TLP.

Late this year, a third deep-water development at Murphy-operated Siakap North-Petal is due to start production through a sub-sea tie-in to the Kikeh FPSO. The

development initially includes five water injection wells, eight production wells, plus a four-slot manifold at each drill centre. Projected production is about 60,000 bpd of crude.

North-east of Siakap-North, the Keababangan North Hub development operated by a consortium of ConocoPhillips, Shell and Petronas Carigali, is set to come on stream in 2014.

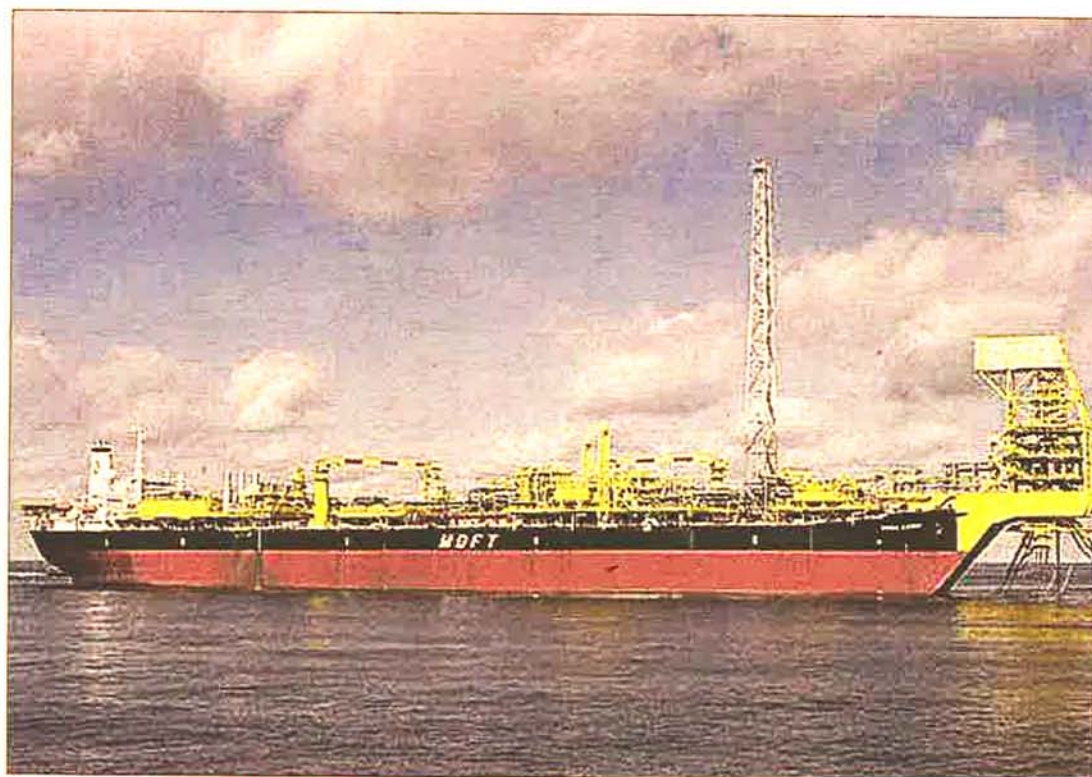
The Keababangan Northern Hub development anchoring on a integrated production, drilling, utilities and quarters platform, is moving into offshore installation phase from early 2014.

The 18,000-tonne deck of the integrated platform scheduled to be loaded out from Pasir Gudang-based MMHE at the end of 2013.

The platform will handle up to 825 million cubic feet per day of gas and 80,000 barrels per day of crude.

Also off Sabah, Petronas and Murphy have teamed up on what could be the second floating liquefied natural gas development in Malaysia.

A 1.5 million tonnes per annum FLNG vessel under front-end engineering and design is planned for the 2007 Rotan discovery, but could be extended to other recent finds — Biris, Dolfin and Buluk in Block H. First gas is targeted for 2016.



Up and running: the Kikeh FPSO

Photo: MURPHY

ANNOUNCED DEEP-WATER DISCOVERIES

Field	Field operator	Location	Water depth (metres)	Status	Production start-up
Kikeh	Murphy Oil	Sabah	1300	Production	2007
Gumusut-Kakap	Shell	Sabah	1100	Production*	2012
Malikai	Shell	Sabah	480	Development	2014/5
Keababangan	KPOC	Sabah	100 to 400	Development/Appraisal	2014
Kamunsu	KPOC	Sabah	100 to 400	Development/Appraisal	2014
Siakap-North Petal	Murphy	Sabah	1300	Development	2013
Rotan	Murphy	Sabah	over 1000	Development	2016
Biris	Murphy	Sabah	over 1000	Development	2016
Dolfin	Murphy	Sabah	over 1000	Development	2016
Jangas	Murphy Oil	Sabah	over 1000	Pre-development	NA
Ubah Crest	Shell	Sabah	over 1000	Pre-development	NA
Pisangan	Shell	Sabah	over 1000	Pre-development	NA
Limbayong	Shell	Sabah	over 1000	Pre-development/Appraisal	NA
Wakid	Petronas Carigali	Sabah	over 1000	Pre-development	NA

*Tied to Kikeh FPSO for early production, full field development completion by end of the year.

YARDS AND CONTRACTORS

Partners: Malaysia Marine & Heavy Engineering brought in France's Technip as a minority shareholder
Photo: BLOOMBERG

Contracts bonanza as market frees up

The **desire** to turn Kuala Lumpur into **Asia's oilfield services hub** has seen a **flurry** of **mergers** and **joint ventures**

TAN HWEE HWEE
Kuala Lumpur

MALAYSIA'S oilfield services sector has been undergoing consolidation as Petronas and local regulators embarked on market liberalisation prior to the recent general election. State-owned Petronas has set aside a record 300 billion ringgit (\$1.88 billion) in capital expenditure through to 2015 as it takes on the challenge of stepping up domestic oil and gas exploration and development to reverse years of declining production.

Over the last 12 months, the company has approached the international market for turnkey, or engineering, procurement, construction, installation and commissioning contracts tied to large-scale, platform-based central processing developments.

The shift towards EPCIC contracts and international tenders is deemed necessary to widen the available pool of contractors with the financial muscle and technical know-how to fast-track development of oil and gas resources, especially under challenging reservoir conditions. These contracts were previously tendered out in distinct EPC and transportation and installation packages only to Petronas-licensed contractors.

Petronas' move also falls in line with the initiative to build Kuala Lumpur into Asia's oilfield services hub under Prime Minister Najib Razak's Economic Transformation Programme.

Liberalising the industry is considered necessary to attract foreign players to set up shop in Malaysia's financial and economic centre.

Even so, Petronas is understood to have signalled the shift in its strategy to Malaysian contractors, in keeping with its founding spir-

it of facilitating local participation in the oil and gas industry.

Mergers The past two years have, in turn, seen several mergers and joint ventures being formed among Malaysian and foreign contractors. Petronas' offshore fabrication subsidiary, Malaysia Marine & Heavy Engineering, started the ball rolling by bringing in France's Technip as a minority shareholder.

Shortly after, SapuraCrest and Kencana Petroleum announced a merger that created Malaysian entity SapuraKencana, now ranked among the world's top five oilfield services players.

The outfit is also owner and operator of the world's largest tender assist drilling fleet, having acquired Seadrill's drilling rigs.

More recently, TH Heavy Engineering linked up with McDermott of the US in a bid to build EPCIC muscle to contest against its two larger rivals. There has also been a scramble to build offshore engi-

neering bases in Kuala Lumpur.

Petrofac of the UK bought up 50% of Malaysia's private-owned engineering outfit, RNZ, Australian contracting giant Leighton Holdings acquired the Malaysian unit of DPS, and Foster Wheeler made its official entry into Malaysia's upstream play through the offspring of Houston-based OPE.

Houston-based Bechtel is set to build its upstream muscle in Malaysia and SapuraKencana was recently in talks with Norway's Aker Solutions about an alliance.

Aside from these household names, the promise of a steady slew of projects over the next five years has lured niche players such as DRL Engineering and vessel-based chemical enhanced recovery company, Water Standard.

In contrast, far fewer foreign players have invested in Malaysian yard space. Singapore-based Dynamac stands out as the exception, having entered into a lease last

April for a seafront yard spanning 211,150 square metres.

A Petronas licence is required to bid for all fabrication work on offer in Malaysia.

However, it is generally reserved for Malaysian fabricators. Petronas extended a licence to Sabah-based KKB Engineering earlier this year.



CONTRACTORS



Linking up: Technip's senior vice president of Asia Pacific operations, KK Lim (left), and (right) MMHE's Pasir Gudang yard

Photos: EMAS/MMHE

Technip in expansive mood in Kuala Lumpur

Malaysian unit of **French giant** is making a name for itself in **South-East Asia** with a clutch of **high-profile projects** and an **increasing presence** in the region

TAN HWEE HWEE
Kuala Lumpur

WISMA Technip — or the house of Technip in Malay — stands among the first buildings named after a foreign engineering outfit in Kuala Lumpur.

The home of the Malaysian unit of France's Technip has been extended to three further buildings in recent months to accommodate another 600 new recruits.

Technip Malaysia presently has 3200 employees, accounting for half of the French giant's 6000 staff in the Asia-Pacific region.

The expansion has been dramatic from the humble beginnings as an engineering outfit of just under 50 staff, thanks in no small part to its active participation in local upstream oil and gas developments.

Wisma Technip now hosts the seat of Technip's senior vice president of Asia-Pacific operations, KK Lim.

Some may challenge Technip Malaysia's claim to being a Malaysian company, but it would be tough to question the investment

— in both soft and hard infrastructure — the engineering giant has committed in the country.

Lim and his fellow Malaysians make up 85% of the 3200-strong force at Wisma Technip.

That includes 400 employees at the Asiaflex factory at Tanjung Langsat, Technip's only flexible pipe plant in Asia and its third such facility after Le Trait in France and Vitoria in Brazil.

"Being in Kuala Lumpur brings Technip closer to a lot of projects and a lot of clients," Lim explains, flagging the likes of Shell, PTTEP and Hess, along with Malaysia's Petronas, which are active in Asia.

Cost advantage Malaysia also offers access to a highly skilled workforce at as much as 50% off the manhour rates in Paris or London.

Costs in Malaysia may be climbing compared with Europe, but overall costs in the South-East Asian country are still lower, according to Lim.

Technology transfers have been

ongoing from Paris to Kuala Lumpur, although Lim says the regional headquarters in Malaysia is also developing its own know-how as the second liquefied natural gas centre after Paris.

"Asia has reached a stage where a lot of engineering, procurement and construction of LNG projects can be executed within the region, which was not the case 10 years ago," Lim remarks.

As the custodian of Malaysia's hydrocarbon resources, state-owned Petronas has played a part in fueling the capacity building at Technip by introducing leading edge upstream technology, including floating natural gas liquefaction, into Asia.

The Kuala Lumpur operating centre of Technip has in turn been offered the opportunity to take the lead in the first Petronas floating liquefied natural gas plant (PFLNG1), while supporting the execution of Shell's Prelude FLNG unit.

Technip Malaysia was roped in for three landmark deep-water projects in Malaysia — Murphy

Oil's Kikeh spar delivered in August 2007, and Shell's Gumusut-Kakap production semi-submersible and Malikai tension leg platform developments, all regional firsts in South-East Asia.

Upstream understands the Kuala Lumpur operating centre is also involved in the early engineering work on two further ground-breaking projects — Total-Petronas' joint study for the K5 high carbon dioxide gas field development and Shell's St Joseph vessel-based chemical enhanced oil recovery project.

Building up expertise Lim believes Petronas — as with other oil and gas operators — has signed on Technip on the strength of its integrated engineering, procurement, construction, installation and commissioning capabilities to see through the turnkey execution of such complex projects from beginning to end.

"The Petronas FLNG unit, for example, will require our expertise built up across all business segments — floating production,

LNG process plants and subsea capabilities," Lim explains.

TMH — Technip's recent joint venture with the holding company of Malaysia Marine Heavy Engineering (MMHE) — is taking the hull engineering for Malikai TLP.

The TMH joint venture was formed after Technip picked up 8% interest in Pasir Gudang-based fabricator MMHE, which provides its Malaysian office access to close to 130,000 tonnes of annual fabrication capacity.

The fabrication muscle allowed Technip to jointly bid with MMH for an expected heavy volume EPCIC contracts on offer for large scale platform contracts in Malaysia.

Having developed capabilities across the full value chain from engineering to offshore installation in Malaysia, Technip is increasingly leaning on the Kuala Lumpur operating centre to execute projects within and outside the Asia-Pacific region.

Technip Malaysia has recently completed engineering service

U TECHNIP

■ Main yard:	Location: Pasir Gudang Annual tonnage handling capacity: Under expansion to 129,700 tonnes
■ Offshore installation vessels:	34 vessels under Technip's worldwide fleet; two dedicated to Asia Pacific — Deep Orion and Global 1201. Access to Heerema Marine Contractors' fleet through Technip's alliance.
■ SURF plant:	AsiaFlex, flexible pipe and umbilical manufacturing plant in Tanjung Langsat.
■ Engineering capabilities:	Conceptual to detailed design offered by Technip and subsidiaries, including Genesis and TMH.

on the Valemon central processing platform destined for the Norwegian North Sea under a sub-contract from South Korea's Samsung Heavy Industries. With the share of business projected to grow in Asia, Lim expects the regional headquarters to account for increasing new order volume for Technip.

As at the end of 2012, Asia-Pacific contributed 21% of Technip's global order backlog.

Lim says the revenue split for

Technip Malaysia between on-shore/offshore and subsea businesses is about 70:30 as at the end of 2012.

"Subsea division in Kuala Lumpur is about two years old, but with the acquisition of Global Industries in 2011, revenues have expanded to 30%", he adds.

Asiaflex has offered 24-hour, seven-day operations since mid-2012, although Lim flags room to improve "the acceptance of flexibles in Asia".

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MMHE poised to move forward with Malikai TLP development

TECHNIP is contributing to the transformation of Malaysia's largest yard operator into an internationally competitive engineering, procurement and construction contractor.

In late 2010, Technip picked up an 8% stake in Pasir Gudang-based Malaysia Marine Heavy Engineering (MMHE).

The French oilfield services contractor subsequently transferred a seasoned executive, Dominique de Soras, to head MMH, the holding company of the Pasir Gudang-based fabricator.

De Soras has since launched a transformation programme aimed at levelling the playing field against the South Korean yard giants and emerging competition from China.

Until recently, Malaysian yards have benefited from a steady flow of projects from Petronas and made minimal attempts to benchmark against and compete with regional yards, De Soras says.

In line with one of Petronas' founding objectives to groom local oilfield services providers, platform-based projects were

previously kept among Malaysian fabricators, with MMHE and Lumut-based SapuraKencana splitting up the largest chunks of offshore structures.

MMHE was also a key beneficiary of the first deep-water projects in Malaysia — Murphy Oil's Kikeh and Shell's Gumusut-Kakap developments.

However, the Pasir Gudang yard operator also bore most of the backlash from the delayed delivery of the Gumusut-Kakap production semi-submersible.

The delay is perhaps, as some would describe, a series of unfortunate events throughout the project value-chain, best attrib-

JOINT VENTURE PROJECT

Lessons learned from delayed semisub

uted to the steep learning curve on the execution of the first offshore structure of its kind in Ma-

aysia.

De Soras joined MMHE long after work had kicked off on Gumusut-Kakap in Pasir Gudang. Without touching on the reasons behind the Gumusut-Kakap delay, the MHB boss says the production semisub is nearing its scheduled load-out date in late May as Upstream goes to press.

The area released by Gumusut-Kakap will be occupied by the Malikai tension leg platform Shell awarded to MMHE and Technip in their successful bid during an international round.

Unlike Gumusut-Kakap, where Technip acts as the subcontractor to MMHE, Technip's senior vice president for Asia Pacific, KK Lim, says the two parties are joint venture partners on the Malikai TLP development.

Both partners have assigned representatives to head up the Malikai TLP project team, Lim explains, adding the project is part of "Technip's commitment to transform MMHE into a world-class fabricator".

Technip and MMHE are widely expected to bid jointly for further

large platform projects in Malaysia, although Upstream understands the partnership is not strictly exclusive.

Under the leadership of De Soras, MMHE has already embarked on a 1.9 billion ringgit (US\$639 million) yard optimisation programme that will extend its land area in Pasir Gudang and boost its annual tonnage handling capacity to 129,700 tonnes.

The Pasir Gudang-based yard operator went on to sign long-term agreements with five subcontractors in the effort to lock in fabrication support and effectively benchmark its competitive bids.

De Soras has identified more than 30 initiatives to stream online yard operations, half of which were implemented in 2012.

For 2013 and beyond, MMHE will be building a corporate office to free up space for deep-water projects, purchasing 600-tonne Goliath cranes and crawler cranes and centralising covered warehouses, pipe spool fabrications and confined spaces for blasting and painting.

De Soras believes some of these initiatives will bear fruit in 2013 and perhaps, in so doing, level the playing field against other regional fabricators.



Initiatives: MHB chief executive Dominique de Soras

Photo: MMHE

OFFSHORE PROJECTS



In development:
Shell's
Gumusut-Kakap
platform at
MMHE's Pasir
Gudang facility
Photo: MMHE

Development whirlwind centred on Sabah

A **clutch of foreign players** have joined state-owned Petronas in **major projects** in the East Malaysian state but **discontent** about **revenues** and **contracts** rumbles on

AMANDA BATTERSBY
Singapore

SABAH is perhaps the busiest state in Malaysia's oil and gas industry with companies including Shell, Murphy Oil, ConocoPhillips and state-owned Petronas developing mid and deep-water oil and gas fields.

Malaysian contractors have benefitted handsomely from the fabrication contracts for these field developments, in no small part due to Petronas' drive to favour national outfits and keep the work at home.

However, some Sabah businesses and officials still feel short-changed with regard to winning work and/or receiving sufficient revenues from oil and gas projects.

Also, some foreign contractors privately claim that construction contracts for technologically-challenging structures are being awarded to local companies that lack the relevant experience, which can result in delays.

Malaysia's upstream oil and gas infrastructure is receiving a major boost from the multi-billion dollar integrated Sabah-Sarawak project. This includes the Sabah Oil & Gas Terminal (SOGT), which will help exploit deep-water fields off the nation's states on the island of Borneo.

Petronas is developing the integrated infrastructure project that will handle production from fields including Gumusut-Kakap, Keabangan, Malikai and Kinabalu Deep and East.

Construction The onshore facilities related to the project are the SOGT and the Sabah-Sarawak gas pipeline (SSGP).

The SOGT will receive, store and export crude and receive, process, compress and transport gas produced from fields off Sabah.

The terminal will be able to handle 300,000 barrels per day of oil — accounting for 40% of Malaysia's crude production — and 1.25 billion cubic feet per day of gas, according to the lead contractor.

The oil and condensate landed at the facility will be loaded onto vessels through single point moorings installed about 10 kilometres off Kimanis. Samsung Engineering won the \$770 million contract for the SOGT in 2010.

South Korea's Samsung, which is leading the engineering, procurement, construction and commissioning work alongside local partner Najm Cendera (NCSB Engineering), has an EPCC Alliance Integrated Team with Petronas.

Naim is responsible for construction of support infrastructure such as roads, bridges, earthworks and site offices.

RNZ Integrated, a division of the RNZ Group, was involved in the design and engineering of the terminal while KASI (Malaysia) carried out a comprehensive review of this early design.

The aim is for the terminal to be mechanically completed in December and come into operation in 2014.

Samsung Engineering chief ex-

ecutive Park Ki-Seok earlier said: "As we deliver this large national project, we hope it will promote local employment in Sabah and revive its oil industry and economy."

The new terminal will complement existing facilities such as the Sabah gas terminal and the Labuan oil and gas terminals, which will continue to handle hydrocarbons produced from other fields off Sabah.

The 512-kilometre SSGP will transport gas from the SOGT in Kimanis, Sabah, to the Petronas liquefied natural gas complex in Bintulu in Sarawak, from where LNG is exported to overseas customers.

The onshore pipeline system also has provision for future domestic consumption in the states of Sabah and Sarawak.

The SSGP construction contract was won by a Punj Lloyd-led consortium with local partners Dialog E&C and Petrosab Logistik.

Cluster The novel integrated infrastructure will support field developments such as the Keabangan giant gas field and the Gumusut-Kakap oilfield project.

Keabangan, located 130 kilometres off Sabah, is part of the Keabangan Cluster that also comprises Kamunsu East and Kamunsu East Upthrown Canyon.

The cluster is being developed by the Keabangan Petroleum Operating Company, a joint venture of Petronas Carigali, ConocoPhillips and Shell.

The Keabangan Northern Hu-

project was initiated to exploit three fields and the first — Keabangan, which Shell discovered in 1994 — is targeting first gas next year.

The field has estimated reserve of around 2 trillion cubic feet of gas and a thin oil rim.

Keabangan is being developed via subsea wells and a drilling production platform that will be tied back to an integrated platform for the entire cluster.

Twelve producer wells are envisaged for Keabangan and the drilling will be performed in two phases.

The Keabangan floating production platform will be able to handle 825 million cubic feet per day of gas and 22,000 barrels per day of condensate and will be installed in 466 feet of water.

Shell's Malikai field will be tied into the platform after Keabangan is brought on stream, and the platform is being designed with spare capacity to handle future third-party production.

Output Keabangan's peak output will be between 130,000 and 140,000 barrels of oil equivalent per day.

Gas from the field will find its way to Petronas' LNG complex at Bintulu, which comprises the Malaysia LNG, MLNG Dua (two) and MLNG Tiga (three) projects. A ninth liquefaction train is being added at the LNG complex.

Norway's Aker Solutions performed the front-end engineering

and design work for Keabangan and sub-contracted Semar to carry out pre-FEED work on the platform's construction.

Malaysian contractors Sime Darby Engineering and Kencana Petroleum won the platform topsides and substructure fabrication jobs, respectively.

Oil started flowing late last year from an early production system on Gumusut-Kakap, Malaysia's second deep-water project after Murphy's Kikeh. Two Gumusut-Kakap wells are currently tied back to the Kikeh floating production, storage and offloading vessel enabling peak EPS output of 25,000 bpd of oil.

Full field development will involve 19 subsea wells tied back to a semi-submersible floating production unit that will see peak flows ramped up to 120,000 bpd.

A pipeline will deliver Gumusut-Kakap's crude to the SOGT at Kimanis, south of the state capital Kota Kinabalu.

Project operator Shell said last month that by the end of this year it hopes to start the offshore commissioning of the floating production system built by MMHE at its Pasir Gudang yard in Johor, Peninsular Malaysia.

The FPS Gumusut Kakap will be able to handle 150,000 bpd.

MMHE has several other domestic fabrication jobs at its yard including the tension-leg platform for Shell's Malikai project that it won earlier this year. It is due for delivery in the third quarter of 2015.