# **Brief Company Profile - FST/FSC**

### **Ourselves**

"ROME WAS NOT BUILT IN A DAY". This statement represents a reality check for an Engineering Service Provider Company serving the marine, petrochemical, oleo chemicals, utilities, infrastructure industries, offshore and onshore that intent to do business amid astounding technology growth and progressive demand sophisticated.

We are poised to proactively rise in meeting the rapidly changing competitive environment. And it's now prudent to note an engineering company **FLOW SYNERGY TECHNICS** & **FLOW SUPPLY CHAIN SUPPLIES** serving their numberless customers.

Flow Synergy Technics has developed itself into the leading Chemical Cleaning & water jetting company in Malaysia, offering acid cleaning, pickling & passivation descaling. Lube & hot oil flushing. High and ultra-high-pressure water jetting for surface preparation, lancing, internal pipe cleaning and flushing. It continues to provide tank cleaning, high pressure hydro testing and pipe/tube internal inspection(boroscope) services.

FST continues to serve the OIL & GAS and offshore industries with its expertise in all kind of descaling, chemical cleaning & flushing, heat exchangers, condensers, and heating transfer equipment repairs, tanks passivation and pickling. UHP & HP hydro jetting, painting, high pressure water flushing, hydro testing & boroscope. We have served the petrochemical plants and process-related companies for work of similar nature.

Flow Synergy Technics in Malaysia, offers the complete range of product and services offered by its affiliates in West & East Malaysia. The company is presently starting its operation in East Malaysia with the task of promoting sales in a rapidly growing market in Brunei.

## Sales Turnover

The companies' turnover for financial year 2019-2020 is RM 5.3 million, and has grown modestly for financial year in 2019. We project the current year's sales volume to reach at least RM 8.9 million in Malaysia both east & west also for international projects we are yet to commit.

# Capability and Geographical Reach

Flow Synergy can provide pumps running up to 40,000 psi for use on site, and has consistently surface prepared metal surfaces to bare metals for repainting and coating.

The group has operated in Singapore, Malaysia, India and Brunei. Our riding crew have been engaged in work across the Indian Ocean, North, and South China Sea and can be mob to any part of the world.

On top of very competitive cost structure and quality work, we have been renowned for keeping tight schedules and ensuring all projects are completed on time.

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#### THE TEAM

The key management staff is headed by Post-graduate degree holders, **UTM**, **UNITAR**, **SPU**,**IIU**, **CURTIN UNIVERSITY**, **UNI PAHANG UTP** degree holders and local polytechnic diploma holders.

Total manpower strength under direct employ by the group regularly exceeds 25 men divided into various trades namely as:

Welders (up to 3G-6G grades for various techniques)
 Mechanics (high pressure pumps + chemical pumps)

Hydro-blaster (qualified blasters for high and ultra high pressure hydro- jetting

with knowledge of surface finishes) **NIOSH CERTIFIED** 

Painters (experience with spray and roller painting, including coating

thicknesses, with cert by IMM (M) / BGAS & CSWIP - UK

• Chemist (experience in the chemical field for 10years)

Chemical Engineer (Experienced more than 5years – accredited BEM / IR
 Boiler Makers (specialist knowledge of heat transfer equipment repairs)

Supervisors (project co-ordinators with specialist knowledge)
 Foremen (experience in chemical & boiler field and well trained)

# **Equipment**

The workshop built up area in Malaysia has area of about 7,500 sq ft...

Some of the principal equipment and generally used tools are classified under the various sections for easy references.

# **Equipment Mechanical (Workshop Section)**

- Universal Drill Grinder -4units
- China Radial Drilling Machine -up to 4" dia hole
- China Radial Drilling Machine
- Bend Saw 14"
- Ridgid 300 Threading machine 2"
- Box groove cutting machine
- Ring/hammering spanner -10mm 68mm
- Copper hammer -5, 10, 15, 50 -kgs
- 1" gasket spade -6nos
- Gasket cutter 2nos

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## **Equipment (Welding)**

- Gromius Frowig 160V DCH
- Miller Syncro-wave 350 (TIG)
- Hyperthem Powermax 1000 plasma cutter upto 4"
- E-Weld portable plasma 12mm x 1unit
- E-Weld portable welders (AC/DC) heavy duty 7nos
- E-weld portable MIG machine -2nos
- E-Weld welding rod warmers 4units
- E-Weld welding rod Oven 1nos(AC)
- Stud welders

# **Equipment (Pumps, Air compressors, Tools)**

- Partek High Pressure Pumps (up to 15,000 psi) x 3 units
- Hammelmen High Pressure Pumps (up to 35,000 psi) x 4 units x 3guns outlet
- Kamat High Pressure Pumps (up to 15000 psi) x 1unit
- Densin electrical driven High Pressure Pump (7000 psi)x 1unit
- Karcher electrical driven High Pressure Pump (7000 psi)x 1unit
- Chemical circulation pumps 1800liters and 2500litters 3units
- Chemical hoses(1 1/2", 2") min 20mters in length 60lenght x jumper hoses 25lenght
- Various sizes fittings SUS 316, SUS v/v and external 80°C heater
- SS flange mach NPT thread \* 12pcs 20" / thread \* 15pcs 35"
- MS plt 12mm \* 5' \* 10' \* 15pcs
- Test kits 2 units (Koslow meter / Dp & iron & Bikar )
- Offshore certified tool box (8f x 8f x 8f) max 4ton capacity with DNV cert

## **Equipment (Expanders, and other Equipment)**

- Impact Wrenches -3nos
- Grinders (air/electric)
- Chipping Chisels
- Angle grinders
- Air hacking hammers
- Electric tools grinders, hammers, etc
- Expanders (Sugino BK type)
- Tube Expanders (CB Type)
- Tube Expanders (HB Type)
- Tube Expanders (various)
- Stub End Pullers
- Hydraulic Jacks
- Hand Jacks / Winches
- Chain blocks (2T, 3T & 5T) -10units
- Spray Painting equipment c/w angle nozzle gun(Graco king)
- Ventilation fans c/w air ducting's 6units

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## **Painting Equipment**

Spry pump (Graco King) - 3 pumps Spry pump (Graco conventional) - 5 pumps Spry hose - 50 length Spry gun - 8 unit Spry tips - 50 unit Painting mask(half) - 20 units Wet gauge (WFT)-elcometer - 2 units Dry gauge (DFT)-elcometer - 1 units Holiday test - 1unit Multi gas tester (Crowcon Tetra 3) - 2 units

# Hp & Uhp gun accessories

 Hydro Jetting gun - 10units • Hydro Jetting short gun - 4units Blasting nozzles - 50 pcs Blasting gas mask - 107 pcs Nozzle holder hose - 4 roll Air filter - 5 units Transparent hose - 5 roll Goggle - 50pcs

#### Chemicals

Nitric acidCitric acid40carboy25carboy

Hydro Chloride - 10carboy/2ton IBC tanks

Hydro Fluoride - 25carboy
 Caustic Sodas - 10bags
 Ammonium solutions - 45% - 25drums
 Butyle solusolve - 3drums
 IBC drums (1ton) - 10drums
 Rydlyme heavy duty degreaser - 2drums

### Hydro testing pumps : (Pneumatic / diesel)

Hydro test hand pump
 Hydro test hand pump
 Hydro test pump pneumatic
 20bar / 1 unit
 120bar / 2 units
 180bar / 1unit

Hydro test pump pneumatic
 - 1000bar / 2units c/w gauge

• Hydro testing pump diesel driven - 1500bar / 2units

• High pressure NRV valve - 1500bar x 1unit – 250bar x 4units

High pressure ½" x ¾" x 1" fittings - 40 – 50pcs

• High pressure hoses upto 25 000psi - 10unit x 20mtr long each

Pressure recorder c/w paper - 1000bar

Pressure gauge - 100bar – 2000bar – various type

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#### Safety equipment (All Applicable OSHA Standards, CSA Certified)

 SCBA-Air Express Fire - 2units complete with trunks, 2 tanks & hoses

Mask-fullMask -half20units20units

 Tripod-Workman Tripod 8'
 (2.43mt height), Constructed of Three Anodized Aluminium Legs and a

Aluminium Alloy Head - 1unit

 Multi gas respirators - 10units Dust mask - 4boxes • Tyvek – disposal coverall - 2boxes Safety apparent - 3nos Air driven ventilation - 2units Air driven light - 10units Multi Gas detector -2units DFT gauge-Alcomoeter -1unit Surface roughness gauge-(Mitutoyo) -1unit

#### Communication

Walkie talkies (Motorola) Ex-type
 - 14 units

### Pipe internal inspection camera (Boiler & exchanger tubes)

- Viper 4" TFT monitor x 5meters probe inspection camera
- Viper 7" TFT monitor x 20meters probe inspection camera

## **Safety Procedures**

The company's policy statement is attached. (APPENDIX B)

In general, all workers comply with all statutory requirements, including SOC and SIC training, and comply with yards' and client's procedures where available and some notified as below :

- NIOSH (Hydro Jetting)
- BGAS / CSWIP / NACE (Painting & Surface Preaparation)
- PTW (Onshore/Offshore)
- AESP (Authorized Standby personnel/Confined Space Entry)
- AGT(Authorized Gas Tester)
- TENORM inspector (3<sup>rd</sup> party)
- SMART CARD Petronas/Shell
- BOSEIT (Helicopter & Sea Survivals)
- T-BOSEIT (Tropical Water Sea Survivals)

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#### **Track Records**

A set of track records identifying some of the works completed is attached. (APPENDIX C)

# **Health and Safety Policy**

It is the policy of the company to provide, maintain and improve, insofar as possible, safe and healthy working conditions at each of its operation sites; instil in every employee safe working habits and attitudes and to provide the training, rules, and discipline for safe working practices on the job. In all instances, company safety standard will meet or exceed legal requirements.

## Responsibility for Safety

#### General

- Every person regardless of position has the obligation placed upon them including a duty of care to all other people.
- This liability cannot be passed on to anyone else.
- Proper safety training courses and awareness
- Before a project execution safety briefing and while project execution tool box meeting and safety meetings

# **Employees**

There is a responsibility for all employees

- To familiarise themselves and observe company safety rules and regulations, and conform to code of practices.
- To know their environment, understand safe work procedures and instructions and apply them in their work.
- To maintain good housekeeping and maintain a safe work place.
- To report unsafe conditions, places and equipment.
- To use correct personal protective equipment (PPE).

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Boilers cleaning+ servicing, chemical cleaning, mechanical work, chemical cleaning, hydro jetting & painting, hydro flushing, hydro testing - (LNG, FPSO, FSO, VLCC) - Project (APPENDIX C)

Client	Work scope
2011 WEST SEA PTE LTD (Singapore) – West Sea II	WBT tanks mechanical work changing 12Ton of mild steel plates, c/w painting works
2011 SOUTHERN PECK (PTP) – SOUTHERN PECK 5	Main deck UHP hydro jetting at 35 000psi to remove the existing coating and repaint(JOTUN) approx 2400m <sup>2</sup>
2012 TITAN PETROCHEMICAL (Malaysia)	Boiler A(55Ton) chemical cleaning and flushing c/w disposal
2012 SAPURA ACERGY SDN BHD (KUANTAN PORT) – SHELL	Process lines cleaning and flushing approx 450nos related pipe lines from 6" to 12"
2012 Malaysia shipyard of Engineering (Johore) – LPG NANGA PARBAT	45T/hrs boiler chemical cleaning and flushing – 2 nos and the related pipe lines from 2" to 8"
2012 MISC - BUNGA KANTAN I (Philippine -Malaysia) -	Chemical pickling for – 15nos SUS tanks
2012 SEGARI POWER STATION (IPP) (LUMUT) – MHI BOILER	Boiler air preheater high pressure washing at 10 000psi to remove the hardened carbon (with 3outlet gun)
2012 SOUTHERN PECK (PTP) – SOUTHERN PECK 3	Tank cleaning + demucking of COT & WBT tanks c/w hard scrapping for hot work standard approx 240Ton of sludge and disposal
2012 TERMINAL BERSAMA (Johor Port) – Esso	Tank external hydro jetting bare metal Sa2 painting 2 coat systems provide by Esso 1 nos Live tank at Esso yard

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2012 SBM (Labuan) – MISC FPSO KIKEH	Reactor degreaser cleaning and flushing – 4 nos and the related instruments	
2012 ONE PETROLEUM BERHAD (PTP) – FSO HERCULES	MHI boiler(boiler I) chemical cleaning 45Ton and repairing	
2012 ONE PETROLEUM BERHAD (PTP) – FSO TAURUS	MHI 45T(boiler II) general overhauling for Lloyds inspection and servicing all related v/v and fittings	
2012 SIGMA MARITIME SDN BHD (PTP) – FSO MERMAID	MHI 45T(boiler) leaking tube to be identified and plugging -10nos c/w welding	
2012 PAC OIL SDN BHD (JHR PORT) – PAC OIL	MECHMAR 15Ton fire tube boiler retubing – 36nos supply tube expand and welding	
2012 MISC - BUNGA KANTAN II (Korea - Singapore)	Chemical pickling for – 22nos SUS tanks	
2012 HL SAPURA KENCANA (LUMUT) – MOPU	Tank internal chemical(water/oil based) spry and washing at 10 000psi	
2012 HL SAPURA KENCANA (LUMUT) – MOPU	Tank internal washing at 10 000psi for one man height and bottom cleaning – 2300m <sup>2</sup>	
2012 HL SAPURA KENCANA (LUMUT) – MOPU	Tank internal chemical(water/oil based) spry and washing at 10 000psi – 1200m²	
2012 HL SAPURA KENCANA (LUMUT) – MOPU WEST DESARU	Main deck UHP hydro jetting at 35 000psi to remove the existing coating (glasflex) approx 550m <sup>2</sup>	

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2013	SIME DARBY ENGINEERING platform (B-189)	2" - 28" lines to chemical cleaned for a process	
(PASI	R GUDANG) – ONGC PROCESS	I.e internal chemical flushing, N2 purging, high pressure flushing with ROTO FAN system and boroscope inspection. Finally dispose all water chemicals	
2013	PAC OIL SDN BHD (JHR PORT) – PAC OIL	8" discharge lines to be purged with intelligent pig with N2 purging to clear all clogged lines till clear total length approx 1.5KM from plant till jetty	
2013	SAPURA ACERGY SDN BHD (JHR PORT) - LTS 3000	Main deck UHP hydro jetting @30000psi to remove the existing coating and to repaint with 1 primer 75 $\mu$ First coat 120 $\mu$ &, hp washing @ 10000psi & cleaning	
2013	HAJI ADININ & SONS SDN BHD (BRUNEI SHELL)	Provision HP jetting unit 15 000psi with high flow rate machine to lancing the internal 6nos condensers (Od 19.00mm x Thk 1.2mmx L 4500mm) minor shutdown.	
2013	SYNTHOMER (M) SDN BHD	Provision qualified technician 10pax to HP washing and cleaning internal of storage SUS tanks to remove the harden latex – 4tanks	
2013	UGF (M) SDN BHD (FPSO LEKAS)	Provision 4pax mechanical fitters to remove & reinstate boiler mounting & valves for surveyors inspection, at Melaka Anchorage	
2013	CCO ENGINEERING SDN BHD (EVYAP SABUN ) TLP	Work scope to power tool at ST 3 standard to remove the mild scale and ginger rust follows with application of glycerine as surface protection -8 nos storage tanks	
2013	EVERGREEN FIBRE BOARD S/B (MASAI)	Provision of skilled labour to re-tube a VINCKY fire tube boiler – 22nos tubes (Od 76.2mm x Thk 3.6 x 5000mm) Carbon steel	

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2013	EVERGREEN FIBRE BOARD S/B (MASAI)	To provide skilled 6g welders to weld and refurbish B-6 bag filter wall plate t 6 location with doubler enclosed (Thk 5mm x 250mm x 300mm)
		To weld and refurbish the flange neck badly leaking 8 – nos (mild steel)
		Fabricate, bend and reweld the existing SUS 304 21/2 " suction line 2units x 8mtrs
2013	TECHNOFIT SDN BHD (Segari Power Station)	Provision HP unit @15 000psi with qualified blasters 2 pax to remove the harden sprinkler formed at boiler tubes between 2 locations
	IHI POWER SDN BHD (NETSLE SDN BHD)	To provide approved AESP personnel as standby person in conjunction of boiler repair
	DYNA SEGMEN SDN BHD (PETRONAS POLYETHLYNE)	To provide UHP machine 35000psi to remove the harden polymer at tank internal of R-200 and cleaning Application of surface polishing at range (0.1-0.4μ) with high power SUS polishing machine 3units. Final testing using surface roughness gauge
	PASIFIC OLEO SDN BHD (PASIR GUDANG)	Provision HP jetting machine @ 10 000psi to remove the harden soup noodles by means of HP lancing Total – 15nos condensers cleaning
	PNEUCON DENKI SDN BHD (CHEMOIL SHIP MGMT) – SPORE	Retube & expand steam condenser 103nos tubes Material - copper nickel
(	FELDA IFFCO SDN BHD (TECHNOFIT SDN BHD) (JOHOR)	To retube 32 nos fire plain tubes for VICKERS HOSKIN to expand and seal weld at per origin To re- expand the leaking old tubes – 15nos
(	JAYCORP VANTAGE SDN BHD (JSJ INFINITY SDN BHD) (JOHOR)	To provision skilled 6g welders, fitters and supervision to fabricate gantry structure across JALAN BESI 5 c/w 2 nos structure leg, hot insulation and inspection
	LOTTE CHEMICAL TITAN SDN BHD (TANJUNG LANGSAT - JOHOR)	To provision qualified boiler makers to service & overhauling HRSG 80T/Hr ABB boiler and related coolers to service and HP washing at 10 000psi

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2013 LOTTE CHEMICAL TITAN SDN BHD (TANJUNG LANGSAT - JOHOR) PS2 shutdown)	To Hp lancing at 15000psi to remove the harden choke from tube internal and to wash down the the channel head for E 204 & related lines  To chemical cleaning (Desclaing) tube bundle E 221 & E 201 to circulate and clean the bundle External using a 2400lpm circulation skid with Redilym biodegradable descaler & disposal
2013 FELDA IFFCO SDN BHD (FAT PLANT SHUTDWON -JOHOR)	To Hp lancing 15000psi high flow pump to clean internal tubing for 15nos shell & heat exchanger c/w house keeping
2013 LOTTE CHEMICAL TITAN SDN BHD (TANJUNG LANGSAT – E211)	To UHP hydro jetting at 30000psi to remove the harden polymers formed at external of system Including roller blades c/w house keeping
2013 EVYAP SABUN SDN BHD (GUNAK INDUSTRIAL SDN BHD) Tanjung Langsat – Ind area	To provide 2400lpm skid with filtration system 50µ and related chemicals for pickling and passivation for 9 nos sus tanks and c/w disposal
2013 JAYCORP VANTAGE SDN BHD (JSJ INFINITY SDN BHD) (JOHOR)	To provision skilled 6g welders, fitters and supervision to fabricate SUS TD steam trap 14nos and fabricate related 33 blow down lines
2013 TECHNOFIT SDN BHD (Kapar Energy Ventures)	Provision HP unit @15 000psi with qualified blasters 2 pax to remove the harden sprinkler formed at boiler RAH elements
2013 FIT NAVAL DESIGN & SHIPYARD (MT. SPRIT – Tanjung Belongkor)	To Provision UHP pump at 35000psi with rotary guns to remove the damaged paint at ship side to apply paint 3coat system(Jota mastics) with experienced blasters c/w inspection & cleaning
2013 DYNA SEGMEN SDN BHD (PETRONAS POLYETHLYNE)	Internal of R-200 and cleaning & application of surface polishing at range (0.1-0.4µ) with high power SUS polishing machine 3units. final testing using surface roughness gauge(Mitutoyo)

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2013 LOTTE CHEMICAL TITAN SDN BHD (TANJUNG LANGSAT - JOHOR) PS2 shutdown)	To Hp lancing at 35000psi to remove the harden choke from tube internal and to wash down the the channel head for E 201 & related lines	
2014 PASFIC OLEO CHEMICALS SDN BHD (PLANT SHUTDWON -JOHOR)	To Hp lancing 15000psi high flow pump to clean internal 265nos shell & heat exchanger tubing c/w housekeeping	
2014 BREDERO SHAW SDN BHD (PROCESS PLANT-KUANTAN)	To Hp lancing 15000psi high flow pump to flush internal of process line 40" & 42" pipes approx 12meters in length. – Total 385 pipe spools	
2014 PETROPOWER SDN BHD (Janamanjung power station)	Provision HP unit @15 000psi with qualified blasters 4 pax to remove the harden sprinkler & ash formed at boiler primary & secondary super heater &econimiser from stack 72mtrs to 24mtrs	
2014 TECHNOFIT SDN BHD (Janamanjug power Station)	Provision HP unit @15 000psi with qualified blasters 4 pax to remove the harden sprinkler formed at boiler tubes between 2 locations – Total 110nos REH	
2014 FELDA IFFCO SDN BHD (VICKERS BOILER -JOHOR)	To fabricate boiler bottom ducting corroded carbon steel plates & lay inter flu gas separation plate and fire brick laying with air set mortars	
2014 EVYAP SABUN SDN BHD (GUNAK INDUSTRIAL SDN BHD) Tanjung Langsat – Ind area	To provide 2400lpm skid with filtration system 50µ and related chemicals for pickling and passivation for 55nos sus tanks and c/w disposal	
2014 RANDOLPH YOST RIG (LIMA BINTANG MARINE SVC) Tanjung Lanagsat – Wharf area	Bilges lines HP lancing at 15 000psi to clear the hard clogged choke for 1/2" & 2" lines from drill floor till engine room	
2014 LOTTE CHEMICAL TITAN SDN BHD (PASIR GUDANG - JOHOR) PS1 shutdown)	To provision degreaser for the air intake coolers internal with ACE 1902 NITRITE cleaner and HP washing at 2000psi	

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2014 LOTTE CHEMICAL TITAN SDN BHD (PASIR GUDANG - JOHOR PORT) Storage tank To provision UHP machine 2units to hydro blast the external surface of 1nos live tank to remove the existing paint & recoating – 3coat system

2014 KELINGTON PTE LTD (S) (BIOCON SDN BHD) SILK industrial area – 1<sup>st</sup> ph Provision of chemical cleaning using Citric based solutions for 1/2", 3/4", 1", 2" tubing SUS316L approx 2400mtrs for DP building

2014 KELINGTON PTE LTD (S) (BIOCON SDN BHD) SILK industrial area – 2<sup>st</sup> ph Provision of chemical cleaning using Citric based solutions for 1/2", 3/4", 1", 2" tubing SUS316L approx 3900mtrs for DS building

2014 ALFA LAVAL PTE LTD (India) (BIOCON SDN BHD) SILK industrial area Provision of chemical cleaning using Citric based solutions for 1", 2" tubing SUS316L ERW welded type approx 2400mtrs c/w purification tanks for DS (Drug Store) building

2014 RM LEOPAD (M) SDN BHD PCFK PETRONAS GURUN (UET TERMINAL PENANG PORT) To Provision HP pump at 20000psi with rotary guns at WJ-3 standard to remove the damaged paint and to apply paint 2coat system (ACES) with  $1^{st}$  coat  $200\mu$  &  $2^{nd}$  coat  $75\mu$ . Job performed with an experienced blasters c/w inspection & cleaning (20Pax) - estimated  $6500m^2$ 

2014 PUTERI NILAM I NAKHODA LAUT SDN BHD MMHE – JOHOR Provision of chemical circulation pump, 1200lpm c/w related hoses and fitting and 1 competent pump technician

2014 EASTMAN CHEMICALS (M) SDN BHD Kuantan Plant Boiler overhauling, servicing, valve lapping High pressure wash down 3000psi, refractory repair Supplies boiler mounting steam gasket &packing Vicknes Hoskin - Vertical water tube boiler 45T/hr Hand over upon satisfactory DOSH inspection

2015 ALFA LAVAL PTE LTD / AALBORG BOILERS – S'PORE MEARSK CAIRO - PTP

Provision competent boiler maker to crop and renew economiser C-bend tube 4nos with qualified 6G welders and supervision.

2015 STS SERVICES
PETRONAS PENAPISAN MELAKA

UHP lancing at 35 000psi diesel driven machine to perform internal lancing of condenser E202 C&D Approx 1400nos straight tubes to remove the internal harden choke till clear and prepare for inspection with proper housekeeping – 48hrs job

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2015	EVERSENDAI ENGINEERING (M) SDN BHD TANJUNG BIN POWER STATION JHR	To perform with diesel driven 20 000psi hydro testing pump to test and hold boiler feedwater line c/w NRV & its related high pressure fittings		
		To provision high flow 100lpm 10bar filling pump electrical driven c/w technician for boiler water filling for 3 months duration.		
2015	LOTTE CHEMICAL TITAN (M) TANJUNG LANGSAT (PE2)	To perform with short shutdown 7days to lancing internal of shell and tubes heat exchanger 4200nos straight tubes (25.00mm od) also with mechanical job to remove and refit channel head, hydro testing & lancing related 10" lines approx 10mtrs. All cleaning done with pressure between 35 000psi & 20 000psi using a diesel driven hydro jetting pumps Total 9nos of heat exchangers  Chemical cleaning for 3 nos of lube oil coolers at shell side, descaling using a biodegradable (RYDLYME) descaler to circulate using a chemical circulation electrical driven pump 12000lpm/min		
2015	LW ENGINEERING (M) SDN BHD HOLCIM (M) PASIR GUDANG	Turnnion bearing cooler external shell side chemical cleaning using (RYDLYM) descaler for 2 internal & external intersections		
2015	ALFA LAVAL AALBORG (S) MEARSK CONGO PTP – WHARFT 7	EGE U bend tubing 2nos crop and renew with owner supplied bend in ready fit form c/w provision TIG welder cum fitters 2pax		
2015	OPTIMISTIC ORGANIC (M) SDN BHD TELUK KALONG - KEMAMAN	To perform with short shutdown 6 days to lancing internal of shell and tubes heat exchanger 4000nos straight tubes (25.00mm od) 1unit. Applied pressure at 15 000psi		
2015	TGS MARITIME (M) SDN BHD FPSO BERANTAI – OFFSHORE TRENGGANU WATERS.	Auxiliary boiler overhauling, servicing, valve lapping High pressure wash down 3000psi, refractory repair tube cleaning & boroscope inspection SUN ROD CPH-250 Vertical water tube boiler		
2015	ADININ WORKS (B) SDN BHD TOTAL – BRUNIE	Pipe bevelling/flange facing machingin for 12", 24", 36" & 42" using a high speed pneumatic driven machine for rental basis 4 sets under Total Brunei to bevel various diameter in-situ c/w certified technicians 3pax. The total rental duration – 95days		

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2015	PETRONAS PENAPISAN MELAKA SDN BHD SAA ENGINEERING SDN BHD	Sea water SBM lines external high pressure hydro jetting at 10 000psi by means of diesel driven pump with 4 outlet gun performed. Handed over upon PETRONAS satisfaction – 15days total duration
2015	LOTTE CHEMICAL TITAN SDN BHD PASIR GUDANG - TPP	Fire tube boiler overhauling, servicing, valve lapping high pressure wash down 5000psi, refractory repair tube cleaning & balancing.  Box back after DOSH inspection & hydro testing.  BABCOCK PK 760A fire tube boiler -7days
2016	EVYAP SABUN SDN BHD Tanjung Langsat Ind Area	To provide 1500lpm skid with filtration system 50µ and related chemicals to desclaing chiller system 4 nos c/w disposal using RYDLYME BIODEGRADABLE - Descaler
2016	PETROPOWER SDN BHD (KEV kapar power station)	Provision HP unit @15 000psi with qualified blasters 4 pax to remove the harden ash formed at REH element approx 450pcs per shift only
2016	LOTTE CHEMICAL TITAN SDN BHD (TLP - JOHOR)- Ps 2	To provision RYDLYME BIODEGRADABLE - Descaler to flush and circulate, E401 condenser & hp washing till clean handed over upon owner's inspection & satisfaction – 2days job
2016	NUFA ENGINEERING SDN BHD RPCM – GEBENG KUANTAN	HP lancing @12 000psi diesel driven machine to perform internal lancing condenser E202 x 2units approx 450nos straight tubes to remove the internal mild choke till clear and prepare for inspection with proper housekeeping. Handed over successfully
2016	LOTTE CHEMICAL TITAN SDN BHD PASIR GUDANG – TPE 1	IW line internal HP lancing at 15 000psi to remove the harden/clogged line till 100% clear To weld & fabricate damaged flanges to new unit Box back & hand over upon satisfactory inspection. Pipe M/s 2" - 4" approx 35mtrs x 3lenghts
2016	LOTTE CHEMICAL TITAN SDN BHD PASIR GUDANG - TPP	Water tube boiler-B overhauling, servicing, valve lap high pressure wash down 5000psi, refractory repair tube cleaning, site wall plate repair. Cyclone servicing Weld & repair damages air intake valves Box back upon DOSH inspection.  B&W water tube boiler 55Ton/hr -7days
	RPCM - KUANTAN GEBENG INDUSTRIAL AREA	40" process line internal HP lancing at 15 000psi to the harden/clogged line till 100% clear approx 20mtr long. 2 branches need to be flushed till clear & clean Upon satisfactory inspection handed over to owner

Upon satisfactory inspection handed over to owner.

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2016	LION ECO CHEMICAL SDN BHD (TLP - JOHOR)	To provision chemical cleaning, using Nitric acid pickling & passivation flush with desclaer a 28" sus 304 pipe Approx 30mtrs.  Neutralised with caustic soda and final flushing Di mineralised water. Hand over with owner's satisfaction
2016	TECHNIP SDN BHD Offshore SK-316	Hp testing flow lines 10" 6 meters approx 75pcs on board of SK -316 at pressure rating 350bar using Portable pressure recorder – 15days
2016	PETROPOWER SDN BHD (Janamanjung power station)	Provision UHP pump@35 000psi with blasters x 4pax to remove the harden sprinkler formed at boiler primary & secondary super heater section from stack 72mtrs to 24mtrs – rental basis 10days
2016	ADININ WORKS (B) SDN BHD TOTAL – BRUNIE	Flange facing machining for 2" -12", flange using a high speed pneumatic driven machine for rental basis 1 set under Total Brunei, In-situ c/w certified technicians 3pax. The total rental duration – 9days
2016	ADININ WORKS (B) SDN BHD FOSTER WHEELER – BRUNIE	Hydro/N2 testing for 2" -12" low medium pipe in-situ approx 12meter in length at 300bar. Filling Water using gigh pressure filling pump 50LPM with certified technicians 3pax. The total rental duration – 90 days
2016	TECHNOFIT (M) SDN BHD TANJUNG BIN POWER STATION JHR	To perform with electrical driven 7000psi hydrotesting pump to test and hold boiler feedwater line c/w NRV & its related high pressure fittings 1 week duration.
2016	TGS MARITIME (M) SDN BHD Kluang SAJ – Johor	Provision AESP personnel for SAJ tank cleaning Max 12pax Aesp personnel for tank cleaning and washing job. 1 nos tank
2016	LOTTE CHEMICAL TITAN SDN BHD (TLP - JOHOR)- Ps 2	To prepare DOSH submission, fabricate dish end approx 900mm dia x 475mm length x 1 unit – SS400 To remove the vessel from its origin & to provide qualified welder to perform the fabrication job. Internal rubber lining was done for the whole vessel. External paint was removed by St3 standard and 2coat painting system was applied. After NDE (RT) & (DPI) A HT was witness by DOSH officer & LCT PE The vessel successfully delivered at site for installation.

2016 EVYAP SABUN SDN BHD Tanjung Langsat Ind Area	To provide 15 000psi diesel driven pump c/w related accessories & fittings to lancing and remove The internal harden coating till clean. Provide mechanical fitters for channel head remove refit work.  Pressure testing – N2 for tubing section.  Hand over after proper inspection  Total 8 coolers- 5041 tubes
2016 LOTTE CHEMICAL TITAN SDN BHD PASIR GUDANG - TPP	D 704 fuel oil tank internal demucking, cleaning until mob dry. To remove the internal accumulated sludge approx 1 meter height by means sucking and transfer to open top drum. High pressures wash down at 5000psi to remove the remaining residue The accumulated sludge shall hand over to LCTM for disposal.
2016 PS PERUVISION SDN BHD JOHOR PORT – Crane 3	Gantry crane external hydro blasting @30 000psi to remove the harden cement and rust formed at external surface approx. 900m² to ease the coating.
2016 BUMI JAYA SHIPPING SDN BHD MAERSK LINERS – PTP	External ship side chemical (degreaser biodegradable) hp washing at 5000psi to remove the harden formed oil stain from water mark & below. Approx 2000m² for 2 container carries.
2016 LOTTE CHEMICAL TITAN SDN BHD TLP – PS 2	To provision 'C' channel support 4units fabricate welding work & rubber lining (5mm) to install an agitator support for a chemical circulation tank
2016 LOTTE CHEMICAL TITAN SDN BHD TLP – PS 2	ROTO fan flushing for a fresh water bomba line approx 6" in dia to flush at 185lpm, pressure 12kpsi to flush through 250meters with 6 bend's at one go to dispose back all sediments/sludge back to LCTM
2016 DYNACIATE (M) SDN BHD TLP – Rapid project	To perform with electrical driven 7 000psi hydro testing pump to test and hold pressure for gas line c/w NRV 500bar & high pressure fittings hoses & recorder Duration – 7days at yard pipe for 6" - 12" in dia
2016 AKR MARINE SDN BHD MV PROMISE II	Perform with high pressure hydro jetting @5000psi to remove the harden layer of lime coat on cargo hold 1 numbers apporx 2000m <sup>2</sup> & chemical spry with 4 gun outlet machine – 3days Johor anchorage

2016	TECHNIP GEOVENTURE (M) SDN BHD SK 316 – OFFSHORE MIRI	To provision EPCC services at onshore for sus316, duplex & cs lines prefabrication blasting & painting hydro testing onshore. Installation with qualified 6g welder, fitters, insulators Welding inspector CSWIP 3.2 qualified to monitor and perform the installation job at offshore for 14days All welding job was done using habitat technology. Final hydro testing & RT job successfully handed over
2016	SAAVANAH ENGINEERING (M) SDN BHD RAPID STAGE II	Provision qualified 6g welder & fitters to perform the prefabrication jobs related with steel structures & piping.
2016	LOTTE CHEMICAL TITAN SDN BHD Ps 2 – GT 10 HRSG	To prepare HRSG boiler GT 10 general overhauling and servicing for DOSH annual inspection.  Job scope involved steam & mud drum cleaning Servicing with related safety V/V 3nos and high 3000psi washing on water side. Dry cleaning atfireside. A HT was witness by DOSH officer & LCT PE Boiler successfully.
2016	LOTTE CHEMICAL TITAN SDN BHD PS 2	Preparation for rubber lining Material: Showa rubber coat H1 -with rubber lining Application of rubber sheet – Hardness 68 to 90 Tensile/S – <180/kg cm - (ASTM DJIS-A) Vulcanization - ensure proper adhesion of rubber lining
2016	LOTTE CHEMICAL TITAN SDN BHD PE 2 – Cogen	To provide 12 000psi high pressure diesel driven unit flow 130lpm capacity to hydro flushing internal of SAJ Applicable with flushing self-rotating 3d nozzle ID 100mm – 250mm equipped with roto track, speed controller.
2016	MLNG (M) SDN BHD MASHHOR SDN BHD - BINTULU	To provide 15 000psi high flow diesel driven at flow 130lpm to hydro flushing internal drain pipe Od 18" & 25" approx. 2500meters, using self- rotating nozzles 38.1mm equipped with roto track, rotofan system air driven modellers, Final inspection – Boroscope internal crawler
2016	LOTTE CHEMICAL TITAN SDN BHD	To provide 2units chemical circulation pump at min 6-8 bar, to circulate the internal with return manifold, filter stand. Inject Citric acid (C6H807) gradually 5% concentration. add Rydlyme Biodegradable 40% to circulate Reactor jacket - D-201, D-221, E-204, E224, E 401, E221, E201, {C-881, C-222, C302)

Brief Company Profile – FST/FSC	
2017 PASIFIC CEKAP SDN BHD UE ENGINEERING SDN BHD (SARAWAK)	To provision hydro testing pump at 150bar c/w related hoses and fittings and technicians to test pipes for 35" & 45 "- 6 nos in total. c/w chart recorder All testing in accordance - (ASME B31.3 2007)
2017 EGANA (M) SDN BHD LNC (KOREA) SDN BHD	Chemical cleaning for SUS 304 pipes internal for various diameter (1", 2" 3 " 4" 6" & 8") To pickling & passivation c/w passivation Testing.
2017 BUMI JAYA SHIPPING (M) SDN BHD JOHOR PORT - WHARFT	Provision 2 units HP electric driven unit to chemical spry on oil spill and to wash down at 5000psi to remove the spill over. Job Duration – 2months
2017 LOTTE CHEMICAL TITIAN Reactor – PE 2	Provision experienced technician 2 shift 16pax per shift to perform mechanical fitting jobs, Reinstatement job, high pressure roto fan clean HP pigging for pipe internal at 6" dia approx. 1.3 km reactor lines. To perform hydraulic Bolting job after final mechanical job. Final hydro testing @ 1800bar and hand over Job duration – 10days for major Turn Around
2017 JML SDN BHD KAPAR ENERGY VENTURES BOILER UNIT 2	Provision experienced blaster & multi skilled painter to blast external boiler evaporator tube approx 150m². To blast using ps ball abrasive To remove the hard rust and to recoat IP paint 2 coat system intercoat zinc 140 µ. Blasting Work applicable standard SSPC – SP 10. Hand over after inspection accepted
2017 LOTTE CHEMICAL TITAN SDN BHD	To provision skilled mechanical fitters to box up cogen plant maintenance job on rotating equipment. Maintenance & mechanical work repair. Approx 6-8 pax for duration 2 months
2017 LOTTE CHEMICAL TITAN SDN BHD	To provision skilled mechanical fitters and hydro jetters, to apply 35 000psi to lancing E224 tube internal to remove harden scale To hydro testing & box up
2017 EVYAP SABUN SDN BHD	Provision skilled mechanical fitters 16pax, Hydro jetters 12pax for 24hours rotation shift To handle Fractionation & Hydrogenation Plant, to perform mechanical & lancing job. Total 46 condenser, 16 coolers & 2 chillers.

Brief Company Profile – FST/FSC			
		1 nos column caustic circulation & HP washing 5000psi. System was box up after proper leak testing and DOSH Boroscope inspection. Total shutdown was completed within 12 days @ 1050hours.	
2017	LOTTE CHEMICAL TITAN SDN BHD	To provision skilled mechanical fitters for blinding & de-blinding work and hydro jetters to lance @35 000psi for 2E 560 1000 tubes internally to remove harden Scales and to hydro testing & box up.	
2017	LOTTE CHEMICAL TITAN SDN BHD	To provision skilled tank cleaners & hydro Jetters 6pax to blinding & de blinding for Tank TK 3200 & 3210 opening men holes Covers, ventilations, gas free and HP washing 2500psi./ To collect all collected residue and Sludge into steel drum and handover to LCTM for disposal. Hand over after inspection Sludge est: 1ton approx.	
2017	USAHAWAN BERSAMA TECHNICS C/O TECHNOFIT SDN BHD LCTM TPP3 PLANT EXTENSION – NC 1	To provide skilled mechanical fitters to erect a temporary spool (8" & 10") in dia c/w support carbon steel with 6G welders to weld the pipes with double process welding method also to monitor the welding work with a WI. Proposed chemical cleaning & lube oil flushing @ NAS 6, on the welded pipes. Finally to steam blow (40Bar) on the sus pipe till all particle's being removed. After final inspection and acceptance all related temporary pipe & support was removed. Job successfully completed & handed over.	
2018	BIOCON (M) SDN BHD	To provide 2units chemical circulation pump at min 6-8 bar, to circulate the internal with return manifold, filter stand. Inject Citric acid (C6H807) gradually 15% concentration. add Rydlyme Biodegradable 40% to pickling & passivation SUS 316 tubing 1" & 2". Approx Length – 1.9 meter run. Final KOSLOW inspection was done for passivation result.	
2018	LOTTE CHEMICAL TITAN SDN BHD	HRSG GT 10 – Boiler Tanjung Langsat Annual servicing for DOSH inspection. Consisted steam & water drum, fire box dry Cleaning, 17nos v/v lapping & 3 nos PSV Servicing & calibration. Duration 4days	

Brief Company Profile – FST/FSC			
2018	LOTTE CHEMICAL TITAN SDN BHD	To provide 1unit chemical circulation pump at min 6-8 bar, to circulate the internal with return manifold, filter stand for <b>P3400C lube oil lines</b> , To Inject with citric acid (C6H807) gradually 15% concentration. add Rydlyme Biodegradable degreaser - 40% To flush and remove all oil contaminations.	
2018	LOTTE CHEMICAL TITAN SDN BHD	HRSG GT 10 – Boiler Tanjung Langsat Defuser plate welding approx. 1150mm crack length in circumference and 5-6mm in depth. To welding using a GTAW(argon) welding to grind the crack depth till V groove and to welding 2 pass	
2018	LOTTE CHEMICAL TITAN SDN BHD	To provision refurbishment work on WWP 2 damaged H2S04 related piping to provision tools, materials, machineries, provision qualified welders (argon) 2 pax, fitters 3pax, piping foreman 1pax & 1 planner for all related carbon steel pipes, flanges & fittings	
2018	RP CHEMICAL (M) SDN BHD	Provision qualified HPWJ blasters with 15 000psi high flow diesel driven pump to apply with BJV nozzle to flush through the 20mtr L extruder with 360° rotating nozzle to remove the harden caustic reactions from wall.	
2018	LOTTE CHEMICAL TITAN SDN BHD	To provision refurbishment work on WWP 2 PK 3300 pipe lines – Ecodyne to provide proper, supervision, welder (Argon), fitters & planner, to remove the existing corroded pipes, and to fabricate & install new pipe's (SUS 316) consisted with flanges & fittings. After final inspection job hand over successfully – duration 14days.	
2018	LOTTE CHEMICAL TITAN SDN BHD	WWP 2 2PT 1, 3, 5 & 13 pits internally support dewatering in to Kualiti Alam disposal truck & provision qualified HPWJ blasters x 8pax to oil dispersant chemical spry & to hydro jet @ 10 000psi to remove the harden & soft scales till clear the surface. Hand over successfully to operation without any fail. Job duration for x4 pits approximately 1-month duration.	

<b>Brief Com</b>	pany	Profile -	FST/	<b>'FSC</b>

2018	FELDA IFFCO (M) SDN BHD Plant Shutdown - 2018	Provision skilled mechanical fitters 20Pax, Hydro jetters 12pax for 24hours rotation shift To handle fractionation & refinery plant, to perform mechanical & lancing job.  Total 46 condenser, 16 coolers & 2 chillers. 1 nos column caustic circulation & HP washing 5000psi. System was box up after proper leak testing and DOSH Boroscope inspection. Total shutdown was completed within 10 days @ 1050hours.
2018	HOLCIM (M) SDN BHD	Provision chemical cleaning for 2 nos RP 1 trunnion bearing degreaser flushing and cleaning and hp washing 3000psi cleaning. Mechanic work and hand over successfully.
2018	LOTTE CHEMICAL TITAN SDN BHD	Provision of minimum 6pax workers in a team to perform demucking job for Pit 1 terminal 1. Estimated 4 nos pit to be cleaned, manually scoop method to transfer in to open top drum. Followed by gas free & EL monitoring. Alldrum shift to LCTM disposal area by truck. Finally a chemical – degreaser spry will be done with a HP washing at 5000psi to be carried out. Pit internal 1M height coating with yellow paint. All related pit underground 2"pipe to unblock estimated 2km. To remove the cleaned debris in to the open top drum & dispose. Modify 2m pipe at 2B&3B – Cs, replace a metal plate with bolt & nuts. Followed with install new screen compartment pit new inspection hole on existing plate. To provide 2 numbers of SS scoop net & intall.
2018	LOTTE CHEMICAL TITAN SDN BHD	To provision UHP 35 000psi machine to hydro jetting & remove the harden chunk PS1 also with help of mechanical air driven saw. Final housekeeping & hand over.
2018	LOTTE CHEMICAL TITAN SDN BHD	To provision UHP 42 000psi machine /4" & 1" spinning and cutting nozzle c/w flexible lance 1xSTD 13m Flexible lance (D/N) @ 40,000 psi cleaning nozzle with timer To unblock the fully choked tubes till clear & to polish tube using roto deck time controller. Tube: Od19.05 x 1936nos x 3000mmL To provision proper housekeeping & job handed over successfully. Duration – 32 days

Brief	Brief Company Profile – FST/FSC			
2018	TIME MARINE SDN BHD	To provide 520bar high pressure HT pump medium flow 15lpm c/w related fittings, HP valves & pressure gauge. Also provision chart recorder 1000psi c/w cart paper. Duration 2 months x 2 units		
2018	TOYO & ENGINEERING CONSTRUCTION SDN BHD MCCONNELL DOWELL (M) SDN BHD RAPID PMC (P.5)	To provide skilled technician to erect a temporary jumper hoses, fittings for chemical cleaning & followed with lube oil flushing to achieve @ NAS 6, for welded SUS pipes		
2018	LOTTE CHEMICAL TITAN SDN BHD	Provision qualified technician c/w AESP to do internal tank sludge cleaning and transfer in to open top container till disposed at LOTTE permises. D 1305 Hexane tank.x 1 unit Housekeeping & hand over after inspection.		
2018	LOTTE CHEMICAL TITAN SDN BHD	To provision UHP 35 000psi machine to remove harden chunk - HDPE at E204 cooler and also HT testing after completion. To remove & refit both end covers properly. Final housekeeping & hand over.		
2018	FELDA IFFCO (M) SDN BHD	To provision chemical cleaning services for 2 Nos of PHE type cooler. Circulate with caustic soda for passivation and neutralize with potassium pemaganet – 3 days job, handed over successfully after proper housekeeping		
2018	LOTTE CHEMICAL TITAN SDN BHD	To provision UHP 35 000psi machine to remove harden chunk at PS 2 for 3E305  OD: 19.05mmOD x 2.11mmT x 3000mmL  Total tubes: 174tubes. Condenser  Hydro testing c/w chart recorder.  Remove & refit both end covers  and isolated blinds and handover.		
2018	HAJI ADININ & SONS (B) SDN BHD BLNG BRUNEI – Shut down	To provision 4 nos UHP diesel driven hydro Jetting machine 35 000psi to internal tube Cleaning for 7 nos shell & tube bundle.  OD 19.05 x T 2.11 x L 4500mm x 22250nos holes to be UHP lancing and remove all chocking and polish all related tubing internal. Provide 24pax blasters for 24hrs rotation shift with 2nos qualified operator cum mechanic to monitor pumps performance without down time. All day housekeeping monitored well. Total shutdown 216hrs run successfully with out an obstacle. Hand over successfully.		

# **Brief Company Profile - FST/FSC**

	(PETRONAS PENAPISAN MELACCA)
2019	SAAEM ENGINEERING (M) SDN BHD

To provision 2 unit of HP pump high flow rate diesel driven pump 15 000psi to hydro jet and washing the membrane filters 126 pcs approximately before fit in to boiler. Job duration estimated approx. 12 days. After inspection job hand over successfully.

2019 LOTTE CHEMICAL TITAN SDN BHD

HRSG GT 11 – Boiler Tanjung Langsat

Annual servicing for DOSH inspection.
consisted steam & water drum, fire box dry
cleaning, 17nos v/v lapping & 3 nos PSV
Servicing & calibration. Duration 10days
Additional: side wall plate welding job, to
identify all cracks estimated 2100 nos cracks.
To weld using GTAW and followed NDT –
DPI inspection on welding seams and provision
crack welding report with proper welder – WPS
Additional: side wall plate 6 locations
identified by welding QC, to supply A36 CS
material, plate & to crop & renew with proper
6G welders 4pax fitters. Welding process GTAW, to submit fitup & visual reports.
NDT – DPI on welding seams.
Additional: insert insulation materials internal

<u>Additional</u>: insert insulation materials internal boiler fire box, rockwool supplied by Lotte & seal welding 6 locations plates internally.

2019 LOTTE CHEMICAL TITAN SDN BHD

PT 5 - NC1 Pasir Gudang

Provision 35 000psi diesel driven machine with 12"centraliser to cater 9" lube oil pipe to flush and unclog the cement concrete choked 100% internally. To demucking the pit internally to remove the oily water & sludge to dispose in to FST provided open top drum and sent to lotte premises for disposal. After cleaning pipe internal was inspected by boroscope inspection.

2019 RP CHEMICAL (M) SDN BHD

Provision qualified HPWJ blasters with 15 000psi high flow diesel driven pump to apply with BJV nozzle to flush through the 20mtr L extruder with 360° rotating nozzle to remove the harden caustic reactions from wall.

2019 TANJUNG BIN POWER STATION JML MAINTANANCE SDN BHD

SILO B internal ASH cleaning by means using manual sucking machine x 2 units+ 6 nos silo + filtration system + related 4" suction hoses for 100 meters, dust collectors c/w AESP personnels Clean the internal Silo in max utilising 15men Max 16hrs a day shift with 0-LTA

Brief Company Profile – FST/FSC			
2019	YOKOGAWA SENAI SP ENC SDN BHD	Provision qualified technician & equipment for SUS pipe internal pickling & passivation & NDT services for Yokogawa - Kulai	
2019	LOTTE CHEMICAL TITAN SDN BHD	To provide 1unit chemical circulation pump at min 6-8 bar, to circulate the internal with return manifold, filter stand for <b>C301,881, 201, 200 lube oil coolers</b> , to Inject with 50% concentration Rydlyme Biodegradable degreaser to flush and remove all oil contaminations.	
2019	LOTTE CHEMICAL TITAN (M) SDN BHD	Provision carbon steel pipe fabrication & installation for NC1 OMH 16 drain. To hack existing sum wall to install as per origin and to produce smooth flow discharge oily water.	
2019	PORATHA CORPORATION SDN BHD C/O <b>RAPID PMC</b> - P27 TECNIMOUNHQC SDN BHD	To provide skilled technician to run 24hrs chemical cleaning with 2units pump chemicals jumper & looping hoses to run system BLACK NATURAL packages, over vol approx. 7m³ and Followed by oil flushing for lube, hydraulic & hot oil system using 2 unit gear pump and a online particle counter to measure the particles online. Hand over scope successfully in 25days	
2019	BULER ENGINEERING SDN BHD	To provision qualified technicians 25pax with AESP for tank internal desludging & chemical washing with blasters & supervision for 300m³ tank (Approx 80 ton sludge) – using dehydrator for sludge drying and disposal under FST	
2019	EVYAP SABUN (M) SDN BHD	To provision qualified technician & blasters x 12 pax in a team for 24 hours rotation and HP machineries 4 units diesel driven machine at 10kpsi 135lpm pump unit to lancing and cleaning c/w cross jet & polishing nozzles to lance 4880 nos tubes to remove the mild glycerin.	
2019	RP CHEMICAL (M) SDN BHD	To provision 15kpsi high pressure diesel driven pump per unit with flow rate 135lmp capacity to apply for high pressure BJV flushing using machine only.	
2019	ADININ & SONS (B) SDN BHD – AWE BLNG BRUNEI – Shut down	To provision 5 nos UHP & 4 HP diesel driven hydro jetting machine 35 000psi & 15 000psi Jetting machine 41 757 nos tubes x 42nos exchanger cleaning with in total 42pax blasters for 24hours rotation shift with 4nos pump	

Brie	f Company Profile - FST/FSC	
		operator cum mechanic to monitor with 2 pax qualified supervisors to monitor the cleaning scope and deliver without an LTA.
2019	IHI POWER SYSTEM MALAYSIA SDN BHD	To provision 12kpsi high pressure diesel driven unit with high flow 135lpm x 1unit of HP washing to wash down 1500's units #RAH element for Tanjung Bin Power Station.
2019	POLYNT COMPOSITES MALAYSIA S/B	To provision burning chamber leak welding repair works.  Additional: Cracked refectory patching work for inner part of gas burning drum.  Additional: Chocked valve servicing
2019	DCF ENGINEERING SDN BHD	To provision chemical cleaning services of 4 nos stainless steel tank internal using circulation pumps 85m³/hr 60M head – 45kw heater, temp pools, chemical hoses, chemicals & technicians.
2019	LOTTE CHEMICAL TITAN (M)	To provision competent technician, tools, equipment and related consumable to remove resin from 3 nos vessels to drum using air pump and load new resin. Surface preparation by power tool and rubber lining replacement.
2019	IHI POWER SYSTEM MALAYSIA S/B	To provision 12kpsi high pressure diesel driven unit with high flow 135lpm x 1unit to wash the RAH element, all elements will be dismantled till ground and re-erect by IHI personnel for 768 units only followed washing of filters at lay down area at Jimah Power PD.
2019	LOTTE CHEMICAL TITIAN (M)	To provision qualified blaster for internal of Mix, Anion & Cation vessel. Internal inspection Rubber lining inspection using holiday test 20V and repair the defected rubber lining & epoxy coatings – 17 locations. 3 units vessels completed successfully.
2019	ADININ & SONS (B) SDN BHD – AWE BLNG BRUNEI – Shut down	To provision 5 nos UHP & 4 HP diesel driven hydro jetting machine 35 000psi & 15 000psi Jetting machine to lance in total 41 757 nos tubes x 42nos exchanger to cleaning internal clogged tubes with total sum 42pax blasters for 24hours rotation shift. Overall cleaning was satisfactory to cater client IRIS internal tube inspection. Work scope completed in 20days with successful hand over.

Brie	ef Company Profile – FST/FSC	
2019	ADININ & SONS (B) SDN BHD – AWE BLNG BRUNEI – Shut down	To provision 2 unit flange facing & cold cutting unit to cater 36" pipe dia with experienced operators 2pax for 14days schedule with 12hrs shift. Upon inspection job handed over successfully.
2019	BUCIDA ENGINEERING (SELATAN) S/B LOTTE (UBE) RUBBER SDN BHD PASIR GUDANG	To provision qualified technician with portable chemical flushing pump and high pressure water jetting pump to perform chemical cleaning for 1 condenser & high pressure washing + lancing for section 33 heat exchanger, condenser and vessel. After inspection hand over successfully.
2019	LOTTE CHEMICAL TITAN (M) SDN BHD	To provision qualified technician with chemical spraying airless pump, 1 unit long spray gun, and related hoses to carry out chemical spraying for E-5521 refrigerator aluminum fins by means 50% concentrated water base degreaser.
2020	MALAYSIAN VIETNAM OFFSHORE TERMINAL (MVOT) – FPSO ORKID FORTE JV SDN BHD / ESSEM CORP	To provision competent boiler technician and proper tools to carry out 2 units 55t/hr deck water tube boiler (AALBORG BOILER) general servicing & overhauling for annual surveyor inspection onboard FSO Orkid.
2020	MASHHOR GENERAL CONTRACTOR (BLNG – BRUNEI)	To provision chemical cleaning services for SUS 316 pipes spools - <b>J01 -14519 - Total length - 26.60 meter run</b> package for BLNG Brunei @ Seriya yard – 10 days. After pickling & passivation job successfully handed over.
2020	GLOBAL ECO CHEMICALS SDN BHD	Provision chemical cleaning pump #03 + 3 numbers technician to chemically cleaning the pipe internal – to circulate with Nitric acid 15% + Ammonium biflouride - 0.75% + circulate for 5-6hours. Random check on the filter bags & Neutralize with caustic soda -5% 1 hr. Final inspection - KOSLOW passivation testing (-400 /-600) & Iron test kits. Disposal by FST approx. 2 ton – <b>Southern strength SB</b>
	LCTM – TANJUNG LANGSAT PE3 (SHUTDOWN)	Provision chemical cleaning services for PE shutdown reciprocal condensers C222 ,C302, C881 & Jacket 1st & 2nd reactor D201 and D221& 2units 201& E221 shell side. To circulate with redlyme bio degreaser to flush through the internal shell & jacket section. Hand over successfully without any delay.

	<b>Brief Co</b>	ompany	Profile -	FST/FSC	
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2020 LCTM – BOILER HRSG SERVICING
GT – 11 – TANJUNG LANGSAT

HRSG GT-11 boiler servicing annual DOSH inspection to HPWJ washing on water and dry cleaning on fire side. To lapping all related valves & fittings. To HT for boiler safe working pressure and pre HT witness by Lotte engineer & HT witness by DOSH officer. Hand over successfully without any delay.

2020 LCTM - BOILER TANJUNG LANGSAT

BOILER F emergency servicing for HP washing & refractory repair on fire site patch up & hand over after successful inspection

2020 PACIFIC OLEO - PASIR GUDANG

High pressure lancing 15 000psi for 503 E4 evaporator internal tube choking clearing and hand over successfully. **Tube detail: 347 straight tubes x 57.0mm ID x 3m L** 

2020 LOTTE CHEMICAL – PASIR GUDANG (GT-21)

To provision lube oil gear pump x 1 unit c/w related hydraulic hoses & fittings with particle counter to flush through system GT-21 pipe line & related sum tanks approximately 12m<sup>3</sup>. Total duration – 10working days ..

2020 LINOCRAFT PRINTERS SDN BHD AT 349150 Air receiver tank – 1 Nos To provision HT pump c/w accessories & technicians x 2 pax to hydro testing for DOSH Witness – hydro testing **Shell side** (1573Kpa/228Psi) & hold for 30min.

2020 BUCIDA ENGINEERING & SB (FPG – Kuantan) – 1Nos

To provision chemical cleaning unit #03 with 3 pax technician to flush through tank internal x 1nos with caustic soda & followed glycerin with owner provision chemical at site. Using 3D circulation nozzle to flush through the tank internally.

2020 FPSO BERANTAI – OFFHSORE VESTIGO PETROLEUM SB / TGS MARITIME SDN BHD To provision competent boiler technician with proper tools to carry out 1 unit 55T/hr deck water tube boiler (AALBORG BOILER) general servicing & overhauling for annual surveyor inspection onboard FPSO Berantai. PSV opened and sent for calibration of ship crew. After final inspection by surveyor inspection (BV) box back & hand over. Max scheduled 7days onboard without LTI.

# **Brief Company Profile - FST/FSC**

2020 POLYNT (M) SDN BHD RTO valve refurbishment - PG To supply supervision, manpower, tools, materials, machineries, deem for RTO valve Refurbishment work. Provision qualified welders (SMAW)1 pax, fitters 2pax, + 2 helpers to fabricate and weld extension plate. CS(carbon steel) 1300°C x 5mmthk x 100mml to weld in tapered welding method. To paint with hi temperature aluminium paint and to insert additional Kaowool 120kg/cm³ with 50mm thk on the extension welding area to restrict hot air leaking or bypass to chimney.

2021 MCDERMOTT (M) SDN BHD SHWE PHASE 2 – BATAM To provision 30000psi UHP hydrojetting-Wj2 internal & external CS pipe hydro jetting to remove the loose scales, scales for galvanising purpose (by third party). Before and after galvanising process to boroscope inspection. Finally after galvanising an internal DFT check will obtained & readings will be recorded. Hand over for HDG process.

2021 TGS MARITIME SDN BHD MV SUTERA 5 – ANCHORAGE JOHOR To provision competent blasters 4 pax with related tools c/w hp machine 7000psi electric driven x 2units to hydroblast remove the loosen scales prior to stripe coat. Est 500m² after final inspection by superintendent hand over. Max scheduled 7days onboard 560menhours without LTI.

2021 POLYNT (M) SDN BHD T 403 & 404 DISSOLVER TANKS TANJUNG LANGSAT Provision 4 pax AESP technician to blind 4 joins. To remove bottom man hole for access. Using client provided flip type ladder to reach higher level to scrap and remove the formed resin debris till clean to bare metal. Final wash down at 7000psi to remove and more dirt if any. After final inspection hand over.

To hydro testing E 103A cooler 1 unit @ 15bar holding duration for 1hr. after no leak found cooler shell side was hand over successfully. Total duration 4 days.

## **Brief Company Profile - FST/FSC**

2021 LOTTE CHEMICAL TITAN NC 1 – WWP 13

2021 TECHNOFIT SDN BHD POS (M) SDN BHD – MMHE PASIR GUDANG

2021 TOMOE (M) SDN BHD GURUN, KEDAH To provision 10pax AESP personnel and technical supervision 2pax 1 engineer & 1 SSS, to run shift 16hrs/day to perform the waste water equalization pit 13. Pit -13m x 4m x17m To prepare for proper ventilation to reduce LEL & VOC to 0% by using industrial 24" & 12"pneumatics fan 4units. Provide 20m x 20m discharge & suction hoses to extract sludge by hydraulic driven pump screw pump to buffer tanks 20Ton capacity to purge with modern polymer's to separate water & oil from sludge. Oily water will dispose to LOTTE pond and separated sludge will be compressed by hydraulic operated separator to remove 75% moisture contained from sludge cake. To store as sludge in a cake form in to open top drum provided by LOTTE with proper rubber liners. All drums marked as per SW311 follows DOE regulations. All related confine space work performed adhere to: ICORP DOSH regulations with proper bioline x2units also too utilised in hazardous areas. Finally, a HP water jet @5000psi carried out on pit wall sides and bottom prior as final cleaning prior to hand over with qualified AESP blasters 6pax. No LTA was recorded through 23000men/hr.

Provision qualified boiler makers 4pax + 3tech 2 qualified welders (GTAW) to retube 46nos generating tubes (carbon steel) Bs3059 Part2 HFS Steel 360 tubes to remove existing tubes by means gauging & insert new tubes, polish end inserts to expand and seal weld both ends. Related boiler door, access casing was closed and welded accordingly.

All related welding joints done third-party NDT inspection MPI & DPI.

Upon successfully hydro testing x 2times Boiler hand over to client while witness by ship superintendent & third part RINA inspection. Additional 14nos valves and its related fittings repatched due to minor leakage by means GTAW process.

Gas storage tanks x 4numbers to perform hydro testing at 4bar with hand pressure test pump. Holding pressure for 1hr prior to no leaks pressure released and tanks hand over successfully.

## **Brief Company Profile - FST/FSC**

2021 FPSO MAMPU 1 – OFFHSORE SARAWAK ESSEM COOPERATION SDN BHD C/O FORTE JV SDN BHD To provision competent boiler technician with proper tools to carry out 1 unit 85T/hr deck water tube boiler (AALBORG BOILER) general servicing & overhauling for annual surveyor inspection onboard FPSO MAMPU. PSV opened and sent for calibration to shore by third party contactor. 27 general valves to open and manually serviced and after final inspection by surveyor inspection & ship representative box back & hand over. Max scheduled 20days onboard without LTI

2021 POLYNT (M) SDN BHD GAS CHAMBER REPAIR To remove the existing damaged hot spot area by means grinding method and insert new boiler SA Gr10 short piece and perform welding SMAW process and perform DPI for weld crack. To repair and lay Ecolite insulation refractory (1700°C) on crack area. Apply 1st layer coating (solvalitt Aluminium) with dry film thickness of 20 -  $30\phi$ m on welded plate area.

2021 MTA ENERGY SERVICES SDN BHD KASAWARI – MMHF Provision HP pump 10 000psi c/w related HP hoses with proper nozzles to cater ID 3/4 "-4" To flush through all related foreign matters. Various pipe line involved. Duration 365days with competent operator 1pax 2months.