

SEMITECH CONTROLS & ENGINEERING PTE LTD

YOUR PARTNER IN INSTRUMENTATION & CONTROLS



COMPANY PROFILE

Semitech Controls & Engineering Pte Ltd, formerly known as Semitech Offshore Engineering & Supply, was established in 2002 by a team of experienced engineers specializing in Instrumentation & Controls, PCS/PLC/SCADA based Control Systems & ESD/F&G/BMS Safety Systems. With our expertise & total commitment in providing quality & cost-effective solutions to our customers, we have expanded rapidly from providing Programmable Electronic Control systems to offering Automated ON/OFF Valves and Hydraulic Wellhead Control Panels as a single point Automation Solution Provider for our customers.

OUR COMMITMENT TO QUALITY

Quality Assurance without compromise. From the feasibility study phase through design and commissioning, our implementation procedures strictly conform to the latest ISO 9001:2015 quality management system which we have successfully attained.



SEMiTECH committed to provide its customers with the highest quality products, solutions and services. Every process within the engineering design, development and manufacture of **SEMiTECHs'** products are reviewed, analyzed, streamlined and documented to remove as much variation as possible. Detailed work instructions have been formulated and distributed to our manufacturing facilities for implementation. Management of **SEMiTECH** is committed to provide the tools and resources necessary to ensure the quality is thorough and effective.

OUR COMMITMENT TO QUALITY



Traceability Certification

All materials, equipment and components are purchased with full traceability and Certificates of Conformity from qualified companies and approved by SEMiTECH.

In-house Testing

All panels manufactured from SEMiTECH are rigorously tested under conditions with simulated inputs/outputs ensures trouble-free commissioning at site and prior to Factory Acceptance Test Certificates being endorsed and issued.

Global Ambitions

SEMiTECH is committed to a policy of Total Quality Management throughout the Company, at all stages of project from feasibility study, research and development and bid submission to design, manufacture, assembly, installation and commissioning and after sales service.



OUR COMPANY'S MISSIONS

- ✓ To provide total automation solutions based on industry-proven hardware, software and component to our customers' requirement and satisfaction.
- ✓ To provide the highest quality & most cost effective solutions in order to minimize customers' investment while maximizing their returns.
- ✓ To provide the best after-sales support so as to established a long-term working relationship with our customers.
- ✓ To be flexible to cater to the dynamic requirements in the present business environment.



OUR MARKETS

SEMITECH business segments have been rapidly expanded to markets in the region including Singapore, Malaysia, Vietnam, Indonesia, Thailand, Korea, Africa and Middle East with the focus on the following industries :



- ✓ **Oil & Gas (On-Shore & Off-shore)**
- ✓ **Refineries**
- ✓ **Petrochemical Industries**
- ✓ **Electronics/Manufacturing**
- ✓ **Utilities (Water Treatment / Power)**
- ✓ **General Industries**



CORE BUSINESS

As a Single Point Automation Solution Provider, our main core business includes:

Programmable Control Systems



Hydraulic Wellhead Control Panels



Automated ON / OFF Valves



CORE BUSINESS:

PROGRAMMABLE CONTROL SYSTEMS

Expertise and capabilities in Design, Engineering, Integration, Validation, Verification and Supply of Programmable Control Systems in accordance to the Client Specifications and applicable International Standards (IEC 61131, 61508, 61511, NFPA72, NFPA86 ,etc.) as listed below :

- **Integrated Control & Safety System**
- **Process Control System**
- **Safety Instrumented System**
- **Fire and Gas Detection System**
- **Burner Management System**
- **Power Monitoring/Control System**
- **Facility Management/Control System**



CORE BUSINESS:

PROGRAMMABLE CONTROL SYSTEMS

List of well renowned brands of the Leading Programmable Electronics System Manufacturers we have integrated and utilized :

- ▶ **Siemens PCS7, S7-400H, S7-400FH, S7-300, WinCC**
- ▶ **Honeywell Experion PKS DCS / Safety Manager**
- ▶ **Rockwell Automation Control-Logix & Compact-Logix Series , FT View SE & ME, ICS Triplex Trusted TMR & AADVANCE**
- ▶ **GE-Fanuc IP & iFix/Cimplicity SCADA**
- ▶ **Schneider Electric Quantum/Momentum/Premium/Micro Series**
- ▶ **Invensys Wonderware Intouch & PC-Vue SCADA Systems**
- ▶ **Tyco MX-4000 Series Addressable Controllers**

SIEMENS

Honeywell

**Rockwell
Automation**



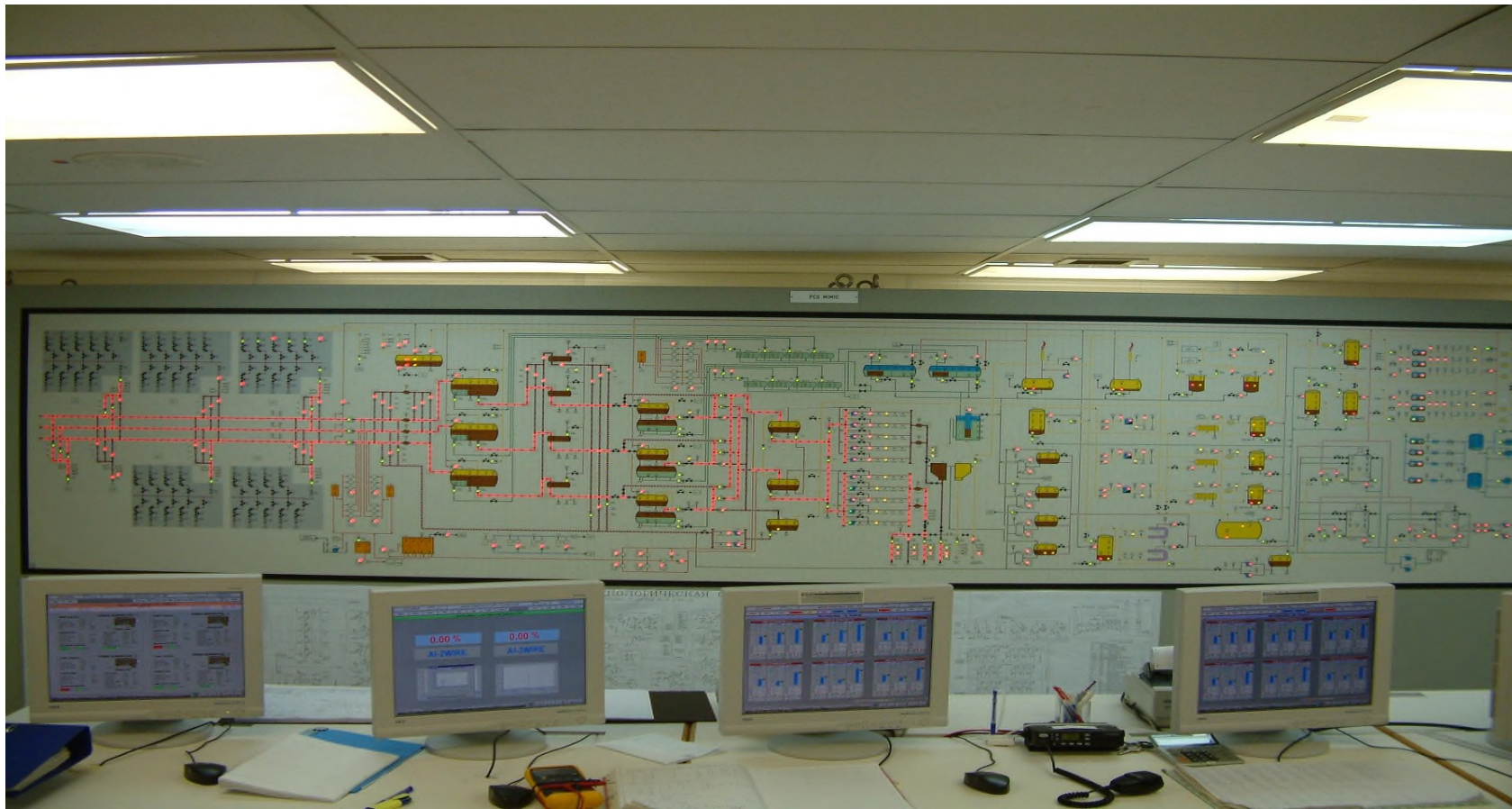
**Schneider
Electric**

invensys.
Wonderware

PcVue Solutions
by PARC International

Johnson
Controls
tyco

CORE BUSINESS: PROGRAMMABLE CONTROL SYSTEMS



Control room of an offshore central processing platform showing the process mosaic mimic panel & operator workstations (HMI) , CPP-3 Vietsovetro, Vietnam

CORE BUSINESS: PROGRAMMABLE CONTROL SYSTEMS



Integrated Control & Safety Systems (ICSS) based on SIEMENS PCS-7 for an 6x Offshore Wellhead Satellite Platform. CUU IONG JOC, Vietnam

CORE BUSINESS: PROGRAMMABLE CONTROL SYSTEMS



Local Fire Alarm Control Panels (LFACP) for EF1600 Elevated Substation Project for Kuwait Oil Company (KOC)

CORE BUSINESS: PROGRAMMABLE CONTROL SYSTEMS



Integrated Control & Safety Systems (ICSS) based on SIEMENS S7-400H & ICS Triplex
Trusted TMR Safety PLC for an offshore central processing platform

CORE BUSINESS:

PROGRAMMABLE CONTROL SYSTEMS



Integrated Control & Safety System (ICSS) based on Honeywell Experion PKS C-300 and Safety Manager for an offshore wellhead satellite platform . GT-1 / MT-1 Vietsovpetro, Vietnam

CORE BUSINESS: PROGRAMMABLE CONTROL SYSTEMS



Process Control System (PCS) based on Allen Bradley Controllogix PLC, Factorytalk SCADA and Safety Instrumented System (SIS) based on ICS Triplex Trusted TMR Safety PLC for an offshore wellhead platform .

CORE BUSINESS:

PNEUMATIC/HYDRAULIC WELLHEAD CONTROL PANEL

Expertise and capability in Design, Fabrication, Assembly, Test and Supply Wellhead Control Panel in accordance to the Client Specifications and applicable International Standards such as API with the various features as indicated below :

- ❖ Pneumatic-Hydraulic Systems
- ❖ Air or Natural Gas or Sweet Gas or Sour Gas
- ❖ Hydraulic Power Unit Options in Self-Contained Units
- ❖ Single or Multiple Wellhead Control Panels
- ❖ Conventional Fixed or Retractable Wellhead Control Panel
- ❖ Remote or Local Opening/Closing of Wells
- ❖ Fusible Plug Loops
- ❖ ESD Stations
- ❖ Sequential Logic Control/Shutdown of Wells with adjustable time delay
- ❖ Audio and Visual Alarms
- ❖ Standard Hydraulic Deigned Capabilities up to 10,000 psi and above

CORE BUSINESS: PNEUMATIC/HYDRAULIC WELLHEAD CONTROL PANEL



Six Wells Completion Modules retractable type wellhead control panel front & rear view.

CORE BUSINESS: PNEUMATIC/HYDRAULIC WELLHEAD CONTROL PANEL



Five Wells Completion Modules retractable type wellhead control panel front & rear view.

CORE BUSINESS:

PNEUMATIC/HYDRAULIC WELLHEAD CONTROL PANEL



WHCP Front View (14 Oil Wells, 6 Water Injection Wells and 4 Gas Wells)



WHCP Rear View



Hydraulic Accumulators



Junction Boxes in Common Section



Well Control Module

14 oil wells, 6 water injection wells & 4 gas wells modules retractable type wellhead control c/w hydraulic accumulators

CORE BUSINESS:

PNEUMATIC/HYDRAULIC WELLHEAD CONTROL PANEL



Front & rear view of Pneumatic Local Control Panels

CORE BUSINESS:

AUTOMATED ON / OFF VALVES

Expertise and capability in Design, Engineering, Fabrication, Assembly, Testing and Supply of Actuated Shutdown (SDV) and Blowdown (BDV) Ball Valve for Critical Process Lines in accordance to the Client's Specifications and applicable international standards such as API-6D, API-598, API-607, etc. List of well renowned brands of the Valve Assembly Components which we have integrated and utilised as follow:-

Actuators

- Rotork Hydraulic/Pneumatic
- Bettis

Ball Valves

- SRi
- Kitz
- MIR

Limit Switches

- TopWorx
- Westlock
- Soldo

Control Components

- Bifold Fluidpower
- ASCO
- Versa
- Norgren
- Maxseal
- Swagelok

Tubings & Fittings

- Swagelok

CORE BUSINESS: AUTOMATED ON / OFF VALVES



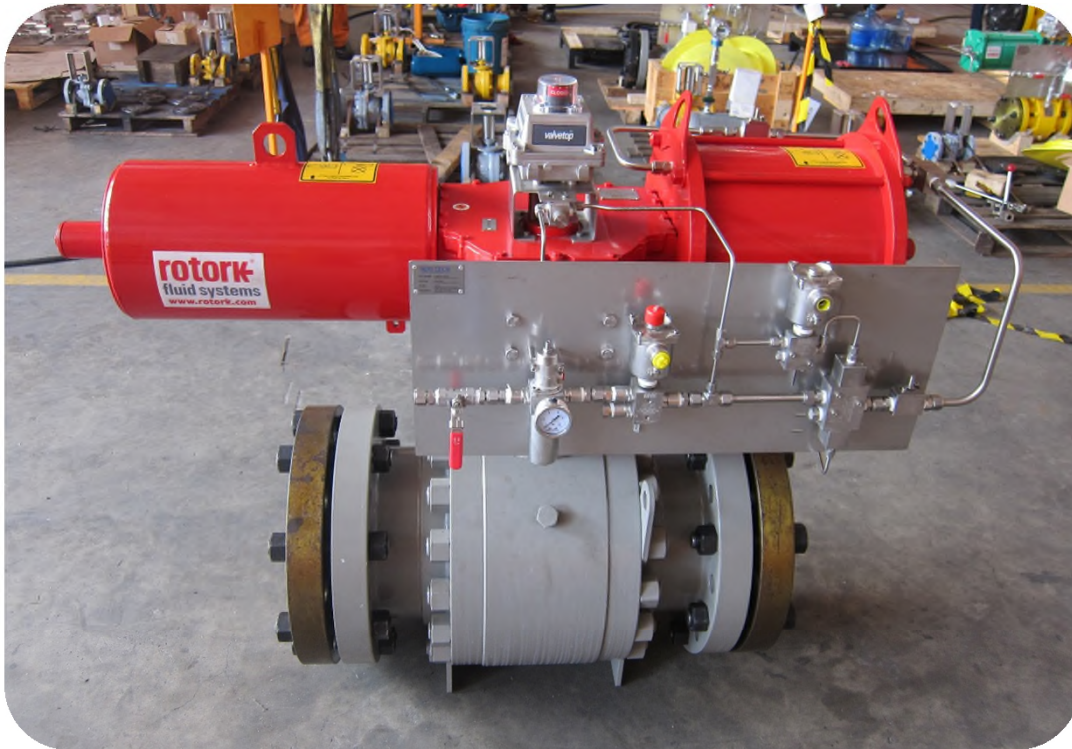
Fully equipped assembly & testing facilities for integration, assembly & testing of actuated valves

CORE BUSINESS: AUTOMATED ON / OFF VALVES



Fully assembled actuated shutdown valve under going functional test & leakage test in accordance to API 6D

CORE BUSINESS: AUTOMATED ON / OFF VALVES



Fully assembled SDVs & BDVs with pneumatic spring return skotch yoke actuator & ball valves c/w limit switches and control panels with partial stroke functionality.

CORE BUSINESS: AUTOMATED ON / OFF VALVES



Fully assembled actuated ball valves for Fire Fighting Foam Skids for Bab Eni Angola FPSO

CORE BUSINESS: AUTOMATED ON / OFF VALVES

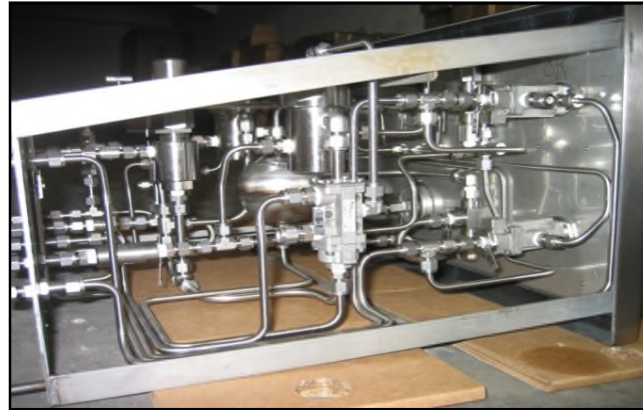


Site installation of 26" class 1500 actuated ball valve in Vietsovetro yard, Vietnam for Tien Ung Gas Processing Platform, offshore Vietnam.

IN-HOUSE CAPABILITIES

SEMITECH has the infra-structure and the necessary resources (Human/Financial) to undertake the following activities :

- ❑ Design
- ❑ Engineering
- ❑ Consultancy
- ❑ Sales & Marketing
- ❑ Panel Assembly & Wiring Bay
- ❑ Wellhead Control Panel Assembly
- ❑ Automated Shutdown Valve Assembly
- ❑ Testing (Verification & Validation)



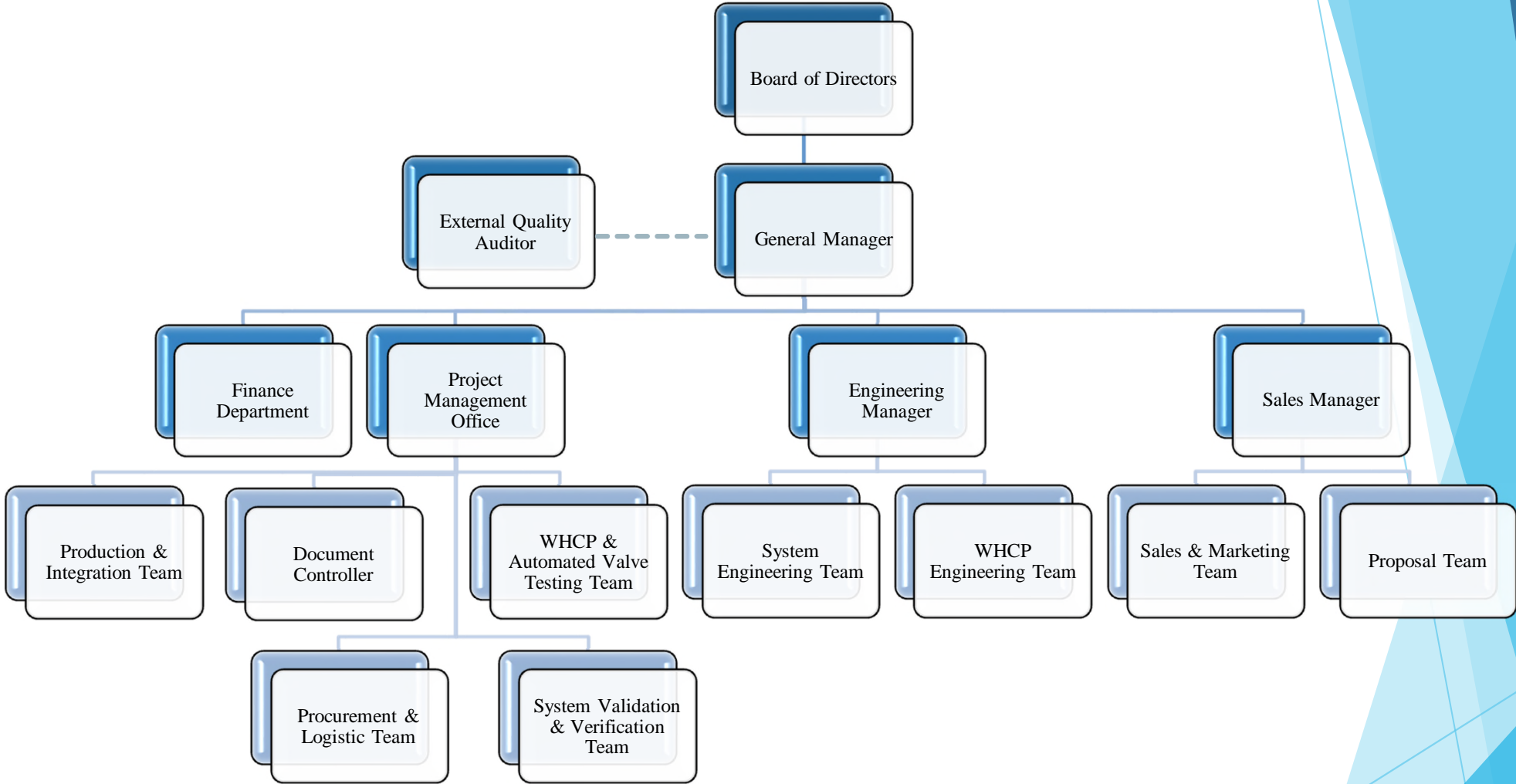
OTHER SERVICES

In addition to our main core business, we also provide other services as follow :

- **Retrofit/Upgrade/Modification of the Legacy or Obsolete Systems**
- **Consultancy on Safety Instrumented Systems**
- **Detailed Engineering Services on Electrical & Instrumentation**
- **Pre-Commissioning, Startup & Commissioning**
- **Product Life Cycle Support Service**
- **Project Management Services**



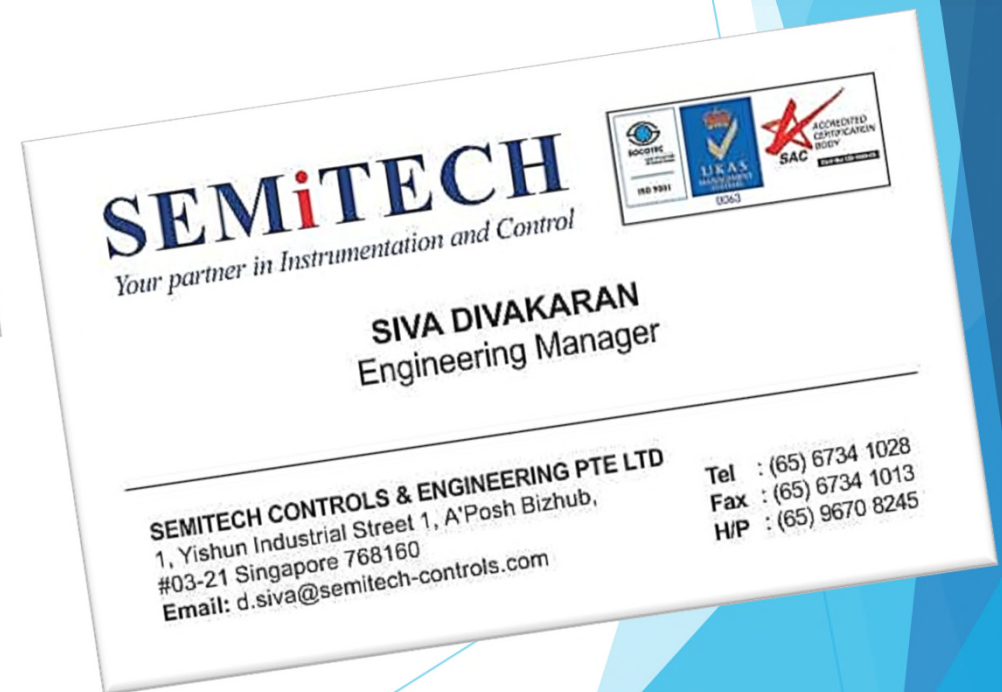
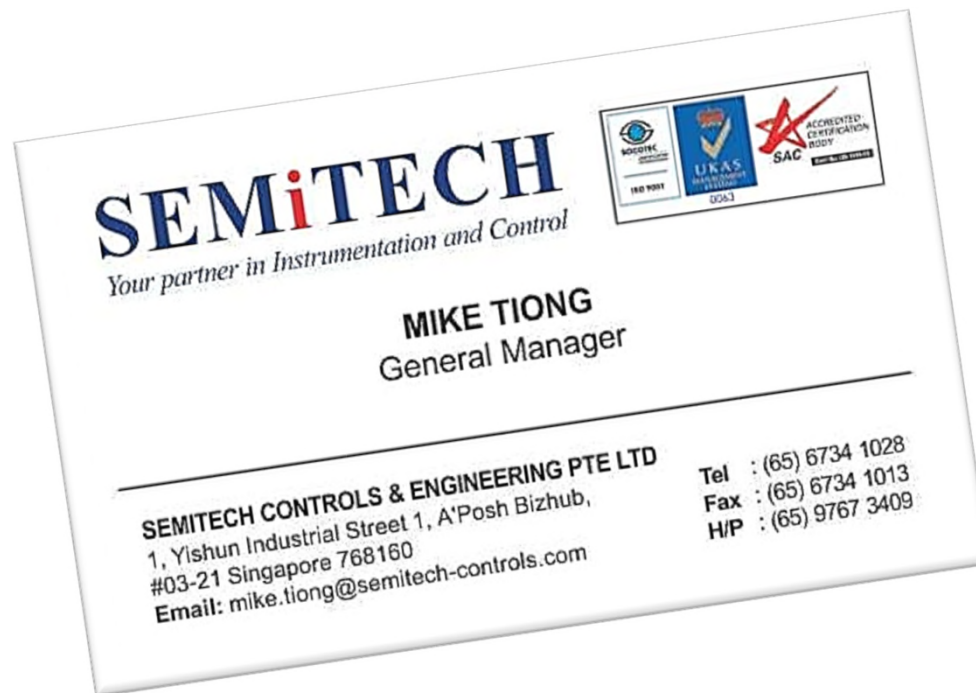
ORGANIZATION CHART



LOCATION / CONTACT DETAILS

Our company is located in the address below which has a fully functional office along with fully equipped functional staging & production Area.

Any enquiries/queries can be send to the following contact details :



Our company website : www.semitech-controls.com

COMPANY PROJECT REFERENCE LIST

– CONTROL & SAFETY SYSTEM

End-User	Project Title	System Description	Scope of Supply	Year of Supply
Total E&P Angola Block 32, Africa	Kaombo Project	Inergen System Control Panel based on Rockwell Automation Controllogix Series PLC	Detailed Design & Engineering, Fabrication & Testing	2016
Kuwait National Petroleum Company, Kuwait	Clean Fuels Project, MAA Refinery Revamp Project associated with Unit 25/26/46 and Mirroring of the Existing CCR Aux Consoles to New CFP CCR associated with units 5/25/26/43/44/58/46	Emergency Shutdown Systems based on ICS Triplex Trusted TMR System	Detailed Design & Engineering, Fabrication, Testing & Commissioning	On-going Project expected to be completed by End 2017)
Petronas Carigali Sdn Bhd, Malaysia	Provision for Engineering, Procurement, Installation and Commissioning (EPIC of Facilities for ORIGInS Project	ORIGInS(Operational Reliability & Integrity Gauging of Instrument Based Safeguards) objective is to improve automated safeguard items under the process shutdown system and fire & gas detection systems across PETRONAS facilities	Consultancy, Review Detailed Engineering Deliverables, Preparation of Actuated Valves Specification, Sizing of Actuators & Control Components	2014 ~ 2015
Kuwait Oil Company, Kuwait	KCCEC GC-17 Upgrade Project	Fire and Gas System based on ICS Triplex Trusted TMR System	Site Program Modification, Commissioning & Testing	2014

COMPANY PROJECT REFERENCE LIST

– CONTROL & SAFETY SYSTEM

End-User	Project Title	System Description	Scope of Supply	Year of Supply
Kuwait Oil Company, Kuwait	Bulk Handling Facility for Production Chemicals in South(GC's 03/04/06/07/08/21) & East Kuwait (01/02/11/19/09/10/20/22) , West Kuwait (GC-17) and North Kuwait (GC-23) Facilities	Emergency Shutdown Systems (GC's 01/02/11/19) & Fire & Gas Systems (GC's 01/02/03/04/06/07/08/09/10/11/17/19/20/21/22/23) based on ICS Triplex Trusted TMR System	Detailed Design, Engineering, Fabrication and Testing	2014~2015
Kuwait Oil Company, Kuwait	EF-1600 Elevated Substation Project in South & East Kuwait Fire & Gas Systems / ESD Systems / SSLS Systems of the GC's (1,2,11,19,9,10,22,20, 3,4,6,7,8,21), BS's-140 ,150 & Export Area (NTF,STF,KNPC,MAA,F4 ,NBPS)	Process Fire & Gas System (ICS Triplex Trusted System, PC -Vue HMI), Building Fire Alarm System (Tyco), Supply of Fire & Gas Field Devices(Dettronics/MEDC), Supply of 24VDC UPS System (AEG Power systems), Emergency Shutdown Systems (ICS Triplex for GC1/2/11/19) & Sequential Shutdown Logic System (Rockwell Controllogix Series PLC)	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2014

COMPANY PROJECT REFERENCE LIST

– CONTROL & SAFETY SYSTEM

End-User	Project Title	System Description	Scope of Supply	Year of Supply
Cuu Long Joint Venture (CLJOC), VietNam	SVSW 6X Wellhead Satellite Platform	ICSS System comprising of Process Control System/ Emergency Shutdown System / Fire & Gas System based on Siemens PCS7 Distributed Control System	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2014
Murphy Oil, Malaysia	Wellhead Satellite Platform	Migration of the L55 Controllogix Controller to L72 Controllogix Controller with FactoryTalk View 6.0 SCADA System	Software Modification and Site Commissioning Services	2013

IN-HOUSE ENGINEER'S PROJECT EXPERIENCE

– CONTROL & SAFETY SYSTEM

End-User	Project Title	System Description	Scope of Supply	Year of Supply
Vietsovetro Joint Venture (VSP), VietNam	GT1/MT1 Wellhead Satellite Platform	Integrated Control & Safety System Using Honeywell Experion PKS DCS & Honeywell Safety Manager SSD/FGS System, and Wellhead Control Panel – 6 wells completion	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2012
Kuwait Oil Company (KOC), Kuwait	Fire Water Pump Modification, South East Kuwait	Fire & Gas Systems based on ICS Triplex TMR Trusted PLC's	Software Modification and Site Commissioning Services	2012
ADMA-OPCO, Abu Dhabi	Umm-Shaiff Gas Injection Facilities	Process Fire & Gas System & Emergency Shutdown Systems (ICS Triplex Trusted System)	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2007-2011
GASCO, Abu Dhabi	Habshan Offshore Associated Gas Project	Emergency Shutdown System (ICS Triplex Trusted System)	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2008

IN-HOUSE ENGINEER'S PROJECT EXPERIENCE

– CONTROL & SAFETY SYSTEM

End-User /EPC	Project Title	System Description	Scope of Supply	Year of Supply
Kuwait Oil Company, Kuwait	Fire & Gas Systems / ESD Systems / SSLS Systems of the GC's 1,2,11,19,9,10,22,20,17,24, 3,4,6,7,8,21,23 and BS-140& BS-150	Process Fire & Gas System (ICS Triplex Trusted System, PC -Vue HMI), Building Fire Alarm System (Tyco), Supply of Fire & Gas Field Devices(Detronics/MEDC), Supply of 24VDC UPS System (AEG Power systems), Emergency Shutdown Systems (ICS Triplex for GC1/2/11/19) & Sequential Shutdown Logic System (Rockwell Controllogix Series PLC)	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2005-2009
Star Deep Water Petroleum, Nigeria / DSME Korea	Agbami FPSO	Supply of Emergency Shutdown Systems & Fire and Gas Systems for both Hull & topsides using ICS Triplex Trusted TMR systems and Wonderware Intouch SCADA	Panel Assembly, Software Programming, Testing & Commissioning	2006
Petronas Carigali Malaysia (PSCB)	Miri Crude Oil Terminal (MCOT) F-102	Burner Management System based on ICS Triplex Trusted TMR PLC	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2005
Public Utilities Board, Singapore (PUB)	Kent-Ridge New Water Service Reservoir	Water Treatment Control System based on MODICON Quantum PLC and Citect SCADA	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2005

IN-HOUSE ENGINEER'S PROJECT EXPERIENCE

– CONTROL & SAFETY SYSTEM

End-User	Project Title	System Description	Scope of Supply	Year of Supply
Public Utilities Board, Singapore (PUB)	Chestnut Water Treatment Plant	Water Treatment Control System based on MODICON Quantum PLC and Citect SCADA	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2004
ExxonMobil Exploration & Production Inc, Malaysia (EPMI)	Guntong E Oil Production Platform	Alarm Shutdown & FGS System based on ICS Triplex Trusted TMR PLC System	Detailed Design & Engineering, Assembly, Testing & Commissioning	2004
Sarawak Shell, Malaysia (SSB)	SSB E11R-B CAO/IPS Upgrade	ESD & FGS Systems based on ICS Triplex Trusted TMR PLC	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2003
Sarawak Shell, Malaysia (SSB)	SSB B11P-A	Alarm Shutdown & FGS Systems based on ICS Triplex Trusted TMR PLC	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2003
Petronas Carigali Malaysia (PSCB)	BNG-B Water Injection Module	Instrument Protection System based on ICS Triplex Trusted TMR PLC	Detailed Design & Engineering, Assembly, Testing & Commissioning	2003

IN-HOUSE ENGINEER'S PROJECT EXPERIENCE – CONTROL & SAFETY SYSTEM

End-User	Project Title	System Description	Scope of Supply	Year of Supply
Ministry of Defense (MINDEF), Singapore	HT Prime Power Generation	Frequency Power Control using MODICON Quantum PLC & Intellution FIX dynamics SCADA	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2002
Tuas Power, Singapore	Tuas Power Plant Phase-II project	Fuel Oil Storage Tank Control using Allen Bradley PLC5	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2002
VietsovPetro Joint Venture, Vietnam	Central Processing Platform CPP-3	Integrated Control & Safety System using Siemens S7-400H, ICS Triplex Trusted TMR PLC & Intellution iFIX	Detailed Design & Engineering, Assembly, Testing & Commissioning	2002
VietsovPetro Joint Venture, Vietnam	BK9 Wellhead Satellite Platform	Process Control, ESD & FGS System based on SIMATIC S5-155H, ICS Triplex Trusted TMR & Intellution FIX32 SCADA	Detailed Design & Engineering, Assembly, Testing & Commissioning	2002
Pertamina , Indonesia	Cilicap Sulphur Recovery Unit & Nedo Sulphur Recovery Unit	Emergency Shutdown System based on ICS Triplex Trusted TMR PLC	Detailed Design & Engineering, Assembly, Testing & Commissioning	2003

COMPANY PROJECT REFERENCE LIST

– ACTUATED ON/OFF VALVES

End-User	Project Title	System Description	Scope of Supply	Year of Supply
Total E&P Angola Block 15/06 Africa	East Hub Development Project (FPSO)	Actuated Ball Valve for Foam Skids	Detailed Design, Engineering, Fabrication, Assembly, Functional Testing & Supply	2016
VietSovPetro, Vietnam	Thien Ung Field Development Project	Actuated Shutdown & Blowdown Valves with Partial Stroking Feature for the Thien Ung Gas Processing Platform	Detailed Design & Engineering, Fabrication, Assembly, Functional Testing & Supply	2015
PETRONAS CARIGALI	BARAM South (BAJT-H), offshore Platform	Replacement of existing SDVs Actuated ON / OFF Ball Valves	Detailed Design & Engineering, Fabrication, Assembly, Functional Testing & Supply	2014
PETRONAS CARIGALI	Labuan Onshore Gas Terminal (LGAST)	Supply of new SDVs Actuated ON / OFF Ball Valves for Equalising lines at KIKEH, SMG-A & EWG-A	Detailed Design & Engineering, Fabrication, Assembly, Functional Testing & Supply	2014

IN-HOUSE ENGINEER'S PROJECT EXPERIENCE – ACTUATED ON/OFF VALVES

End-User	Project Title	System Description	Scope of Supply	Year of Supply
Lam Son Joint Operating Company, VietNam	Thang Long/Dong Do Wellhead Satellite Platform	48 sets of Hydraulic Actuated SDV & XV Valves for Compact Manifold Skid.	Detailed Design & Engineering, Fabrication, Assembly & Functional Testing	2012
Cuu Long Joint Venture (CLJOC), VietNam	SVNE 5X Wellhead Satellite Platform	13 sets of Hydraulic Actuated SDVs, 2 sets of Hydraulic Choke Valves & 2 sets of Pneumatic Actuated SDVs.	Detailed Design & Engineering, Fabrication, Assembly & Functional	2013

COMPANY PROJECT REFERENCE LIST

– WELLHEAD CONTROL PANEL

End-User	Project Title	System Description	Scope of Supply	Year of Supply
Vietsovetro Joint Venture (VSP), VietNam	RC1/RC3 Wellhead Satellite Platform	3 Well Completion Modules Retractable type Wellhead Control Panel	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2012
Vietsovetro Joint Venture (VSP), VietNam	RC4/5/DM, BK-14/15/BT-7, RC-6/RC-7 Wellhead Satellite Platform	6 Well Completion Modules Retractable type Wellhead Control Panel & Chemical Injection Skid Packages.	Detailed Design & Engineering, Fabrication, Testing & Commissioning	2009 ~2012
Petronas Carigali Malaysia (PSCB)	Angsi “C”, ”E” Platform	24 Wells Completion Retractable well modules Wellhead Control Panel c/w Hydraulic Power Units.	Detailed Design & Engineering, Assembly, Testing & Commissioning	2003
ExxonMobil Exploration & Production Inc, Malaysia (EMP1)	Guntong F Oil Production Platform	17 Wells Completion Retractable Modules Wellhead Control Panel and Hydraulic Power Units.	Detailed Design & Engineering, Assembly, Testing & Commissioning	2004
VietSovPetro Joint Venture, Vietnam	Main Stationary Platforms (MSP)	2 Sets each with 6 wells completion retractable module Wellhead Control Panel s	Detailed Design & Engineering, Assembly, Testing & Commissioning	2003