

โยโกกาว่า
YOKOGAWA 

Yokogawa (Thailand)

Profile and Capabilities

Yokogawa Worldwide Business Operations

Global network supporting business growth



Yokogawa Operation in South East Asia and Oceania

Total Network Strength of **2,769 Employees**

BANGKOK, THAILAND



Yokogawa (Thailand) Ltd (YTH)

MANILA, PHILIPPINES



Yokogawa Philippines Inc. (YPI)

HANOI, VIETNAM



Yokogawa Vietnam Co. Ltd (YVN)
Ho Chi Minh City

SYDNEY, AUSTRALIA



Yokogawa Australia Pty Ltd (YAU)
Melbourne, Brisbane, Perth, Auckland (NZ)

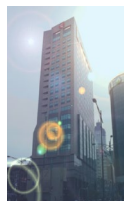
SINGAPORE

Global & Regional IA Business HQ
Yokogawa Electric International Pte Ltd (YEI)



Yokogawa Engineering Asia Pte Ltd (YEA)
Yokogawa Electric Asia Pte Ltd

TAIPEI, TAIWAN



Yokogawa Taiwan Corporation (YTW)

JAKARTA, INDONESIA



PT Yokogawa Indonesia (YIN)
Surabaya, Balikpapan, Pekanbaru, Cilegon
PT Sistemindra Controlindo (SIK)

KUALA LUMPUR, MALAYSIA



Yokogawa (Electric) Malaysia Sdn Bhd (YEM)
Yokogawa (Kontrol) Malaysia Sdn Bhd (YKM)
Yokogawa Industrial Safety Systems Sdn Bhd (YISS)

Yokogawa (Thailand) Ltd.

Our History

Yokogawa (Thailand) Ltd., a subsidiary of Yokogawa Electric Corporation (Japan), was established in 1989. By our commitment to Thailand's industry we were among the first companies to fully engage and provide products, systems and services to local market. **We are proud to be part of our customers' success and development of Thai industry for the past almost 30 years.**

Registered Capital : Baht 120,000,000.00 (Approx. US\$ 3,000,000)

Managing Director : Mr. Preechai Trannitad

Deputy Managing Director : Mr. Kouji Okumura

Employees : 250 Persons (As of March 2019)



Yokogawa Thailand Offices

Headquarters

799 Rama 9 Road, Bangkapi, Huaykwang,
Bangkok 10310 Thailand
Tel (66) 0-2715-8600 Fax (66) 0-2715-8688

Rayong Branch Office

267/67-70 Sukhumvit Road, T. Maptaphut, A. Muang,
Rayong 21150

Tel (66) 0-38607-160-3 Fax (66) 0-38607-164

Banpong Branch Office

420-421 Moo 4, T. Pakrat A. Banpong,
Ratchaburi 70110

Tel/Fax : (66) 0-3221-1443

Surathani Branch Office

26/2 Taladlang Rd., T. Bangkung,
A. Muang, Suratthani 84000

Tel (66) 0-7728-8992 Mobile Phone (01) 9704262

Khon Kaen Branch Office

89/9-10 Moo 14 T. Nai-Muang A. Muang,
Khon Kaen 40000

Tel (66) 0-4323-7679

Kamphangphet Branch Office

626 Charoensook Road, T. Naimuang A. Muang
Kamphangphet 62000

Tel (66) 0-5577-3219

Operation Center for
Engineering and Service

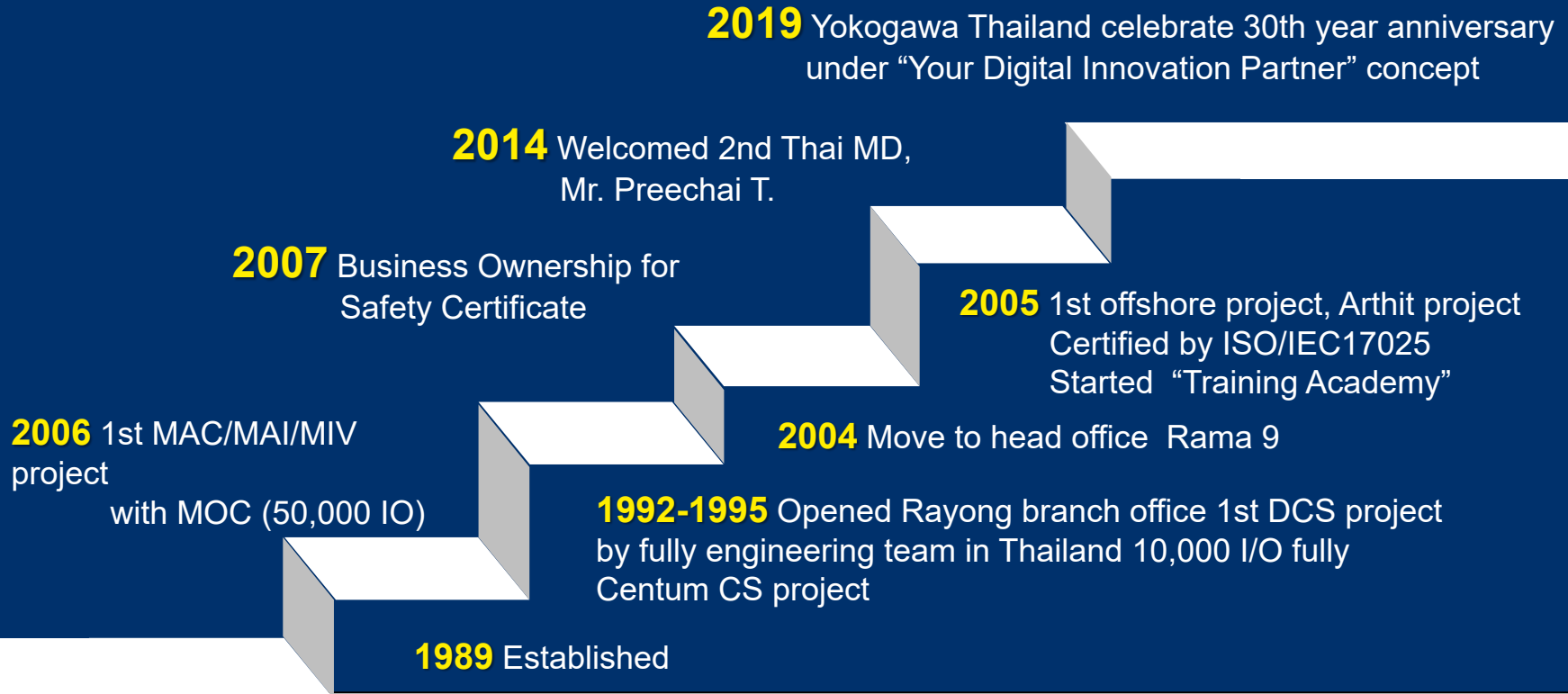


186
Man-Power
in BKK

40
Man-Power
in Rayong



Our History Roadmap

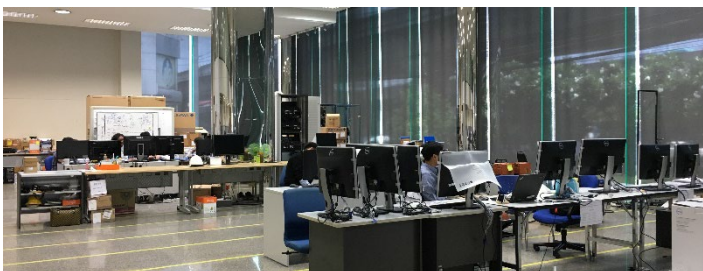


Yokogawa Office and Facilities

Engineering support area



Staging Area (fabrication & FAT)



- ✓ **3 Staging Area**
- ✓ **>500 cabinets can be loaded**

- ❖ Engineering Workplace
- ❖ Generation and Debugging SW
- ❖ Hardware Fabrication
- ❖ System Demonstration
- ❖ Factory Acceptance Test (FAT)
- ❖ Etc..

Repairing Room



Calibration Room

Electrical Lab



NSC-TISI-TIS17025
CALIBRATION 0075



Optical Lab



Pressure Lab



Temperature Lab

Instrumentation & Automation Education Center (IAEC)

IAEC provide Field Instrument and Automation training courses by

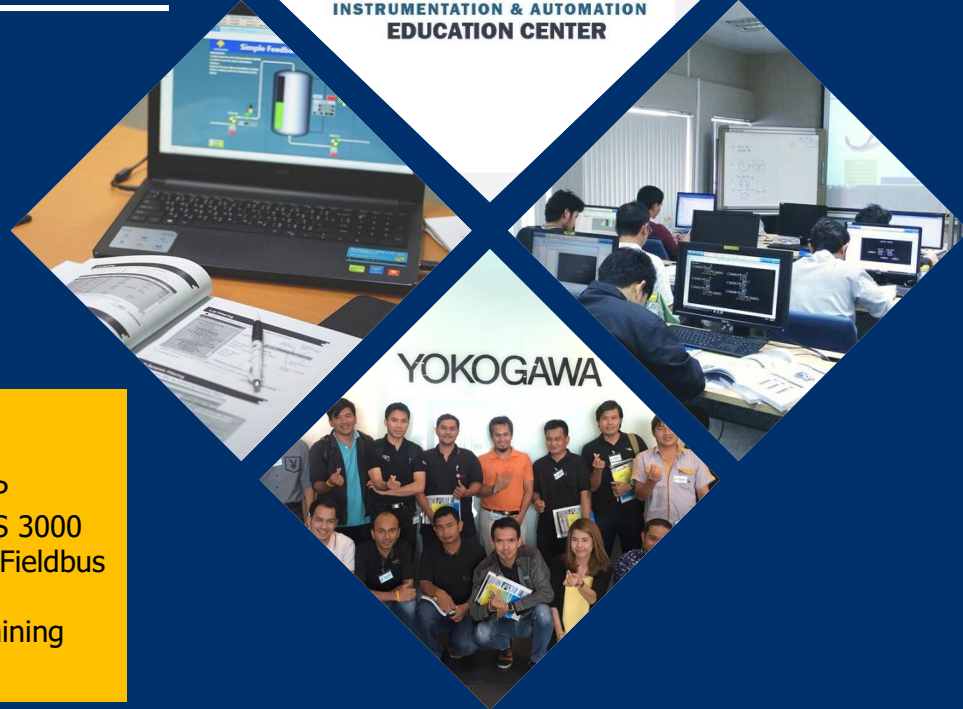
1. Public Training
2. Customized Training
3. On-site Training
4. Project Customer Training
5. Demo Kit Set.
6. Mini Plant Model.
7. Smart Plant Model.

<http://iaec-yokogawa.com>

In-house Training Training Course

- System 1 Centum VP
- System 2 Centum CS 3000
- Safety Excellence & Fieldbus
- Asset Excellence
- Field Instrument Training
- Other & Advanced

 **IAEC**
INSTRUMENTATION & AUTOMATION
EDUCATION CENTER



Training Academy

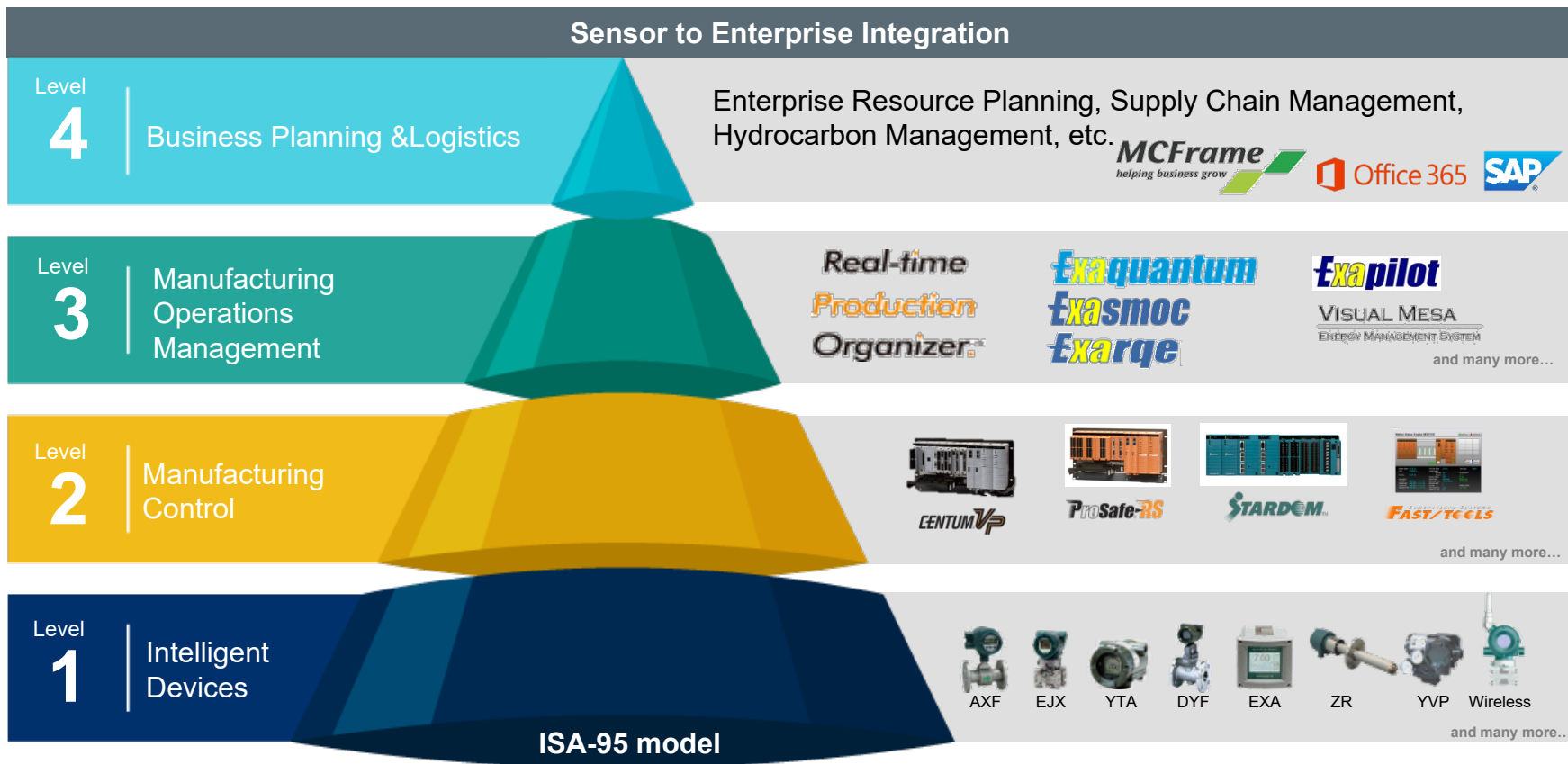
- ❖ First batch started on April 2005.
- ❖ Training period = 3 months
- ❖ Class = 1.5 months and Practice = 1.5 months
- ❖ 25 subjects
- ❖ Limited each batch at 20 persons.
- ❖ On job training for 37 days.
- ❖ Certificate of Training after examination and completion OJT.



Yokogawa Portfolio

“We strive to be your most dependable partner”

Yokogawa Industrial Automation and Control Portfolio



Yokogawa Industrial Automation and Control Portfolio

Production Excellence

Production Optimization



CENTUM VP

Process Control System



FAST/TOOLS

Supervisory System



STARDOM

Network-based Control System



FASTR

Programmable Logic Controller



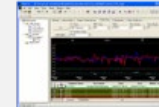
B/M9000 VP

Paper Quality Control System



Exoquantum

Plant Information Management System



Exasmoc Exarqe

Advanced Process Control System



Real-time Production Organizer

Production Management System

Asset Excellence

Asset Utilization



PRM

Plant Resource Management System



FieldMate

Multi-protocol/vendor Instrument Maintenance and Configuration System

BRAIN

HART COMMUNICATION PROTOCOL



PROFIBUS

ISA 100 WIRELESS

HART WIRELESS HART



AX



EXA



EJX



Z R



YTA



YVP



DYF



Wireless



DRESSER



FLOWSERVE



metso automation



samson



TDL 8000



GC 8000

Intelligent Sensor, Analyzer, Actuator

Safety Excellence

HSE Protection

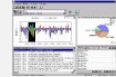


ProSafe-RS

Safety Instrumented System



CAMS for HIS Alarm Management System



Exaplog

Alarm & Event Analysis System



Exapilot

Operator Navigation System



megaLand

Operator Training System



Ergonomically Designed Control Room



DTSX

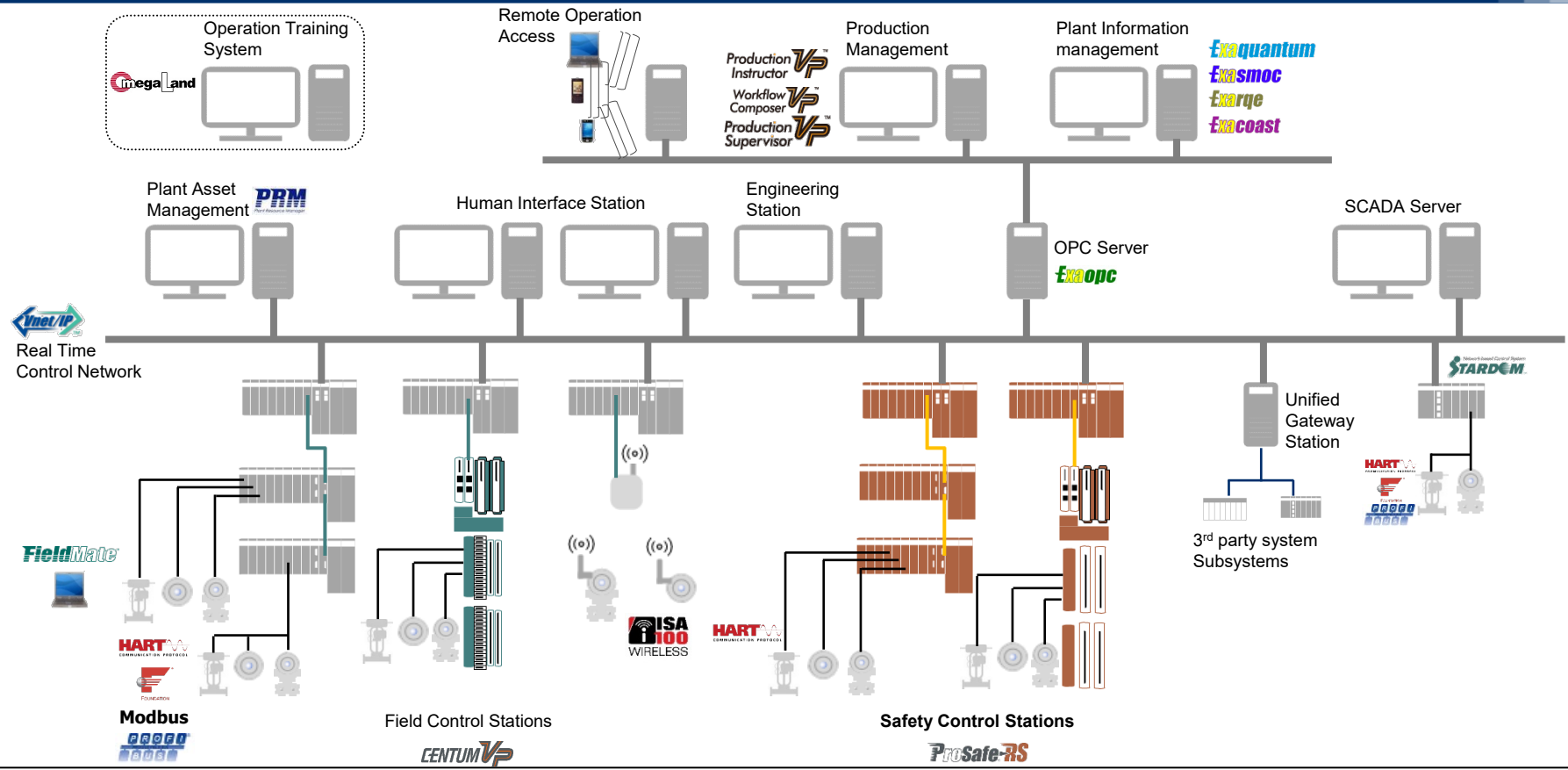
Optical Fiber Sensing



FIELDEYE III

Closed-Circuit TeleVision

Yokogawa Industrial Automation Architecture



Yokogawa Advanced Solutions

Relentlessly develop new Solutions to address management concerns in Operational Safety, Unplanned Outage, Human Reliability & Efficiency

HSE & Compliance Management	Safe Operation	Production Management	Energy Management	Inventory Management	Quality Management	Asset Management	IT Infrastructure
	Safe Operation Consulting	Production Scheduling	EnPI Energy Monitoring	Blend Recipe Optimization	Quality Tracking	CMMS	Virtualization
Management Of Change	Safety Function Monitoring	Performance Dashboard	Multi-Period Optimization	Blend Property Optimization	Quality Analytics	Asset Analytics	Business Continuity
Compliance Reporting	Alarm Management System	Yield Accounting	Utilities Optimization	Off-site & Terminal Management	Analyzer Validation	AMADAS	Cyber Security/ remote Access
Incident Reporting	Modular Procedural Automation	Task/Workflow Management	Combustion Control Optimization	Offsite Automation	LIMS	Plant Resource Management	Plant Information Network
Operation Instruction & Shift handover	Advanced Process Control, Dynamics Simulation & Predictive Analytics						CCTV
Plant Information Management System							Control/ Wireless Network
Control and Safety System (DCS & SIS)							
Sensors, Actuators, Analyzers							

Proven ERP (Enterprise Resource Planning)

YOKOGAWA   mcframe
Co-innovating tomorrow™

ERP (Enterprise Resource Planning)

INDUSTRY 4.0
The Next Industrial Revolution 



MCFrame
helping business grow  YOKOGAWA 
Co-innovating tomorrow™

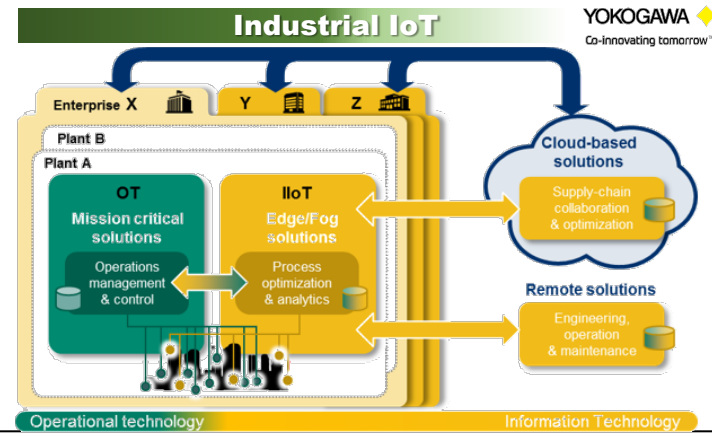
Production Management, Costs Management

Integrated business operation systems

WHY ERP?

helping business grow

- Improved Production Planning and Resource Management
- Simplified Compliance and Risk Management
- Greater accuracy of information
- Improved Inventory Monitoring
- Improved Productivity
- Costs Reduction
- Better manage a company's finances and Analytics
- Increase effective communication between departments



Cyber Security Lifecycle Approach

- Reducing Risk and Creating Value throughout Lifecycle

Assessment and Analysis

- Proposal for the lifecycle security service solutions for both new systems & installed-base systems

**Plant Security
Consulting
Services**

Validation Support

- Periodic security audit, analysis and review of the security controls

Design and Implementation

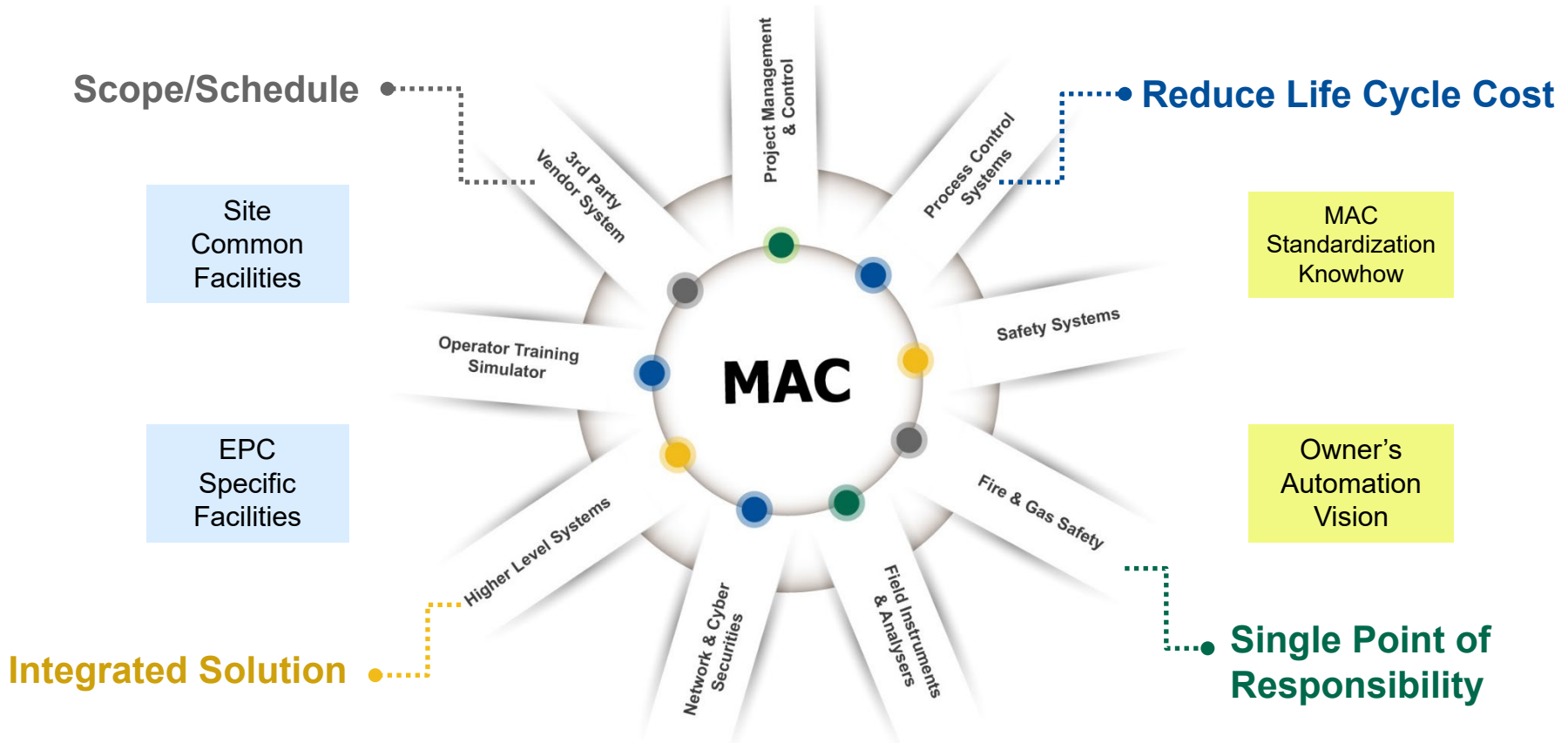
- Deployment and enhancement of optimal security controls

Operation Support

- Provision of security training, regular security update & continuous security monitoring.
- Support for Security Incident Response
- Prompt recovery from incident

**Plant Security
Lifecycle
Services**

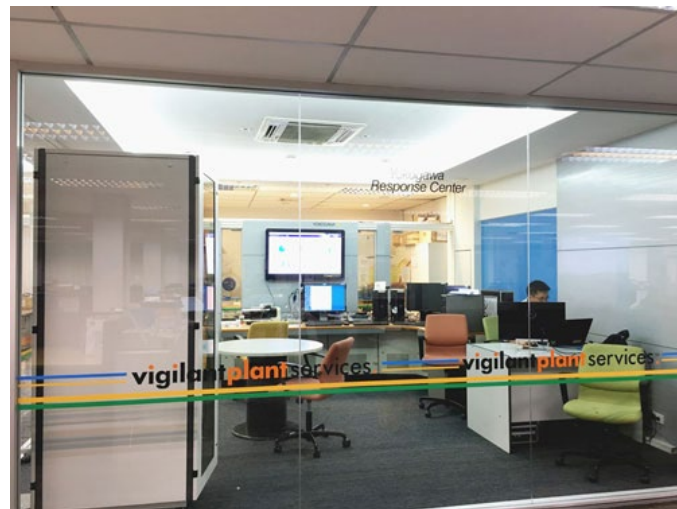
Proven Main Automation Contractor (MAC) Capability



Service & Support Program

One-Stop Service Response

- ❖ Single window 24hrs response
- ❖ Establishment of problem solving escalation system
- ❖ Regional linked User Database
- ❖ Establishment of service support structure for entire system including software support services
- ❖ Resident Engineer Program



Lifecycle Performance Care Services

Lifecycle Performance Care Services Sustainable Plan

- By your side for a quarter of the century (25 years) -

Basic Maintenance Services	Lifecycle Planning Services	Plant Security Lifecycle Services	Asset Health Monitoring Services	Technology Refresh Services
<ul style="list-style-type: none"> - Emergency recovery - Global Response Center (24/7) <p>On-call support and prompt recovery</p>	<ul style="list-style-type: none"> - Preventive Maintenance Plan - System upgrade plan <p>Consistent annual maintenance costs and overall savings</p>	<ul style="list-style-type: none"> - Integrated Security - Endpoint security <p>Assess and manage cyber risks by Plant Security Lifecycle Services</p>	<ul style="list-style-type: none"> - System and network monitoring - Environment monitoring <p>Prevent unexpected failures by Asset Health Monitoring Services</p>	<ul style="list-style-type: none"> - Hardware upgrade - Software upgrade <p>Maximize system availability and reliability by Technology Refresh Services</p>
Secured Remote Solutions				

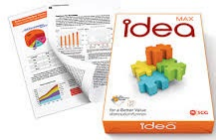
Our Customer

“We value strong partnership”

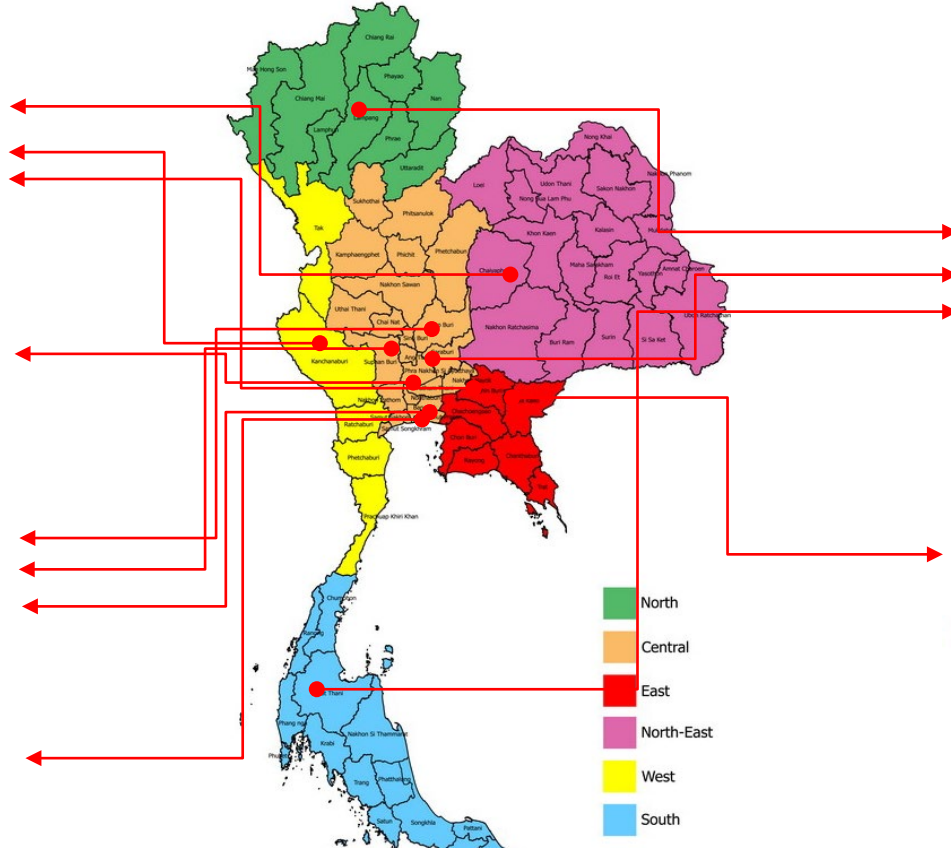
Focused Industries

- Oil & Gas
- LNG Supply Chain
- Chemical & Petrochemical
- Pulp & Paper
- Power
- Food & Beverages
- Water & Wastewater
- Mining & Metal
- Pharmaceutical
- Semiconductor
- Iron & Steel
- Combined Cycle

Yokogawa Thailand in General Industry



มรส-มหานคร
METROPOLITAN WATERWORKS AUTHORITY



- North
- Central
- East
- North-East
- West
- South

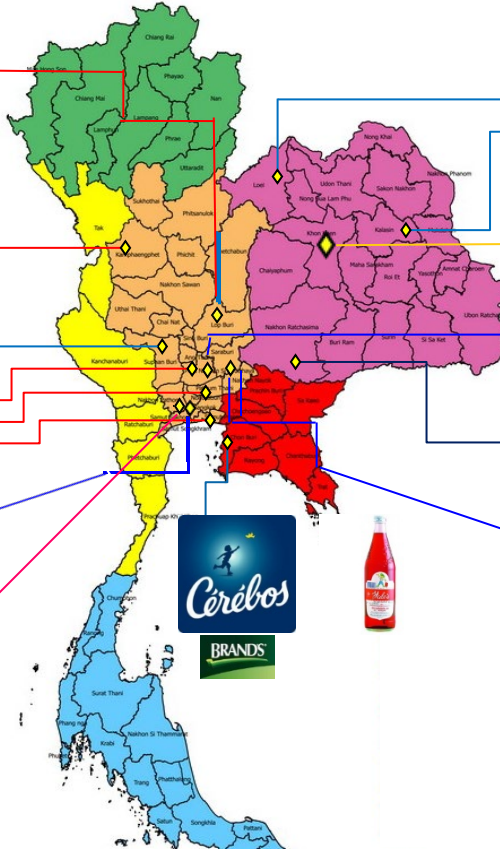
Yokogawa Thailand in Food and Beverage industry



A company



A company



MITR PHOL



อับตัน



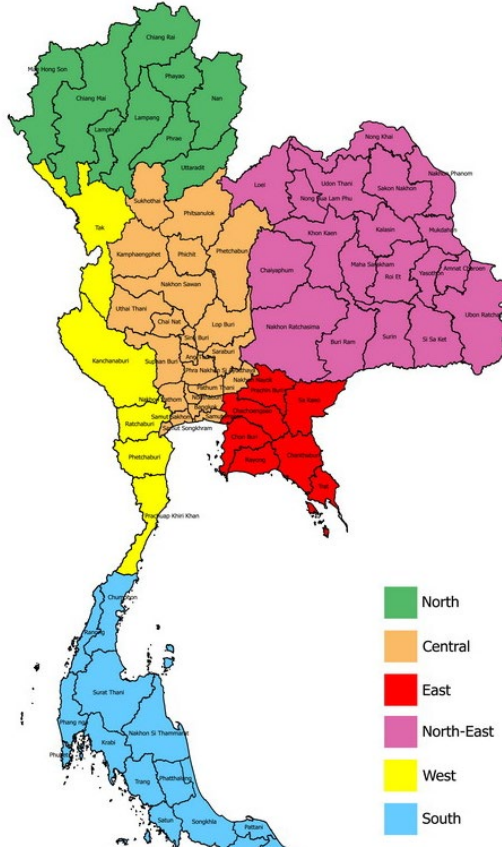
Yokogawa Thailand in Sugar business



วังนาย
น้ำตาลที่ไม่เหนียวใส



BAN PONG
GROUP



Yokogawa Thailand in Power Business



Nong Kea Cogen

159MW (Retrofit)



Samutprakarn

160MW (Retrofit)



Bang pa in Cogen 1,2

110MW CENTUM VP



Ladkrabang PPTC

110MW CENTUM VP



Bangpoo SSUT

110x2MW CENTUM VP

Khon Khen Sugar
30MW CS3000
CFB, Bagasses Biogas

Surin Power
30MW CS3000
Bagasses Biomass

Mitr Phol Dan-Chang
60MW CENTUM VP
Bagasses Biomass

Mitr Phol Kalasin
60MW CENTUM VP
Bagasses Biomass

Mitr Phol Pu Luang
60MW CENTUM VP
Bagasses Biomass

Mitr Phol Pu Kieo
30MW CENTUM VP
Bagasses Biomass

Singburi Sugar
50MW CENTUM VP
Bagasses Biomass

ES Energy
9.9MW CS3000
Biomass



Banpong Utility

110MW CENTUM VP



Gulf JP
12 SPP plants



EGCO Rachaburi

125MW CENTUM VP

Phoenix Pulp&Paper
50MW CS3000
Co-gen recovery BLR

Panjapol Paper Industry
40MW CS3000 Co-gen BLR

Thai Cane Paper
CFB, 40MW CS3000

EGAT Bangpakong
ESP & Ash handling
Unit 3-4

DCAP (NG)
55MW CENTUM VP

Bangchak Utility (NG)
33MW
CENTUM VP & Prosafe RS

Gulf Yala Green
CFB, 23MW CS3000
Wood Chips



EGCO Rachaburi

125MW CENTUM VP



IRPC/CHP II



120x2MW, CCPP, CENTUM VP

TLP Cogen/ EGCO



103MW, CCPP, GT
GE
ST Toshiba, CS3000

PTT Utility CUP2



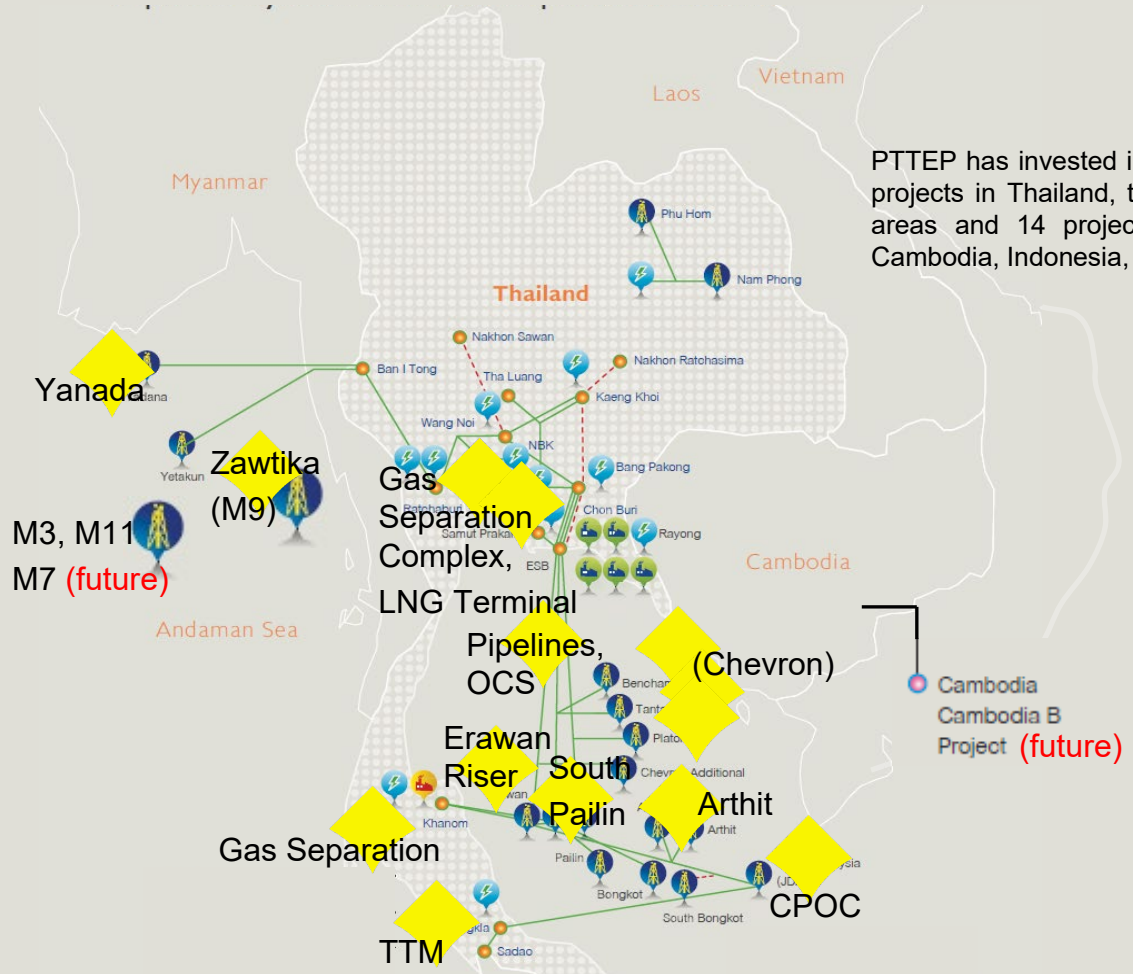
151MW, CENTUM VP



AAA

120MW, CENTUM VP

Yokogawa in Gulf of Thailand



PTTEP has invested in 29 projects which are 13 projects in Thailand, two projects in overlapping areas and 14 projects in Myanmar, Vietnam, Cambodia, Indonesia, Oman, Algeria and Iran

Yokogawa Thailand in Rayong & Chonburi Area



PTT GSP
PTT Tank Terminal
PTT Khao Bo Ya Terminal
PTT LNG
SPRC



ABS 1-2, ABS 6
SAN 1-2-3
PP 2, PP 3
PPE
CD1, HDPE
UHM, CHP 2



GC4, Aromatic 1
GC6, Refinery
GC7, Jetty and Tank Farm
GC8, Aromatic Tank Farm
GC12, Polyethylene
Phenol
Thai Tank Terminal
GCMPTA



Rayong Olefins
Map Ta Phut Olefins
Thai Polyethylene
Thai Plastic and Chemicals
Map Ta Phut Tank Terminal
RTC
TPRC

Other major customers

AGC Chemical, Air Liquide, Momentive, TEISEI, Thai Asahi, Indorama
Bangkok Synthetics, Cerebos, Thai Tokai Carbon, Bridgestone Carbon Black,
ASM, UBE, NS-Siam United Steel, Zeon Chemical, KAO and others..



Map Ta Phut Industrial Estate



Map-ta-put Olefin Complex

MOC (SCG + DOW) : Olefin, PP, HDPE Plant (Delivery 2009)

EPCs – Samsung, Technip, Hundai, Rotary, SKEC, MEC

Co-work with Yokogawa Singapore

Scope & Highlight

- MAC project
- 20,000 IO

Scope of work & supply

DCS – Centum VP HART

SIS (ESD/FGS/BMS) – Prosafe RS HART

PAMS – PRM (DCS, SIS, UCP)

Alarm Management System – Yokogawa AAM

FI – Tx, Flow meters, etc.

Analyzer - AMADAS

Tuning Software - TuneVP

Network Security Management

CCR / Console Design

Fabrication + FAT in Thailand

Site Supervision for Pre-commissioning, Commissioning & Start up



PTT Gas Separation Plant Complex

PTT PLC – GSP Complex (GSP#1,2,3,5,6,ESP,RPFL)

EPC – Samsung Engineering (Korea)

PMC – Fluor

Scope & Highlight

- 1st FF project in PTT GSP
- 25,500 IO

Scope of work & supply

DCS – Centum VP (FF, HART, Wireless)

SIS – Prosafe RS HART

PAMS – PRM (DCS, SIS, UCP)

PIMS – ExaQuantum

APC – ExaSMOC

Network Security Management

Fabrication + FAT in Thailand

Site Supervision for Pre-commissioning, Commissioning & Start up



Note: Total GSP Complex including, OCS#1,2,3, FTP#4 & OCS#4

PTTLNG Tank & Terminal

PTTLNG – Terminal & Jetty (Phase I, Phase II, CWG)

EPC – GS Engineering & Construction (Korea), POSCO Engineering (Korea), CAZ

Scope & Highlight

- MAC project and 1st wireless FI
- 5,500 IO

Scope of work & supply

DCS – Centum VP (FF and wireless)

SIS – Prosafe RS HART

PAMS – PRM (DCS, SIS)

PIMS – ExaQuantum

Operator Training Simulator (OTS)

Network Security Management

CCTV

Fabrication + FAT in Thailand

Site Supervision for Pre-commissioning, Commissioning & Start up



Note: Total PTTLNG including, Phase I, Phase II and CWG

PTT Global Chemical – GC4, GC6, GC7, GC8, GC12

Scope & Highlight

- 1st N-IO project for both DCS & SIS (PTT GC7)
- 14,500 IO

Scope of work & supply

DCS – Centum VP

SIS – Prosafe RS HART

PAMS – PRM (DCS, SIS)

Advanced Regulatory Controls – Exacoast

Network Security Management (at GC4)

Fabrication + FAT in Thailand

Site Supervision for Pre-commissioning, Commissioning & Start up



Note: Total Global Chemical including, GC4, GC6, GC7, GC8 and GC12

Ueno fine chemical industry (Thailand)

Ueno (Banpu) : Sorbitol&Maltitol (Sugar free sweeteners)

Yokogawa DCS scope:

- Sorbitol plant CS3000, I/O = 1,500 pts
- TP1&TP2, I/O = 500 pts

Scope of work & supply

DCS – Centum CS3000 (Fieldbus 16 devices + RemoteI/O)

FI – Tx, Flow meters, Pressure etc.

Network fiber optic cable

Fabrication + FAT in Thailand

Site Supervision for Pre-commissioning, Commissioning & Start up



Cerebos Thailand Limited

Cerebos (Chonburi) : Brand

Yokogawa DCS scope:

- Cooker control , I/O = 2,000 pts

Scope of work & supply

DCS – Centum VP (RemoteI/O, Profibus-DP)

FI – Tx, Flow meters, Pressure etc.

Installation cable tray, Flex, Local cabinet, Instrument

Fabrication + FAT in Thailand

Site Supervision for Pre-commissioning, Commissioning & Start up

Cerebos



Provided Cable Tray
and Installation

Provided Flex and
Installation

Provided Local Cabinet
with Stand and
Installation

Instrument Installation

- **Mitr phol (Loei) : Raw Sugar 40,000 TCD**

- **Yokogawa DCS scope:**

- ◆ - Sugar process (Mill, Evaporator, Vacuum pan, Centrifugal) 20,000 TCD (2014)
- ◆ - Sugar process (Mill, Evaporator, Vacuum pan, Centrifugal) 20,000 TCD (2017)
- ◆ - Biomass Boiler Thermax & Takuma control 105 barg, 100 t/h 1 unit; 42 barg, 125 t/h 2 unit (2014)
- ◆ - Biomass Boiler Takuma 2 units (2017)
- ◆ - Total I/O Sugar about 10,000 points + Boiler about 8,000 points

- ◆ **Scope of work & supply by Yokogawa dealer**

- ◆ DCS : Centum VP (CCR design, Remote I/O, Profibus-DP, Modbus)
- ◆ FI : Tx, Flow meters, Pressure, Temp etc.
- ◆ Installation : Local cabinet, Instrument, Instrument cable, Fiber optic cable, Tray & Junction box, etc.
- ◆ Fabrication + FAT in Thailand
- ◆ Site Supervision : for Installation, Pre-commissioning, Commissioning & Start up



Project reference – Thai beverage

Sura Bang Yi Khan Project (2012)

- DCS
- Installation work
- Field instrument
- Automatic valve



Plant Automation Project Improvement, Sangsom- Nakhonsawan (2016)

- DCS
- Installation work
- Field instrument
- Automatic valve
- Electrical work
- Mechanical work
- Civil work
- Tank Scale Capacity 10 Ton



Renewable Energy from Distillery Slop – Kanchanaburi (2017)

- DCS
- Installation work
- Field instrument
- Automatic valve
- CEMs



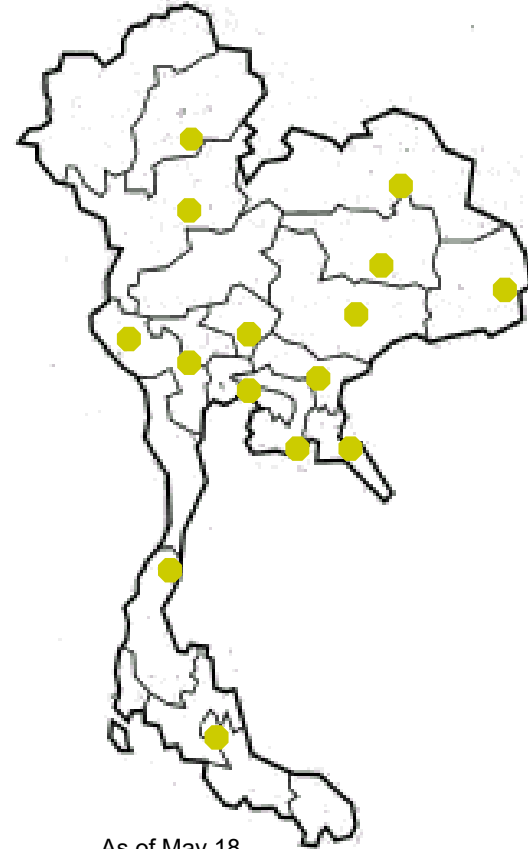
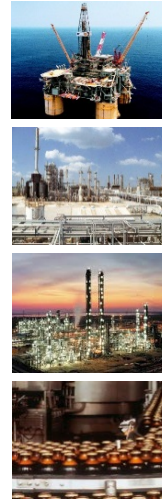
Yokogawa DCS & SIS Installed Base Map

TOTAL 451 (321 DCS+76 SIS) SYSTEMS

- ◆ Oil & Gas
- ◆ LNG Supply Chain
- ◆ Chemical & Petrochemical
- ◆ Pulp & Paper
- ◆ Power
- ◆ Food & Beverages
- ◆ Water & Wastewater
- ◆ Mining & Metal
- ◆ Pharmaceutical
- ◆ Semiconductor
- ◆ Iron & Steel
- ◆ Combined Cycle

MICRO XL	3
CENTUM CS	1
CENTUM CS 1000	4
CENTUM CS 3000	67
CENTUM VP	246
MULCOM	1
PROSAFE PLC	4
PROSAFE-RS	66
PROSAFE-SLS	5

BM 7000XL	9
BM 9000CS	5
BM 9000VP	11
WEBFREX II	7
WEBFREX III	7
WEB GAGE	5
STARDOM	10



As of May 18

Co-innovating tomorrow™

Thank you

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