Process Automation
And many more for **sub system/main system** in process industry
► Clear view of local process and data logging of your process
► Replacing conventional mimic panel with many button and indicator lamp
► Flexible communicate to other controller from many brand outside mitsubishi controller series
1. DCS Function
Conventional DCS function is realized by Process PLC + PX Developer + SA1-Monitor (SCADA).

2. Distributed control and backup
When SA1-MONITOR fails, the operation is continued by the on-site GOT.

3. Remote Operation
The monitoring status and control of each machine can be controlled from the office by using Web function.

4. Save wiring cost
(1) Multiple loop control is realized with one PLC. Therefore, compared to existing systems, reduction of space and wiring is achieved.
(2) Sending/receiving data between PLCs is possible using MELSECNET.

5. Easy maintenance
(1) Program editing and customization is easier by using general-purpose PLCs.
(2) Modules can be replaced online when failures occur.

Cost Reduction for Development

System Upgrade / expansion can be easily when needed by direct development

Flexible communicate to other controller from existing system
► Reduced maintenance costs by means of remote maintenance capability
► Low-cost expansion by using an unlimited Web based HMI at all locations
► Completion of each dispense, the corrected flow, temperature, and pressure are saved as an Excel compatible CSV file from SCADA or in the HMI compact flash memory.
- Reduced maintenance costs by means of remote maintenance capability
- Low-cost expansion by using an unlimited Web based HMI at all locations
- Completion of each dispense, the corrected flow, temperature, and pressure are saved as an Excel compatible CSV file from SCADA or in the HMI compact flash memory.
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- Low-cost expansion by using an unlimited Web based HMI at all locations
- Completion of each dispense, the corrected flow, temperature, and pressure are saved as an Excel compatible CSV file from SCADA or in the HMI compact flash memory.
Control and Monitor all electrical equipment for Incoming and Outgoing Electrical Distribution with electrical standard (DNP3)

Connect to Electrical Protocol using modbus 485/ modbus IP
Cross-limit control inhibits the occurrence of black smoke and increase in NOx and Sox and also reduces the heat losses.

Energy saving and improvement of environment can be realized perfect combustion control that keep fuel-air ratio at the optimal combustion domain.
Terminal System for Tank Inventory Monitoring, Automatic Truck/Wagon Movement & Loading Control, Integrated Operation with ERP Applications such as SAP, Improved Loading Efficiency and Increased Safety using, Reliable and Proven Process Control System, Multi Owner Management.
Cost Reduction for Development

Recipe Development for process engineering

System Upgrade / expansion can be easily when needed by direct development
Replaced the DCS and loop controllers with Process CPU, which is a general-purpose product, and realized a highly flexible system at low cost.

Flexible communicate to other controller from existing system.
Process Automation for Mining

- Crushing System
- Smelting System
- Water Treatment Plant
Crushing

Control Room
SCADA MC-WORX Historian SERVER

TGB/sec
Redundant CPU
Remote I/O

1GB/sec

Ethernet
CC-Link IE controller network

10Mb/sec

I/O unit (4–20mA)

Inverter

CC-Link

1. Quarry
2. Conveyor
3. Primary crusher
4. Bag filter
5. Screeners
6. Secondary crusher
7. Bucket elevator
8. Preblending bed
Water Treatment Plant

Control Room

SCADA
MC-WORX
Historian
SERVER

1GB/sec

Redundant CPU

I/O unit (4-20mA)
I/O unit (Profibus)

Temperature
Pressure
Turbidity
Disolved Oxygen
Flow
PH
Control valve

CC-Link IE controller network

Ethernet

Inverter

10Mb/sec

CC-Link

SERVER

1GB/sec

Control room

I/O unit (4-20mA)
I/O unit (Profibus)
Singapore LNG Terminal
Tank Base Heating Control System

Scope of supply:
- Redundant CPU system for Processing System
- Touchscreen for Local control
- Integration to Yokogawa DCS through modbus comm.

PLC to PLC Communication – CC Link

Scope of supply:
- Redundant CPU system for Processing System
- Touchscreen for Local control
- Integration to Yokogawa DCS through modbus comm.

Heating Tapes
- 16 Heating Tapes
- 8 duplex RTD, 2 x 3 wires
Scope of supply:

- Process Control System
- Emergency Shutdown System
- Fire and Gas System
Scope of supply:

- Redundant CPU system for Processing System
- Touchscreen for Local control
- Integration to Yokogawa DCS through modbus comm.
Astachem Chemical
Batch Process System

Scope of supply:
- Process System for silver formaldehyde plant and 23 MT PF Reactor
- SCADA system for process
ISABELA BIOETHANOL AND COGENERATION PLANT
Raw Water Pretreatment System

Scope of supply:

- Redundant CPU system
- Touchscreen for Local control
- Inverter for Pump Control
- LV switchgear
- Power Meter for power distribution monitoring
PUB Water Works, Bedok
Water Treatment Plant

Scope of supply:
- Redundant CPU system for process
- CC link Communication for total plant control with 1.2Gb Speed
- Inverter for Control Water Pumps
- SCADA system for total monitoring and process control, including touchscreen for local control monitoring system

To Service Reservoir or Distribution System
THE TREATMENT PROCESS AT BEDOK WATERWORKS

Lower Seletar Reservoir Dam & Spillway
Yishun Pond
Pump Station

Lower Seletar Pump Station

Distribution Chambers

Chlorine Dosing

Ozone Building

Total Filtered Water Turbidity: 0.00 mg/l

Alum Dosing

Chlorine & Polymer Dosing

Chlorine Dosing

High Lift Pump Station

Discharge Pressure: 0.00 psi

Fluoride, Chlorine & Lime Dosing

Clear Wells

Bedok Pump Station

Bedok Reservoir

RWPS Level 2: 0.00 mg/l

Tampines A Pond & Pump Station (Not Constructed Yet)

Tampines 2 Pond & Pump Station

Tampines 3 Pond & Pump Station

Rapid Mix Basin & Distribution Chambers

Sludge Pump Station

Thickened Sludge Pump Station

Sludge Conveyors

Sludge Cake Storage Building

Tampines E Pond & Pump Station

Yankit Pond & Pump Station

Tampines 1 Pond & Pump Station

Tampines 4 Pond & Pump Station

Sludge Thickener Tank

Sludge Retention Tank

Clear Water Tank LT: 0.00 mg/l
Treated Water Flow: 0.00 mg/l
Treated Water RCL: 0.00 mg/l
Treated Water pH: 0.00 mg/l
Treated Water Res. FL: 0.00 mg/l

Filter Presses

Exit

Enable Horn

Print

Trend

Alarm

Event Log
Scope of supply:
- Redundant CPU system for redundant ring network
- SCADA & Distributed PLC system for process
- Integration to Toshiba DCS (Phase 1) and Azbil DCS (Phase 2)
SELAYAR POWER PLANT
DIESEL ENGINE POWER PLANT

Scope of supply:
- Redundant CPU system for process
- SCADA & Distributed PLC system for total monitoring and process control for Generator sequence (switching diesel Generator System) operation
Scope of supply:
- Redundant CPU system for process
- Turbine protection and generator system
- SCADA & Distributed PLC system for total monitoring and process control, including touchscreen for local control monitoring system
Scope of supply:

- Redundant CPU system for process Non Crucible Furnace
- Process System for Rotary Dryer
- Process System for Kiln Hot Chamber
- Process System for Feni 1,2,3
- Conveyor System
- All Distributed system integrated with Yamatake (Azbil) DCS
Scope of supply:

- Building Management System for HVAC Production Clean Room
MRT Singapore

Scope of supply:
- Building Management System integration with Fire Alarm System
Thank you very much for your attention