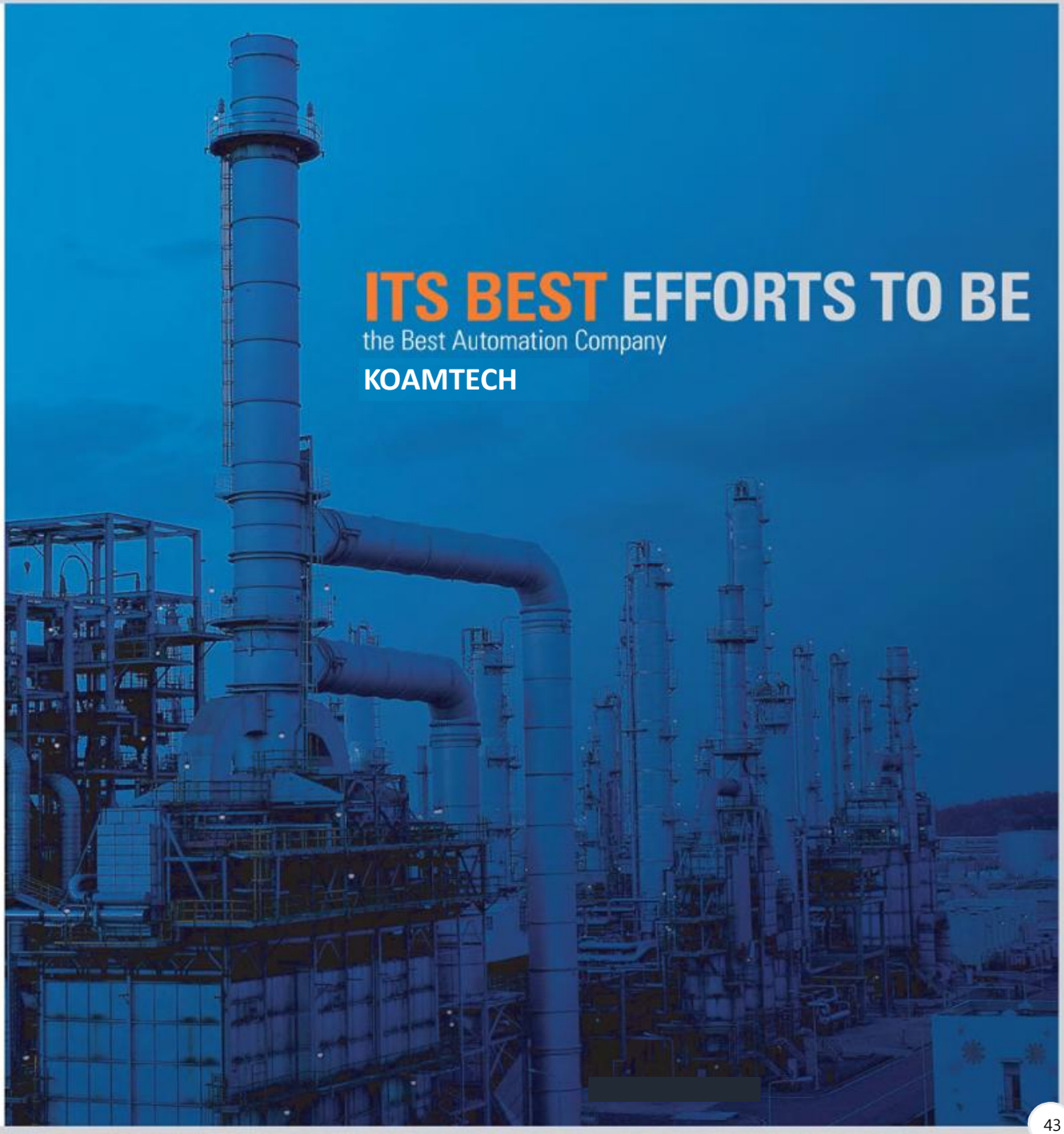


KOAMTECH

www.koamtech.co.kr

- **Head Office**
  609, 6th Fl. Ace-Highend Tower 10
  30, Gasan-disital 1st road, Gumcheon-gu, Seoul, Korea
  Tel : +82-2-864-7117 / Fax : +82-2-864-7118

- **Factory**
  534, Eunhaengnamu-ro, Yanggam-myeon, Hwaseong-si, Gyeonggi-do Korea
  Tel : 070-7702-5901 / Fax : 031-366-4180

- **International Sales**
  Man-ho, Jung (Manager)
  Cel : +82-10-2603-4572
  E-mail : mhjung@koamtech.co.kr

CONTENTS

01. CEO Greetings

02. History

03. Business

- Steel/Paper Business
- Logistics Business
- Power Energy Business
- Environment Business
- Intelligent Building Business
- Engineering Service Business

04. Organization, Employees, Location of Head Office and Branch Offices

05. Product

06. Key Contracts

SINCE ITS

Foundation on January, 2009

CEO GREETINGS

Since its foundation on February 1, 1999, KOAMTech Co., Ltd. has been focusing on electric & automatic control system. KOAMTech is a automation company providing a variety of automation technologies and control equipments (Steel/Paper, Power Energy, Environment, and IBS, etc.) in Korea and internationally.

With professionals familiar with state - of - the - art automation engineering technologies and newly introduced foreign technologies, we have complete system engineering technologies including system proposal, design, manufacturing, installation, test operation, and maintenance, which can meet customers' requirements.

Especially, we have a variety of engineering solutions for steel, paper, metal, logistics, cement, power plant, and energy, etc. and we are also pursuing global technical support in foreign markets.

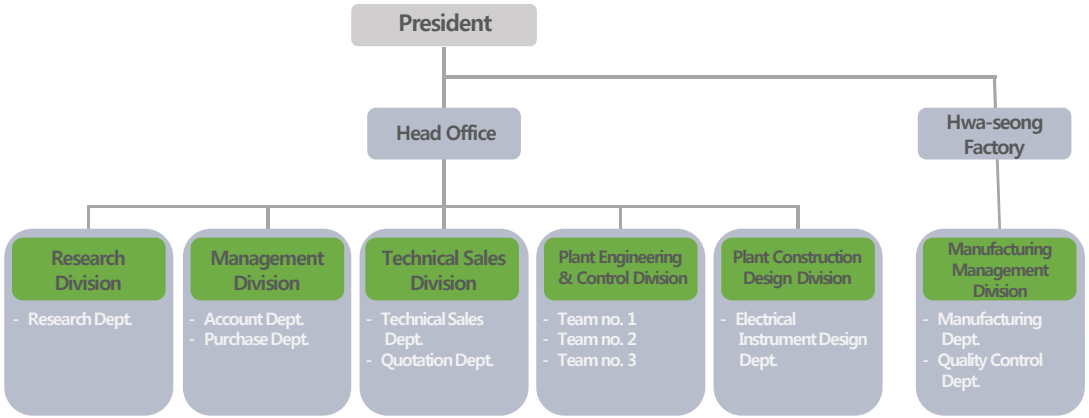
Based on the advanced technology and accumulated know-how in the industry, environment, and building control areas, we will contribute to the industries and try to solve customers' problems in a timely manner.

KOAMTech will continuously do its best efforts to be the best automation company.

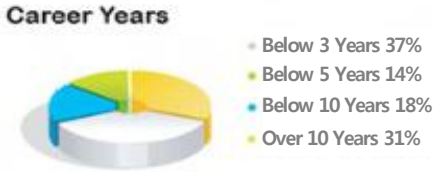
HISTORY

2009.	JAN.	Establish UniEMC
2012.	APR.	Moved Company of "KOAMPLANTEC" (Plant Business)
2012.	APR.	Corporate name change to "KOAMTECH. Co., Ltd."
	JUN.	Business Registration For Korea Software Industry Cooperation
2015.	DEC.	ABB SI Agreement
2016.	MAY.	Electric Construction License
	AUG	Hwa-seong Factory Registration
2017.	APR.	SIEMENS Partnership SI Agreement
2017.	JUL.	Schneider Partnership SI Agreement

ORGANIZATION



EMPLOYEES



LOCATION OF HEAD OFFICE AND BRANCH OFFICES

Head Office :
609, 6th Fl. Ace-Highend Tower 10
30, Gasan-disital 1st road, Gumcheon-gu, Seoul, Korea
Tel : 82-2-864-7117 / Fax : 82-2-864-7118

Factory :
534, Eunhaengnamu-ro, Yanggam-myeon, Hwaseong-si, Gyeonggi-do Korea
Tel : 070-7702-5901 / Fax : 031-366-4180

BUSINESS

KOAMTECH

Project Flow Chart

- Proposal
- Design
- Manufacturing
- Quality Check
- Delivery and Installation
- Test & Run
- A/S

Steel/ Paper Business

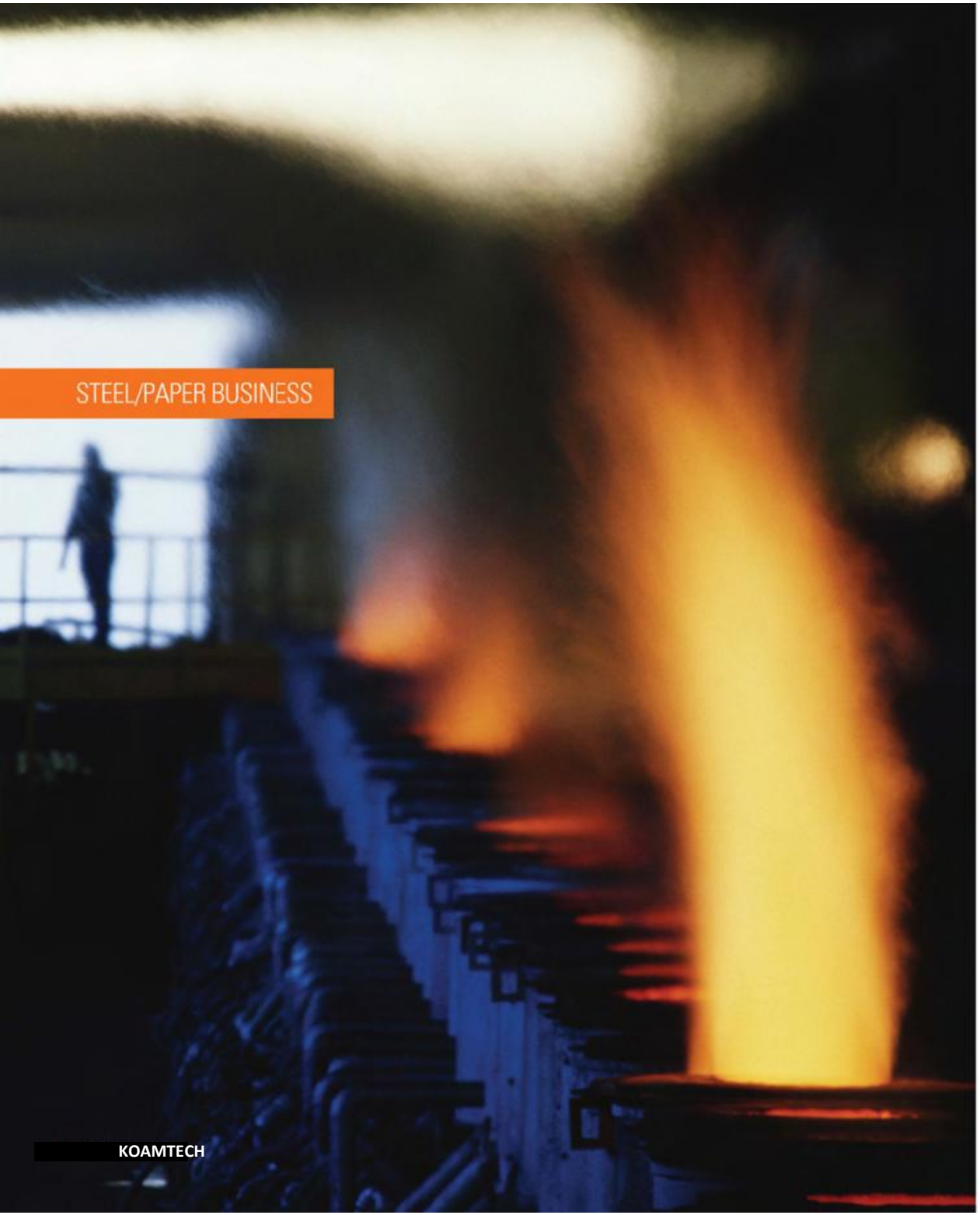
Power Energy Business

Logistics Business

Environment Business

Intelligent Building Business

Engineering Service Business



STEEL/PAPER BUSINESS

Steel/Paper Plants have very similar processes and equipments. Rotator control (power electronic control) is the key process. High level of technology is required for very complex and difficult production process.

Customers

- Metal Plant
- Non-Metal Plant
- Pulp/Paper Plant

Applications

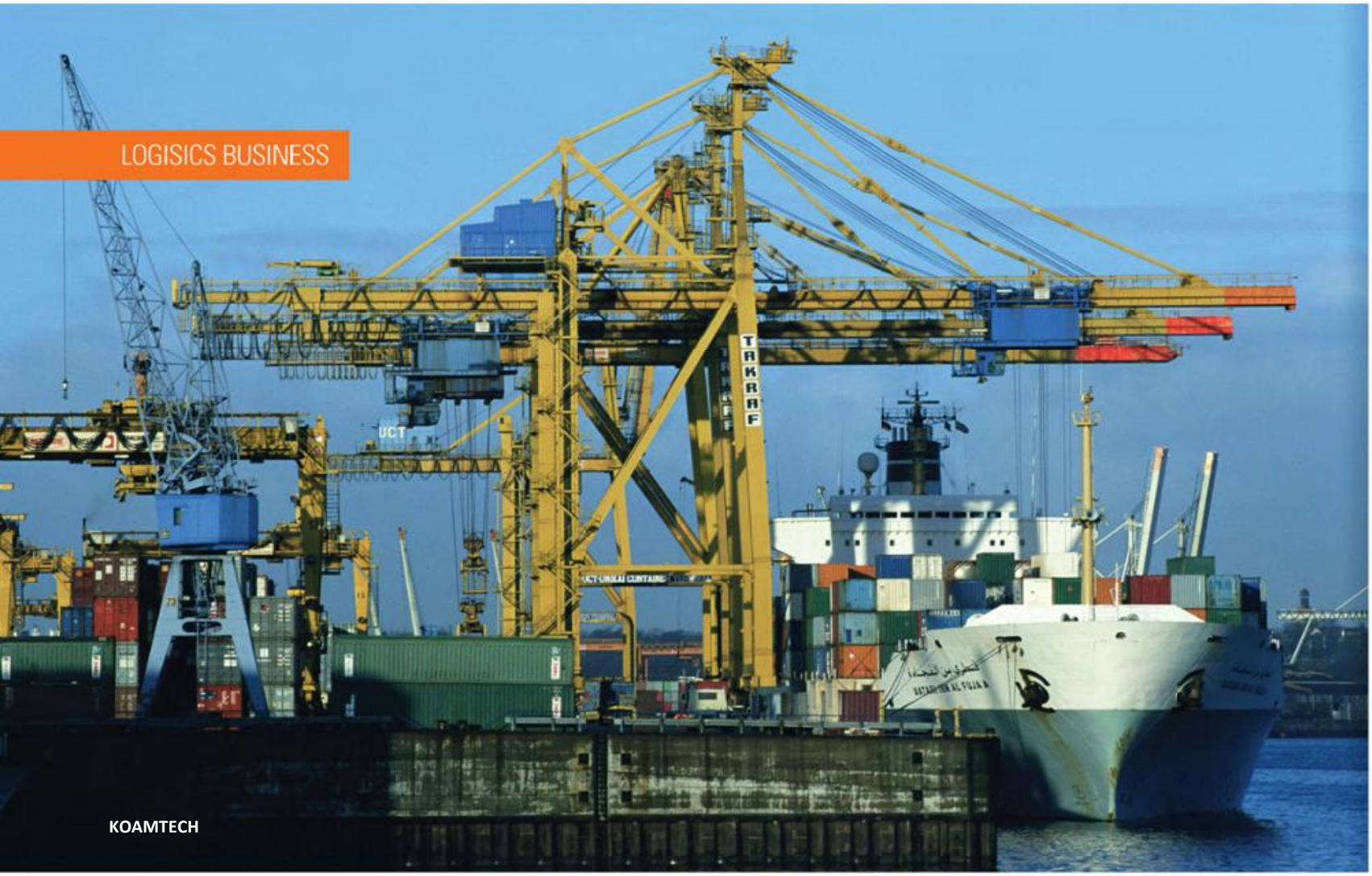
- RM Process Control System (Reversing Mill)
- CCL Process Control System (Color Coating Line)
- CGL Process Control System (Continues Galvanizing Line)
- EGL Process Control System (Electric Galvanizing Line)
- TLL Process Control System (Tension Leveller Line)
- APL Process Control System (Annealing & Pickling Line)
- RCL Process Control System (Recoiling Line)
- STL Process Control System (Slitter Line)
- SHL Process Control System (Share Line)
- HSL Process Control System (Hot Skinpass Mill Line)
- HDL Process Control System (Hot Dividing Line)

Products

- Level II, HMI, PLC, Drive, Motor
  Sensor, Instrument, Control & Valve etc

LOGISTICS BUSINESS

Maximizes input/output efficiency of logistics automation equipments which help unmanned storage, input, output, and unloading of raw materials, semi-finished products, and finished products by applying a variety of automation control systems to the equipments.



Customers

- Automatic Warehouse Plant
- Port Crane Plant
- Delivery Line Plant

Applications

- Automatic Warehouse System
- Unmanned HCR Crane System
- Port Crane System (Key Crane, Unloader)
- Yard Automation System

Products

- Level II, HMI, PLC, Drive, Motor, Sensor, Barcode, RF etc

POWER ENERGY BUSINESS

To make Korea energy rich country in the future, we build optimal systems for future energy systems such as wind, sunlight, and hydrogen as well as fire power plant and atomic power plant.

Customers

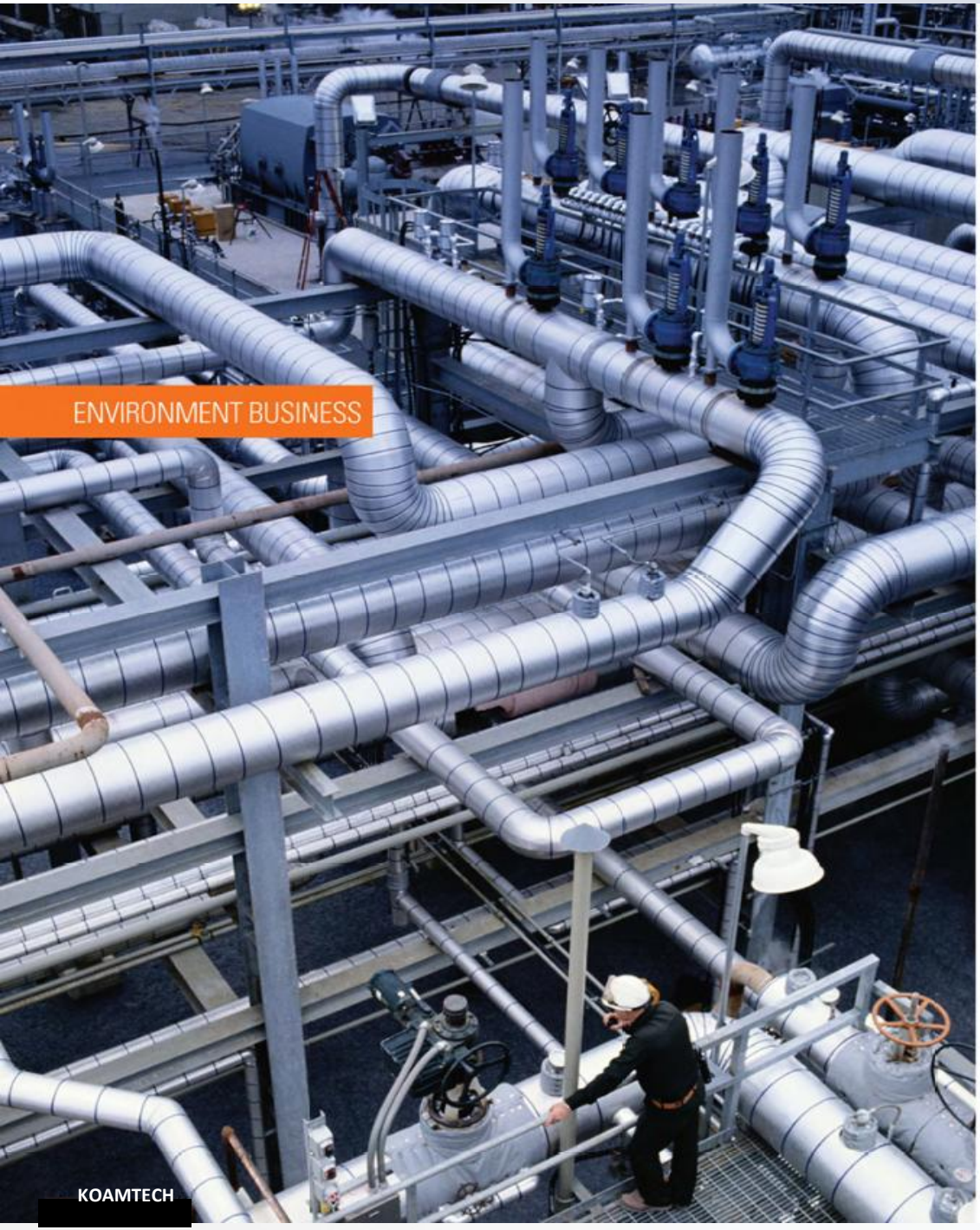
- Fire and Atomic Power Plants
- Wind Power Plant
- Sunlight Power Plant
- Power Generation and Transforming Plant
- Cogeneration Plant
- Gas/Oil Pipe and Crude Oil Storage Plant

Applications

- HVAC System
- Water Quality Analysis Equipments Monitoring and Control
- COAL HANDLING System
- Electricity Collection System
- Water Process System
- Desulphurization System
- Energy Saving System
- Power SCADA System

Products

- DCS, PLC, Driver, Motor, Instrument, Control Valve, DLP, Protection Relay etc.,



ENVIRONMENT BUSINESS

Optimal Solution based on the best technology and fruitful know-how!
We are creating much happier future by leading state-of-the-art technologies close to our daily life, such as water process, waste process, and tunnel, etc.,

Customers

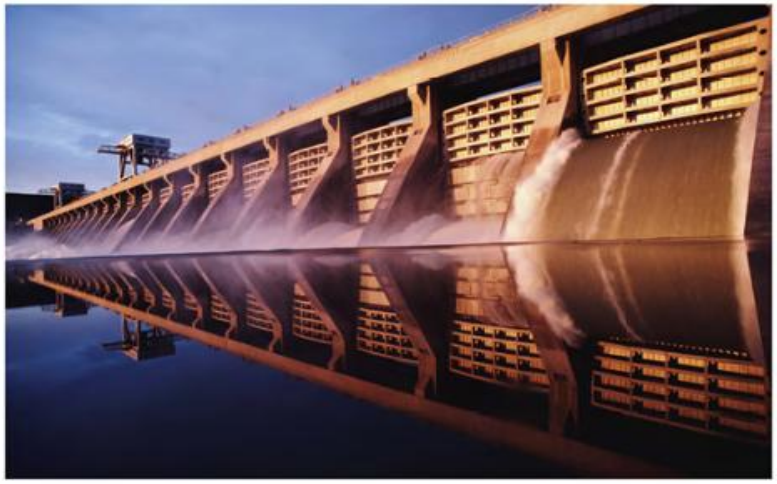
- Sewage Process Plant
- Waste Water Process Plant
- Waste Incineration Facility
- Sewage Sludge Incineration Facility
- Food Waste Process Facility
- Tunnel Facility

Applications

- Power Facility
- Process Monitoring Control System
- Video Monitoring System
- Integrated Control system
- Sewage Pipe Monitoring System
- Tunnel Ventilation and Lighting Control System

Products

- Control Panel, DCS, PLC, DLP, Instrument, TM/TC etc.,



INTELLIGENT BUILDING BUSINESS

Standard building automation communication protocol, BACnet-based DESIGO System integrated intelligent building system controls power/lighting, video/audio, IT, etc., through building monitoring and control. Through integrated security and reasonable energy control, it provides state-of-the-art information building system.

Customers

Office Building, Hotel, Residential-Commercial Building, Department Store, Resort, etc., Other Building Automation Building

Applications

Building Automation System

- Building Management
  - Equipments Control System
  - Power Monitoring System
  - Lighting Control System
  - Remote Measurement
  - Security System
  - Parking Control System
  - Building Energy Control System
- Integrated Facility Management System (FMS)
- Integrated Security
  - In/Out Control System
  - Patrol Control System
  - Intrusion Monitoring System
  - Premise Monitoring System
  - CCTV System
  - Car Recognition System
  - Iris, Fingerprint Recognition System
  - Emergency Broadcasting System
  - Remote Video Monitoring System
  - Parking Control
  - Cafeteria / Working Status Management System

Telecommunication

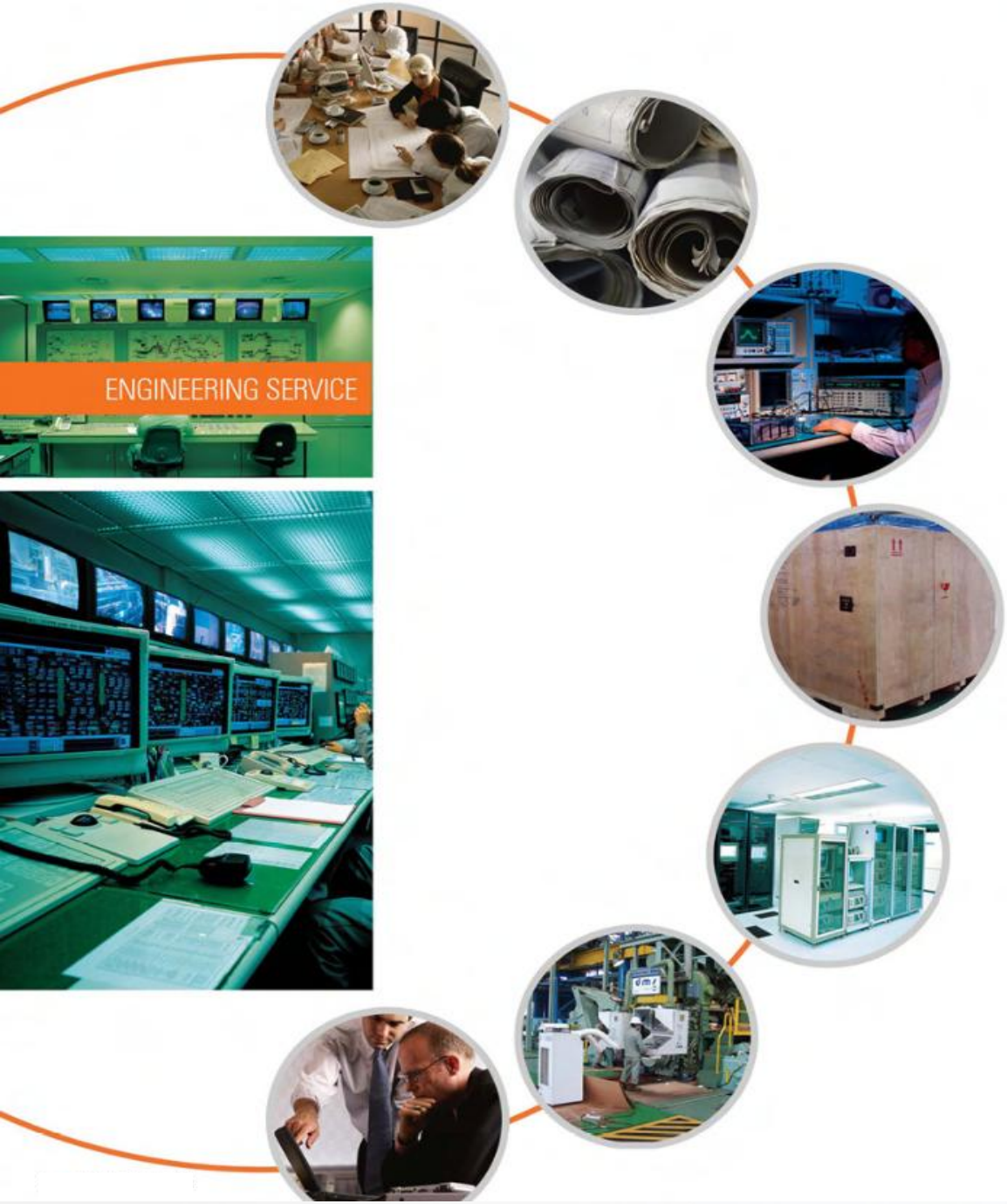
Electronic Exchange (DPBX)
ARS/VMS/FMS
CATV System
VOD System
AD Board System
Remote Video Conference System
Conference Support A/V System
Integrated Wiring, LAN System
Satellite Communication System

Office Automation

IIS
PC Fax
Electronic/Information Building
Unmanned Building Guide
Smartcard System
Optical File System

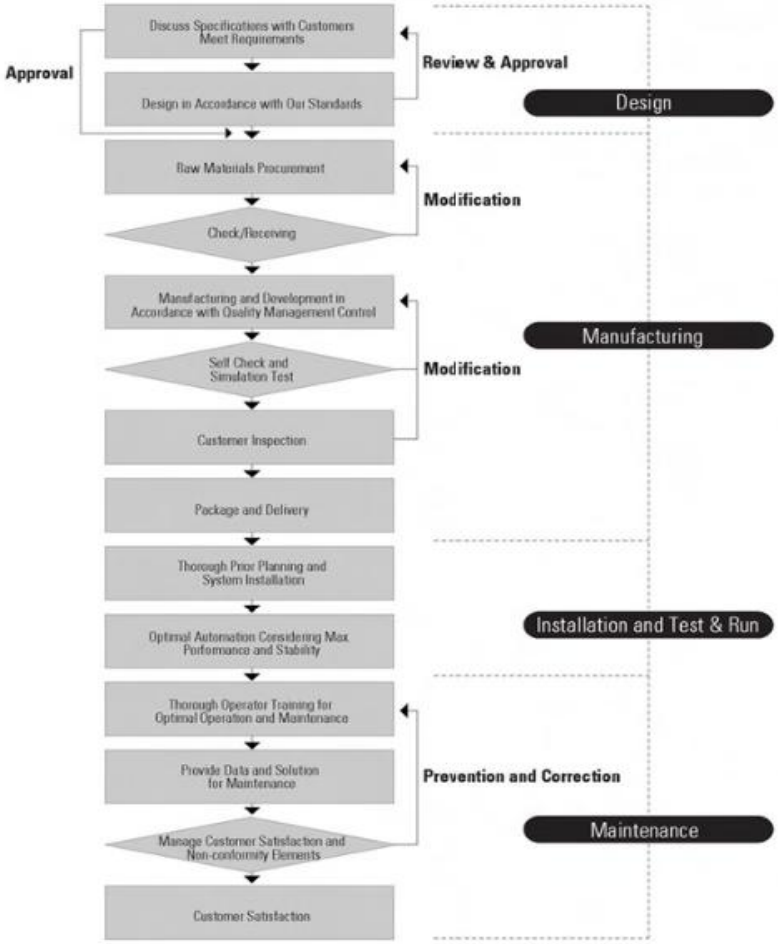
Products

- SIEMENS DESIGO-CC (BACnet System)



ENGINEERING SERVICE

KOAMTech provides Total Solution Engineering service such as design, manufacturing, test run, and maintenance based on a variety of accumulated experience and technology in Korea and overseas to create improved performance and to select the best products in the world.



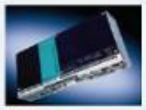
PRODUCT

Partner company products (Maker:SIEMENS)

Modular Controllers

Product Name	Description		Picture
SIMATIC S7-200	• Product Range	5 Compact CPUs	
	• Execution Time	0.22 µs	
	• Main Memory	Program 24 KB, data 10 KB	
	• Load Memory	Memory cassette 256 KB	
	• I/O Address	128/120 Digital, 30/15 Analog	
	• Communication	PtP, Profibus, Profinet, Freeport, PPI, via CP: Ind. Ethernet	
	• Selection Assistance	Low-cost Micro System Modular Micro Controllers for Control Tasks in the Low-End Performance Range	
SIMATIC S7-300	• Product Range	7 Standard CPUs, 6 Compact CPUs Pict 4 Fail-Safe CPUs, 2 Technology CPUs	
	• Execution Time	0.01 µs	
	• Main Memory	1400 KB	
	• Load Memory	Micro Memory Card 8 MB	
	• I/O address	8192/8192 bytes	
	• Selection Assistance	Modular PLC for System Solutions in the Manufacturing Industry Modular Controllers for System Solutions in Manufacturing Automation in the Low-To Mid-Performance Range	
SIMATIC S7-400	• Product Range	9 Standard CPUs 2 Fail-Safe CPUs 2 Fault-Tolerant CPUs	
	• Execution Time	0.018 µs	
	• Main Memory	30 MB	
	• Load Memory	Memory Card 64 MB	
	• I/O address	16384 / 16384 bytes	
	• Selection Assistance	Modular Controllers for System Solutions in Manufacturing and Process Automation in the Medium to Upper Performance Range	
SIMATIC C7	• Product Range	5 Versions (Various CPU/Panel Combinations)	
	• Execution Time	0.1 µs	
	• Main Memory	128 KB	
	• Load Memory	Micro Memory Card 8 MB	
	• I/O Address	2048/2048 bytes	
	• Selection Assistance	S7-300 Controller and Operator Panel as All-In-One Unit	
SIMATIC ET 200	• Product Range	1 Standard CPU 1 Fail-Safe CPU	
	• Execution Time	0.1 µs	
	• Main Memory	96 KB / 256 KB	
	• Load Memory	Micro Memory Card 8 MB	
	• I/O Address	244 / 244 bytes, 2048/2048 bytes	
	• Selection Assistance	Distributed, Modular I/O System with Local Intelligence	

Embedded Automation

Product Name	Description	Picture
SIMATIC **Microbox 420 - RTX** Turnkey, Rail-Mounted PC with Software PLC	• Fan-Free and Diskless Platform • Real-Time-Enabled and Deterministic Software PLC on Windows XP Embedded • Data Retentively	
SIMATIC **Microbox 420 - T** Turnkey, rail-mounted PC with Software PLC and Motion Control	• Fan-Free and Diskless Platform • Real-Time-Enabled and Deterministic Software PLC on Windows XP Embedded • PLCopen-Compliant Motion Control Functions • Data Retentively	
SIMATIC **Panel PC 477- HMI/RTX** Turnkey Panel PC with Software PLC and Visualization software	• Control and Visualization on a Single Fan-Free and Diskless Platform • Real-Time-Enabled and Deterministic Software PLC on Windows XP Embedded • Operator Input Using Touch Screen or Membrane Keyboard • Data Retentively	
SIMATIC **WinAC MP** Software PLC on a Multifunctional platform	• Control and Visualization on a Single Fan-Free and Diskless Platform • Software PLC with Real-Time and Deterministic Capability on Windows CE • Operator Input Using Touch Screen or Membrane Keyboard	

PC-based Controllers

Product Name	Description	Picture
SIMATIC **WinAC** Software or Slot PLC - Open, Flexible and Reliable	• Open, PC-Based Control Based on Windows • Software PLC for Greater Flexibility and Openness Even for Real-Time and Deterministic Requirements • Slot PLC for Increased Availability and Operational Safety	

Vector Drive

Product Name	Description		Picture
SIMOVERT Master Drive	• Type	:SIMOVERT Multi Drive or Single Drive Bitmap	
	• Rating Vo tage	: AC 380 ~ AC 690 V	
	• Phase / Hz	: AC 380 ~ AC 690 V	
	• Capacity (kW)	: 3-Phase, 50 / 60Hz	
	• Protection Degree	: 0.75 ~ 2300 kW	
	• Communication	: IP20 or IP54	
	• Key-Pad for User Interface	: Profi-Bus DP	

Vector Motor

Product Name	Description		Picture
Squirrel Cage Motor	• Type	: Inverter Duty Motor (1 : ∞)	
	• Rating Vo tage	: AC 380 ~ AC 690 V	
	• Phase / Hz	: 3-Phase, 50 / 60Hz	
	• Capacity (kW)	: 0.75 ~ 2300 kW	
	• Enclose	: IP55	
	• Temperature Rise	: Class F	
	• Insulation	: Class F, Suitable for Tropical Conditions	
	• Cooling	: Surface Cooled with Self-Circulation of External and Internal Circuit (Fan Cooled)	
	• Pulse Generator	: 1024 PLS Above	
	• DRUM or Disk Break (If Necessary)		

PRODUCT

Partner Company Products (Maker:SIEMENS)

Design and Engineering ▸ Installation and Commissioning ▸ Operation ▸ Maintenance ▸ Modernization and Upgrade

Human Machine Interface (HMI)

- Multi-User HMI Components
- Large Quantity Frameworks
- Client-Server Architecture
- Redundancy
- Online Modification
- Worldwide Access via Internet/Intranet

Asset Management

- Central, System-Wide visualization, Diagnostics and Maintenance of All Process Control Components
- Overview of the Entire Maintenance Workflow
- Complete Traceability and Documentation of Status Changes and Maintenance Orders

Controllers, I/O Modules, I/O

- Hot Swapping (Insertion and Removal of Modules During Operation)
- Extension/Modification during Operation
- I/O Modules for Hazardous Areas
- Redundancy (Controller, Modules and PROFIBUS)
- Integrated Fail-Safe Technology
- Integration of Intelligent Field Devices/Drives

Batch

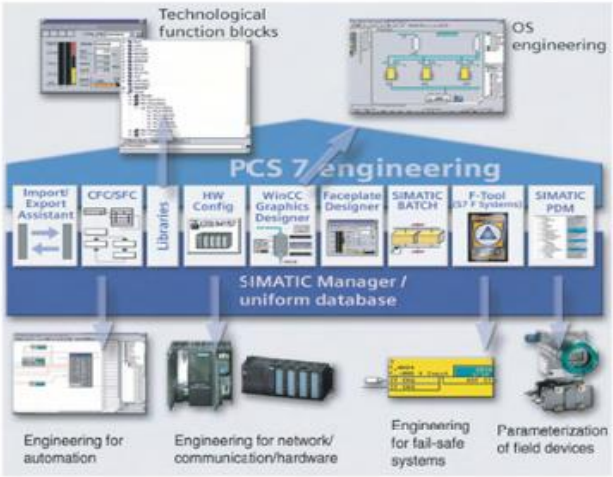
- Equipment-Neutral Recipes
- Hierarchic Recipes According to ISA S 88.01
- Scalable from Small to Very Large Plants
- Complete Traceability and Documentation of Status Changes and Maintenance Orders

Communication

- Fast Ethernet and PROFIBUS DP/PA
- Fiber Optic Switching Technology
- Redundancy (System Bus and Field Bus)
- Online Expandability

Engineering

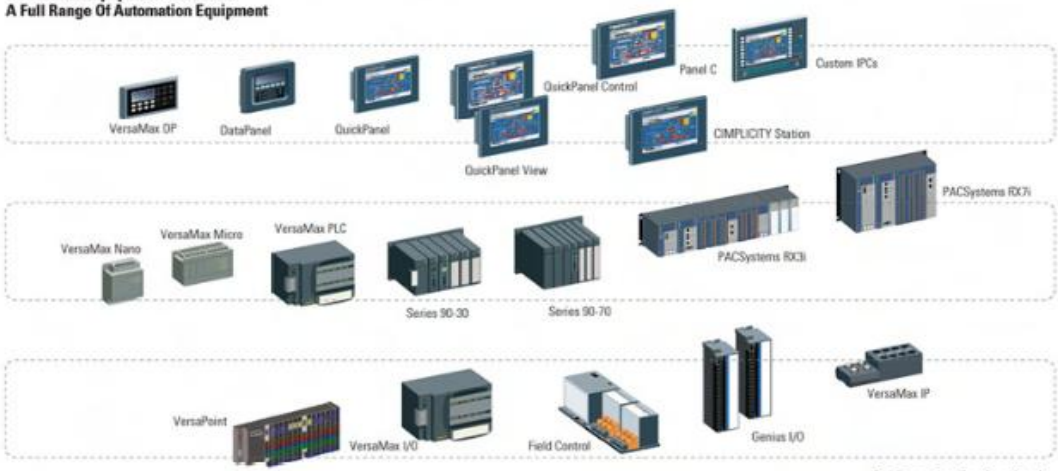
- Central, System-Wide High-Performance Engineering System
- Bulk Engineering with Import/Export Functions
- Comprehensive, Efficient Engineering with Graphic and PCS-Oriented Tools
- Central Parameterization of Intelligent Field Devices Using the Integrated SIMATIC PDM Engineering Tool
- Software Simulation and Testing
- Tracking Function
- Distributed Parallel Engineering



PRODUCT

Partner Company Products (Maker:GE)

Automation Equipment - Overview
A Full Range Of Automation Equipment



...For Every Application Need

Modular Controllers			
Product Name	Description		Picture
PACSystemsRX7i	• Main Processor • Memory • Discrete I/O • Analog I/O • Execution Speed • Communication • Protocol Supported • Selection Assistance	Pentium III 700 / Celeron 300MHz 10 / 24 / 32 Mbytes 65536 In / 65536 Out Configurable up to 32000words 0.14ms SNP, CCM, Ethernet, Genius, Profibus DP, Interbus and EGD, SNP/SNPX (Mater, slave), CCM(Master, Slave, Peer), RTU Modbus (Slave Only) High-Speed Processing Memory Intensive Coordinated Control Typically 1,000 or More Points of I/O Genius Modular Redundancy Open Architecture Based on the VME-Bus Standard Redundancy for Critical Applications	
Series 90-70 PLC	• Main Processor Intel • Memory • Discrete I/O • Analog I/O • Execution Speed • Communication • Protocol Supported • Selection Assistance	Microprocessors Central 186 Processor 12 / 16 / 96 MHz 12288 8 Kbytes 0.4 us/boolean Function SNP, Serial, Ethernet, Genius SNP/SNPX (Mater, Slave), CCM(Master, Slave, Peer), RTU Modbus (Slave Only) High-Speed Processing Memory Intensive Typically 1,000 or More Points of I/O Genius Modular Redundancy Open Architecture Based on the VME-Bus Standard Redundancy for Critical Applications	

PRODUCT

Partner Company Products (Maker:GE)

Modular Controllers

Product Name	Description		Picture
PACSystems RX3i	• Main Processor	Celeron(Pentium III) 300 MHz Intel microprocessor	
	• Memory	10 Mbytes	
	• Discrete	I/O 32000	
	• Execution Speed	0.29ms	
	• Communication	Serial, Genius, Ethernet, Profibus, and DeviceNet	
	• Specialty Modules	Mill volt Input, RTD Input, Strain Gage, Thermocouple Input	
		High Speed, ASCII Basic, Servo, Stepper Index Modules	
	• Selection Assistance	High Availability	
		High-Speed Data Transfer	
		Integration with Industry-Standard Technologies	
		Typically 200 to 5,000 Point of I/O	
		Motion Components A Wide Range of I/O Modules (Over 40 Types Available)	
Series 90-30 PLC	• Main Processor	Intel 386EX Processor AMD SC520 Processor 133MHz	
	• Memory	1MB	
		240Kbytes of Configurable Memory	
	• Discrete I/O	4096	
	• Execution Speed	0.15/0.22ms	
	• Communication	Serial-SNP, SNPZ, RTU, CCM, LAN-Genius	
		Ethernet SRTP and Ethernet Modbus TCP	
	• Selection Assistance	High Availability	
		High-Speed Data Transfer	
		Integration With Industry-Standard Technologies	
		Typically 200 to 5,000 Point of I/O	
		Motion Components	
Versa Nano	• Main Processor	Palm-sized, High Compact Controller	
	• Discrete I/O	14 Point and 28 Point Controllers (Expandable to 140 I/O)	
	• Execution Speed	2k	
	• Communication	RS 232/485, SNP Slave, Modus RTU Slave	
		Serial In/Out Commands	
	• Selection Assistance	Minimal Memory Requirements	
		Simple Communications	
		Typically Fewer Than 100 Points of I/O	
QuickPanel Control	• Expanded Communication Via Fieldbus (Genius, DeviceNet, Profibus-DP) And Ethernet Interfaces		
	• Wide Range of I/O Requirements		
	• Typically Between 100 and 512 Points of I/O		
	• Applications Such as Food Processing, Semiconductor WaferFab, Material Handling, and Plastic Injection Molding		
	• Selection Assistance	Minimal Memory Requirements	
		Simple Communications	
		Typically Fewer Than 100 Points of I/O	

Software Tool

Product Name	Description	Picture
Proficy HMI/SCADA	• Powerful Monitoring and Control Over Your Production • Ease of Use for New and Experienced Users • Robust Connectivity to Other Software, Systems and Devices • Powerful Thin Client Technologies • True Client / Server Architecture for Easy Scalability • Sophisticated Alarming & Trending • OPC Client, Server, and Alarm & Events • Native Drivers and OPC Device Connectivity	
Proficy HMI/SCADA	• Powerful Supervisory Monitoring and Control • True Client / Server Architecture for Easy Scalability • Enhanced Security and Accountability • Ease of Use for New and Experienced Users • Simplified Application Integration to Other Software, Systems and Devices • Powerful Thin Client Technologies • Sophisticated Alarming & Trending • OPC Client, Server, and Alarm & Events • Native Drivers and OPC Device Connectivity • Integration with Change Management	
Proficy Machine Edition	• Openness and Interoperability • Easy to Learn, Easy to Use • Scripting • Powerful Development Tools • Complete Runtime Tools • Superb Networking and Connectivity • Multi-Language Support	

Vector Drive

AV-300i **TM-10 Drive**	• Range Voltage	: AC 380 – 480V
	• Phase / Hz	: 3-Phase, 50/60Hz
	• Capacity (kW)	: 0.75 – 1175 kW
	• Protection Degree	: IP20 or IP54
	• Control System Toolbox	
	• Small Physical Package	
	• Multi LAN Options	: Genius®, Profibus™ - Interbus-S DeviceNet,RS485 and IS Bus
	• Intelligent Control Module	
	• 3 Modes of Operation : V/Hz, Sensorless Vector, Closed Loop Vector	
	• 29 I/O Points-Modular Control	
	• Local Keypad Has operation Functions that Include	

Vector Motor

Product Name	Description		Picture
Vector Motor	• Type	: Inverter Duty Motor (1 : ∞)	
	• Rating Voltage	: AC 380 – AC 690 V	
	• Phase / Hz	: 3-Phase, 50 / 60Hz	
	• Capacity (kW)	: 0.75 – 1137 Kw	
	• Enclose	: IP54	
	• Temperature Rise	: Class F	
	• Insulation	: Class F, Suitable for Tropical Conditions	
	• Cooling	: Surface Cooled with Self-Circulation of External and Internal Circuit (Fan Cooled)	
	• Pulse Generator	: 1024 PLS Above	
	• DRUM or Disk Break (If necessary)		

KEY CONTRACTS

Category	Year	Contract details	Order	Customer
Metal Plant	2002	PCCS No.2 Color Coating Line	POSCO E&C	PCCS (China)
		STS CRM No.2 Annealing & Pickling Line	POSCO E&C	ZPSS (China)
		STS CRM No.2 Coil Build-up Line	POSCO E&C	ZPSS (China)
		STS CRM No.2 Tension Leveler Line	POSCO E&C	ZPSS (China)
	2003	Steel No.2 CGL Speed-up	DongBu Steel	DongBu Steel
		Union Steel No.2 CCL Revamp	POSCON	UNION Steel
		STS CRM No.1 Annealing & Pickling Line	POSCON	QPSS (China)
		STS CRM No.1 Tension Leveler Line	POSCON	QPSS (China)
		STS CRM No.1 Slitter Line	POSCON	QPSS (China)
	2005	Hadeed CCL	POSCO E&C	Hadeed (Saudi)
		Hadeed RCL	POSCO E&C	Hadeed (Saudi)
			UNION Steel	UNION Steel
	2006	No.1 EGL Revamp	UNION Steel	UNION Steel
	2007	No.1 Cold Mill CPL Line Revamp	POSCO	POSCO
	2008	No.1 EGL Control System (Revamp)	UNION Steel	UNION Steel
		No.5 CCL Control System	UNION Steel	UNION Steel

Category	Year	Contract details	Order	Customer
Metal Plant	2009	Descaling Pilot Plant	POSCO E&C	POSCO
	2010	Gunsan No.2 CCL Control System	SEAH Steel Plant	SEAH Steel Plant
		TURKEY ASSAN CCL Control System	POSCO E&C	KIBAR Holding A.S (Turkey)
	2011	No.6&7 CCL Control System	UNION Steel	UNION Steel
		STS CRM Control System (APL, TLL, SPM)	POSCO E&C	POSCO VST
		SUNSCO CGL Control System	MH (JAPAN)	SUNSCO (Vietnam)
	2012	No.1 CCL Control system Revamp	SEAH Steel	SEAH Steel
		No.1 CPL Control system Revamp	SEAH Steel	SEAH Steel
	2014	Union Steel no.4 CCL Control System Revamp	UNION Steel	UNION Steel
	2015	POSCO MCL Control System Revamp	Tae-in System	POSCO
		CPL Control System Revamp	Dae Gyo	SEAH Steel
	2016	#9CCL Control System	DongKuk Steel	DongKuk Steel
		#2CCL Control System Revamp	SEAH Steel	SEAH Steel
	2017	#4CCL Line Control System (3B3C)	POSCO C&C	POSCO C&C
		#4CCL Print, Oven - Coater Control System	Woojin TMC	POSCO C&C

KEY CONTRACTS

Category	Year	Contract details	Order	Customer
Environment	2004	TANGJIN Thermal Power Plant Units 5&6 (500MW x 2 Units)	CARRIER Limited KOREA	KOREA East-West Power
	2005	TANGJIN Thermal Power Plant Units 7&8 (500MW x 2 Units)	HYUNDAI Climate Control	KOREA Western Power
	2006	BORYEONG Thermal Power Plant Units 7&8 (500MW x 2)	CARRIER Limited KOREA	KOREA Midland Power
	2007	HADONG Thermal Power Plant Units 7&8 (500MW x 2)	CARRIER Limited KOREA	KOREA Southern Power
		HADONG-GUN Sewage Advance Wastewater Treatment	ULSAN BYUNGYOUNG YONGSACHON	HADON-GUN
	2008	QATALUM Combined Cycle Power Plant	LS Mtron	QATAR Qatalum
	2009	YEONGWOL Combined cycle Power Plant Unit 1 (900MW x1)	CARRIER Limited KOREA	KOREA Southern Power
		POSCO Power Combined Cycle Power Plant Unit 5&6 (500MW x 2)	CARRIER Limited KOREA	POSCO Power
		BORYEONG Thermal Power Plant Units 1&2 (500MW x 2)	CARRIER Limited KOREA	KOREA Midland Power
		ANGAMOS Thermoelectric Power Plant Units 1,2	POSMEC	CHILE Electric ANGAMOS
		PAJU WEOLONG Sewage Water Treatment Control System	UHO E&C	Environment Management

Category	Year	Contract details	Order	Customer
Environment	2010	POSCO Power GWANGYANG By Product Gas CCPP Units No.1&2	DAEWOO Engineering	POSCO Power
		KWANGYANG Thick Plant Hear Treatment-RQ Water Treatment	DAEWOO Engineering	POSCO
		CAI MEP International Terminal	POSCO E&C	VIETNAM CMIT
		PASIR COAL Project "6/7th Stage" Mine And Terminal Facilities	MAI DAS	P.T. KIDECO JAYA AGUNG
		SEOJIN Cold Storage Control System	BAIK WOONG	SEOJIN Inc'
	2011	MARAFIQ STG Units 5&6	BDH	SAUDI MARAFIQ
		ANGAMOS Thermoelectric Power Plant Units 1,2	BDH	CHILE Electric ANGAMOS / POSCO E&C
	2012	Ma'aden Aluminum	SAMSUNG Engineering	SAUDI Ras Al Khair Aluminum smelter
		28 CCC Norte II	SAMSUNG Engineering	MEXICO KST
		SEJONG Combined Heat & Power Plant (530MW x 1 Unit)	CENTURY	KOREA Midland Power
		SEOKMOON National Industrial Complex Sec.9 Construction	ICS	KOREA Land
		YEONGJONG Sewage Treatment Plant	ICS	INCHEON Urban Development
		CAMPICHE 240MW Coal Fired Power	POSCO Plantec	EMPRESA Electric CAMPICHE S.A

KEY CONTRACTS

Category	Year	Contract details	Order	Customer
Environment	2012	CAMPICHE 240MW Coal Fired Power-VACCUM Pump System	GARDNER DENVER KOREA	EMPRESA Electric CAMPICHE S.A
		CAMPICHE 240MW Coal Fired Power	BDH	EMPRESA Electric CAMPICHE S.A
	2013	YONGHUNG Thermal Power Plant Units 5&6 (870MW x 2)	SAMSUNG Heavy Industries	KOREA South-East Power
		TERMOTASAJERO 2 161.6MW CFPP	BDH	TERMOTASAJERO S.A ESP
		SHINBORYEONG Thermal Power Plant Units 1&2 (1000MW x 2)	BDH	KOREA Midland Power
		ANSAN CCPP	CENTURY	S-Power
		SHIN-HANUL Nuclear Power Plant Units 1&2	CENTURY	KOREA Hydro & Nuclear Power
		TAEAN Thermal Power Plant Units 9&10 (1000MW x 2)	BDH	KOREA Western Power
	2014	SHINBORYEONG Thermal Power Plant Units 1&2 (1000MW x 2)	CARRIER Limited KOREA	KOREA Midland Power
		SHUQAIQ Steam Power Plant	SANGJEE E&C	SAUDI Electricity
		DANGJIN Thermal Power Plant Units 9&10 (1000MW x 2)	CARRIER Limited KOREA	KOREA East-West Power

Category	Year	Contract details	Order	Customer
Environment	2014	YEO SU Thermal Power Plant Units 1 (350MW x 1 Unit)	CENTURY	KOREA South-East Power
	2015	PYEONGTAEK Combined Cycle Power Plant The 2nd Phase Units 1&2 (900MW x 1)	CENTURY	KOREA Western Power
		RABIGH2. Power Plant Control System	YURIM C&T	SEC (SAUDI)
		KNPC. MAB2 OIL & GAS Plant Control System	SANGJEE E&C	KNPC (KUWEIT)
	2016	SBPL Power Plant Electric & Control System	BDI	SBPL (Philippines)
	2017	KNPC ZOR	CENTURY	KNPC (KUWEIT)