

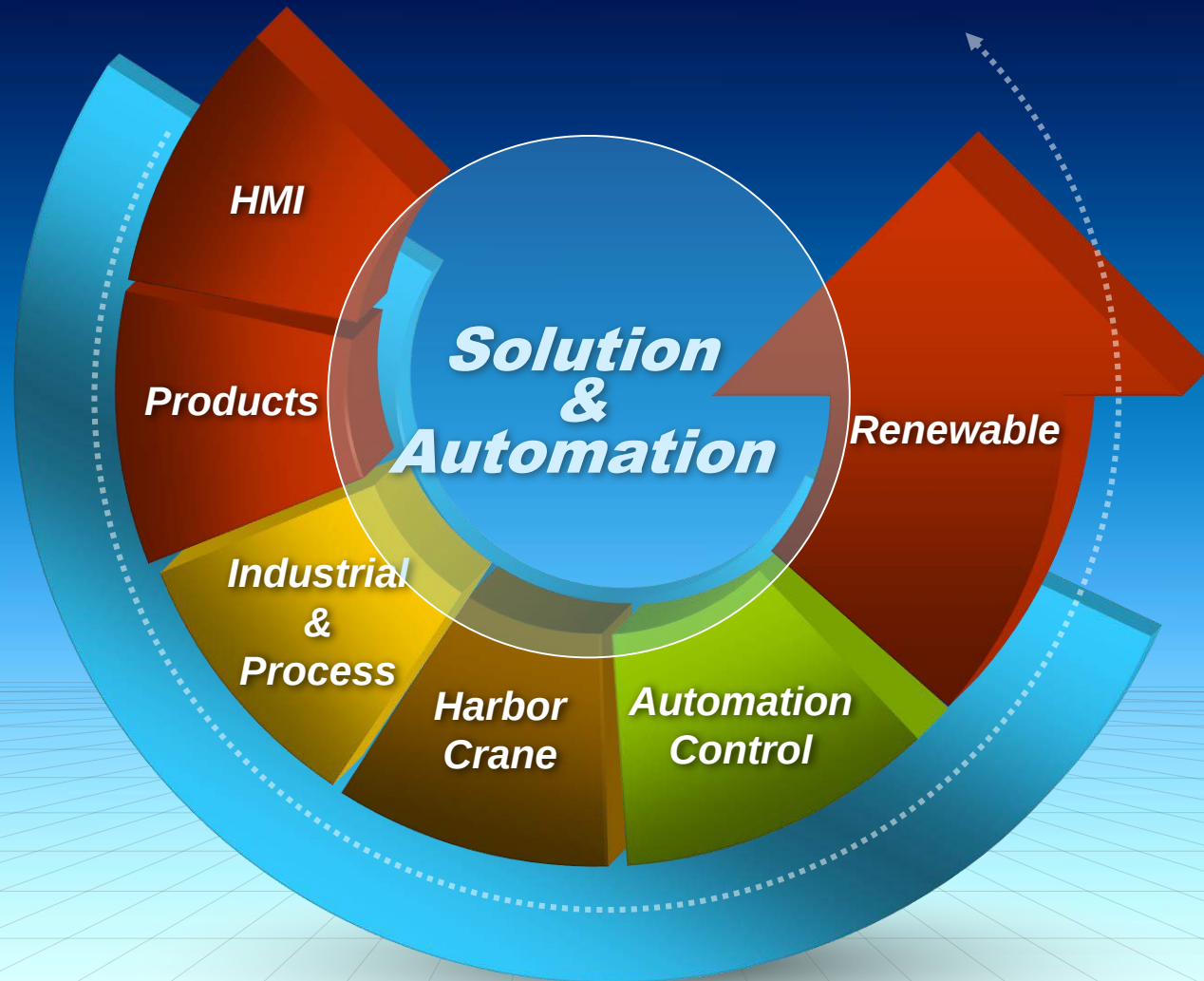
□ Intro



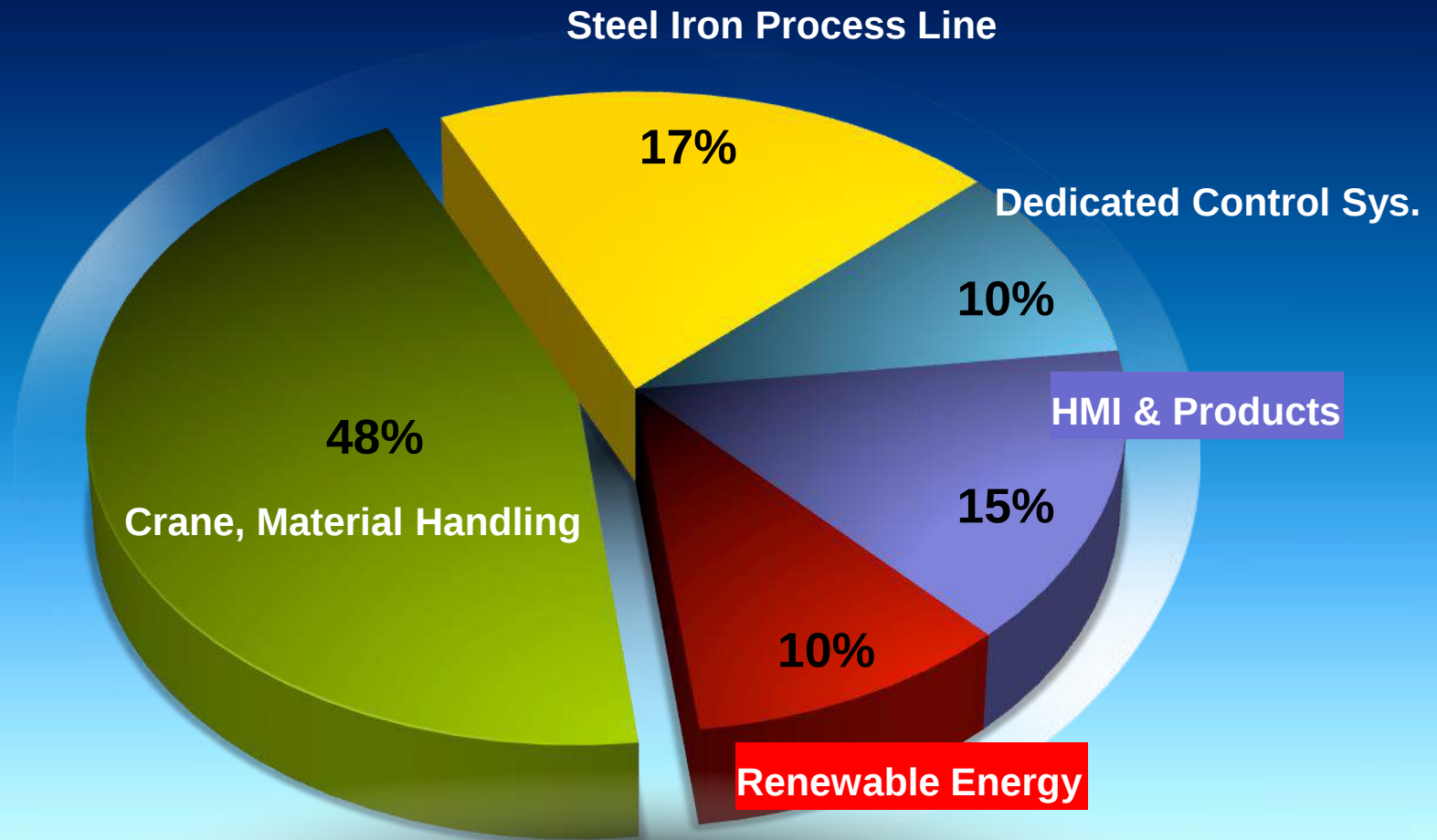
SESA

SEAH S.A
(주)세아에스에이

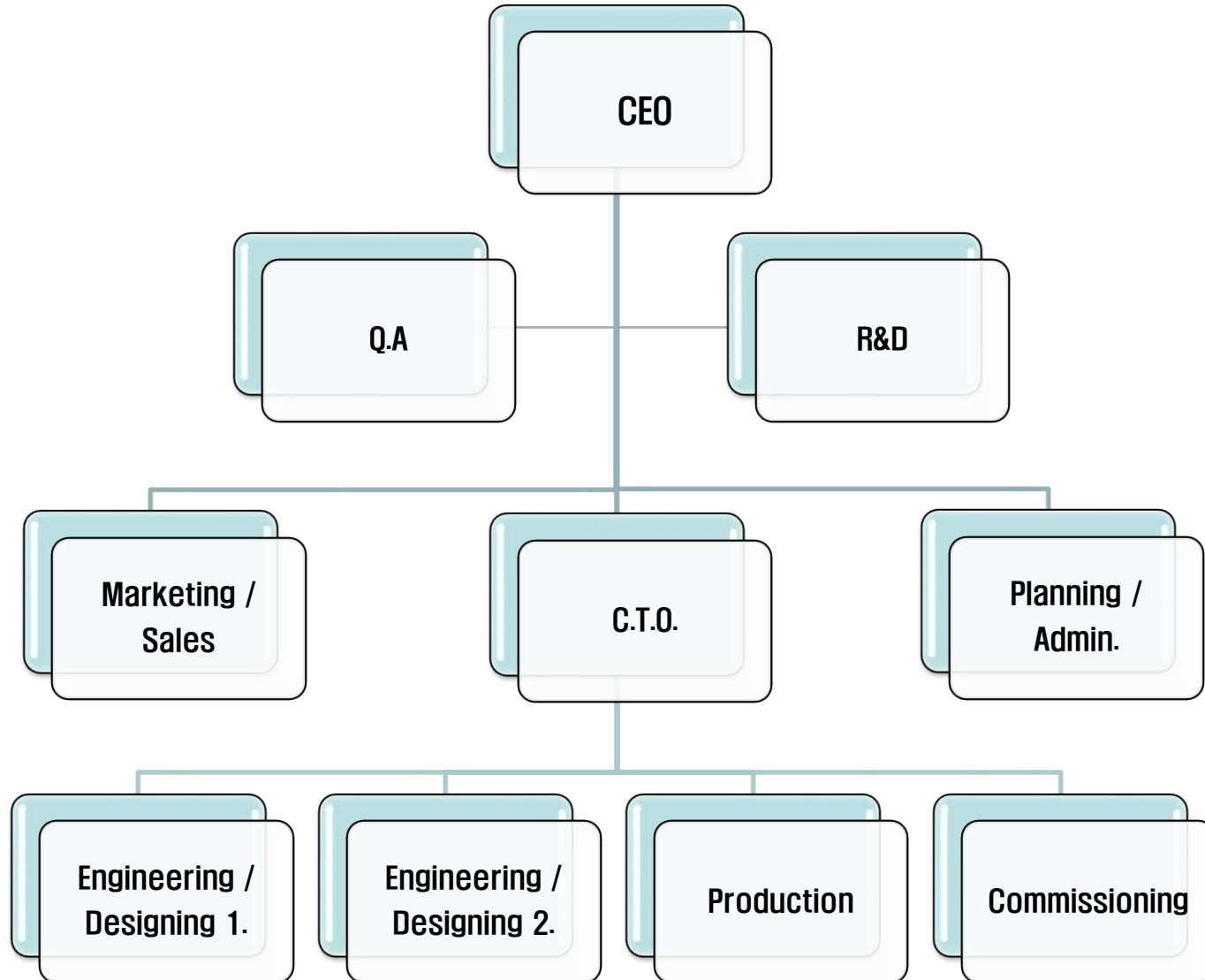
□ ***SESA Business Activities***



□ *Sales Ratio*

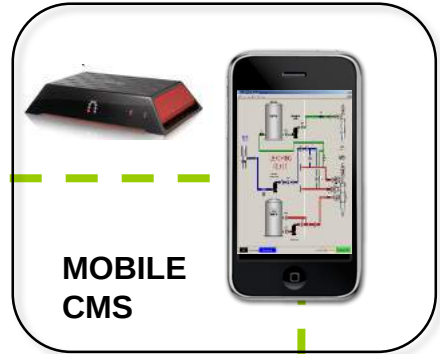
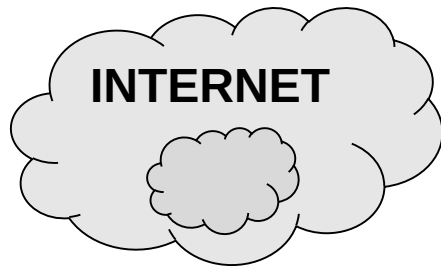


□ *Organization Chart*



□ ***Total System Integration***

**MANAGEMENT
LEVEL**



**MOBILE
CMS**

**CONTROL
LEVEL**



HMI



**FIELD
LEVEL**



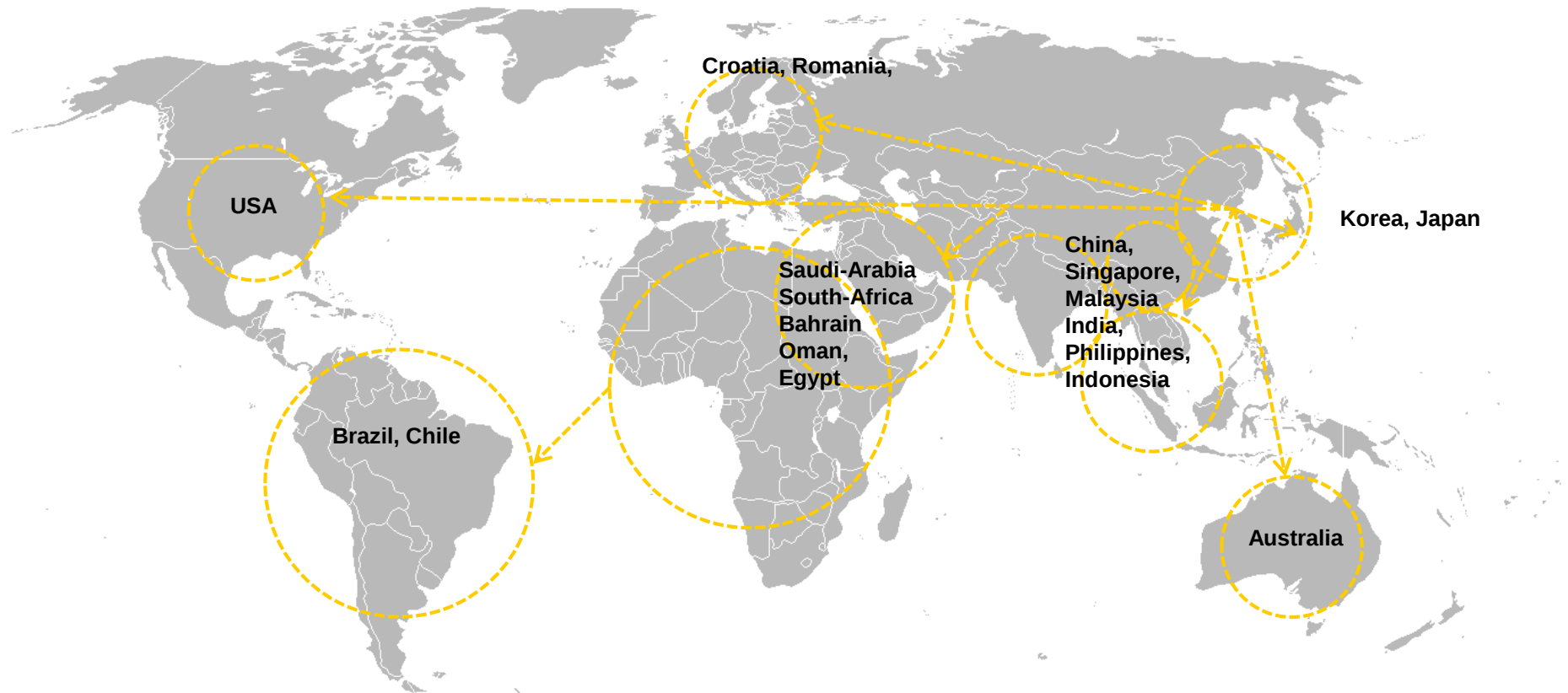
Actuators



Process Instrumentation



□ **GLOBAL REACH**



OVER +30 Cases of Exports Around the Globe

□ **GLOBAL REACH**

PSA Singapore



- **The world's largest container transshipment hub**
-handling about ***one-fifth of the world's total container transshipment.***

Track Records

- ❖ 2016 PSA Singapore - QS_CMS
- ❖ 2016 Hyundai Rotem - Automatic Transfer Crane
- ❖ 2016 SMH - GUNSAN CJ CSU
- ❖ 2016 SMH - GUNSAN CJ BC
- ❖ 2016 HYUNDAI WIA - HANJIN SUBIC JIB CRANE
- ❖ 2016 HYOSUNG - POSCO (POHANG, GWANGYANG) CONTROL SYSTEM
- ❖ 2016 KOREAHOIST - Turbine Building OHC Control System
- ❖ 2016 SEAH S.A (SINGAPORE) – UPGRADING OF DRIVE AND AUTOMATION SYSTEM

Track Records

- ❖ 2016 PSA Singapore - QS_CMS
- ❖ 2016 Hyundai Rotem - Automatic Transfer Crane
- ❖ 2016 SMH - GUNSAN CJ CSU
- ❖ 2016 SMH - GUNSAN CJ BC
- ❖ 2016 HYUNDAI WIA - HANJIN SUBIC JIB CRANE
- ❖ 2016 HYOSUNG - POSCO (POHANG, GWANGYANG) CONTROL SYSTEM
- ❖ 2016 KOREAHOIST - Turbine Building OHC Control System

Track Records

- ❖ 2016 PSA Singapore - QS_CMS
- ❖ 2016 Hyundai Rotem - Automatic Transfer Crane
- ❖ 2016 SMH - GUNSAN CJ CSU
- ❖ 2016 SMH - GUNSAN CJ BC
- ❖ 2016 HYUNDAI WIA - HANJIN SUBIC JIB CRANE
- ❖ 2016 HYOSUNG - POSCO (POHANG, GWANGYANG) CONTROL SYSTEM
- ❖ 2016 KOREAHOIST - Turbine Building OHC Control System

❑ *Track Records*

- ❖ 2011 Hyundai Steel Ladle / Scrap Charging Crane Dan-jin
- ❖ 2011 [PSA Singapore – \(1\) Quay Crane Keppel Terminal](#)
- ❖ 2010 [PSA Singaore – \(1\) OHBC Crane Automation Pasir Panjang Termnal](#)
- ❖ 2010 Fuel Handling Equipment Shin-kori Nuclear Power Plant Unit 3 and 4
- ❖ 2009 Wind power control system (Hyosung, Doosan H.I)
- ❖ 2009 [PSA Singapore - Automation System Of Yard \(RMG\) Crane at Pasir Panjang Terminal](#)
- ❖ 2008 [PSA Singapore – 5 RMQC and 4 RTGC at Kepple & Pasir Panjang Terminal](#)
- ❖ 2008 Raw material Handling Automation System for Hyundai Steel .
- ❖ 2008 Goliath cranes for Hanjin H.i, /[Philippine Subic Bay](#)/ Sungdong / STX Shipbuilding
- ❖ 2007 [Packaging Machine in China.](#)
- ❖ 2006 [Tube Mill Lne for Oman, China](#)
- ❖ 2003 Full Automated Crane for Hot Slab Handling for POSCO.
- ❖ 2003 RMQC for container handling.(Kwangyang, Incheon, PSA Singapore)
- ❖ 2003 [RMQC, Continuous Ship Unloader, Ship Loader. RMQC, CSUS, SL / CROATIA RIJEKA](#)
- ❖ 2003 System Design and Manufacturing by PL (Product Reliability) .
- ❖ 2002 RMQC for container handling. RMQC KWANGYANG, / RMQC Busan Port
- ❖ 2002 Continuous Ship Unloader for coal handling.

□ ***Application Experiences 1.***

Harbor Crane Application



□ *Application Experiences 1.*



Container Crane

- **Rijeka Port, Croatia**
- **PSA, Singapore**
- **PSA, Incheon**
- **Kwangyang Port**
- **Pusan Port**

□ *Application Experiences 1.*



Goliath Crane

- **Hanjin Heavy Industry
Subic Bay, Philippines**
- **Atlantico Sul Ship Yard
Brazil**
- **Sungdong Ship Yard**

□ ***Application Experiences 1.***



BTC Crane

- **Dong-kuk Steel**
Dang-jin, Po-hang
- **Hyundai Steel**
Dang-Jin
- **POSCO**
Po-hang

□ ***Application Experiences 1.***



RTG Crane

- **Sunk-wang
Incheon Port**
- **E1
Incheon Port**
- **PSA Singapore
Keppel Terminal**

□ ***Application Experiences 1.***



JIB Crane

- **Hanjin Heavy Industry
Subic Bay, Philippines**
- **Hyundai Samho
Mok-po Shipping Yard**

□ *Application Experiences 1.*



RMG Crane

- **PSA Singapore**
Pasir Panjang Terminal

□ ***Application Experiences 2.***

Industrial Application

Automatic

MMS

Combined
Motion

Wireless
Control

□ ***Application Experiences 2.***



Material Handling Equipment **(Unloader)**

- **Ha-dong Power Plant**
- **Dang Jin Power Plant**
- **Croatia**
- **POSCO**
- **Hyundai Steel**

□ ***Application Experiences 2.***



Material Handling Equipment **(Stacker/Reclaimer Conveyor)**

- **Ha-dong Power Plant**
- **Dang Jin Power Plant**
- **Croatia**
- **POSCO**
- **Hyundai Steel**

□ *Application Experiences 2.*



Auto Pick-up Crane

- **POSCO**
Po-hang & Kwang-yang
- **Hyundai Steel**
Dang-jin
- **Nikko Steel**
Japan

□ ***Application Experiences 2.***

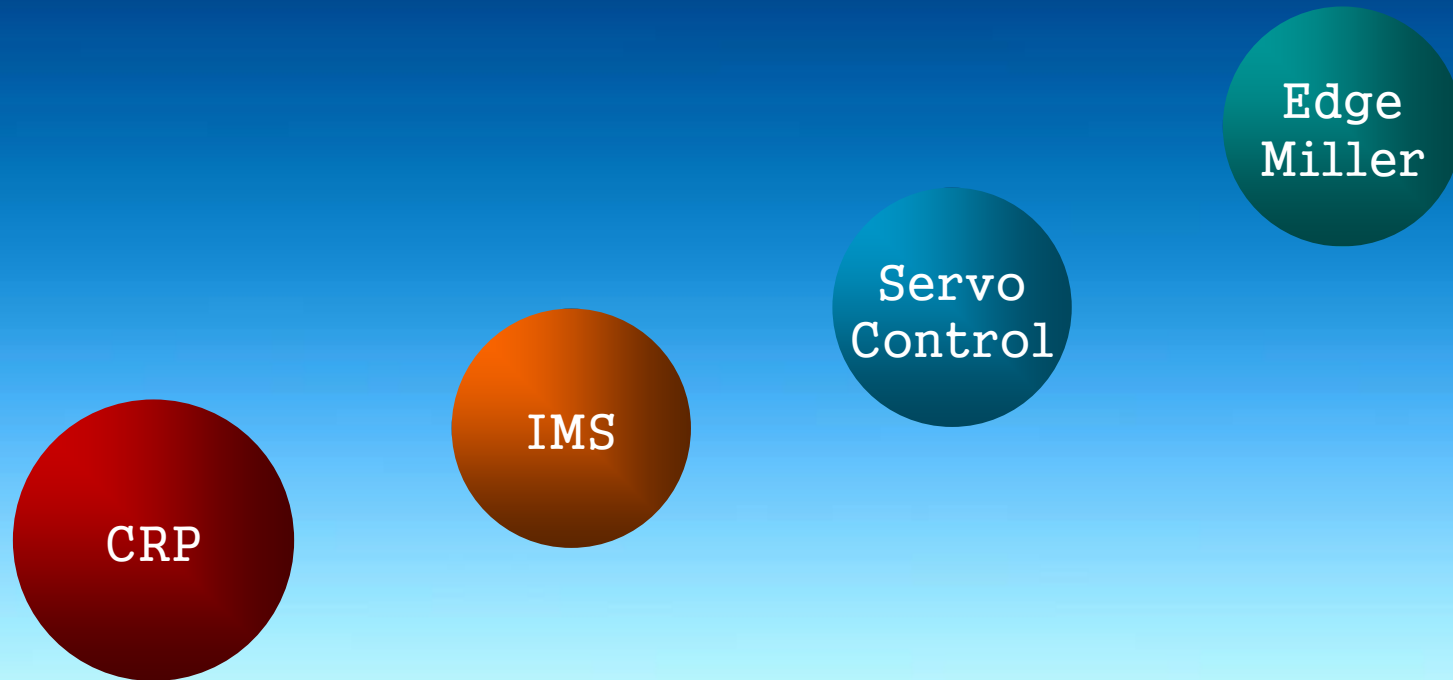


Ladle Crane **(Ladle/Scrap Charging)**

- **Beshay Steel**
Egypt
- **POSCO**
Kwang-yang
- **Hyundai Steel**
Dan-jin

□ ***Application Experiences 3.***

Process Line Application



□ ***Application Experiences 3.***

Steel Process Line

- **Orricon / Welspun / BLS**
China, Malaysia, AUS, India, USA



□ ***Application Experiences 3.***

Packaging Machine

- **SIG / Dongho / Seoil**
Republic of China



□ ***Application Experiences 4.***

Automation Control Application

Full
Automation

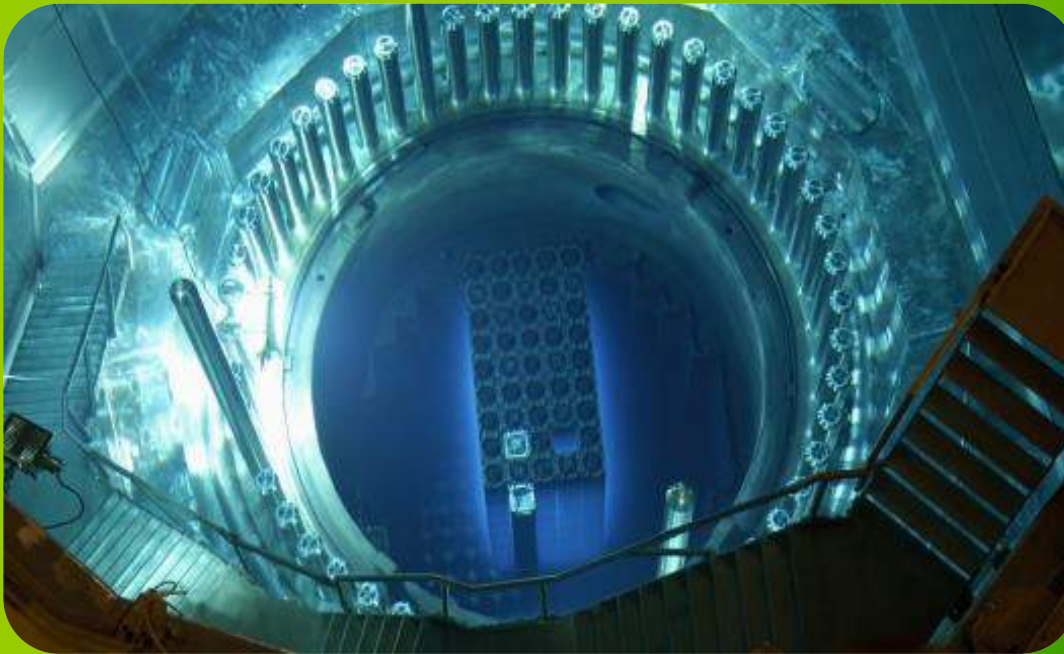
R&D

Database

Safety
Control

□ *Application Experiences 4.*

Fuel Handling System (핵연료이송장치)



Korea Nuclear Power Plant

**-Ul-chin Nuclear Power Plant
No.1 & 2**

**-Shin-kori Nuclear Power Plant
No. 5 & 6**

**-Young-gwang Nuclear Power
Plant No. 5 &6**

□ ***Application Experiences 4.***

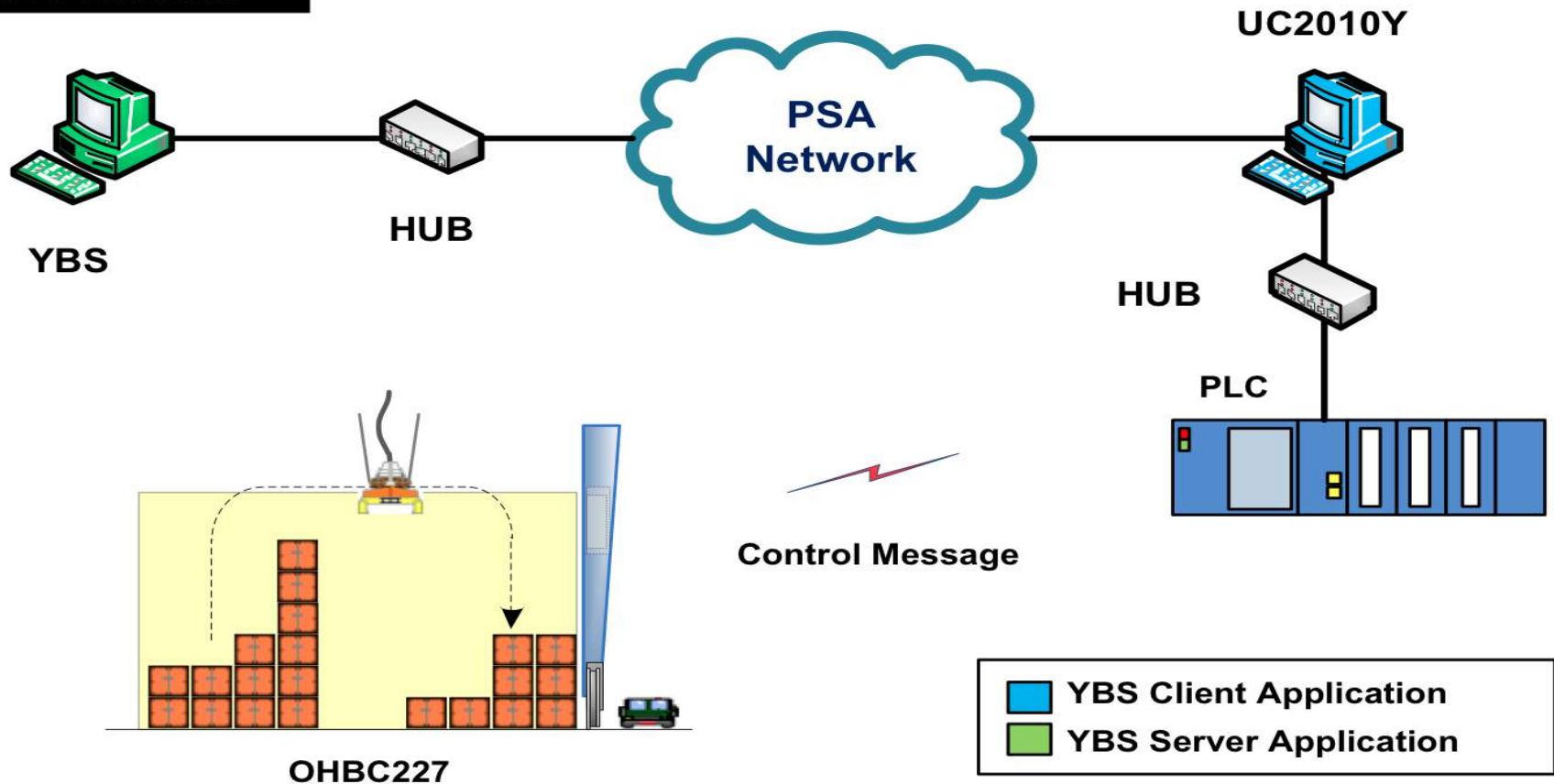
Automated Container Handling



- **PPT PSA OHBC & RMGC Automation**
 - Anti-sway
 - SPSS & SPCS
 - APIS
 - YBS & RCOC

□ Application Experiences 4.

YBS Network

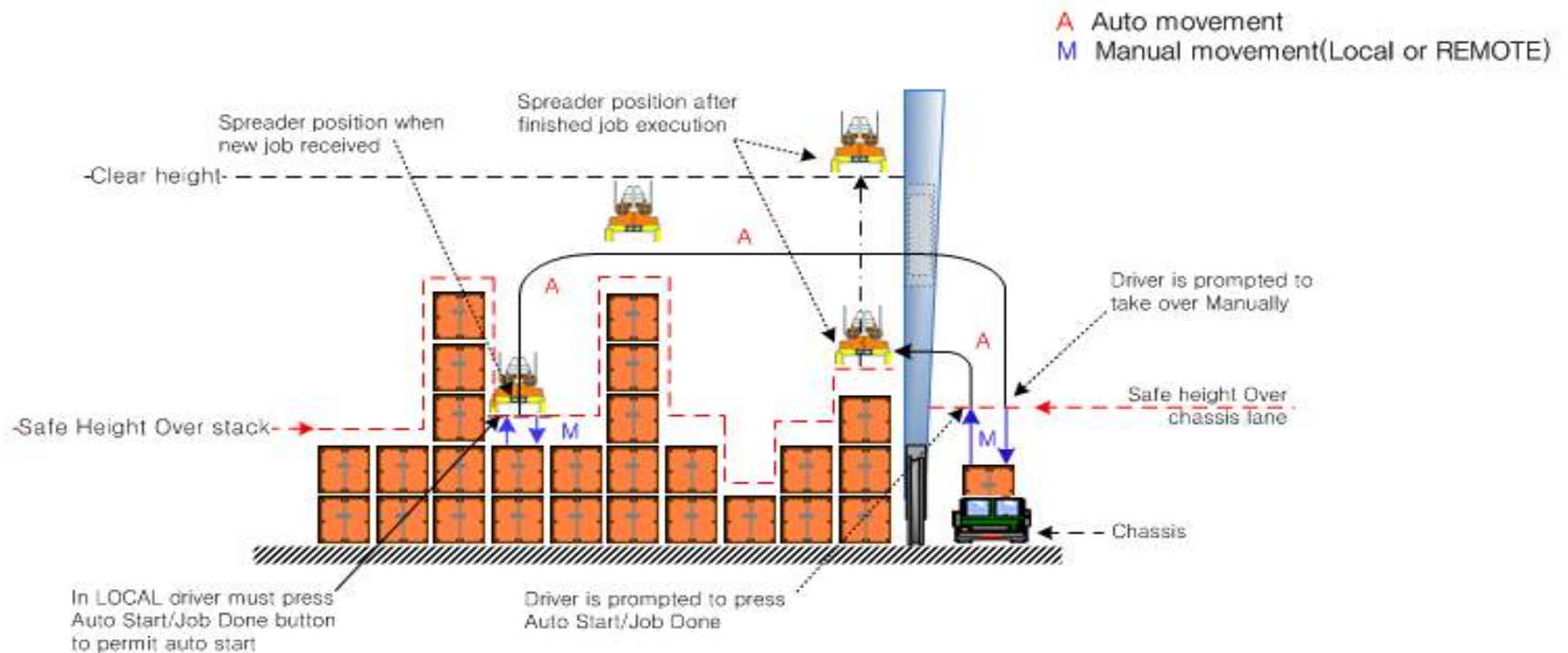


OHBC331

YBS Server Application
YBS Client Application

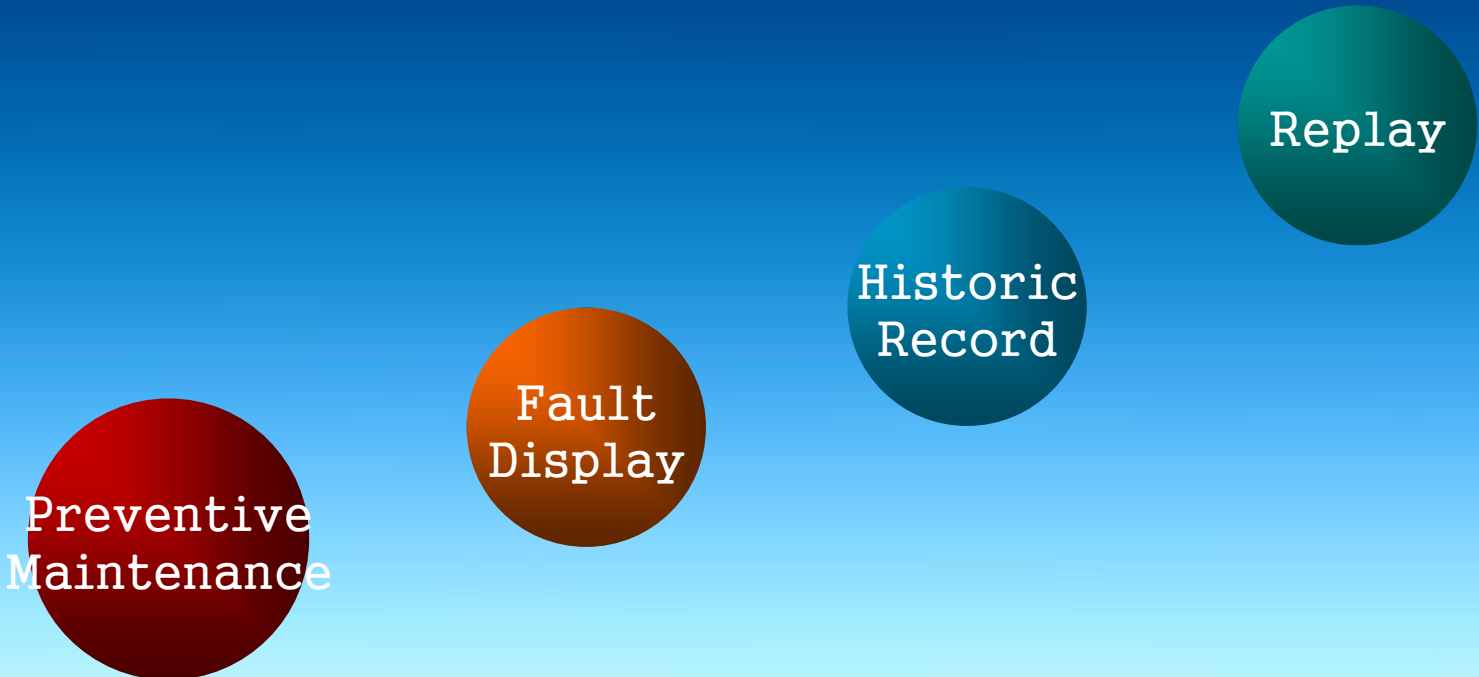
❑ ***Application Experiences 4.***

6.3.2 Full job order : Loading in same slot, basic auto



□ ***Application Experiences 5.***

Human Machine Interface



Preventive
Maintenance

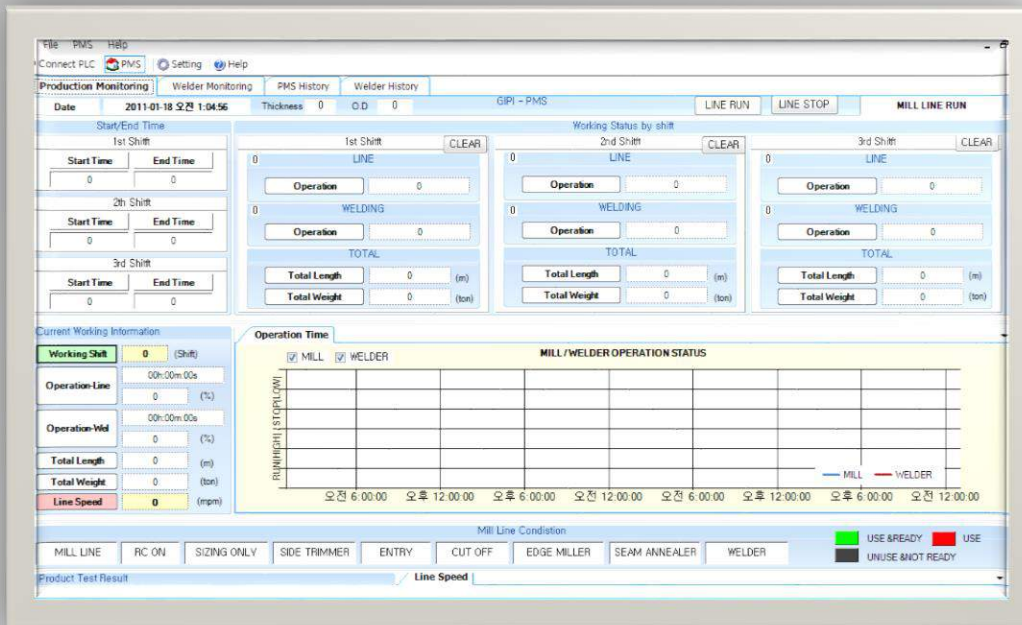
Fault
Display

Historic
Record

Replay

□ Application Experiences 5.

Human Machine Interface



- **RCMS, LCMS**
- **PMS**
- **MTS**
- **CMS**
- **CMS 3D**

□PMS (Product Monitoring System)

File View Communication Data Help

Connect Disconnect Quick View Full Screen PMS History Setting Help

Product Information

Date Equipment Specification

Working Group

Production monitoring by working group

Work Group		1st Shift		2nd Shift		3rd Shift	
Operation Time	Non-Operation	O.T	N.O.T	O.T	N.O.T	O.T	N.O.T
Good Length	Bad Length	G.L	B.L	G.L	B.L	G.L	B.L
Good Weight	Bad Weight	G.W	B.W	G.W	B.W	G.W	B.W

Real Time Chart Display

Current Speed

Average Speed

Motor monitoring

Entry Finishing

AC Vector	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1
rpm														
current(A)														

AC Vector	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1	Motor1
rpm														
current(A)														

Mill Line Condition

Mill Line Run Entry Ready Edge Miller Ready Mill Part Ready Seam A. Ready Welder Ready other ready other ready

Finishing Line Test Result

Product	Hydro-Tester (EA)	Off-Line UST(EA)	Length (M)	Weight (T)
Total				
Good				
Bad				

□ MTS (Material Tracking System)

File View Communication MTS Network Data Help

Connect Disconnect Quick View Full Screen PIPE History Report Settings Help

MATERIAL TRACKING SYSTEM

Entry Section: Welding Hydraulic Tester

Working Data

WORKING DATA						
No	Coil Number	Heat Number	Width (mm)	Thickness (mm)	Weight (mm)	Grade

Waiting Data From Entry Section

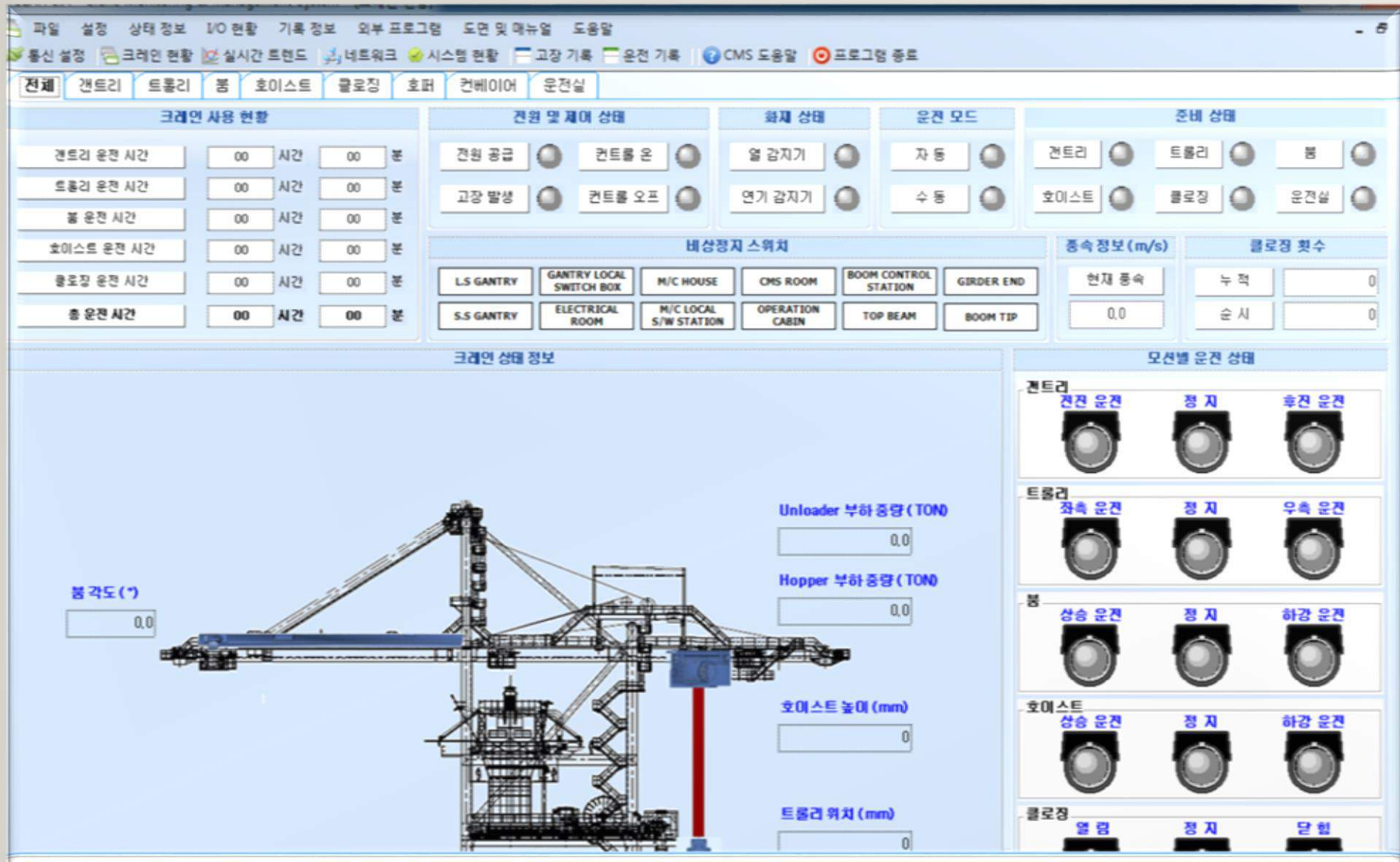
WAITING DATA FROM ENTRY SECTION						
No	Coil Number	Heat Number	Width (mm)	Thickness (mm)	Weight (mm)	Grade

Finished working data

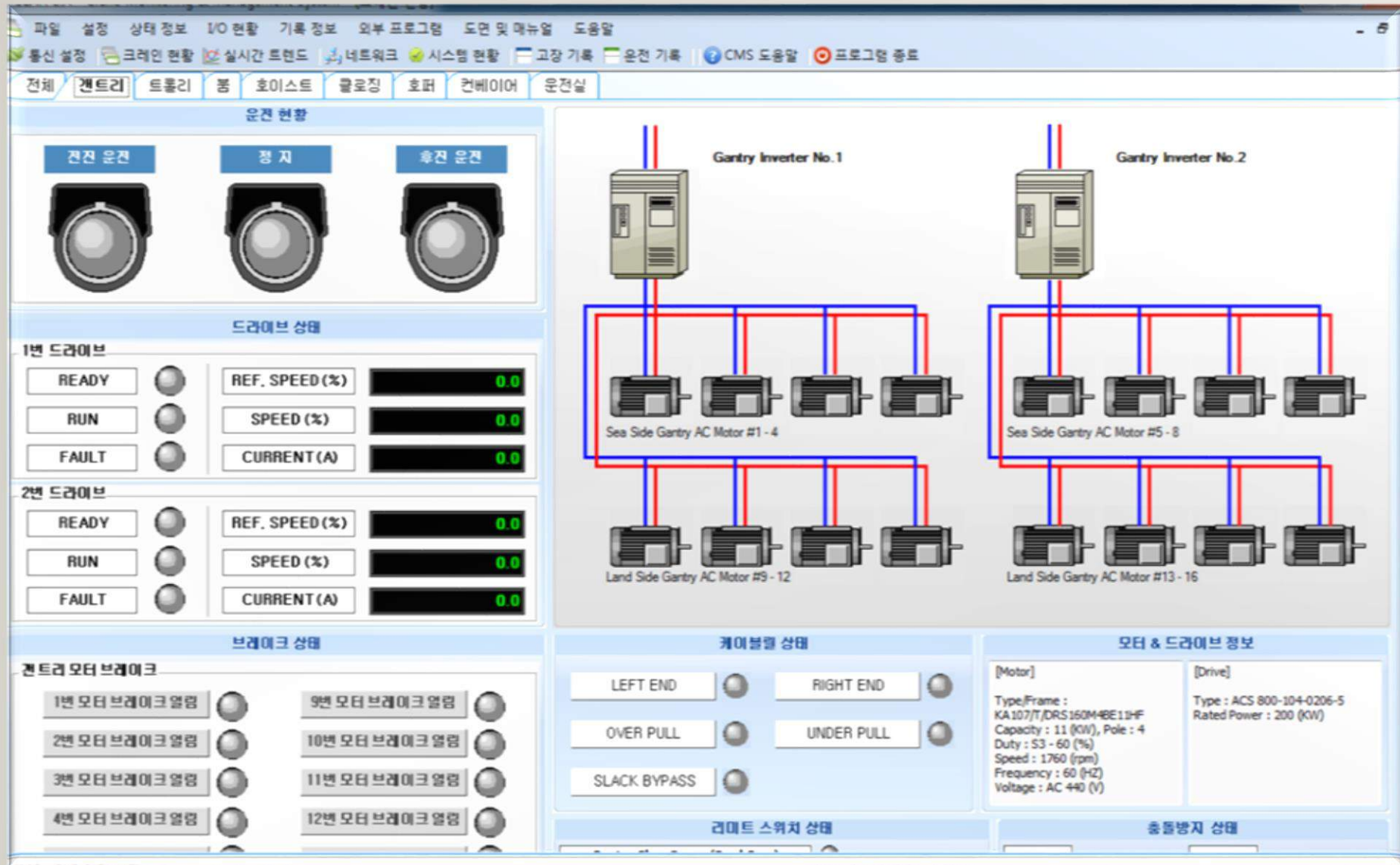
FINISHED WORKING DATA						
No	Coil Number	Heat Number	Width (mm)	Thickness (mm)	Weight (mm)	Grade

Registration(R) Finished Working Data List Clear Close(C)

□CMS (Unloader Monitoring System)



□CMS (Unloader Monitoring System)



□CMS (Refueling Machine)

Refueling Machine(RM) 주화면

2011-10-14
10:08:11 오전

?

도움말

Mast Bumper 충돌

우회운행

안전영역 위반

Bridge Trolley 운전금지

연동장치 우회운전

고장정보

Hoist 운전화면

관리자메뉴

초기화면

현재위치		도착위치		B-08 현재속도		Hoist	
Bridge :	0.00 cm	Bridge :	0.00 cm	Bridge :	0.00 MPM	높이 :	0.00 cm
Trolley :	0.00 cm	Trolley :	0.00 cm	Trolley :	0.00 MPM	하중 :	0 kg
						Mast :	0.00 °

FTS LOCAL

RM 수동 연료선택 2

이격운전 미사용

Bridge 저속영역
Trolley 저속영역

제 6 차 O/H
장전 운전

TCSR

MTCSR

T : 0.00

B : 0.00

수동
반자동

자동

이격운전

노심

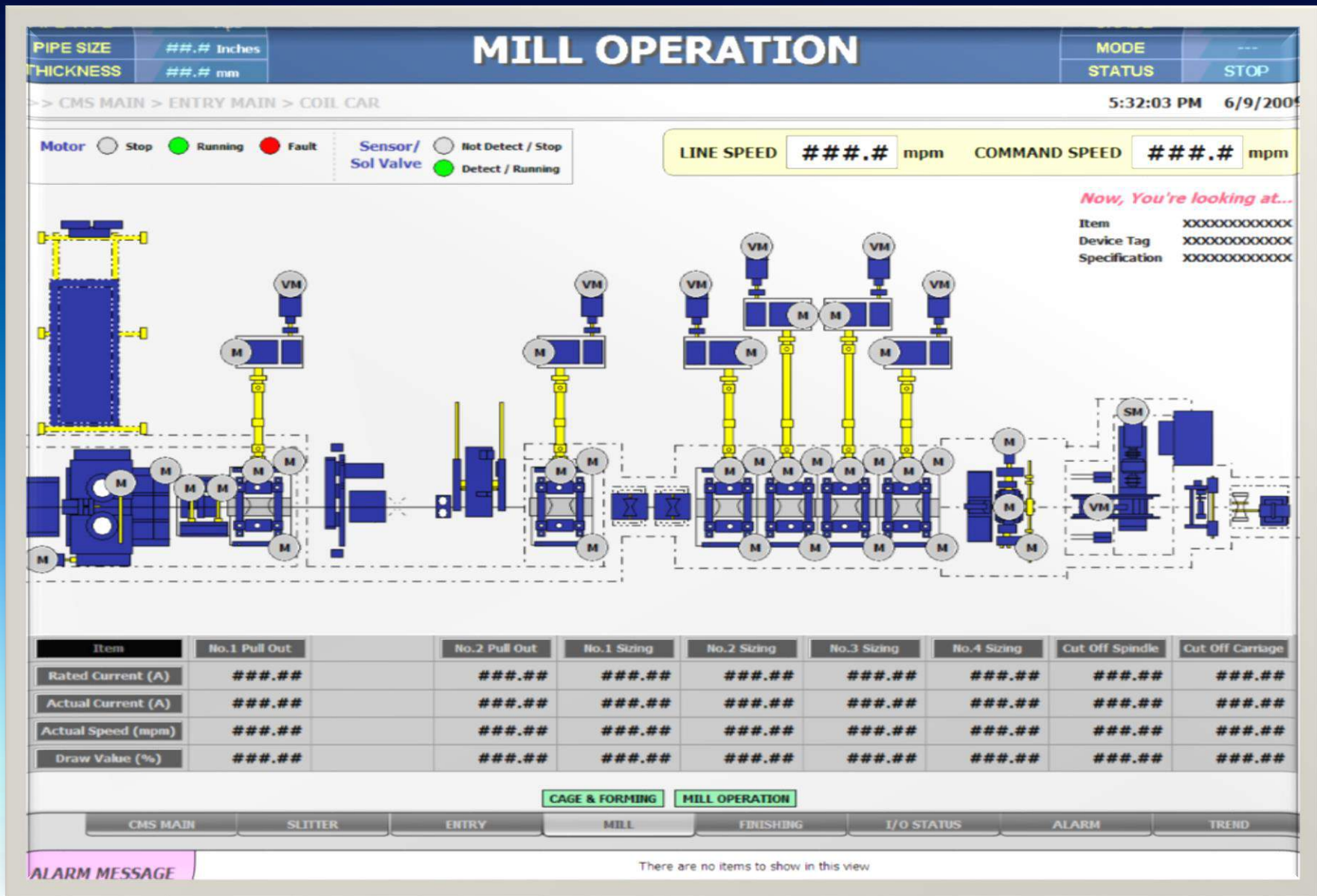
직립기 영역확대

FTS 운행정보

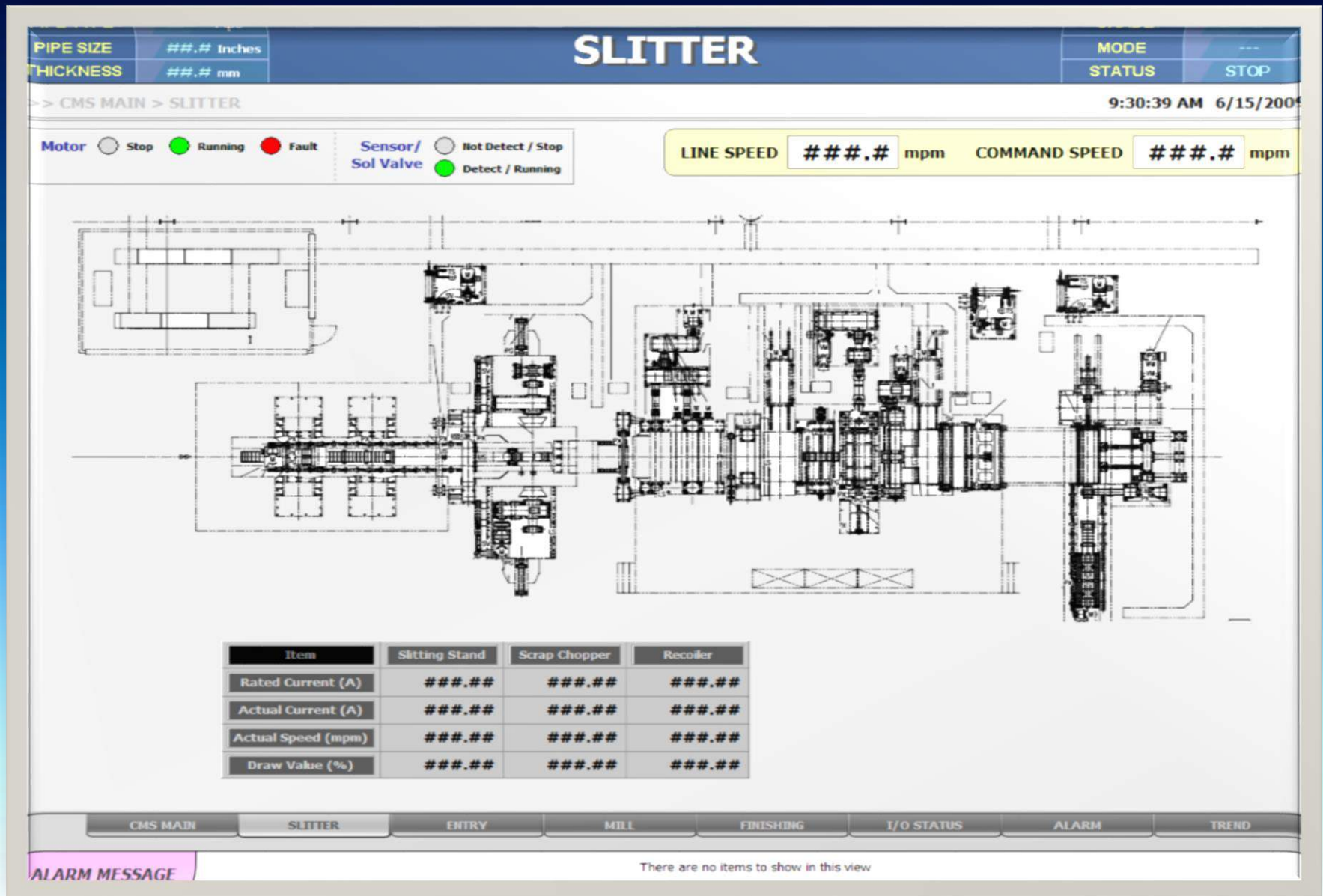
Mast 운전

자동운전 재시작

□CMS (Process Line)

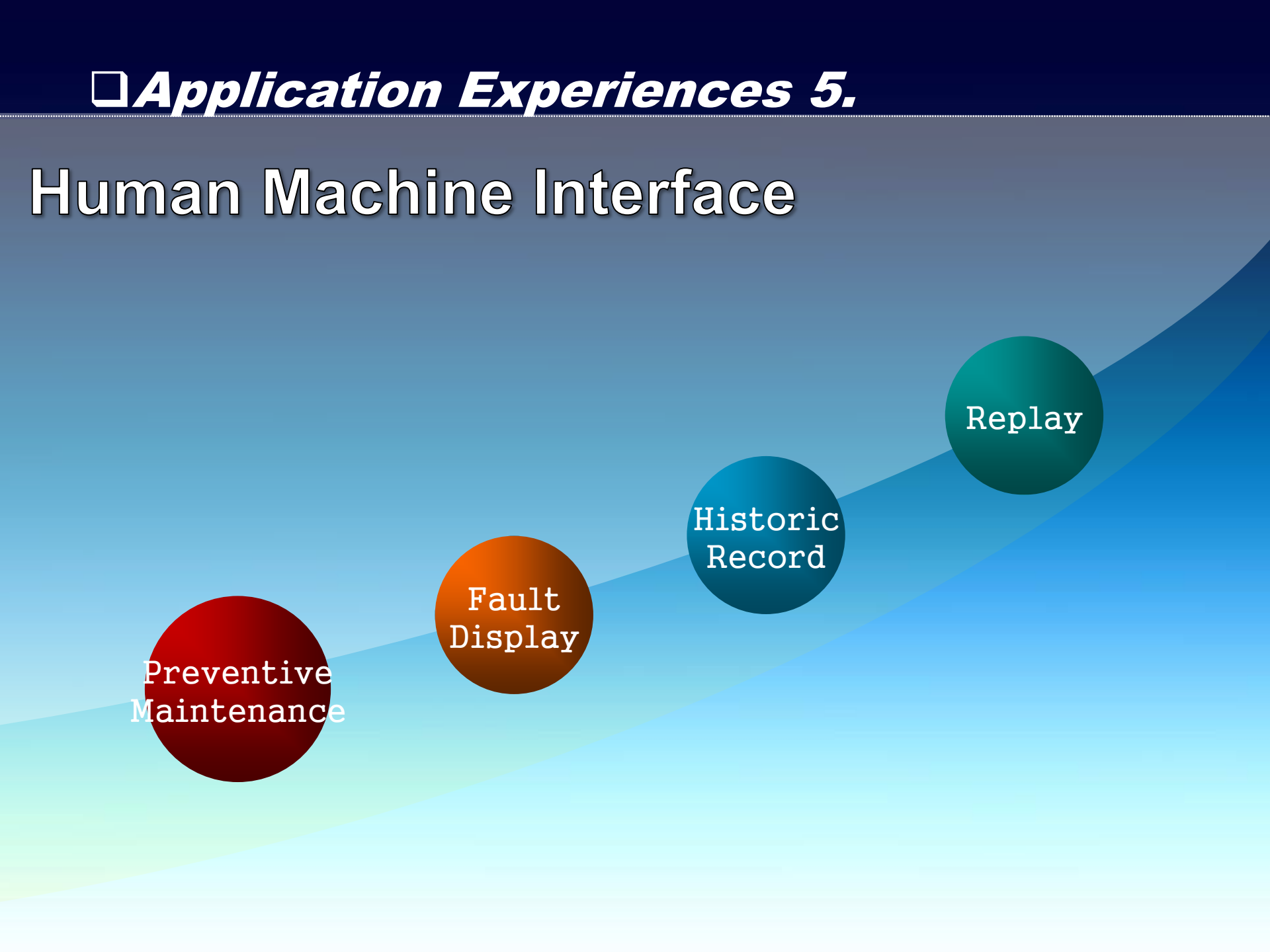


□CMS (Process Line)



□ ***Application Experiences 5.***

Human Machine Interface



Preventive
Maintenance

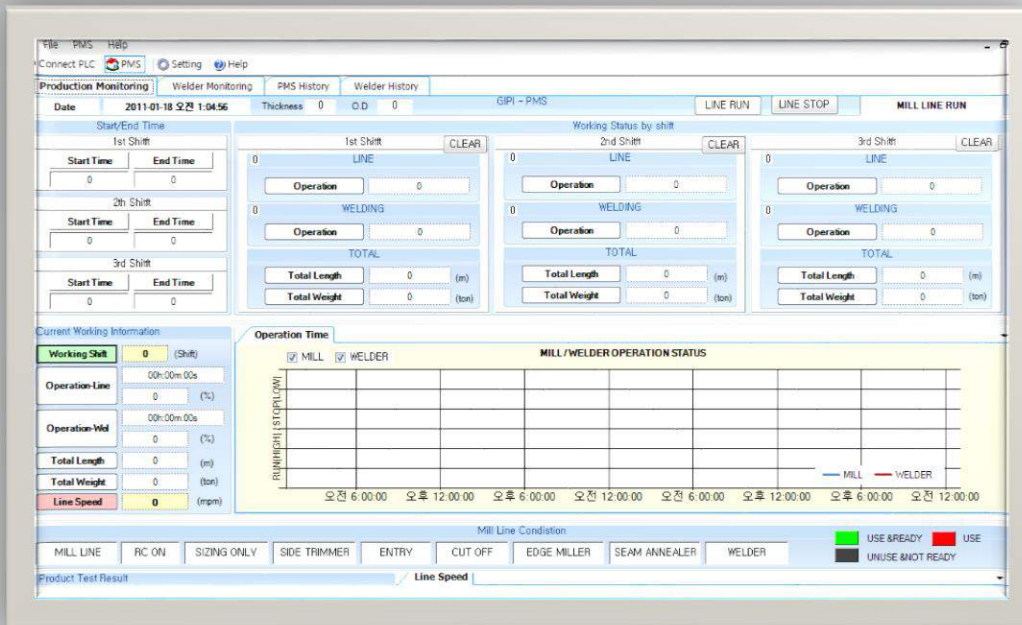
Fault
Display

Historic
Record

Replay

□ Application Experiences 5.

Human Machine Interface



- **RCMS, LCMS**
- **PMS**
- **MTS**
- **CMS**
- **CMS 3D**

□ ***Application Experiences 6.***

Renewable Energy

Power
Conversion

Smart
Grid

RPS

SCADA

□ ***Application Experiences 6.***

RPS: Installation Case in POSCO Plant Roof Top



1. Location

- Kwang-yang Steel

2. Capacity

- 1MW

3. Completion Date

- June, 2008

4. Effect on greenhouse gas emission

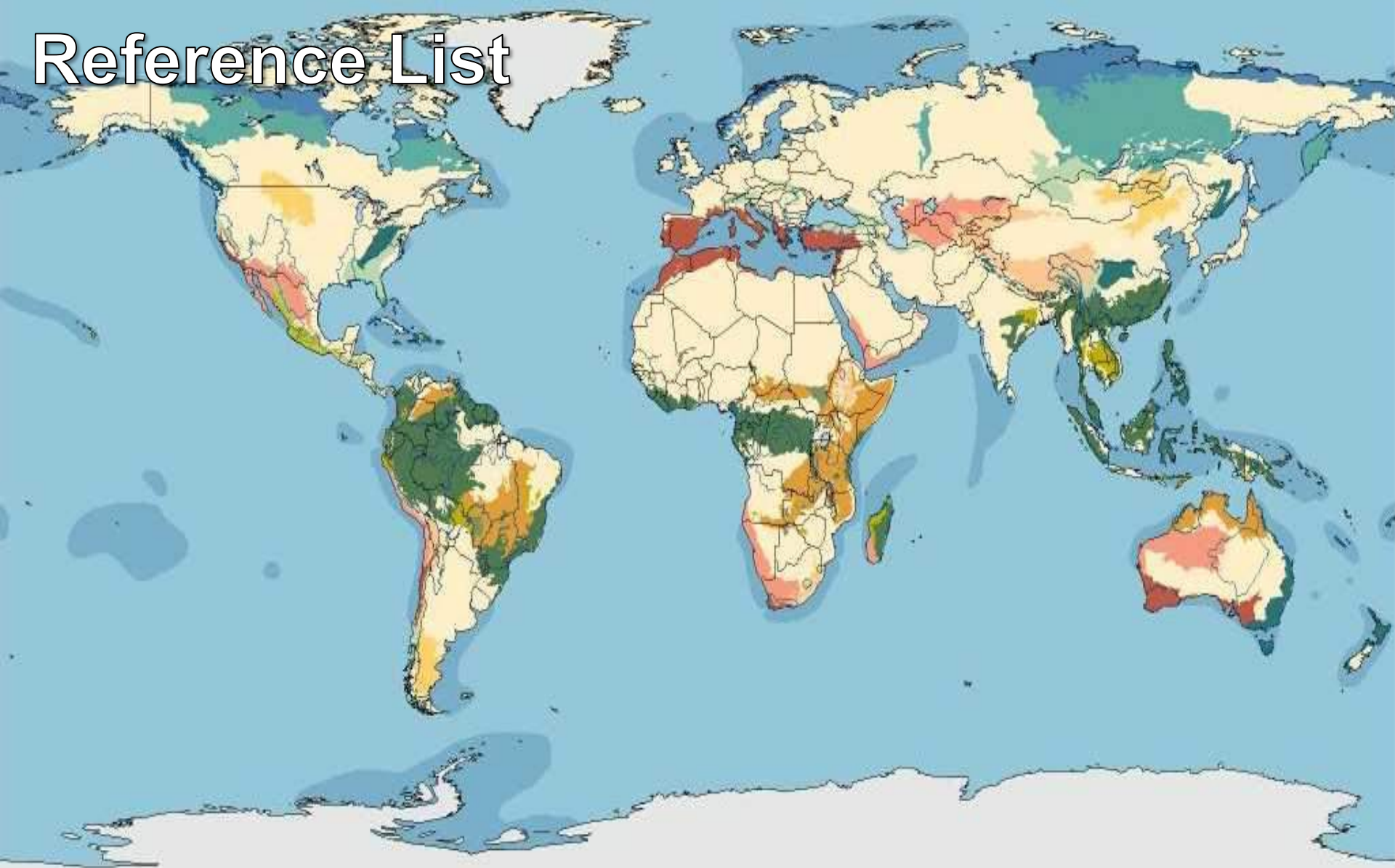
- reduction of 1600T annually

5. Income

- US 1.5 millions worth sales of energy

□ ***Application Experiences 7.***

Reference List



□ ***Application Experiences 7.***

Crane & Material Handling System

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2014	HANJIN Heavy Industries & Construction	SUBIC DOCKYARD SIEMENS	VECTOR INVERTER+PLC+CMS
2014	HYUNDAI WIA	INDONESIA FERRONICKEL HOT CHARGE AUTOMATION CRANE	VECTOR INVERTER+PLC+CMS
2014	PSA Co.,Ltd	PSA DRIVE SYSTEM RETROFITTING RTGC 7대	VECTOR INVERTER+PLC+CMS
2014	PSA Co.,Ltd	PSA DRIVE SYSTEM RETROFITTING QC 2 대	VECTOR INVERTER+PLC+CMS
2014	SMH(주)	SIN BORYUNG Continuous Coal Load Equipment 2700T/H CSU #2	VECTOR INVERTER+PLC+CMS
2014	HYUNDAI WIA	BRAZIL CSP 180/50T SLAG POT CRANE외 1종	VECTOR INVERTER+PLC+CMS
2014	BAEGUN	DONGGUK STEEL 12T MAGNET CRANE CONTROL SYSTEM	VECTOR INVERTER+PLC+CMS

□ ***Application Experiences 7.***

Crane & Material Handling System

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2013	DOOSAN Heavy Industries & Construction	Sin-HANUL #1,2 FHE MANUFACTURE/SUPPLY	VECTOR INVERTER+PLC+CMS
2013	SMH(주)	SSANGNYONG TRANSPORT STACKER/RECLAIMER	VECTOR INVERTER+PLC+CMS
2013	HYUNDAI ROTEM	AUSTRIA VAS COAL HANDLING CRANE	VECTOR INVERTER+PLC+CMS
2013	HYUNDAI WIA	HYUNDAI STEEL 120/10T CRANE CONTROL SYSTEM 2대 분	VECTOR INVERTER+PLC+CMS
2013	SMH(주)	TRANSPORT-Port of Donghae Continuous Coal Load Equipment 1500T/H CSU #2	VECTOR INVERTER+PLC+CMS

□ ***Application Experiences 7.***

Crane & Material Handling System

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2013	HYUNDAI ROTEM Dangjin Plant	BAHRAIN CRANE SPARE PARTS	VECTOR INVERTER+PLC+CMS
2013	DOOSAN Heavy Industries & Construction	DANGJIN #9,10 PROJECT CSU CRANE CONTROL SYSTEM	VECTOR INVERTER+PLC+CMS
2013	SMH(주)	SSANGNYONG TRANSPORT-Port of Donghae Continuous Coal Load Equipment 1500T/H CSU	VECTOR INVERTER+PLC+CMS
2013	DOOSAN Heavy Industries & Construction	SAMCHEOK #1,2 CSU 47 - Main Electrical Equipment	VECTOR INVERTER+PLC+CMS
2013	SMH(주)	SSANGNYONG TRANSPORT BC CONTROL SYSTEM	VECTOR INVERTER+PLC+CMS
2013	DOOSAN Heavy Industries & Construction	Sin-ULJIN #1,2 FHE DESIGN OUTSOURCING	VECTOR INVERTER+PLC+CMS
2013	HYUNDAI WIA	HYUNDAI STEEL 120TON CRANE CONTROL SYSTEM	VECTOR INVERTER+PLC+CMS
2013	HYUNDAI ROTEM Dangjin Plant	HYUNDAI STEEL 55T BTC CONTROL SYSTEM	VECTOR INVERTER+PLC+CMS

□ *Application Experiences 7.*

Crane & Material Handling System

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2012	HYUNDAI SAMHO Heavy Industries Co., Ltd.	BRAZIL OSX DOCKYARD G/C 1기	VECTOR INVERTER+PLC+CMS
2012	HYUNDAI WIA	STX/SAUDI 2차 CRANE PROJECT CONTROL SYSTEM	VECTOR INVERTER+PLC+CMS
2012	HYUNDAI WIA	POSCO/BRAZIL CSP STEEL MILL CRANE	VECTOR INVERTER+PLC+CMS
2012	PSA Co., Ltd	Drive Retrofitting of Quay Cranes	VECTOR INVERTER+PLC+CMS
2012	PSA Co., Ltd	Drive Retrofitting of Quay Cranes – OPTION	VECTOR INVERTER+PLC+CMS
2012	HYUNDAI STEEL(주)	AUTO PICK UP Improvement of performance	VECTOR INVERTER+PLC+CMS
2012	BAEGUN	DongGuk Steel 1호 rolling CRANE CONTROL SYSTEM	VECTOR INVERTER+PLC+CMS

□ ***Application Experiences 7.***

Crane & Material Handling System

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2012	HYOSUNG	PANEL_SeaH S.A_Electrical Panel	VECTOR INVERTER+PLC+CMS
2012	HYUNDAI ROTEM	BAHRAIN CRANE ISOLATION BOX	VECTOR INVERTER+PLC+CMS
2012	POSCO PLANTEC	POSCO #6 CSU(Gwang Yang) design outsourcing	VECTOR INVERTER+PLC+CMS
2012	HYUNDAI WIA	JAPAN KOBE STEEL, Ltd., CRANE CONTROL SYSTEM	VECTOR INVERTER+PLC+CMS
2012	DOOSAN Heavy Industries & Construction	FHE REMOTE CONTROL SYSTEM DEVELOPMENT	VECTOR INVERTER+PLC+CMS
2012	SMH(주)	Yeongheung thermal power #5,6 COAL HANDLING EQUIPMENT CSU 2기	VECTOR INVERTER+PLC+CMS
2012	SMH(주)	Yeongheung thermal power #5,6 COAL HANDLING EQUIPMENT ST/RE 2기	VECTOR INVERTER+PLC+CMS
2012	DAEHEUNG electric generation	RPDS CONTROL SYSTEM – 2000kw Emergency generator 2대 분	VECTOR INVERTER+PLC+CMS
2012	HYUNDAI ROTEM	QATAR STEEL MILL CONTROL SYSTEM	VECTOR INVERTER+PLC+CMS

□ ***Application Experiences 7.***

Crane & Material Handling System

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2011	HYUNDAI WIA	Hyundai Steel 25TON MAGNET CRANE CONTROL SYSTEM	VECTOR INVERTER+ PLC
2011	BAEGUN	DONGGUK STEEL Rolling CRANE CONTROL SYSTEM	VECTOR INVERTER+ PLC
2011	DOOSAN Heavy Industries & Construction	ULJIN 5,6 Fuel Handling System	VECTOR INVERTER+PLC+CMS
2011	DOOSAN Heavy Industries & Construction	Sin-ULJIN No.3/No.4 Fuel Handling System without Operator	VECTOR INVERTER+PLC
2011	DOOSAN Heavy Industries & Construction	Sin-ULJIN No.1/No.2 POLAR Crane	VECTOR INVERTER+PLC
2011	HYUNDAI SAMHO Heavy Industries Co., Ltd.	HYUNDAI SAMHO Heavy Industries Gwang Yang port 2 st QC CONTROL SYSTEM	VECTOR INVERTER+PLC
2011	HYUNDAI SAMHO Heavy Industries Co., Ltd.	DONGGUK STEEL Pohang factory BTC 1 st Service SYSTEM	VECTOR INVERTER+PLC
2011	JJTECH	HYOSUNG Heavy Industries RTGC 3 st CONTROL SYSTEM	VECTOR INVERTER+PLC
2001	HYUNDAI ROTEM	HYUNDAI STEEL 480Ton Teeming CONTROL SYSTEM	VECTOR INVERTER+CMS+PLC

□ ***Application Experiences 7.***

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2010	HYUNDAI ROTEM	POSCO 400/80TON TEEMING CRANE	VECTOR INVERTER+ PLC
2010	YOUNGGA INDUSTRY	Hyundai Steel 25TON MAGNET CRANE CONTROL SYSTEM	VECTOR INVERTER+PLC
2010	DOOSAN Heavy Industries & Construction	SIN-GORI Advanced Fuel Handling System without Operator	VECTOR INVERTER+PLC+CMS
2010	HYUNDAI ROTEM	BAHRAIN SOLB CRANE CONTROL SYSTEM	VECTOR INVERTER+PLC
2010	HYUNDAI WIA	STX/Saudi Arabia SOLB CRANE CONTROL SYSTEM	VECTOR INVERTER+ PLC
2010	PSA Co.,Ltd	Drive System Retro Fitting Option 1EA - RMQC	VECTOR INVERTER+PLC
2010	PSA Co.,Ltd	Upgrade Of Drive and Automation System (3차 - PHASE 3A , RMG CRANE) (4차 - PHASE 3B , OHB CRANE)	VECTOR INVERTER+PLC
2010	HYOSUNG	POSCO 45T MAGNET CRANE CONTROL SYSTEM	VECTOR INVERTER+PLC
2010	DOOSAN Heavy Industries & Construction	TURBINE 350TON OHC CRANE CONTROL SYSTEM	VECTOR INVERTER
2010	ZPMC	GYUNGIN WATERWAY INCHEON TERMINAL 2기 CONTROL SYSTEM	VECTOR INVERTER+PLC+CMS

□ *Application Experiences 7.*

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2009	HYUNDAI WIA	STX 600TON GOLIATH CRANE CONTROL SYSTEM	VECTOR INVERTER+CMS+PLC
2009	KUMOH Heavy Industries Co., Ltd.	SeAH Besteel Co., Ltd ELECTRIC FURNACECRANE CONTROL SYSTEM	VECTOR INVERTER
2009	SMH(주)	CHILE ANGAMOS 1500T/H STACKER CONTROL SYSTEM	VECTOR INVERTER+CMS+PLC
2009	HYUNDAI ROTEM	HYUNDAI STEEL 48T BTC CONTROL SYSTEM	VECTOR INVERTER+CMS+PLC
2009	HYUNDAI WIA	부생복합화력 CRANE CONTROL SYSTEM	VECTOR INVERTER+PLC
2009	BACK WOON	DONGKUK STEEL 35Ton Magnet Crane(6)	THYRISTOR CONTROL
2009	PSA Co.,Ltd	Automation System Of Yard Crane (RMG, OHBC)	CMS+PLC+LEVEL2+DRIVE
2009	SUNG DONG	SUNG DONG Shipbuilding & Marineering Co.,LTD 750Ton Goliath Crane	VECTOR INVERTER+CMS+PLC
2009	BACK WOON	DONGKUK STEEL ELECTRIC FURNACECRANE CONTROL SYSTEM	VECTOR INVERTER+THYRISTOR CONTROL
2009	HYOSUNG	SeAH Besteel Co., Ltd HEAT TREATMENT PROCESSING PLANT CRANE CONTROL SYTEM	VECTOR INVERTER
2009	KUMOH Heavy Industries Co., Ltd.	DONGKUK STEEL 230/50/15T LADLE CRANE CONTROL SYSTEM	VECTOR INVERTER+THYRISTOR CONTROL

□ *Application Experiences 7.*

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2008	ROTEM Co., Ltd.	EGYPT BESHAY STEEL CRANE Components (2) 320Ton LADLE/CHARGING CRANE	VECTOR INVERTER+CMS+PLC
2008	PSA Co.,Ltd	Automation System Of Yard Crane (RMG, OHBC)	CMS+PLC+LEVEL2+DRIVE
2008	PSA Co.,Ltd	Upgrade 9 Units RMQC	VECTOR INVERTER+CMS+PLC
2008	PSA Co.,Ltd	Upgrade 7 Units RTGC	VECTOR INVERTER+CMS+PLC
2008	WIA (World Industries Ace)	PHILIPPINE SUBIC HANJIN 60/5Ton JIB Crane (9)	VECTOR INVERTER+CMS+PLC
2008	WIA (World Industries Ace)	BRAZIL 1500TON Goliath Crane (2)	VECTOR INVERTER+CMS+PLC
2008	LS Industrial Systems co.,Ltd.	E1 TERMINAL RMQC(2), RTGC(6) Control System	VECTOR INVERTER+CMS+PLC
2008	WIA (World Industries Ace)	DAEHANSHIP 1500Ton Goliath Crane (1)	VECTOR INVERTER+CMS+PLC
2008	DOOSAN Heavy Industries & Construction	Sin Go Ri No.3/No.4 POLAR Crane	VECTOR INVERTER
2008	HYOSUNG E&C.	SeAH Besteel Corporation Ladle/Charging Crane Components	VECTOR INVERTER
2008	Hyundai Steel in Dangjin Plant	Raw Material Handling Automation System	CMS+PLC+LEVEL II+VECTOR INVERTER
2008	HYUNDAI SAMHO Heavy Industries Co., Ltd.	HYUNDAI SAMHO Heavy Industries 1 st Quay Wall 80Ton LLC	VECTOR INVERTER+CMS+PLC

□ *Application Experiences 7.*

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2008	PUILENC	50/10Ton Crane	VECTOR INVERTER
2008	JUNGWON CRANES	SeAH Besteel Corporation 20Ton Magnet Gantry Crane	VECTOR INVERTER
2008	SAMWON ENC	POSCO E&C ASS Crane(12)	VECTOR INVERTER+CMS+PLC
2008	HYUNDAI SAMHO Heavy Industries Co., Ltd	DONGKUK STEEL BTC(2)	VECTOR INVERTER+CMS+PLC
2008	U-YOUNG PRECISION IND.CO.,LTD	JAPAN NSC 30Ton Auto Pick up Crane	VECTOR INVERTER+CMS+PLC
2008	U-YOUNG PRECISION IND.CO.,LTD	QATAR Main Hoist Thyristor Control	THYRISTOR CONTROL
2008	DOOSAN Heavy Industries & Construction	POSCO 430T New Plate Production Plant Yong Kang & Yong Sun Crane	VECTOR INVERTER+CMS+PLC+HMI
2008	HYOSUNG C&P	Sin Go Ri 7.5Ton SRS Crane	VECTOR INVERTER+CMS+HMI
2008	POSCON	POSCO VCR & CCR Pick Up Crane	VECTOR INVERTER+PLC+HMI
2008	DOODO HEAVY IND. CO.,LTD.	POSCO New Plate Production Plant Auto Pick Up Crane	VECTOR INVERTER+PLC+HMI
2007	WIA (World Industries Ace)	POSCO UNMANNED AUTOMATIC LADLE Crane	VECTOR INVERTER+PLC +CMS

□ *Application Experiences 7.*

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2007	WIA (World Industries Ace)	PHILIPPINE JIB Crane (9)	VECTOR INVERTER+CMS+PLC
2007	WIA (World Industries Ace)	DONGKUK/DONGBU STEEL BTC(6)	VECTOR INVERTER+CMS+PLC
2007	DOOSAN Heavy Industries & Construction	Incheon SUNKWANG PORT RMQC(1)	VECTOR INVERTER+CMS+PLC
2007	WIA (World Industries Ace)	HANJIN PHILIPPINE 600Ton Goliath Crane(2)	VECTOR INVERTER+PLC+CMS
2007	HANJIN Heavy Industries & Construction Co., Ltd.	KOREA SOUTHTHERN POWER PLANT Automatic Conveyor & Stacker/Reclaimer	VECTOR INVERTER+PLC +MMI
2007	WIA (World Industries Ace)	CHINA YANTAI BTC(1),400Ton Turnover Crane(4)	VECTOR INVERTER
2007	ROTEM Co., Ltd.	POSCO UNMANNED AUTOMATIC YARD Crane	VECTOR I+CMSNVERTER+PLC
2007	SAMSUNG Heavy Industries Co., Ltd.	3000T/H Continuous Ship Unloader(1) for POSCO	VECTOR INVERTER+PLC+CMS
2007	DOOSAN Heavy Industries & Construction	Advanced Fuel Handling System without Operator	VECTOR SERVO+CMS+PLC
2007	MUNJIN Heavy Industries & Construction	SeAH Besteel Corporation 50Ton Crane	VECTOR INVERTER
2007	MUNJIN Heavy Industries & Construction	SeAH Besteel Corporation 12Ton CLAW Crane	VECTOR INVERTER

□ ***Application Experiences 7.***

Steel & Iron Process System

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2011	EPI	USA 12" Tube MILL Finishing Line	AC INVERTER+PLC+MMI
2009	MILLTECK	INDIA 9" Tube MILL	AC INVERTER+PLC+MMI
2008	MILLTECK	OMAN GIPI 24" PIPE MILL Components	AC INVERTER+PLC+MMI
2008	MILLTECK	JAPAN Edge Miller	AC INVERTER+PLC+MMI
2007	MILLTECK	INDIA EDGE MILLER	AC SERVO+PLC+MMI
2007	MILLTECK	AUSTRALIA CRP CONTROL SYSTEM	AC SERVO+PLC+MMI
2007	KOREA BUNDY	SINGLE WALL TUBE MILL LINE	DC MOTOR DRIVE+PLC+MMI
2006	BAEK CHUN	MALAYSIA 18" END FACER	DC MOTOR DRIVE+PLC+MMI

□ ***Application Experiences 7.***

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2006	MILLTECK	MALAYSIA 18" HYDROSTATIC TESTER	PLC+MMI
2006	MILLTECK	MALAYSIA 18" PIPE MILL LINE	DC MOTOR DRIVE+PLC+MMI
2006	MILLTECK	MALAYSIA CONVEYOR LINE	AC INVERTER+PLC+MMI
2006	BAEK CHUN	HUSTEEL 12" PIPE FINISHING LINE	AC INVERTER+PLC+MMI
2005	BAEK CHUN	HUSTEEL 12" PIPE MILL LINE	DC MOTOR DRIVE+PLC+MMI
2005	WIA HEAVY. IND	SEAH STEEL ARM/CRP LINE FOR CGL	AC INVERTER+PLC+MMI

□ ***Application Experiences 7.***

Wind Power Control System

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2009	DOOSAN Heavy Industries & Construction	3MW WIND POWER SYSTEM	PLC+UPS
2009	HYOSUNG Co., Ltd.	HYOSUNG 750KW WIND POWER SYSTEM	PLC+HMI+SYSTEM INTEGRATION

□ ***Application Experiences 7.***

ELAU Servo Process System

YEAR	CUSTOMER	PROJECT	APPLICATION TECHNIC
2007	SEOIL	STRAW APPLICATOR	ELAU SERVO MOTOR+ PLC
2008	DONGHO MACHINERY	PACKAGING MACHINE	ELAU SERVO MOTOR+ PLC
2008	DAEWOONG	PMC-2	ELAU SERVO MOTOR
2008	SIDEL	PAC DRAVE C-600 SIDEL DISTRIBUTION	ELAU SERVO MOTOR
2009	SEOUL MILK	PMC-2	ELAU SERVO MOTOR
2009	SEOIL	STRAW APPLICATOR 2nd	ELAU SERVO MOTOR + PLC

□ **SEAH S.A 1st Plant in Si-heung si.**



□ **SEAH S.A 2nd Plant in Hwa-sung ci.**



□ ***SEAH Singapore Branch***

