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 **SMH** S-Material
Handling Co.,Ltd.



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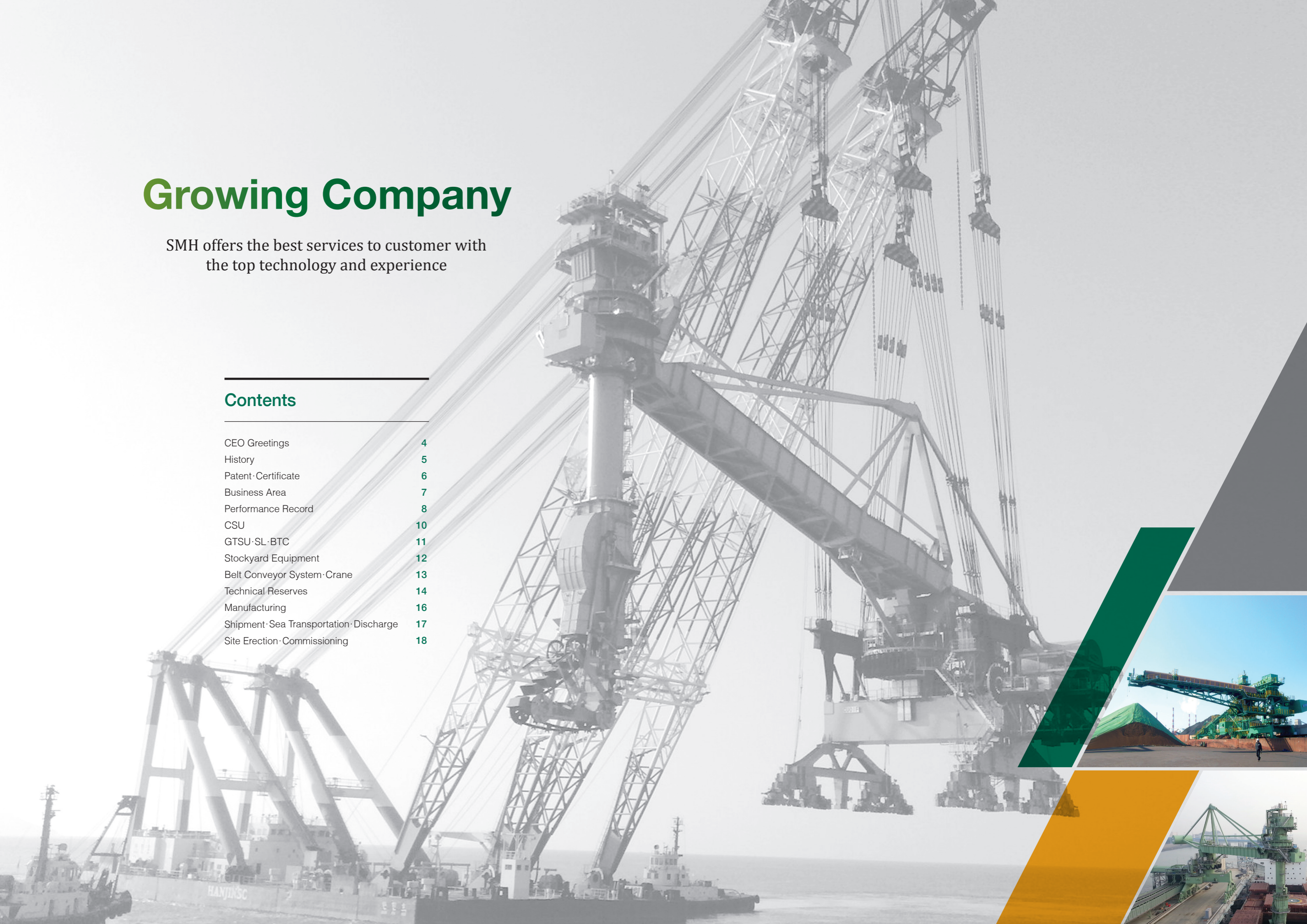
www.smh.co.kr

Growing Company

SMH offers the best services to customer with the top technology and experience

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CEO Greetings

SMH will help you realize your dream based upon specialized technology and customer-centered mind.

SMH succeeded material handling facilities business area from Samsung Heavy Industries Co., Ltd. and mainly performs Turn-Key Base work on all areas of material handling facilities, including raw materials-treating facilities for power plant and steel mill and cargo handling machines.

SMH was established in July 2007 by personnel having been in charge of this business area at Samsung Heavy Industries for over 20 years and has developed into a company recognized by domestic and foreign customers for its excellent technical skills and quality.

We, SMH, will improve customer satisfaction aggressively on the basis upon customers' trust and our technical skills acquired from having led the industry for the last 30 years.

Furthermore, we will continue developing every member of our company into a global talent with core competence and international business senses through continuous bold investment in research, development and education.

We would appreciate your unchanging interest and support towards SMH **that continues challenging new goals rather than settling for the present and makes effort to practise mutual development and sharing.**

Thank you.

S-Material Handling Co., Ltd.
CEO **Jang-Young, Chung**




History

2007

- Establishment of SMH Co., Ltd.
- Conclusion of a business agreement with TATA Group in India
- Designing and supervision of Goliath Crane for Samsung Heavy Industries Co., Ltd.
- Designing of and technical support for CSU for POSCO
- Certification of ISO 9001:2000
- Designing of coal washing/coke Belt Conveyor for Hyundai Steel

2008

- Certification of a qualified maintenance company by Korea Western Power Co., Ltd.
- Registration of construction business using machine equipments
- Provision of techniques to POSMEC Co., Ltd.
- Designing of and technical support for CSU for POSCO
- Upgrading of 7 reclaimers for POSCO in Gwangyang
- Designing of 11 Stockyard equipment and Manufacturing of 3 reclaimers for POSCO in Pohang

2009

- Export of 1 unit of stacker to Angamos, Chile
- Certification of a qualified maintenance company by Korea South-East Power Co., Ltd.
- Recognition of an affiliated research institute
- Winning of the grand award at the Kyungnam Techno Park Residing Company Management Awards
- Winning of the Export Tower of 1 Million Dollars
- Winning of the Minister Prize from the Ministry of Knowledge Economy regarding regional strategy promotive business

2011

- Certification of INNOBIZ
- Selection as a great company to work for in the region
- Japan Sumitomo GTSU

2010

- Opening of an office in Iran
- Opening of an office in Seoul
- Export of 1 CSU to Tokyo Electric Power in Onahama (first export of CSU to Japan in Korea)
- 1 unit of PCK ST/RE to Iran
- Winning of the Export Tower of 3 Million Dollars

2012

- 2 units of CSU and 2 units of ST/RE to Youngheong Thermal Power Plant
- 1 unit of CSU to Ssangyong Shipping Co., Ltd. (No.1)
- Winning of the Export Tower of 5 Million Dollars

2013

- 1 unit of CSU (No.2), 4 lines of Belt Conveyor, and 1 unit of ST/RE to Ssangyong Shipping Co., Ltd.
- Conclusion of an agreement on a supply of heavy industrial equipments to Hamada in Japan
- Selection as a great company to work for in the region
- 2 units of CSU to Shinboryeong Thermal Power Plant
- Winning of the excellent prize at the ASPA Awards

2014

- Conclusion of an investment agreement (MOU) with Gyeongsangnam-do
- Winning of a prime minister citation for contributing to the invigoration of venture business
- Selection as a great company to work for in the region

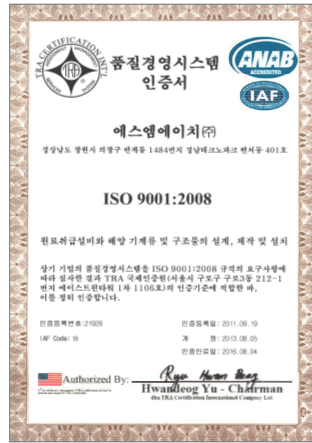
2016

- 1 unit of coal terminal CSU and 8 lines of Belt Conveyor to CJ Korea Express in Gunsan

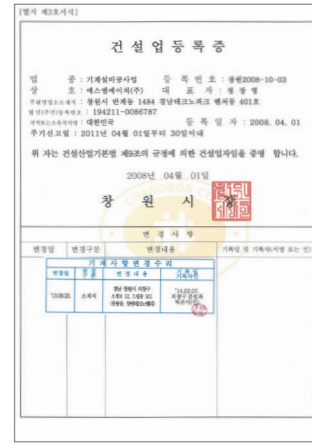
2015

- Selection as a great company to work for in the region
- Winning of the grand award at The Hankook Ilbo SME Management Awards
- Export of 1 unit of NSSMC ST/RE to Japan

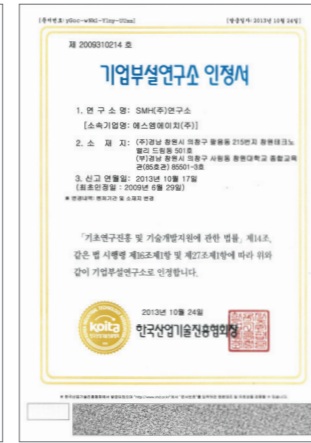
Patent · Certificate



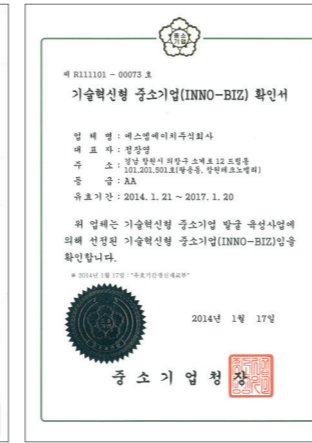
ISO 9001:2008



Construction Business Registration Certificate



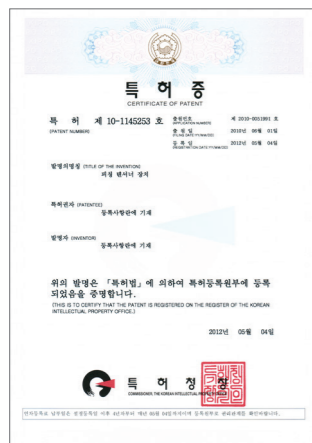
Research Institute



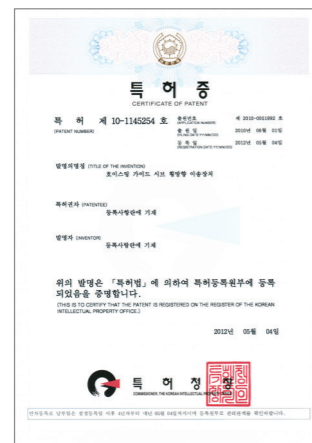
Innobiz Certificate

2008.04.01	Construction Business Registration Certificate
2011.01.21	Written Confirmation of Technically Innovative SM (INNO-BIZ)
2011.09.19	ISO 9001:2008
2013.10.22	Certificate of Qualified Maintenance Company for Korea South-East Power

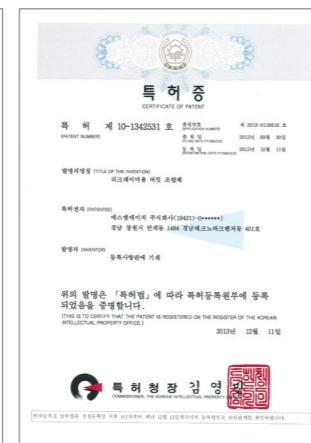
2013.10.24	Written Recognition of Affiliated Research Institute
2013.11.05	Factory Registration Certificate
2014.04.02	Certificate of Qualified Maintenance Company for Korea Western Power
2015.04.09	Written Confirmation of SME



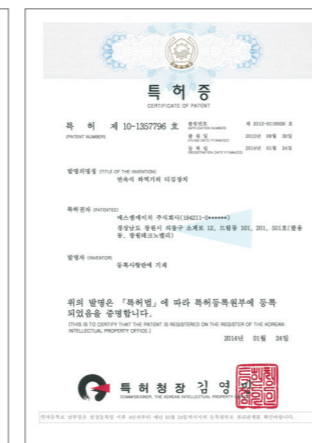
Pitching tensioner



Lateral hoisting guide sheave transfer device



Bucket assembly for reclaimer



Digging device of continuous unloader

No.10-0940538	2010.01.28	Transfer Truck That Can Move Along Curved Rails
No.10-1145253	2012.05.04	Pitching Tensioner Device
No.10-1145254	2012.05.04	Lateral Hoisting Guide Sheave Transfer Device
No.10-1342531	2013.12.11	Bucket Assembly For Reclaimer
No.10-1357796	2014.01.24	Digging Device Of Continuous Ship Unloader

2004722620000	2014.04.08	Bucket Assembly
No.10-1553822	2015.09.11	Crane Stabilizing Machine
No.10-1631693	2016.06.13	Abrasion Testing Equipment For Profile-Pitch Type Roller Chain Assembly
No. 10-1647333	2016.08.04	Abrasion Testing Equipment Of Profile-Pitch Type Roller Chain Assembly

Business Area

Products Lines



Dock Cargo Handling Facilities

- Raw Materials Loading/ Unloading Facilities
 - Continuous Ship Unloader (CSU)
 - Grab Type Ship Unloader (GTSU)
 - Shiploader(SL)
- Products Loading/ Unloading Facilities
 - Bridge Type Crane(BTC)



Yard Facilities

- Storage/Release of Raw Materials
 - Stacker/Reclaimer(ST/RE)
 - Stacker(ST)
 - Reclaimer(RE)
 - Blending Reclaimer(BL.RE)
- Raw Materials Transfer Facilities
 - Quay wall Yard BC
 - Long-distance Belt Conveyor
- Slag Treating Facilities
- Crusher&Screen Design
- Car Dumping Facilities



Accessorial Equipment

- Yard Water Treatment System
 - Watering/Catchment/ Drainage Facilities
 - Waste/Turbid Water Treating Facilities
- Environmental Facilities
 - Dust Collector
 - Dust Suppression
 - Vacuum Cleaner



Ship Yard Machine

- Goliath Crane (Kone, Sumitomo Model)
- LLC (Sumitomo, TRF Model)

Activities



Engineering

- Basic Engineering
 - Feasibility Study
 - Calculation of Cargo Handling Capacity
 - Material Balance Capacity
 - Yard Calculation of Load Capacity
 - Lay-out Design
 - Equipment Sizing
 - PID&PFD
 - E&I Data Sheet
 - Control System
 - Structure Analysis
- Detail Engineering
 - Local Structure Analysis
 - Detail Design
 - Fabrication Drawing
 - Construction Drawing
 - Purchasing Spec
 - Procedure&Plan



Project Management

- Project Control
 - Planning
 - Master Schedule
 - Cost Control
 - Delivery Control
- Coordination
 - Internal Division
 - Engineering/ Fabrication/Erection
 - Purchasing Partners
- Coordination
 - Customer Service



Fabrication & Construction

- Guidelines for Manufacture and Installation
- Guidelines for QA/QC(ITP)
- Guidelines for Commissioning
- Guidelines for Commercial Operation and Installation of Structures
- Installation of Electrical& Instrument Facilities
- Production and Installation of Pipes and Acc'y



Supervision & Consulting

- Supervision
 - Manufacturing/Erection/ Commissioning
- Consulting
 - Improvement of Facilities
 - Enhancement of capacity
 - Restoration Work

Performance Record

No.	Project Name	Contract Data	Kind of Machine	Characteristic
1	NSSMC Pipe Conveyor (Japan)	16.09	BC	250t/h Pipe Conveyor & Common BC Basic & Detail Engineering, Manufacturing, Sea Transportation
2	CJ Korea Express Gunsan Coal Terminal	16.04	CSU, BC	1920t/h x 1 CSU, 1920t/h BC 8Lines EPC Contract
3	NSSMC Stacker / Reclaimer (Japan)	15.11	ST/RE	800/400t/h x 1 Stacker/Reclaimer Basic & Detail Engineering, Manufacturing, Sea transportation, Supervision
4	Boryeong Thermal Power Plant CSU Bucket Elevator Casing 4sets Replacement	15.11	CSU	Bucket Elevator Casing EPC Contract
5	POSCO Gwangyang #1 CSU	15.07	CSU	L-Frame & BE Upper Post & Rotary Feeder Replacement EPC Contract
6	Taeon Thermal Power Plant CSU #B Hyd. System Replacement	15.06	CSU	2000t/h x 1 CSU Hydraulic System Replacement
7	Yeongheung Thermal Power Plant CSU Hinge Upgrade	15.03	CSU	Hinge Pin Upgrade
8	Taeon Thermal Power Plant #A BE Post Tube maintenance	14.04	CSU	2000t/h x 1 CSU BE Post Tube Maintenance
9	Ssangyong Shipping Belt Conveyor	13.10	BC	Ground Reinforcement Construction
10	SMH 10Ton EOC	13.09	EOC	10ton x 1 Electric Over Head Crane
11	Boryeong Thermal Power Plant CSU	13.09	CSU	2700t/h x 2 CSU Basic & Detail Engineering, Manufacturing, Erection, Supervision
12	Ssangyong shipping ST/RE	13.09	ST/RE	3000/1000t/h x 1 Stacker/Reclaimer EPC Contract
13	Ssangyong shipping #2 CSU	13.01	CSU, BC	1500t/h x 1 CSU & 3600t/h Belt Conveyor 5Lines EPC Contract
14	Taeon Thermal Power Plant CSU #02A Hyd. System Replacement	12.08	CSU	2000t/h x 1 CSU Hyd. System Replacement
15	POSCO Gwangyang CSU	12.06	CSU	CSU Rotary Feeder Replacement
16	Taeon Thermal Power Plant ST/RE B/W Drive Replacement	12.04	ST/RE	3200/3400t/h x 1 Stacker/Reclaimer Basic & Detail Engineering, Manufacturing, Erection & Commissioning
17	Ssangyong shipping #1 CSU	12.04	CSU	1500t/h x 1 CSU Turn-Key Base
18	Yeongheung Thermal Power Plant CSU & ST/RE	12.01	CSU, ST/RE	2400t/h x 2 CSU, 4800t/h x2 ST/RE Basic & Detail Engineering, Manufacturing, Erection & Commissioning
19	SES GTSU (Japan)	11.12	GTSU	1800t/h x 1 GTSU Travelling & Hopper & Boom Conveyor Manufacturing
20	Hyundai Steel Belt Conveyor	11.08	BC	Basic & Detail Engineering, Supervision
21	Hyundai Steel Coal/Coke Belt Conveyor	11.07	BC	Basic & Detail Engineering, Supervision
22	POSCO Pohang Cokes Reclaimer	11.05	RE	500t/h x 2 Reclaimer Basic & Detail Engineering, Manufacturing, Supervision
23	Taeon Thermal Power Plant ST/RE Bush Replacement	11.03	ST/RE	3200/3400t/h x 1 ST/RE Bush Replacement
24	POSCO Kwangyang CSU	11.02	CSU	CSU BE Post Replacement
25	Steel Plant Stacker / Reclamar (Iran)	10.10	ST/RE	1500/600t/h x 1 ST/RE Engineering
26	Hyundai Steel #4 CSU	10.08	CSU	1600t/h x 1 CSU Restoration
27	Tokyo Power CSU (Japan)	10.06	CSU	1400t/h x 1 CSU Engineering, Manufacturing, Erection & Commissioning, Sea transportation
28	POSCO Kwangyang CSU	10.01	CSU	CSU BE Ass'y & BE Drive Ass'y Replacement
29	Taeon Thermal Power Plant CSU-02A/B Bucket Chain	09.11	CSU	2000t/h CSU Bucket Chain & Sprocket Replacement
30	Mobile Harbor Crane System	09.11	CC	Mobile Harbor High Speed Crane System Development
31	POSCO Kwangyang CSU	09.09	CSU	CSU BE Drive Cover Ass'y Replacement
32	POSCO Kwangyang Belt Conveyor	09.09	BC	BC 9 Lines Basic & Detail Engineering, Supervision
33	POSCO Kwangyang Reclaimer Capacity Upgrade	08.10, 08.11, 09.04	RE	2000t/h x 7 Reclaimer Basic & Detail Engineering, Manufacturing, Commissioning
34	POSCO Kwangyang Blending Reclaimer	09.04	BL. RE	1500t/h x 1 Blending RE Basic & Detail Engineering, Manufacturing, Supervision
35	Angamos CHP Stacker (Chile)	09.03	ST	1500t/h x 1 Stacker Basic & Detail Engineering, Manufacturing, Commissioning


No.	Project Name	Contract Data	Kind of Machine	Characteristic
36	POSCO Pohang GTSU	09.01	GTSU	2000t/h x 1 GTSU Basic & Detail Engineering, Supervision
37	POSCO Kwangyang CSU	09.01	CSU	Luffing Cylinder x 2 (Dia 532 x 7200ST) Replacement
38	POSCO Pohang Yard Machine	08.10	ST, RE BL. RE ST/RE	6000t/h x 3 Stacker, 2000t/h x 4 Reclaimer, 1000t/h x 1 Blending RE, 1000t/h x 1 Blending Stacker 4500/2000t/h x 1 Stacker/ Reclaimer Basic & Detail Engineering, Manufacturing, Commissioning
39	POSCO Kwangyang Belt Conveyor Upgrade	08.09	BC	BC 62 Line Basic & Detail Engineering
40	KIDECO 5th Belt Conveyor Upgrade (Indonesia)	08.05	BC	Basic & Detail Engineering, Supervision
41	POSCO Pohang (2-Quay) CSU	08.04	CSU	Bucket 0.3m³ Manufacturing, Strain-Relief Engineering
42	Kwang Jin Industry EOC Maintenance	08.01	EOC	EOC Travelling Device & Rail Replacement
43	POSCO Pohang (2-Quay) CSU	08.01	CSU	Shuttle Frame Engineering & Manufacturing
44	KAI (Korea Aerospace Industries) -RGV Moving Car	08.01	Moving Car	20.3ton x 1 (Table Lifting, Automatic Operation)
45	Hyundai Steel Coal/Coke Belt Conveyor	07.11	BC	Basic & Detail Engineering, Supervision
46	Kwang Jin Industry 10ton Moving Car	07.10	Moving Car	10ton x 1 (Curved Rail)
47	Hyundai Steel Pulley	07.10	BC	Engineering
48	POSCO Kwangyang 3rd Blending RE & ST Capacity Upgrade	07.07	BL. RE BL. ST	800t/h → 1000t/h Capacity Upgrade Engineering, Manufacturing, Commissioning
49	Youngheung Thermal Power Plant 600t/h Shiploader	07.07	SL	Electrical Engineering
50	Kwang Jin Industry EOC	07.07	EOC	Engineering Review
51	POSCO Pohang New Port (2-Quay) 1500t/h CSU, Belt Conveyor	07.07	CSU, BC	1500t/h x 1 CSU, BC Basic & Detail Engineering, Supervision
52	SHI 2-Dock 600ton Goliath Crane	07.08	Goliath Crane	600t x 2 (300 x 2, 400 x 1) Goliath Crane Basic & Detail Engineering, Supervision



CSU Continuous Ship Unloader

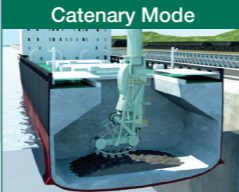
GTSU·SL·BTC Grab Type Ship Unloader
Shiploader
Bridge Type Crane

Yeongheung Thermal Power Plant : 2400t/h

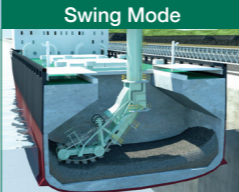


1. Travelling Device	15. Rotary Feeder	28. Magnetic Separator
2. Sea Side Leg	16. Operator's Cabin	29. Hydraulic Unit For Boom Luffing
3. Land Side Leg	17. Bucket Elevator	30. Hydraulic Unit For BE Swing
4. Portal Frame	18. Boom Conveyor	31. Electric Room
5. Center Post	19. Gantry Conveyor	32. Hoist 1Ton
6. Electric Room	20. Swing Frame	33. Hoist 2Ton
7. Slewing Frame	21. Digging Device	34. Hoist 0.5Ton
8. Boom Frame	22. Mast	35. Belt Scale
9. Ballast Frame	23. Boom Luffing Cylinder	
10. Ballast Tank	24. Seal Belt Device	
11. Parallel Link	25. Dust Collector of BE Upper	
12. Front Tension Bar	26. Dust Collector	
13. Rear Tension Bar	27. Dust Collector	
14. L-frame		

Catenary Mode



Swing Mode





Stockyard Equipment

Yeongheung Thermal Power Plant : ST/RE 4800/4800t/h



POSCO Pohang : Stacker 6000t/h



POSCO Kwangyang : Reclaimer 2000t/h



POSCO Kwangyang : Blending Reclaimer 1500t/h



Angamos(Chile) : Stacker 1500t/h



Belt Conveyor System·Crane

Belt Conveyor System

Hyundai Steel : Belt Conveyor



KIDECO(Indonesia) : Belt Conveyor



Ssangyong Shipping : Belt Conveyor



Ssangyong Shipping : Dust Collector



Crane

SHI : Goliath Crane



SHI : Level Luffing Crane 200t/h



KAI : RGV Moving Car 20.3ton



SMH : Electric Overhead Crane 10ton



Technical Reserves

Securement/Development Of Exclusive Programs

<p>BCMC (Belt Conveyor Motor Power & Tension Calculation)</p>	<p>Pulley Analysis & Auto Drawing</p>
<p>Belt Tension Dynamic Analysis</p>	<p>Plate Buckling Analysis</p>

FEM (Finite Element Method) : Ansys, Nastran NFX

<p>Slewing</p>	<p>Portal</p>	<p>Bucket</p>
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Structure Interpretation : GT Strudl, Staad Pro, Midas

<p>Chile Stacker</p>	<p>NSSMC ST/RE Tripper</p>	<p>NSSMC ST/RE Boom</p>
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Crane Monitoring System

Crane Monitoring System

Research & Development

<p>Shaking-Control System Equipped With CMG</p>	<p>Roller Chain Abrasion Tester</p>	<p>Skirt Gap Auto Control Device</p>
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Manufacturing



Shipment·Sea Transportation·Discharge



Site Erection·Commissioning

2700t/h CSU Sinboryeong NO.1,2 Coal Handling Facility



1. Leg Assembly



2. Portal Frame Assembly



3. Slewing Frame Assembly



4. Boom Parts Assembly



5. Ballast Tank Assembly



6. Rear Tension Bar Assembly



7. BE Parts Assembly



8. BE Chain&Bucket Assembly



9. Sea Transportation



S-Material Handling Co., Ltd.

All employees of SMH will prioritize customer satisfaction and we, SMH, will do our utmost to provide customers with the best quality products and services.

