

# CHOSUK HEAVY INDUSTRY DEVELOPMENT CORPORATE PROFILE



**Chosuk** Heavy Industry  
Development Co.,LTD.





## INTRODUCTION

Chosuk Heavy Industry Development Co., Ltd. is a specialist contractor in soft soil improvement.

With over than 46 years of valuable experience and know-how, Chosuk has devoted itself to top-quality construction and safety, using the latest systems and technology available.

The management and staff are bound by the motto, “Be an acknowledged specialist”.

After establishing itself as a construction specialist in March of 1986, the company began its first sand-draining work in April 1992.

Later on, in February 1997, it introduced and developed pack-drain engineering technology to start full-scale soft soil hardening and treatment.

In addition, it ventured into the overseas construction market by engaging another field of specialization involving soil and foundation stabilization and improvement-marine sand compaction pile construction. Over the course of development and growth from its humble beginnings, Chosuk remains grateful and indebted to its loyal customers and clients.

Despite all of its success as a leader of its field, Chosuk Heavy Industry Development Co., Ltd. remains committed to achieving a higher degree of excellence, both in local and international markets. It shall do this by employing only top-quality management and personnel, investing in the most modern machinery and equipment, and applying the latest methods.

<b>Chairman (Hon Ph.D)</b>	<b>Choi Kyun Young</b>
<b>CEO (P.E)</b>	<b>Kim Il Gon</b>
<b>CEO (Ph.D)</b>	<b>Choi Sul ki</b>

*“Chosuk new name  
Chosuk Heavy Industry Development  
We are creating new value in the future.”*



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## Overview

<b>Location</b>	37, Myeongjigukje 7-ro, Gangseo-gu, Busan, Republic of Korea.
<b>Corporate Name</b>	Chosuk Heavy Industry Development Co.,LTD.
<b>CEO</b>	Choi KyunYoung and 2 co-representative
<b>Business Category</b>	Construction Equipment Lease
<b>Main Business</b>	Soil improvement, Port construction, Complex construction work, Tunnel, Dredging, Road
<b>Company Registration No.</b>	416-81-06232
<b>Telephone (Head Office)</b>	TEL : +82) 051-208-1960      FAX : +82) 051-252-6093
<b>Telephone (Branch Office)</b>	TEL : +82) 061-745-1960      FAX : +82) 051-745-6093
<b>Capital Stock</b>	USD 6,000,000 (KRW 7,500,000,000)
<b>Business Operation Priod</b>	46 Years (Since 1977)
<b>No. of Permanent Employees</b>	179
<b>Sales Revenue / Year</b>	USD 52,000,000

## History

1977. 07. 01.	Founded Chosuk Construction & Development Co.,LTD.
1995. 07. 29.	Registered for Overseas Construction Business
1996. 07. 07.	Established an Overseas Corporation in Singapore
1997. 06. 07.	Certified ISO9002 (Certified Agency - QAIC)
1997. 12. 19.	Launched First-ever Marine SCP in Korea
1999. 10. 27.	Attracted Joint Investment from Japan (IMORI, Japan)
2007. 11. 23.	Established an Overseas Corporation in Vietnam
2008. 12. 15.	Certified ISO9001 (Certified Agency - ICR)
2009. 09. 21.	Launched Marine DCM for the first time.
2011. 01. 26.	Established an Overseas Corporation in Indonesia
2016. 10. 14.	Established an Branch Corporation in Hong Kong
2017. 04. 17.	Certified bizSAFE (Certified Agency - WSH Council)
2019. 06. 12.	Established an Branch Corporation in USA
2019. 06. 23.	Established an Overseas Corporation in Philippines
2022. 01. 25.	Certified ISO45001:2018 (Certified Agency – ICR)
2023. 03. 20.	Changed Company name (CHOSUK HD)

## Global Network



-  HKG | Unit 706, South Seas Centre Tower 2, 75 Mody Road, Tsimshatusi, Kowloon, Hong Kong
-  IDN | Ruko Paragon Blok B no. 28 E , Cibatu, South Cikarang Bekasi, West Java 17530 Indonesia
-  PHL | Unit 909, Cityland 10 Tower 1, No. 156 H.V.Dela Costa St., Cor. Ayala Ave, Salcedo Villages, Makati City, Philippines
-  SGP | 1003, Bukit Merah Central, #06-36, Inno Centre, Singapore 159836
-  VNM | No. 62, Street No. 75, Tan Phong Ward, District 7, Ho Chi Minh City, Vietnam
-  USA | 1719 Creekside Dr. Katy Texas 77493

## Licenses

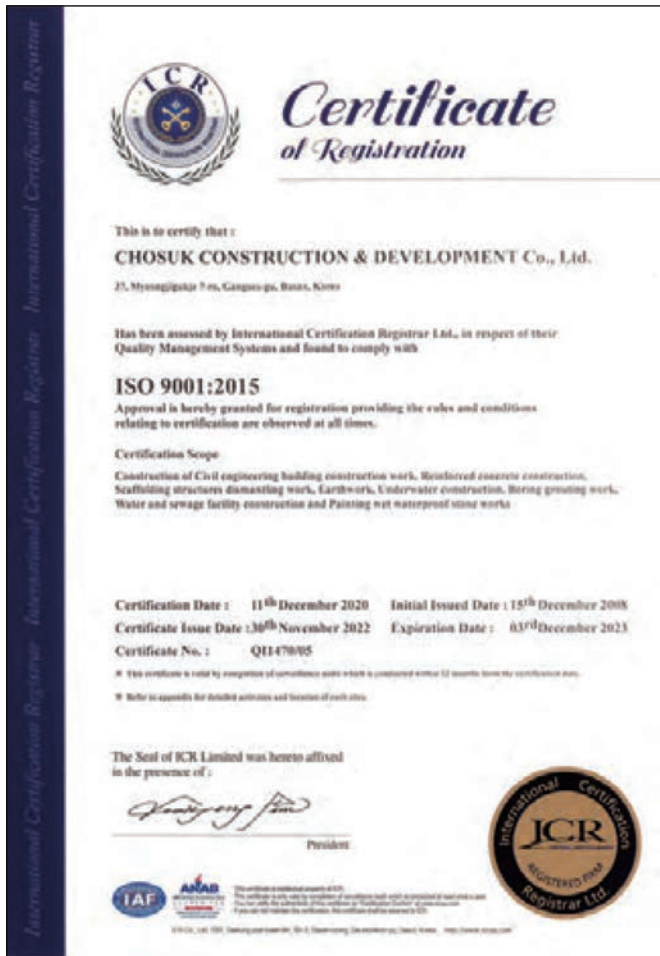
Business Category	Estimated Value of Construction (UNIT : USD)	Domestic Ranking	
		Ranking	Total No. of Companies
Ground construction and pavement work	35,552,000	75	11,798
Reinforced concrete construction	5,143,500	852	12,958
Scaffolding structures dismantling work	13,995,600	75	4,248
Water and sewage facility construction	4,520,600	493	8,639
Underwater construction	13,934,600	30	454

## Intellectual Property rights

Construction New Technology Methods	5 Cases
Patent Registration	100 Cases
Registration of Utility Model Right	10 Cases
Design Registration	12 Cases



# Certification



ISO 9001:2015



ISO 45001:2018



## Awards

Organizer	Date	Remarks
Korea Specialty Constructors Association(KSCA) Jeolla Namdo Branch	1995 - 03 - 15	Good Construction performances
Igsan Regional Construction Management Office	1997 - 12 - 31	Contribution to industrial development of korea
Yeongnam Construction Office of Korea Express	1998 - 03 - 02	Contribution to Technology development
Ministry of Finance and Economy	1998 - 03 - 03	Example of sound tax payment
Jeolla Namdo Government	1998 - 03 - 26	Contribution toward preventing poor construction works
Yeongdong Construction Office of Korea Express	2003 - 05 - 31	Excellent quality control
Korea Railroad Facilities Management Corporation	2006 - 05 - 30	Faithful execution of work
Head of Environmental Office for Yeongsan Rive	2006 - 12 - 09	Contribution Toward Environmental protecion
Ministry of Land, Infrastructure and Transport	2011 - 09 - 16	The Ministry of Maritime Affairs, contributes to the development
Mayor of Gwangyang City	2013 - 04 - 01	Successful Chonam 2 industrial complex construction
Korea Specialty Contractors Association (KOSCA) Jeollanam-do Branch	2016 - 02 - 25	30th regular general meeting excellent member award



## Equipments

General Construction Equipments	Units Held	Special Equipments	Units Held
CRAWLER CRANE	1	3 RIG MARINE DCM VESSEL	2
DRILLING RIG	4	5 RIG MARINE DCM VESSEL	1
EXCAVATOR	4	2 RIG MARINE DCM VESSEL	1
WHEEL LOADER	3	BULK CARRIER	5
FOLK LIFT	1	TUG BOAT	3
DUMP TRUCK	2	ANCHOR BOAT	1
AUGER	47	DREDGER	1
COMPRESSOR	6	PILE DRIVING BOAT	1
GENERATOR	24		
PILE DRIVER	9	<b>Total</b>	<b>116</b>



## Equipments

### Marin DCM Barge

#### CHOSUK 1HO



SPECIFICATION	
Body	58m X 22m X 3.8m
Draft	2.2m
Leder	2Rigs, 48m (Extendable)
Auger	350Kw X 2
DCM capable Installation depth	Over 65m
Cement Silo	200ton X 2

#### CHOSUK 9HO



SPECIFICATION	
Body	65m X 30m X 4m
Draft	2.8m
Leder	5Rigs, 48m (Extendable)
Auger	350Kw X 5
DCM capable Installation depth	Over 43m
Cement Silo	200ton X 2

# Equipments

## Marin DCM Barge

### CHOSUK 10HO



SPECIFICATION	
Body	60m X 22m X 3.5m
Draft	2.5m
Leder	3Rigs, 48m (Extendable)
Auger	350Kw X 3
DCM capable Installation depth	Over 43m
Cement Silo	200ton X 2

### HEYANG HO



SPECIFICATION	
Body	63m X 23m X 3.4m
Draft	2.3m
Leder	3Rigs, 48m (Extendable)
Auger	350Kw X 3
DCM capable Installation depth	Over 43m
Cement Silo	300ton X 2



## Construction View

### Port Construction



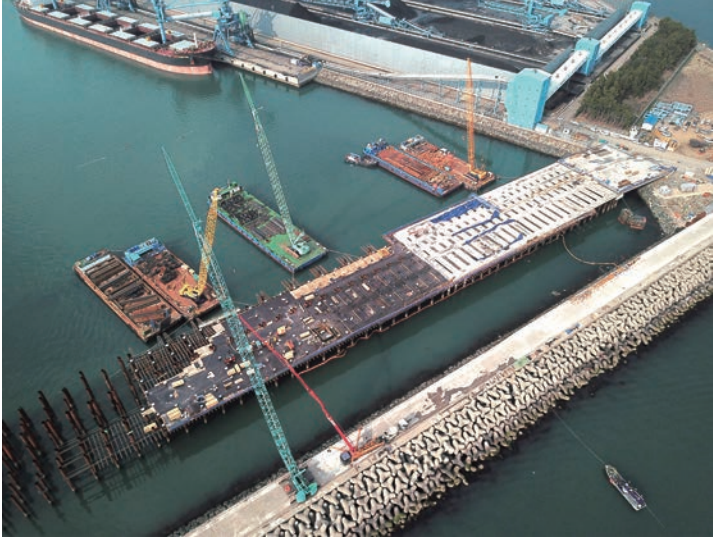
**Busan New Port Construction**

Performance



# Construction View

## Port Construction



**Goseong Green Power**

Performance

## Construction View

Road : Bridge & Tunnel



**Yeosu**



**Dongbek-juk jeon**



**Seoul-chuncheon**



**Cheongwon-sangju**



**Gupo Tunnel**

Performance



## Construction View

Residential land development



**Yangsan Mulgeum**



**Gwangyang Chonam**

## Construction View

### Architecture



**National Theater of Korea**



**Geumdang High school Gymnasium**



**Chosuk C&D office building**

Performance

# Construction View

Singapore



**Jurong**



**North-South Line C156**



**C915**



**Marina Coastal Expressway C487**



**JAC**



**Transnission Cable Tunnel NS2**



**Pulau Tekong**



**TTP2 PROJECT (Finger 3)**



**CR102**

Performance

## Construction View

Indonesia



**Cilacap**



**Jotun**



**Krakatau**



**LINE PROJECT**



**Patimban**

Performance

# Construction View

Vietnam



**CMIT**



**NSRP**



**CITC**



**LACH HUYEN PORT**



**Gema link**

Performance



## Construction View

HongKong



**Hong Kong International Airport**

Performance

# Construction View

Kuwait



Boubyan



# Construction View

Other Marine construction method & Land D.C.M



**Marine Sand Compaction Pile Construction Vessel**

**Marine Pile Construction Vessel**



**Land Deep Cement Mixing Equipment**

Performance



# Track Record

## Overseas Construction

### Singapore

Year	Project	Client / main Contractor	Duration	Quantity
1997	TUAS A Power Station Fuel Oil Tank Reclamation Of JURONG Island (PHASE 2)	TUAS POWER PTE LTD. / Korea Heavy industry TUAS POWER PTE LTD / PANTA OCEAN CON. KOON CON.	Apr.97-Nov.97	Bored Pile
			Dec.97-Sep.98	
1999	Reclamation At CHANGI East Area-"A"(South)	M.T.I / Samsung C&T	May.99-Dec.01	PBD
2012	Reclamation Ayer Merbau Phase 1 Part 2 Jurong Island	JURONG TOWN / SAMSUNG C&T	Jun.12-Jul.12	Marine Deep Soil Mixing 13,500m <sup>3</sup>
2008	C487 Marina Coastal Expressway Project	LTA / Daelim Industrial	Nov.08-Oct.10	J.G.P and D.S.M
2009	DESIGN, CONSTRUCTION AND COMPLETION OF MARINA COASTAL EXPRESSWAY, CONTRACT 487(ECP/LPE INTERCHANGE)	SINGAPORE LAND TRANSPORT AUTHORITY / DAELIM INDUSTRIAL CO.,LTD	Mar.09-Dec.12	LAND DSM & JGP
2010	C915 DTL2 Tunnels Between Stations at Beauty world and Hillview	LTA / SK E&C	Feb.10-.Sep.11	SBP, Kingpost, Fissure Grouting
	C156 North South Line Extension	LTA / SAMSUNG C&T	May.10-Apr.11	Deep Soil Mixing 117,51m <sup>3</sup>
	Reclamation Pasir Panjang Terminal Phase 3 and 4	MPA / HYUNDAI E&C	Apr.10-Sep.14	Vibro Floatation 150 Caissons
2011	C915 JGP and Fissure Grouting Tunnel Interface C913 / Shaft B	LTA / SK E&C	Nov.11-Sep.12	JGP and Fissure Grouting
	Jurong Aromatics Complex Project	JAC / SK E&C	Aug.11-Jun.12	P.C. PILE WORK D500 83,337m
2012	Reclamation Ayer Merbau Phase 1 Part 2 Jurong Island	JURONG TOWN / SAMSUNG C&T	Jun.12-Jul.12	Marine Deep Soil Mixing 13,500m <sup>3</sup>
2013	North-South Transmission Cable Tunnel Contract NS1	SPPA / SAMSUNG C&T	Feb.13-Feb.14	Fissure Grouting Works Recharge Well
	North-South Transmission Cable Tunnel Contract NS2	SPPA / SK E&C	Mar.13-Aug.14	Fissure Grouting Works 75mm : 6,845m
	East-West Transmission Cable Tunnel Contract EW2	SPPA / SK E&C	Apr.13-Jan.14	F1 Grouting Fissure Grouting Works
2014	Contract T228 Construction of Gardens By The Bay Station and Tunnels for Thomson Line-Ground Improve	LTA / KOH KOCK LEONG ENTERPRISE PER LTD	Oct.14-Jun.16	Deep Soil Mixing Grouting Works
	Downtown Line Stage2, Contract 915	LTA / SK E&C	Sep.14-Dec.16	Sheet Pile, Bored Pile
	Installation of Prefabricated Vertical Drains For Land Preparation Works	MOT / POC-CT JV	Oct.14-Aug.20	PVD
2019	CONSTRUCTION OF POLDER AT AREAS A AND C OF PALAU TEKONG – SOIL IMPROVEMENT WORK BY DCM	HOUSING & DEVELOPMENT BOARD / BOSKALIS PENTA OCEAN JOINT VENTURE	Jan.19-May.21	LAND DCM



## Track Record

### Overseas Construction

Year	Project	Client / main Contractor	Duration	Quantity
2022	TUAS TERMINAL RECLAMATION, WHARF CONSTRUCTION AND DREDGING PHASE 2, PVD WORKS FOR RECLAMATION	MPA / HYUNDAI E&C	Jan.22-	PVD
2022	CROSS ISLAND CR102 (DESIGN AND CONSTRUCTOIN OF TUNNEL BETWEEN AVIATION PARK STATION AND DEPOT) – GROUND IMPROVEMENT WORK DSM	LAND TRANSPORT AUTHOIRY / SHANGHAI TUNNEL ENGINEERING – LT SAMBO JOINT VENTURE	Jun.22-Jul.24	LAND DCM

### Indonesia

Year	Project	Client / main Contractor	Duration	Quantity
2011	Krakatau Posco Integrated Steel Mill Project	KRAKATAU POSCO ENERGY / Dongyang E& C	Aug.11-Nov.11	Deep Cement Mixing 75,545 m(H=10m)
2012	KRAKATAU-POSCO Integrated Steel Mill Project RFCC-Cilacap Project	POSCO E&C PT. Pertamina / GS E&C	Aug.11-Aug.12 Oct.12-May.13	PHC Pile Driving Work 18,000 EA PC Pile Driving 1,500 EA
2013	Surya TOTO Factory project Jotun paint factory Project Pantai Indah Kapuk project	PT.Surya TOTO / PT.Pakubumi PT.Jotun / PT.Pakubumi Agung sedayu / PT.Pakubumi	Sep.13-Nov.13 Nov.13-Feb.14 Feb.14-Jun.14	PHC pile 400EA PHC pile 750EA
2018	PATIMBAN PORT DEVELOPMENT PROJECT - MARINE CEMENT DEEP MIXING (CDM) WORKS	MINISTRY OF TRANSPORT / PENTA-OCEAN CONS	Nov.18-Sep.19	MARINE DCM
2020	LAND PREPARATION OF LINE PROJECT (PVD WORKS FOR ADDITIONAL RECLAMATION AREA)	LOTTE CHEMICAL INDONESIA / LOTTE E&C – HANS ENGG JO	Jul.20-Nov.20	PVD
2022	LINE PROJECT WP7 CIVIL – SOIL IMPROVEMENT WORK	LOTTE CHEMICAL INDONESIA / LOTTE E&C – HANS ENGG JO	APR.22-JAN.23	LAND DCM
2023	PATIMBAN PORT DEVELOPMENT PROJECT PACKAGE 5	TWWHA JO (TOA-WASKITA-WAKACHIKU-HUTAMA-ABIPRAYA JO)	Feb.23-Jun.24	MARINE DCM
2023	PATIMBAN PORT DEVELOPMENT PROJECT PACKAGE 6	PTRPWJ (PENTA OCEAN-TOYO-RINKAI-PP-WIKA-JAKON)	Feb.23-Jun.24	MARINE DCM

### Vietnam

Year	Project	Client / main Contractor	Duration	Quantity
2007	POSCO Port Project	POSCO E&C	Dec.07-Aug.08	(Marine Inclined & vertical) PC Pile D300: 45,324m P.H.C Pile D700: 17,508.96m Steel Pipe D711.2 : 7,646.09m Steel Pipe D1016 (vertical): 4,653.93m Soil Improvement P.B.D(1.2m gap, 30m depth): 448,981m P.B.D(0.8m & 1.0m gap): 2,257,559m

Performance

# Track Record

## Overseas Construction

Year	Project	Client / main Contractor	Duration	Quantity
2008	Cai Mep International Terminal	Cai Mep International Terminal Co., Ltd. / Posco E&C-Samwhan.Joint Venture	Sep.08-May.12	(Marine pile ) P.H.C Pile D1000 : 61,505m Steel Pipe D812.8 (Inclined) : 11,588m Steel Pipe D1016 : 6,930m P.B.D : 13,520,364m
2009	Package EX-7, Hanoi-Haiphong Expressway Project	Vietnam infrastructure Dev / GS E&C	May.09-Mar.14	PVD : 8,898,954m S-Geotextile : 684,878m <sup>2</sup> R-Geotextile : 442,039m <sup>2</sup> SCP: 296,454m, SD: 799,166m
2010	Package EX-6, Hanoi- Haiphong Expressway Project	Vietnam infrastructure Dev / GS E&C	Nov.11-Oct.14	SD : 238,418m SCP : 369,062m PVD : 9,564,147m
2011	GEMALINK CONTAINER TERMINAL PHASE-1	Gemadep-Terminal Link Cai Mep Terminal JSC / DAELIM-SAMWHAN JOINT VENTURE	Jan.11-Jul.11	PVD : 8,631,992m
2011	Package EX-4, Hanoi-Haiphong Expressway Project	Vietnam Infrastructure Dev / KEANGNAM	Dec.11-Mar.13	SD : 686,430m SCP : 112,948m PVD : 508,940m S-Geotextile : 96,670.06 m <sup>2</sup> R-Geotextile : 67,927.72 m <sup>2</sup>
2011	CAI LAN International container Terminal	Cai Lan International Container LLC. / HALLA E&C	Jun.11-Oct.12	PHC Pile : 607 holes
2012	Son Duong Port - Formosa Project	Formosa Taiwan Corp	Jun.12-Oct.12	Steel pipe D900 : 1,896m Sheet pile Type II (400x100x10.5) : 172.4ton Sheet pile TypeIII(400x125x13) : 438ton
2013	Package EX-5, Hanoi-Haiphong Expressway Project	Vietnam infrastructure Dev. / CDCG & GIETC	Jan.13-May.13	SCP : 200,000m P.V.D : 300,000m
2013	Formosa Raw Material Handling System Project	Formosa Ha Tinh Steel Corporation / POSCO E&C	Jan.13-Mar.14	PHC pile PHC Pile D500 (vertical) : 81,277.5m PHC Pile D600 (raking) : 28,269m Auger Drilling - On Land : 45,000m Auger Drilling - Sea Side : 9,000m
2013	POSCO SS - VINA PORT PROJECT	POSCO SS-VINA / SEOHEE CON.	Apr.13-Dec.13	PHC,Steel Pile PHC Pile D700 (vertical) : 19,314m PHC Pile D700 (raking) : 700m Steel pipe D1016 (vertical) : 3,784m Steel pipe D711.2 (raking) : 6,326m



## Track Record

### Overseas Construction

Year	Project	Client / main Contractor	Duration	Quantity
2014	NSRP Project	NSRP / SK E&C	Jan.14-May.16	P.V.D : 210,000m Silt Protector Work : 113 span Dredging & Disposal : 494,829m <sup>3</sup> Rakuna(T.T.P) : 23,720ea Quarry run rock : 788,091m <sup>3</sup>
2014	NSRP Project PIL4 Package	NSRP / JGCS	Feb.14-Jan.15	PC pile D400 : 38,990m PC pile D600 : 32,130m
2015	NSRP Provision of Transportation & Installation of PC Girder Beam and PC Plant Slabs	JGCS Consortium / PTSC	Apr.15-Jul.15	Transportation & Installation PC Girder -112ea PC Plant Slabs -131ea
2016	PHU QUOC International Passenger Terminal Port Project	MOT / Southern Branch - Truongson Construction Co.	Jan.16-Apr.16	Marine Pile Driving Works PHC Pile D1,000 – (vertical) : 5,000m PHC Pile D1,000 – (raking) : 5,000m
2016	LACH HUYEN PORT Infrastructure Construction Project – Package 10 Contract	MPMU / Toa Corporation	Apr.16-Aug.18	Rock Works - 147,866m <sup>3</sup> Concrete Blocks - 28,246ea
2017	LACH HUYEN PORT INFRASTRUCTURE CONSTRUCTION PROJECT PACKAGE 10 CONTRACT - ADDITIONAL 1,000M OF WORK	MARITIME PROJECT MANAGEMENT UNIT-1 / TOA	Jun.16-Mar.17	ROCK SUPPLY, BLOCK INSTALLATION
2019	NUMBER 5 WIND-ELECTRIC FACTORY	TAN HOAN CAU CORP / DONG DO COMPANY	May.19-Oct.19	PILE
2019	NGHI SON 2 THERMAL POWER PLANT -COAL UNLOADING JETTY WORK	NGHI SON 2 POWER Co., LTD. (NS2PC) / TOA	Jun.19-Jul.20	PILE

### Kuwait

Year	Project	Client / main Contractor	Duration	Quantity
2011	Boubyan Seaport Phase Project 1 Stage 2	MINISTRY OF PUBLIC WORKS / HYUNDAI E&C	Jun.11-Feb.12	Marine DSM 820,605m <sup>3</sup>
2011	Boubyan Seaport Project	MINISTRY OF PUBLIC WORKS / HYUNDAI E&C	Oct.11-Mar.12	Soil Improvement PVD : 9,450,000m
2012	Boubyan Seaport Project	MINISTRY OF PUBLIC WORKS / HYUNDAI E&C	Aug.12-May.13	Land DSM 129,303m <sup>3</sup>
2013	Mubarak Al Kabeer Seaport Project, Phase1, Stage1	MINISTRY OF PUBLIC WORKS / Hyundai E&C	Feb.13-Oct.13	Soil Improvement PVD : 16,500,000m
2013	Sheikh jaber Al-Ahamad Al-Sabha Causeway Project - RA140	MINISTRY OF PUBLIC WORKS / CGCC	Nov.13-Dec.14	Soil Improvement PVD:13,403,010m

# Track Record

## Overseas Cpmstruction

### Hong Kong

Year	Project	Client / main Contractor	Duration	Quantity
1999	TUNG CHUNG Development Phase 3A Reclamation For Area 51,52 (Part)	Hong Kong port authority / HYUNDAI E&C	Jul.99-Jan.00	Marine PVD 480,000m
2001	Kwai Chung Container Port-Terminal 9 Development	Modern Terminal / HYUNDAI E&C	Jun.01-Jul.03	PVD
2016	HongKong Airport Authority Three Runway System Project Contract 3201-DCM Work	Penta-Ocean Constrution	Aug.12-May.13	Marine DCM Works - 1,620,000m <sup>3</sup>
2016	HongKong Airport Authority Three Runway System Project Contract 3203-DCM Work	SAMBO ENGINEERING & CONSTRUCTION	Apr.16-Mar.18	Marine DCM Works - 1,650,000m <sup>3</sup>
2018	CONTRACT 3206 - MAIN RECLAMATION WORKS (SPECIALIST SUB-CONTRACT FOR MARINE DCM WORKS)	AIRPORT AUTHORITY HONG KONG / PHKL	Jun.18-Jan.19	MARINE DCM
2019	CONTRACT 3206 - MAIN RECLAMATION WORKS (SPECIALIST SUB-CONTRACT FOR MARINE DCM WORKS)	AIRPORT AUTHORITY HONG KONG / PHKL	Sep.19-Sep.21	LAND DCM
2021	Tung Chung New Town Extension - Reclamation and Advance Works Area L6, L8, L10, L12, L13 and E2	ECDD / BUILD KING – SCT J/V	Apr.21-Jun.22	PVD

### Other Country

Year	Project	Client / main Contractor	Duration	Quantity
1998	Jamuna Railway Link Project	Railway Administration / SAMWHAN	Nov.98-May.99	Bangladesh
1998	Haripur Power Plant Project	Power Bureau / HYUNDAI E&C	Jun.99-Jul.99	Bangladesh
2000	Extension Of Grand Berth NO.13. AT DAMIETTA Port	Damietta port authority / SAMSUNG C&T	May.01-Jun.01	Egypt / PVD 400,000m
2001	Colombo-Katunayake Expressway Project	Sri Lankan Government / KEANGNAM ENTERPRISES LTD	May.01-Jun.01	Srilanka / SCP, PVD
2012	Construction of Ship Repair Complex in Turkmenistan	MINISTRY OF PUBLIC WORKS / HYUNDAI AMCO	Aug.12-Aug.13	Turkmenistan / Pump Dredge 385,000m <sup>3</sup>
2016	Aeon Phnompenh PPC Project PHC Pile Driving Work	AJU VIETNAM Co.,LTD.	Jun.16-Aug.16	Cambodia / PHC Pile Driving D600 - 35,880m
2017	JETTY WORK IN BANGLADESH MATARBARI ULTRA CRITICAL COAL-FIRE PROJECT	COAL POWER GENERATION COMPANY BANGLADESH LIMITED / HYUNDAI ENGINEERING & CONSTRUCTION	Dec.17-May.08	SHEET PILE
2018	BANGLADESH MATABARI CFPP PORT OFFSHORE-SHEET PILE INSTALLATION	COAL POWER GENERATION COMPANY BANGLADESH LIMITED / HYUNDAI ENGINEERING & CONSTRUCTION	Oct.18-Feb.19	SHEET PILE

## Track Record

### WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

#### SOFT GROUND IMPROVEMENT

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
1	DREDGED MATERIAL DUMPING AREA REVETMENT PKG2 FOR BUSAN NEW PORT - MARINE SCP	BUSAN REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / SAMSUNG C&T	Aug-00	Jun-02	MARINE SCP
2	SOFT GROUND IMPROVEMENT WORKS (PS) OF 00-5951-2 FOUNDATION CONSTRUCTION	REPUBLIC OF KOREA NAVY / DAEWOO ENGINEERING & CONSTRUCTION CO.,LTD.	Jan-02	Jun-05	HIGH PRESSURE DRY SAND SPREAD
3	WEST PART OF KWANGYANG PORT ROAD CONSTRUCTION	KOREA CONTAINER TERMINAL AUTHORITY / KYE-RYONG CONSTRUCTION INDUSTRIAL CO.,LTD.	Apr-02	Oct-04	PBD, SCP
4	BUSAN MINJA WHARF CONSTRUCTION PKG1 - MARINE SCP	BUSAN NEW PORT COMPANY / SAMSUNG C&T	Aug-02	Aug-03	MARINE SCP
5	DAESAN PORT DEVELOPMENT (PHASE1) CONSTRUCTION	DAESAN REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Dec-02	Sep-03	MARINE SCP
6	SOFT GROUND IMPROVEMENT WORKS OF KWANGYANG PORT PHASE3 STAGE1 CONTAINER TERMINAL CONSTRUCTION	KOREA CONTAINER TERMINAL AUTHORITY / KYE-RYONG CONSTRUCTION INDUSTRIAL	Apr-02	Oct-04	PBD, SCP
7	BUSAN NEW PORT ROAD CONSTRUCTION PKG2 (GARAK IC ~ SIKMAN BRIDGE)	BUSAN METROLITAN CORPORATION / JS C&TECH	Jul-03	May-06	SCP
8	EAST PART OF KWANGYANG PORT SOFT GROUND IMPROVEMENT	KOREA CONTAINER TERMINAL AUTHORITY / JUNDNAM CONSTRUCTION	Dec-03	Aug-04	DISTRIBUTIVE SAND SPREAD, PBD
9	SOFT GROUND IMPROVEMENT WORKS OF INCHEON INTERNATIONAL AIRPORT PHASE2 3rd RUNWAY (PKG2)	INCHEON INTERNATIONAL AIRPORT CORPORATION / DAELIM INDUSTRIAL	Feb-04	Dec-06	SAND MAT
10	STEEL PILE INSTALLATION WORKS FOR KEUMGA BRIDGE TEMPORARY BRIDGE OF CHUNGJU CITY NATIONAL ROAD BYPASS (YONGDU - KEUMGA)	MINISTRY OF STRATEGY AND FINANCE / SK ENGINEERING & CONSTRUCTION	Oct-04	May-07	STEEL PILE DRIVING
11	PBD WORKS FOR BUSAN NEW PORT NORTH CONTAINER TERMINAL PKG1	BUSAN METROLITAN CORPORATION / POSCO ENGINEERING & CONSTRUCTION	Nov-04	Jul-05	PBD
12	PBD WORKS FOR KWANGYANG PORT CONTAINER WHARF PKG3-2	KOREA CONTAINER TERMINAL AUTHORITY / HYUNDAI ENGINEERING & CONSTRUCTION	Nov-04	May-07	PBD
13	YANGSAN MULKEUM HOUSING DEVELOPMENT ZONE BUSINESS FORMATION CONSTRUCTION (PKG3-4) - SOFT GROUND IMPROVEMENT, EARTHWORK, DEWATERING WORK, PAVEMENT WORK	KOREA LANG & HOSING CORPORATION / DOOSAN HEAVY INDUSTRIES & CONSTRUCTION	Jan-05	Aug-08	PBD, SCP
14	BUSAN NEW PORT DEVELOPMENT CIVILINA INVESTMENT FACILITY BUSINESS PHASE1-2 WHARF FACILITY CONSTRUCTION PKG2 - MARINE SCP	BUSAN NEW PORT COMPANY / SAMSUNG C&T	Feb-05	May-06	MARINE SCP

# Track Record

## WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
15	SOFT GROUND IMPROVEMENT FOR KWANGYANG WHARF ROAD (PKG2)	KOREA CONTAINER TERMINAL AUTHORITY / SHINAN	Mar-05	Dec-07	DISTRIBUTIVE SAND SPREAD, PBD
16	SOFT GROUND IMPROVEMENT FOR KWANGYANG EAST COMPLEX (PHASE2)	KOREA CONTAINER TERMINAL AUTHORITY / GS ENGINEERING & CONSTRUCTION	Nov-05	Oct-06	PCD
17	SOFT GROUND IMPROVEMENT FOR BUSAN NEW PORT RAILWAY PKG3	BUSAN METROPOLITAN CORPORATION / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Nov-05	May-07	PBD, SCP
18	SOFT GROUND IMPROVEMENT FOR KWANGYANG WEST RAILWAY CONSTRUCTION	YEOSU REGIONAL MARITIME AFFAIRS&PORT ADMINISTRATION / SK ENGINEERING & CONSTRUCTION	Mar-06	Dec-07	PBD, SD, SCP
19	BORING GROUTING CONSTRUCTION FOR BUSAN-KIMHAE SUBWAY PKG2	BUSAN-GIMHAE LIGHT RAIL TRANSIT / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Jun-06	Mar-08	Bored Pile
20	INSITU CONCRETE PILE INSTALLATION WORKS FOR INCHEON BRIDGE CONNECTING ROAD (PKG4)	MINISTRY OF LAND, INFRASTRUCTURE AND TRANSPORT / SK ENGINEERING & CONSTRUCTION	Jul-06	Dec-07	SCP
21	SCP WORKS FOR BUSAN NAMKEON DREDGED MATERIAL DUMPING AREA	BUSAN PORT AUTHORITY / SAMSUNG C&T	Sep-06	Sep-07	MARINE SCP
22	POHANG OLD PORT FISHING BOAT WHAFT FORMATION CONSTRUCTION	POHANG REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / SEGI CONSTRUCTION	Oct-06	Feb-08	MARINE SCP
23	MOKPO NORTH PORT SMALL FISHING BOAT JETTY CONSTRUCTION - DCM STEEL PILE INSTALLATION WORKS	MOKPO REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / GASAN CONSTRUCTION	Jan-07	Dec-07	MARINE DCM
24	SOFT GROUND IMPROVEMENT FOR SONGDO PKG1 INFRASTRUCTURE PKG1-1 - DYNAMIC COMPACTION AND PBD	INCHEON FREE ECONOMIC ZONE AUTHORITY / DAEBO ENGINEERING & CONSTRUCTION	Jan-07	Apr-09	DYNAMIC COMPACTION, PBD
25	SOFT GROUND IMPROVEMENT FOR ONSAN=DUWANG NATIONAL ROAD CONSTRUCTION	BUSAN REGIONAL CONSTRUCTION MANAGEMENT ADMINISTRATION / SAMWHAN	May-07	Dec-10	PBD, GCP
26	SOFT GROUND IMPROVEMENT FOR SONGDO INTERNATIONAL CITY PKG1 HOUSING AREA INFRASTRUCTURE CONSTRUCTION - SCP	INCHEON FREE ECONOMIC ZONE AUTHORITY / SHINHWA CONSTRUCTION	Jul-07	Mar-08	PBD
27	DOJANG PORT CONSTRUCTION - DCM	MOKPO REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / NAMKWANG ENGINEERING & CONSTRUCTION	Aug-07	Jun-11	MARINE DCM
28	KWANGYANG (YEOCHEON) PORT ACCESS ROAD CONSTRUCTION - SOFT GROUND IMPROVEMENT	YEOSU REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / DAWON	Oct-07	May-10	GCP
29	BUSAN JINHAE ECONOMIC FREE ZONE WEST BUSAN DISTRIBUTION DISTRICT DEVELOPMENT BUSINESS FORMATION CONSTRUCTION	BUSAN-JINHAE FREE ECONOMIC ZONE AUTHORITY / KOREA DEVELOPMENT	Nov-07	Dec-10	PBD

## Track Record

### WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
30	HAEUNDAE WUDONG I-PARK CONSTRUCTION - RCD	HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Nov-07	Oct-10	Bored Pile
31	MASAN PORT ACCESSWAY (PHASE1) - SOFT GROUND IMPROVEMENT including SCP	MASAN CITY / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Nov-07	Sep-08	PBD, SCP
32	SCAFFOLD WORKS OF F-1 RACE TRACK	KOREA AUTO VALLEY OPERATION / GUMGWANG CONSTRUCTION	Feb-08	Dec-08	PBD, GCP
33	SOFT GROUND IMPROVEMENT FOR SONGDO INTERNATIONAL CITY PKG3 INFRASTRUCTURE (PKG3-2 NISC)	INCHEON FREE ECONOMIC ZONE AUTHORITY / Daewon CONSTRUCTION & INDUSTRIAL	Feb-08	Dec-10	PBD, SCP
34	BUSAN NEW PORT NORTH CONTAINER TERMINAL REAR AREA FORMATION CONSTRUCTION PKG2 - PBD	BUSAN METROLITAN CORPORATION / KCC ENGINEERING & CONSTRUCTION	Feb-08	Oct-08	PBD
35	SOFT GROUND IMPROVEMENT FOR YEOSU NATIONAL INDUSTRIAL ZONE EXPANSION ZONE PKG2	JEOLLANAM DO / DAEWOO ENGINEERING & CONSTRUCTION	Feb-08	Dec-08	PBD
36	MOKPO PORT MARINE FISHERY INSPECTION BOAT WHARF CONSTRUCTION - SCP	MOKPO REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / DONGYANG ENGINEERING & CONSTRUCT	Apr-08	Dec-08	MARINE SCP
37	INCHEON NEW PORT ACCESSWAY PKG2 - MARINE SCP	INCHEON REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / HYUNDAI ENGINEERING & CONSTRUCTION	Apr-08	Nov-08	MARINE SCP
38	SONGDO PKG1 INFRASTRUCTURE PKG1-2 - NONVIBRATION SCP	INCHEON FREE ECONOMIC ZONE AUTHORITY / SEUNGHWA	Apr-08	May-08	NONVIBRATION SCP
39	BUSAN NEW PORT PHASE2-3 CONTAINER PORT CONSTRUCTION - PBD, DEWATERING	HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	May-08	Sep-11	PBD
40	KUNSAN PORT AUTOMOBILE WHARF (42) FORMATION CONSTRUCTION - DCM	CJ KOREA EXPRESS CORPORATION / SAMHYUB CONSTRUCTION	Jun-08	Dec-08	MARINE DCM
41	MYEONGJI BRIDGE CONSTRUCTION CIVILIAN INVESTEMENT BUSINESS - SCW	MYOUNGJI BRIDGE / LOTTE ENGINEERING & CONSTRUCTION	Aug-08	Oct-08	SCW
42	KUNSAN DOCKYARD AND QUAY CONSTRUCTION - SCP	HYUNDAI HEAVY INDUSTRIES / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Aug-08	Sep-08	GCP
43	YEOSU NATIONAL INDUSTRIAL ZONE ACCESSWAY IMPROVEMENT PKG4 - FOUNDATION WORK	JEOLLANAM DO / POSCO ENGINEERING & CONSTRUCTION	Dec-08	Nov-10	Bored Pile
44	JINJU~KWANGYANG PKG5 ROADBED CONSTRUCTION - SOFTGROUND IMPROVEMENT	KOREA RAIL NETWORK AUTHORITY / GS ENGINEERING & CONSTRUCTION	Mar-09	Dec-11	PBD, SCP



# Track Record

## WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
45	NATIONAL EXPRESSWAY LINE104 NAENGJEONG-BUSAN EXPANSION CONSTRUCTION PKG3,4 SOFT GROUND IMPROVEMENT	KOREA EXPRESSWAY CORPORATION /DONGAH CONSTRUCTION INDUSTRIAL	Apr-09	Jan-13	PBD, SCP, NONVIBRATION SCP
46	IYEOSU POWER NO.2 ECOFACILITY DEVELOPMENT BUSINESS - EARTHWORK, PILE DRIVING, STRUCTURE WORKS	KOREA SOUTH-EAST POWER / SK ENGINEERING & CONSTRUCTION	May-09	Dec-11	MARINE PILE DRIVING
47	NATIONAL EXPRESSWAY LINE104 NAENGJEONG-BUSAN EXPANSION CONSTRUCTION PKG 3-1 - SOFT GROUND IMPROVEMENT	KOREA EXPRESSWAY CORPORATION / BYUCKSAN ENGINEERING & CONSTRUCTION	May-09	Dec-12	HYDRAULIC COMPACTION, DYNAMIC COMPACTION, SCP
48	SONGDON INTERNATIONAL CITY PKG5-3 INFRASTRUCTURE CONSTRUCTION - EARTHWORK, SCAFFOLDING WORKS	INCHEON FREE ECONOMIC ZONE AUTHORITY / JA CONSTRUCTION	Jun-09	Jun-10	HYDRAULIC COMPACTION, DYNAMIC COMPACTION, PBD
49	YANGSAN MUL KEUM HOUSING DEVELOPMENT BUSINESS FORMATION CONSTRUCTION (PKG3-5) - SOFT GROUND IMPROVEMENT	KOREA LAND & HOUSING CORPORATION / WON CONSTRUCTION	Jun-09	Sep-11	PBD
50	SONGDO INTERNATIONAL CITY PKG5-1 INFRASTRUCTURE CONSTRUCTION - SOFT GROUND IMPROVEMENT (AREA A)	INCHEON FREE ECONOMIC ZONE AUTHORITY / HALLA	Jun-09	Feb-10	HYDRAULIC COMPACTION, DYNAMIC COMPACTION, SCP, PBD
51	BUSAN NEW PORT WOONGDONG ZONE PHASE1 PKG2 CONSTRUCTION - SOFT GROUND IMPROVEMENT	BUSAN REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / HALLA	Oct-09	Sep-11	PBD
52	BUSAN NEW PORT WOONGDONG ZONE PKG1-1 - SOFT GROUND IMPROVEMENT	BUSAN REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / GS ENGINEERING & CONSTRUCTION	Dec-09	Dec-10	PBD, VIBRO PBD
53	BUSAN NORTH PORT - SOFT GROUND IMPROVEMENT WORKS	BUSAN PORT AUTHORITY / KOREA DEVELOPMENT	Nov-10	Mar-14	PBD, HIGH PRESSURE DRY SAND SPREAD
54	MASAN MARINE NEW CITY CONSTRUCTION - SOFT GROUND IMPROVEMENT	CHANGWON CITY / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Nov-10	Dec-11	SCP, HIGH PRESSURE DRY SAND SPREAD
55	SAENGOK INDUSTRIAL ZONE FORMATION CONSTRUCTION PKG1 - SOFT GROUND IMPROVEMENT (C-PBD)	BUSAN METROLITAN CORPORATION / DAELIM INDUSTRIAL	Dec-10	Sep-13	C-PBD
56	BUSAN NEW PORT INTERNATIONAL INDUSTRIAL MATERIAL CITY PHASE1 -1 PKG3 - SOFT GROUND IMPROVEMENT	BUSAN KANGSEO INDUSTRIALCOMPLEX / SSANGYONG ENGINEERING & CONSTRUCTION	Jun-11	Dec-14	PBD
57	ULSAN NEW PORT NORTH BREAKWATER (PKG3) FORMATION CONSTRUCTION - MARINE DCM (AREA A)	ULSAN REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / HALLA	Jan-12	May-13	MARINE DCM

## Track Record

### WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
58	GALSANMAN SHIPBUILDING INDUSTRIAL ZONE FORMATION CONSTRUCTION PHASE1 - SOFT GROUND IMPROVEMENT	HADONG DEVELOPMENT / HANSHIN CONSTRUCTION	Jul-12	Dec-15	PBD
59	BUSAN NEW PORT WEST CONTAINER TERMINAL (PHASE2-5) CONSTRUCTION - MARINE SCP	BUSAN PORT AUTHORITY / DAELIM INDUSTRIAL	Sep-12	Mar-13	MARINE SCP
60	DAEGU LINE EAST DAEGU~YOUNGCHEON SUBWAY PKG1 - CAST INSITU CONCRETE PILE	KOREA RAIL NETWORK AUTHORITY / SK ENGINEERING & CONSTRUCTION	Apr-08	Dec-08	Bored Pile
61	BUSAN NEW PORT SONGDO DREDGED MATERIAL DUMPING AREA REVETMENT CONSTRUCTION - BORING GROUDING, MARINE DCM (PKG1)	BUSAN REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / HYUNDAI ENGINEERING & CONSTRUCTION	Oct-12	Sep-13	MARINE DCM
62	JINSANG-HADONG (PKG1) ROAD CONSTRUCTION SEOMJIN RIVER BRIDGE - CAST INSITU CONCRETE PILE	IKSAN REGIONAL CONSTRUCTION MANAGEMENT ADMINISTRATION / HALLA	Jan-13	Nov-14	Bored Pile
63	GALSANMAN SHIPBUILDING INDUSTRIAL ZONE FORMATION CONSTRUCTION PHASE1 - REVETMENT MARINE DCM (AREA2)	HADONG DEVELOPMENT / HANSHIN CONSTRUCTION	Jun-13	Dec-13	MARINE DCM
64	IKSAN-DAEYA ROADBED PKG2 CONSTRUCTION - SOFT GROUND IMPROVEMENT	KOREA RAIL NETWORK AUTHORITY / KCC ENGINEERING & CONSTRUCTION	Aug-13	Dec-17	PBD, GCP, SCP
65	BUSAN NEW PORT INTERNATIONAL INDUSTRIAL MATERIAL CITY PHASE 1-2 CONSTRUCTION PKG8 - SOFT GROUND IMPROVEMENT	BUSAN METROLITAN CORPORATION / SAMHO INTERNATIONAL	Jun-14	Dec-15	PBD
66	PORT OF GWANGYANG CONSTRUCTION PHASE 3-2 FOUNDATION WORK AND GROUND IMPROVEMENT WORK	YEOSU PORT AUTHORITY / YOUNGJIN CONSTRUCTION OTHER 1 COMPANY	May-14	Nov-14	MARINE DCM, PBD, SD
67	ULSAN NEW PORT SOUTH BREAK WATER (WORK ZONE 2-1) GROUND IMPROVEMENT WORK	ULSAN REGIONAL MARITIME AFFAIRS AND PORT OFFICE / HYUNDAI DEVELOPMENT COMPANY OTHER 6 COMPANIES	Jul-14	Feb-16	MARINE DCM
68	SONGDO 6-8 WORK ZONE INFRASTRUCTURE WORK ZONE 8-4 GROUND IMPROVEMENT WORK	INCHEON METRO POLITAN CITY FREE ECONOMIC ZONE / SHINHWA CONSTRUCTION OTHER 1 COMPANY	Aug-14	Jul-15	HYDRAULIC COMPACTION, DYNAMIC COMPACTION, SCP
69	POHANG OLD PORT PROBE WHARF BUILDING CONSTRUCTION GROUND IMPROVEMENT WORK (DCM WORK)	POHANG REGIONAL MARTITIME AFFAIRS AND PORT OFFICE / KWANGIL CONSTRUCTION	Oct-14	Jan-15	MARINE DCM
70	BUSAN NEW PORT WEST CONTAINER TERMINAL (PHASE 2-5) CONSTRUCTION INTERFACE MARINE GROUND IMPROVEMENT WORK (MARINE SCP)	BUSAN PORT AUTHORITY / DAELIM INDUSTRIAL	Jan-15	Aug-15	MARINE SCP
71	PORT OF MOKPO DAEBUL STEEL WHARF CONSTRUCTION MARINE DCM	MOKPO REGIONAL MARITIME AFFAIRS AND PORT OFFICE / SSANGYONG E&C	Oct-15	Jan-16	MARINE DCM

# Track Record

## WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
72	FISHING BOAT FLOATING PIER AND SEAWALL CONSTRUCTION MOKPO NORTH PORT	MOKPO REGIONAL MARITIME AFFAIRS AND PORT OFFICE / WOOSEOK CONSTRUCTION OTHER 3 COMPANIES	Apr-16	Nov-16	MARINE DCM
73	BUSAN NEW PORT CONTAINER TERMINAL (PHASE 1-2) BERTH - 3 CONSTRUCTION WORK	BUSAN PORT AUTHORITY / HYUNDAI DEVELOPMENT COMPANY OTHER 1 COMPANY	Apr-16	Sep-16	MARINE DCM
74	MOORING FACILITIES CONSTRUCTION IN YEOSU NEW NORTH PORT	YEOSU REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / STX CONSTRUCTION OTHER 3 COMPANIES	Jul-16	Sep-18	MARINE DCM
75	BUSAN NEW PORT WEST CONTAINER TERMINAL (PHASE 2-5) EXPANSION CONSTRUCTION - SOFT GROUND IMPROVEMENT	BUSAN PORT AUTHORITY / HYUNDAI ENGINEERING & CONSTRUCTION OTHER 5 COMPANIES	Feb-17	Feb-19	PBD
76	GOSEONG GREEN POWER PROJECT - COOLING WATER CANAL DCM WORK	GOSEONG GREEN POWER / SK ENGINEERING & CONSTRUCTION	Jun-17	Jan-18	MARINE DCM
77	POWER STATION BASE CREAT CONSTRUCTION-PIER CONSTRUCTION WORK	GOSEONG GREEN POWER / WOORAM CONSTRUCTION COMPANY	Jun-17	Dec-19	MARINE PILE DRIVING
78	GOSEONG GREEN POWER PROJECT-PLANT PILE CORPORATION PKG#1	GOSEONG GREEN POWER / SK ENGINEERING & CONSTRUCTION	Feb-18	Sep-19	PILE
79	LG CHEM YEOSU SAP5 CORPORATION (PILE CORPORATION)	LG CHEM / SERVEONE	Feb-18	Apr-18	PILE
80	SAEMANGEUM NEW PORT ACCESS ROAD AND NORTH SIDE SHORE PROTECTION CONSTRUCTION WORK	GUNSAN REGIONAL OFFICE OF OCEANS AND FISHERIES / GS ENGINEERING & CONSTRUCTION	Feb-18	Apr-20	MARINE DCM
81	GWANGYANG HEUNGHAN HERGA APARTMENT INSTALLATION WORK BY DRAIN CONDUIT	GWANGYANG-SI / CHOSUK / CONSTRUCTION & DEVELOPMENT	Apr-18	Nov-18	WATER AND SEWAGE
82	KUNNE RECLAIMED LAND SEAWALL REPAIR WORK	JINDO-GUN / CONSTRUCTION & DEVELOPMENT	Jun-18	Aug-18	TIDE EMBANKMENT REPAIR WORK
83	S-PROJECT (VRDS) - PILE CONSTRUCTION (B)	SK ENERGY / SK ENGINEERING & CONSTRUCTION	Jun-18	Dec-18	PILE
84	SEOHAE LINE (HONGSEONG~SONGSAN) DOUBLE TRACK LINE 6TH TRACKBED CONSTRUCTION OTHERS (CONTRACT FOR GOODS AND EQUIPMENT)	KOREA RAIL NETWORK AUTHORITY / SEOHEE CONSTRUCTION	May-19	Jun-21	PILE
85	INCHEON NEW PORT DREDGED SOIL DUMPING SITE-DCM CONSTRUCTION (WEST COAST)	MINISTRY OF OCEANS AND FISHERIES / KUK DONG E&C	Jun-19	Sep-22	MARINE DCM
86	BUSAN PORT NEW PORT WEST CONTAINER TERMINAL (2-6 STEPS) CONSTRUCTION - OFFSHORE DCM CONSTRUCTION	BUSAN PORT AUTHORITY / HALLA CORPORATION	Oct-19	Jul-21	MARINE DCM
87	POCHEON ECO GREEN SITE CONSTRUCTION	POCHEON ECO GREEN GENERAL INDUSTRIAL COMPLEX / ETEC E&C	Dec-19	Mar-20	GCP

## Track Record

### WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
88	Gimhae Daedong Advanced General Industrial Complex – Ground Improvement Work (Zone 1)	GDIC / TAEYOUNG CONSTRUCTION	Jan-20	Dec-21	PBD, GCP Crushed Stone Mat
89	Incheon New Port Dredged Soil Dumping Area Sea Dyke Construction (Boring Grouting/Low level DCM)	MINISTRY OF OCEANS AND FISHERS / HYUNDAI E&C	Feb-20	Jan-21	MARINE DCM
90	Sisan Port Reinforcement work (DCM)	YEOSU REGIONAL OFFICE OF OCEANS AND FISHERS / SSANGYONG E&C	Mar-20	Oct-20	MARINE DCM
91	Hueksan-do Port Development work (DCM)	MOKPO REGIONAL OFFICE OF OCEANS AND FISHERS / SSANGYONG E&C	Mar-20	Dec-20	MARINE DCM
92	Incheon New Port Dredged Soil Dumping Area Sea Dyke Construction (DCM work – West Dyke)	MINISTRY OF OCEANS AND FISHERS PORT AND HARBOR DEVELOPMENT DIVISION / KUKDONG CONSTRUCTION	Mar-20	Sep-21	MARINE DCM
93	Baegot New Town Coastal Road Expansion work (Soil Improvement)	SIHEUNG CITY / GS E&C	Apr-04	Jun-21	LAND DCM
94	Busan North Port Phase 1 Redevelopment Phase 1-2 Boring Grouting Work (DCM)	BUSAN PORT AUTHORITY / HYUNDAI E&C	Nov-20	Mar-21	MARINE DCM
95	Buan-gun Daeri Port, Sikdo Port Fishing Village New Deal 300 project Facility construction (Civil Eng, Architecture)	KOREA FISHERIES INFRASTRUCTURE PUBLIC AGENCY / CHOSUK C&D	Dec-20	Nov-21	EARTWORK STRUCTURE
96	20-Gong-Ammunition storehouse relocation soil improvement work (4102 – Earthwork)	THE ARMED FORCES FINANCIAL MANAGEMENT / SONO INTERNATIONAL	Mar-21	Feb-23	EARTHWORK
97	Busan Metro Yangsan Line (Nopo~Bukjeong) Zone 1 Construction	BUSAN TRANSPORTATION CORPORATION / DAEWOO E&C	Apr-21	Apr-22	PILE
98	Mokpo North Port Fishing Vessel Lighters Wharf Construction	MOKPO REGIONAL OFFICE OF OCEANS AND FISHERS / DAEZER CONSTRUCTION, SEJONG CONSTRUCTION, JEONGAM CONSTRUCTION	Apr-21	Oct-21	MARINE DCM
99	Ulsan North Port Liquefied Gas and Petroleum Terminal Phase 2 LNG Package Construction	KOREA ENERGY TERMINAL / DAEWOO E&C	Apr-21	Jun-22	PILE
100	Anma Port Repair Work	MOKPO REGIONAL OFFICE OF OCEANS AND FISHERS / KCC CONSTRUCTION	May-21	Jun-22	MARINE DCM
101	Ulsan North Port Liquefied Gas and Petroleum Terminal Phase 1 LNG Package Construction (LNG Phase 1)	KOREA ENERGY TERMINAL / DAEWOO E&C	Apr-21	Jun-22	PILE
102	Ulsan North Port Liquefied Gas and Petroleum Terminal Phase 1 LNG Package Construction (OIL Phase 1)	KOREA ENERGY TERMINAL / DAEWOO E&C	Apr-21	Jun-22	PILE
103	Ulsan New North Port Liquid Cargo Port construction	ULSAN PORT AUTHORITY / HANYANG CORPORATION, DAEDUEK CONSTRUCTION, JINSAN CONSTRUCTION	May-21	Feb-22	MARINE DCM (CMD SOIL)

# Track Record

## WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
104	Onsan Port North Breakwater Reinforcement for Earthquake force	ULSAN REGIONAL OFFICE OF OCEANS AND FISHERS / CHOSUK C&D, DAEWOON CONSTRUCTION	Jun-21	Sep-22	JET GROUTING
105	Saemanguem Smart Waterfront City Reclamation construction Soil Improvement work	PUBLIC PROCUREMENT SERVICE / KYERYONG CONSTRUCTION, KUNJANG CONSTRUCTION, TAEAN CONSTRUCTION, HANLIM CONSTRUCTION, DAEBO CONSTRUCTION	Jun-17	Dec-19	PBD
106	Wando Port Central Breakwater construction	JEOLLANAM-DO / HJ S&C	Oct-21	Jun-22	MARINE DCM
107	Ulsan Industrial Water Service Pipe Improvement work (Phase 3) and Facility Construction (1st Year)	K-WATER / KUMHO E&C, WOOAM CONSTRUCTION, DAEWOONG CONSTRUCTION, CHOSUK C&D	Dec-21	Mar-25	SCAFFOLDING STRUCTURE
108	Hillstate Shihwaho Lagoon in Terrace (Pile work zone 2)	MTV BANDALSEOM SEA 1 DEVELOPMENT PFV / HYUNDAI E&C	Dec-21	Jun-22	PILE
109	Busan New Port Feeder Harbor Construction	BUSAN PORT AUTHORITY / DL E&C	Jan-22	Jun-24	MARINE DCM
110	Gwangyang Bay Area Free Economic Zone Seonwol Highpark Complex Construction	SEONWOL HIGHPARK VALLEY / JUNGHEUNG CONSTRUCTION	Jan-22	Dec-23	PBD, EARTHWORK
111	GEP Phase-1 Land Development work	IGE CORPORATION / SK ECO ENGINEERING	Feb-22	Aug-22	PILE
112	Dangjin-Songak Logistics Park construction (Zone 1-1)	DANGJIN-SONGAK LOGISTICS PARK /HYUNDAI ENGINEERING	Apr-22	Mar-25	PBD
113	Nokdong New Port General and Sand Port Construction	JEOLLANAM-DO / BUMYANG CONSTRUCTION	Jun-22	Dec-22	MARINE DCM
114	Hillstate Lake Songdo Phase 4	SONGDO LANDMARK CITY PRIVATE COMPANY / HYUNDAI E&C	Aug-22	Mar-23	PILE
115	Songdo Zone 11-1 Infrastructure Construction (1-1 Area)	INCHEON FREE ECONOMIC ZONE AUTHORITY / DL E&C	Sep-22	Feb-23	DYNAMIC COMPACTION
116	PUS05 (MS Data Centre Phase 2)	MICROSOFT KOREA / HYUNDAI E&C	Sep-22	Dec-22	PILE
117	Bangguen Reservoir Renovation work	KOREA RURAL COMMUNITY CORPRATION GYEONGNAM REGIONAL OFFICE GIMHAE YANGSAN, BUSAN BRANCH OFFICE / CHOSUK C&D	Sep-22	Oct-22	GROUTING
118	National Highway No.77 Shinan Aphae-Haenam Hwawon Road Construction Zone 1 Soil Improvement work	DANGJIN-SONGAK LOGISTICS PARK / HYUNDAI ENGINEERING	Apr-22	Mar-25	PBD
119	Boryeong New Port Dredged Soil Dumping Area Construction	CHUNGCHEONGNAM-DO / HJ S&C, HAEU CONSTRUCTION, SEOIL CONSTRUCTION	Nov-22	Apr-23	MARINE DCM
120	Western Busan SK V1 Construction	FORYOU INDUSTRIAL / SK ECOPLANT	Dec-22	Jun-25	LAND DCM, EARTH WORK



## Track Record

### WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

#### ROAD

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
1	NATIONAL EXPRESSWAY LINE30 CHEONGWON~SANGJU CONSTRUCTION (PKG7) - EARTHWORK, REBAR CONCRETE WORK PKG2	KOREA EXPRESSWAY CORPORATION / KOREA DEVELOPMENT CORPORATION	Jun-02	Jun-06	ROAD, STRUCTUREWORK
2	NATIONAL ROAD BYPASS ROAD (DUNDEOK~JUSAM) CONSTRUCTION - EARTHWORK, REBAR CONCRETE WORK (ROAD2)	YEOSU CITY / SK ENGINEERING & CONSTRUCTION	Oct-03	Feb-08	ROAD, STRUCTUREWORK
3	NATIONAL ROAD BYPASS ROAD (JONGHWA~DUNDEOK) CONSTRUCTION - EARTHWORK, STRUCTURE WORK (PKG1)	YEOSU CITY / SK ENGINEERING & CONSTRUCTION	Oct-03	Feb-08	ROAD, STRUCTUREWORK
4	SUWON NATIONAL ROAD BYPASS ROAD (TAEAN~YOUNGTONG) CONSTRUCTION PKG1 - EARTHWORK, REBAR CONCRETE WORK	Korea Land & Housing Corporation / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Mar-04	Oct-07	ROAD, STRUCTUREWORK
5	NATIONAL EXPRESSWAY LINE1 KIMCHEON~YOUNGDONG EXPANSION CONSTRUCTION (PKG3) - EARTHWORK, REBAR CONCRETE WORK	KOREA EXPRESSWAY CORPORATION / KOREA DEVELOPMENT CORPORATION	Oct-04	Dec-06	ROAD, STRUCTUREWORK
6	SUNCHANG-WUNAM (PKG2) ROAD EXPANSION CONSTRUCTION - EARTHWORK, REBAR CONCRETE WORK	IKSAN REGIONAL CONSTRUCTION MANAGEMENT ADMINISTRATION / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	May-05	Oct-11	ROAD, STRUCTUREWORK
7	SOUTHERN BELTWAY IMPROVEMENT CONSTRUCTION - EARTHWORK, REBAR CONCRETE WORK, SCAFFOLDING WORK	SEOUL SPECIAL CITY / NAMJIN CONSTRUCTION	Mar-08	May-10	ROAD, STRUCTUREWORK
8	NATIONAL READ BYPASS ROAD (DUNDEOK~JUSAM) CONSTRUCTION - TEMPORARY BRIDGE INSTALLATION	YEOSU CITY / HEOSUNG CONSTRUCTION	Mar-10	Dec-11	ROAD, STRUCTUREWORK

#### TUNNEL

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
1	NATIONAL EXPRESSWAY LINE1 KIMCHEON ~ YOUNGDONG EXPANSION CONSTRUCTION (PKG3) - HWANGAN TUNNEL	KOREA EXPRESSWAY CORPORATION / KOREA DEVELOPMENT CORPORATION	Jun-02	Dec-05	TUNNEL
2	SUJEONG MOUNTAIN TUNNEL CONSTRUCTION - TUNNEL, ACCESSWAY	BUSAN METROLITAN CORPORATION / KOLON GLOBAL CORPORATION	Jun-03	Feb-07	TUNNEL
3	DONGBAEK-JUKCHEON ROAD IMPROVEMENT CONSTRUCTION PKG1 - BEOBHWA TUNNEL	KOREA LAND & HOUSING CORPORATION / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Oct-03	Dec-05	TUNNEL
4	SEOUL-CHUNCHEON PKG7 - EARTHWORK, TUNNEL	SEOUL-CHUNCHEON HIGHWAY / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Oct-04	Aug-09	TUNNEL

# Track Record

## WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
5	NATIONAL EXPRESSWAY LINE1 KIMCHEON~YOUNGDONG EXPANSION CONSTRUCTION (PKG3) - EARTHWORK, REBAR CONCRETE WORK	SEOUL-CHUNCHEON HIGHWAY / KOREA DEVELOPMENT CORPORATION	Jan-05	Nov-06	TUNNEL
6	BONG MOUNTAIN-KODEOK 2WAY ROAD EXPANSION CONSTRUCTION - TUNNEL	CHUNGCHEONGNAM DO / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Feb-05	Aug-08	TUNNEL
7	SEOUL-CHUNCHEON EXPRESSWAY CIVILIAN INVESTMENT FACILITY BUSINESS - EARTHWORK, REBAR CONCRETE WORK (PKG8-1)	SEOUL-CHUNCHEON HIGHWAY / HANIL CONSTRUCTION	Mar-05	Aug-09	TUNNEL
8	EUILYEONG-JEONGKOK NATIONAL ROAD CONSTRUCTION - TUNNEL	BUSAN REGIONAL CONSTRUCTION MANAGEMENT ADMINISTRATION / DAEWON CONSTRUCTION & INDUSTRIAL	Aug-13	Jan-17	TUNNEL
9	KUMI NATIONAL ROAD BYPASS ROAD (KUPO-DEOKSAN1) CONSTRUCTION - EARTHWORK, DEWATERING, TUNNEL	BUSAN REGIONAL CONSTRUCTION MANAGEMENT ADMINISTRATION / HANSHIN CONSTRUCTION	Sep-13	Dec-17	TUNNEL

## PORT

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
1	(KWANGYANG) WHOPAN BUSINESS PRODUCT WHARF CONSTRUCTION - REVETMENT AND STRUCTURE WORKS	POSCO / POSCO ENGINEERING & CONSTRUCTION	Mar-09	Apr-10	ROAD, STRUCTUREWORK
2	INCHEON NEW PORT PHASE 1-1 CONTAINER TERMINAL LOWER FORMATION CONSTRUCTION PKG2 - REVETMENT WORKS	INCHEON PORT AUTHORITY / SAMSUNG C&T	Aug-09	Jan-11	ROAD, STRUCTUREWORK
3	YEOSU POWER NO.2 ECOFACILITY DEVELOPMENT BUSINESS - WHARF INSTALLATION	KOREA SOUTH-EAST POWER / SK ENGINEERING & CONSTRUCTION	Aug-09	Jan-11	ROAD, STRUCTUREWORK
4	YEONDO PORT CONSTRUCTION - REBAR CONCRETE WORKS	YEOSU REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / NAMYANG CONSTRUCTION	Mar-10	Nov-10	ROAD, STRUCTUREWORK
5	INCHEON NEW PORT ACCESSWAY AND REVETMENT CONSTRUCTION PKG2	INCHEON REGIONAL MARITIME AFFAIRS & PORT ADMINISTRATION / POSCO ENGINEERING & CONSTRUCTION	Jul-10	Nov-12	PORT, STRUCTUREWORK
6	YUNGHEUNG POWERPLANT NO.5,6 FORMATION CONSTRUCTION - 3RD SAND CONSTRUCTION	KOREA SOUTH EAST POWER / POSCO ENGINEERING & CONSTRUCTION	Apr-11	Oct-13	PORT, STRUCTUREWORK
7	YEOSU OIL TANK TERMINAL (OFFSHORE) - MARINE PILE DRIVING (STEEL PILE), STRUCTURE WORKS	OILHUB KOREA YEOSU / HYUNDAI ENGINEERING & CONSTRUCTION	Jun-11	Jun-12	PORT, STRUCTUREWORK MARINE PILE DRIVING
8	INCHEON NEW PORT PHASE1-1 CONTAINER TERMINAL LOWER FORMATION CONSTRUCTION PKG2 - STRUCTUREWORKS	INCHEON PORT AUTHORITY / SAMSUNG C&T	Oct-12	Dec-13	PORT, STRUCTUREWORK

## Track Record

### WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
8	INCHEON NEW PORT PHASE1-1 CONTAINER TERMINAL LOWER FORMATION CONSTRUCTION PKG2 - STRUCTUREWORKS	INCHEON PORT AUTHORITY / SAMSUNG C&T	Oct-12	Dec-13	PORT, STRUCTUREWORK
9	13-HAE-00PORT RESTORATION CONSTRUCTION (2013-3003) - REBAR CONCRETE, UNDERATER DREDGING	REPUBLIC OF KOREA NAVY / YONGWON CONSTRUCTION SERVICE	Jul-13	May-14	PORT, STRUCTUREWORK
10	J-2 PORT SMALL BOAT BERTHING FACILITY CONSTRUCTION	OILHUB KOREA YEOSU	May-14	Nov-14	PORT, STRUCTUREWORK
11	BUSAN NORTH PORT REDEVELOPMENT PHASE 1-1 SCENIC WATERWAY REVETMENT EARTH WORK AND BLOCK INSTALLATION	BUSAN REGIONAL MARITIME AFFAIRS AND PORT OFFICE (CONSTRUCTION PORT OF BUSAN OFFICE) / DONGBU CONSTRUCTION	Apr-15	Feb-16	ROAD, STRUCTUREWORK

### DREDGING WORKS

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
1	SAVE THE NAKDONG RIVER BUSINESS PKG33 (SANGJU ZONE) - EARTHWORKS	BUSAN REGIONAL CONSTRUCTION MANAGEMENT ADMINISTRATION / HYUNDAI ENGINEERING & CONSTRUCTION	Dec-09	Dec-11	DREDGING, EARTHWORKS
2	SAVE THE HAN RIVER PKG4 (YEOJU2 ZONE) BUSINESS PKG3	SEOUL REGIONAL CONSTRUCTION MANAGEMENT ADMINISTRATION / SAMSUNG C&T	Mar-10	Oct-11	DREDGING, EARTHWORKS
3	SAVE THE NAKDONG RIVER BUSINESS PKG31 (KUMI2 ZONE) - ACCESSWAY CONSTRUCTION (PKG2)	BUSAN REGIONAL CONSTRUCTION MANAGEMENT ADMINISTRATION / HANWHA E&C	Apr-10	Dec-11	DREDGING, EARTHWORKS
4	SAVE THE KEUM RIVER PKG1 (SEOCHEON ZONE) BUSINESS UNDERWATER DREDGING	DAEJEON REGIONAL CONSTRUCTION MANAGEMENT ADMINISTRATION / KYE-RYONG CONSTRUCTION INDUSTRIAL	Aug-10	Dec-11	DREDGING
5	NAKDONG RIVER PKG19 UNDERWATER DREDGING (2AREAS)	KOREA WATER RESOURCES CORPORATION / KUMHO INDUSTRIAL	Dec-10	Jun-11	DREDGING
6	08-301-1 FACILITY CONSTRUCTION - FOUNDATION DREDGING AND CAISSON FILLING WORKS	REPUBLIC OF KOREA NAVY / SAMSUNG C&T	Apr-11	Jan-13	PORT DREDGING
7	SAEMAN KEUM WATERPROOF DONGJIN PKG3 CONSTRUCTION - WATERPROOF CONSTRUCTION AND DREDGING	KOREA RURAL COMMUNITY CORPORATION / SK ENGINEERING & CONSTRUCTION	Sep-11	Dec-15	DREDGING AND WATERPROOFING
8	SAEMAN KEUM WATERPROOF DONGJIN PKG3 CONSTRUCTION - BUAN SIDE CONSTRUCTION	KOREAN RURAL COMMUNITY CORPORATION / HYUNDAI DEVELOPMENT - ENGINEERING & CONSTRUCTION	Apr-11	Dec-15	DREDGING AND WATERPROOFING



# Track Record

## WORK EXPERIENCE FOR NATIONAL CONSTRUCTION PROJECTS

### OTHER

NO.	Project	EMPLOYER/MAIN CONTRACTOR	COMMENCEMENT DATE	COMPLETION DATE	REMARK
1	YANGSAN MULKEUM HOUSING DEVELOPMENT ZONE BUSINESS FORMATION CONSTRUCTION (PKG2-2) - EARTHWORK	KOREA LAND & HOUSING CORPORATION / SEOKWANG CONSTRUCTION	Oct-02	Apr-07	ZONE EARTHWORK
2	YANGSAN MULKEUM HOUSING DEVELOPMENT ZONE BUSINESS FORMATION CONSTRUCTION (PKG2-4) - EARTHWORK	KOREA LAND & HOUSING CORPORATION / HANIL CONSTRUCTION	Nov-02	May-07	ZONE EARTHWORK
3	YANGSAN MULKEUM HOUSING DEVELOPMENT ZONE BUSINESS FORMATION CONSTRUCTION (PKG2-2) - STRUCTUREWORK	KOREA LAND & HOUSING CORPORATION / SEOKWANG CONSTRUCTION	Apr-03	Apr-07	ZONE EARTHWORK
4	BUSAN JEONGKWAN INDUSTRIAL ZONE DEVELOPMENT BUSINESS CONSTRUCTION AREA1 - EARTHWORK AND STRUCTURE WORK	KOREA LAND & HOUSING CORPORATION / KOREA DEVELOPMENT CORPORATION	Nov-03	Dec-06	ZONE EARTHWORK
5	IYANGSAN PYEONGSAN HANIL U&I APT CONSTRUCTION - EARTHWORK	DUKYUNG HOME TECH / HANIL CONSTRUCTION	May-05	May-08	ZONE EARTHWORK
6	CHUNCHEON DONGLIM COUNTRY CLUM CONSTRUCTION - EARTHWORK, DEWATERING, FACILITY CONSTRUCTION (PKG2)	TOTAL SYSTEM & INFORMATION SERVICE / DONG LIM ENGINEERING & CONSTRUCTION	Sep-09	Jul-11	ZONE EARTHWORK, GOLFCOURSE
7	KWANGYANG CHONAM INDUSTRIAL ZONE 2 EXPANSION BUSINESS	CHONAM 2 INDUSTRIAL COMPLEX LAND READJUSTMENT UNION / HYOKWANG CONSTRUCTION	May-05	May-08	ZONE EARTHWORK
8	BUSAN NEW PORT CONTAINER TERMINAL AREA FORMATION CONSTRUCTION (PKG2) - ZONE FORMATION WORKS	BUSAN METROPOLITAN CORPORATION / KCC ENGINEERING & CONSTRUCTION	Feb-10	Dec-10	ZONE EARTHWORK
9	NEW PX FORMATION CONSTRUCTION - EARTHWORK, STRUCTUREWORKS	SK ENERGY / SK ENGINEERING & CONSTRUCTION	Mar-12	Oct-12	ZONE EARTHWORK
10	"J" NATURAL GAS POWER PLANT CONSTRUCTION PILING WORK	SK E&C / eTEC E&C	Oct-14	Sep-15	FOUNDATION WORK (PILING)
11	YULCHON 1ST LOCAL INDUSTRIAL PARK EARTHWORK / 2-6 BLOCK	GWANGYANG BAY AREA FREE ECONOMIC ZONE AUTHORITY / HYUNDAI ENGINEERING & CONSTRUCTION	May-16	Sep-18	EARTHWORK
12	YULCHON 1ST INDUSTRIAL COMPLEX 2-2 BLOCK POSCO ESM SITE - CONSTRUCTION OF EARTHWORK STRUCTURES / 2-2 BLOCK POSCO ESM SITE LAYOUT CONSTRUCTION	POSCOESM / HYUNDAI ENGINEERING & CONSTRUCTION	Aug-22	Aug-31	EARTHWORK



**AUTO PARTS DIVISION**





***With a new challenge!!  
Creating value for an endless future  
with infinite energy of passion.***



## Overview & History

### Overview

Location	246, Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea
Business Category	Manufacturing and Development of LPG/CNG Bi-Fuel automobile parts
Telephone	+82) 031-212-5244
Sales Revenue / Year	USD 1,512,287 (KRW 2,000,000,000)

### History

2008	Established subsidiary AUTOGASTECH Co., Ltd.
2008	GENERAL MOTORS : Europe M200, M300, J300 Bi-Fuel System Project
2012	SSANGYONG MOTORS : Chairman, Korando Bi-Fuel System Project
2014	Registered as a factory with the Ministry of Trade, Industry and Energy (KGS) / Türkiye TUGRA MAKINA
	Launched donut-type LPG Cylinder for LPI vehicles (76L class)
	Production of LPG/CNG BI FUEL demonstration vehicle
	KGS & ENGINTECH CO.,LTD. : LNG Dual fuel truck test project
2018	Hyundai Motors : OEM supply of LPG Cylinder for Avante, Tucson, and Venue vehicles to Peru
	Hyundai Motors : OEM supply of LPG Cylinder for Creta model in India

### Partners



**SSANGYONG MOTOR**



**DYMCO**



**General Motors**

**MOTRAIN**

**ENGINTECH**



# Licenses & Certification

## Certificate of Design Qualification (KGS)

**KGS**

**설계단계검사 합격증**  
Certificate of Design Qualification

합격증번호/Certificate No. : 2015-0065166

Issued to :

**Tugra Makina Takim Tezgaahlari Madeni Eyya San. Tic. A.S**  
Kayseri Serbest Bolgesi 8. Cad. No:11 Melikgazi-Kayseri, TURKEY

신 청 인/Applicant : 오토가스테크 주식회사  
용기종류/Type : LPG자동차용 용기(Toroidal type)  
도면번호/Drawing no. : TR LR 148 Rev.5  
용기재료/Materials : EN 10120 P25NB  
용기사양/Dimension : 76 L(Dia:680±4mm, Height:270±4mm)  
설계수명/Service life : -  
특기사항/Remark : Original Design

위의 등록은 고압가스안전관리법 제17조 제1항에 의거 실시한 설계 단계검사에 합격하였음을 증명합니다.  
We hereby issued this Certificate according to the specification shown above under Paragraph 1 of Article 17 of the High-Pressure Gas Safety Management Act.

발행일자/Issue date : 2015. 05. 18.

한국가스안전공사 사장

검사지원처

Page : 1 / 2 230mm x 297mm (9in x 11.7in)

## Certificate of Manufacture of Cylinder (Ministry of Trade, Industry and Energy)

제 ED-334 호  
(Certificate No.)

**용기(냉동기 및 특정설비)제조 등록증명서**  
Certificate of Manufacture Registration of Cylinder/Refrigerator & Specific Equipment

사업자 종류(Business Type)	Cylinder		
상호(Company Name)	Tugra Makina Takim Tezgaahlari Madeni Eyya San. Tic. A.S		
사업소 소재지 (Office Address)	Kayseri Serbest Bolgesi 8. Cad. No:11 Melikgazi-Kayseri / TURKEY		
대표자 성명 (Name of Representative)	Ihan BALOGLU	생년월일 (The date of birth)	-
용기·냉동기·특정설비 (Cylinder, Refrigerator, Specified Equipment)	종류(Type)	규격(Standard)	
	Welded Cylinders (with internal volume under 500l)	ECE R67	

「고압가스 안전관리법」 제50제1항, 제50제2항, 제50제3항 및 같은 법 시행규칙 제60제1항제3호에 따라 용기(냉동기·특정설비)의 제조등록 또는 재등록을 하함으로써 용기(냉동기·특정설비)제조 등록증명서를 발급 받는다.  
[This certificate is granted for completing the manufacture registration under Article 5(1), Article 5-2(1) or (2) of the High-Pressure Gas Safety Control Act and Article 6(1)(3) of the Enforcement Rule there of.]

2015년 7월 29일  
(Date) (Month) (Day)

산업통상자원부장관

210mm x 297mm (제정식 120g/㎡)

## TMS & AMS 650 X 200 EXT.7 Certificate (ECER67R)

**T. C. BİLİM, SANAYİ VE TEKNOLOJİ BAKANLIĞI**  
T.R. **MINISTRY OF SCIENCE, INDUSTRY AND TECHNOLOGY**

**BİLDİRİM**  
(COMMUNICATION)

Yönetmelik no: 67.01 e uygun olarak bir LPG ekipmanım  
Of a type of LPG equipment pursuant to Regulation No. 67.01

ilgili (Concerning):

- Onay- verildi (Approval-Granted)
- Onay kapsamı genişletildi / Approval Extended
- Onay reddedildi (approval refused)
- Onay geri çekildi (approval withdrawn)
- İmalatı tamamen durduruldu (Production definitely discontinued)

Onay No : 67 R-01 0050 Kapsam Genişletme No: 06  
(Approval No) : 67 R-01 0050 (Extension No): 06

1. Tasarlanan LPG Donanımı / LPG equipment considered:  
Tank: 200 mm yükseklikli Özel şekilli (Simit) tip, LPG Otogaz Tankı / Sınıf: 1  
Container: 200 mm's high special shape (toroidal)type LPG Auto Gas Container / Class:  
Tankta bulunan aksesuarların konfigürasyonu bu kısma 1 nolu ekinde bulunmaktadır.  
Container including the configuration of accessories fitted to the container, as laid down in appendix 1 to this annex.  
%80 Dolu Kesme Valfi / 80%-Stop Valve:  
Seviye Göstergesi / Level Indicator:  
Basınç Tahliye Valfi (Boşaltma Valfi) / Pressure Relief Valve (Discharge Valve):  
Basınç Tahliye Cihazı/Pressure Relief Device  
Açılı-Akış Valfi-Uzaklıktan Kumandalı Servis Valfi / Remotely controlled Service Valve with Access Flow Valve:  
LPG-Yakıt Pompası-Vari-Volü / With / Without LPG fuel pump:  
Aşağıdaki aksesuarlardan oluşan çoklu valf / Multivalve, including the following accessories:  
Gaz sızdırmaz makfaza / Gas tight housing:  
Güç kaynağı burusu (Pompa/aksesuarlar) / Power supply bushing (pump/accessories):  
Yakıt Pompası / Fuel Pump:  
Gazlaştırıcı / Basınç regülatörleri / Vaporizer / pressure regulator:  
Kapanma valfi / Shut-off valve:  
Geri dönüşlü valf / Non-return valve:  
Gaz borusu basınç tahliye valfi / Gas tube pressure relief valve:  
Servis rakortu / Service coupling:  
Esnek hortum / Flexible hose:  
Uzaklıktan dolurma noktası / Remote filling unit:  
Gaz enjektörün cihazı veya enjektör / Gas injection devices or injectors:  
Yakıt ıyığı / Fuel rail:  
Gaz dozaj ünitesi / Gas dosage unit:  
Mikseri/Gaz-mixing piece:  
Elektronik kontrol ünitesi / Electronic control unit:  
Basınç / sıcaklık sensörü / Pressure / temperature sensor:  
LPG-filtre ünitesi / LPG filter unit:

Onay No : 67 R-01 0050 Kapsam Genişletme No: 06  
(Approval No) : 67 R-01 0050 (Extension No): 06

2. Ticari İsim ve Markası: TMS, AMS  
Trade Name or Mark:

3. Üreticinin Adı ve Adresi:  
Manufacturer's Name and Address:  
TUGRA MAKİNA TAKİM TEZGAHLARI VE MADENİ EŞYA SAN. TİC. LTD.ŞTİ  
Kayseri Organize Sanayi Bölgesi 8. Cad. No:18 Kayseri/TÜRKİYE

4. Üretici temsilcisinin adı ve adresi, varsa: --  
If applicable, name and address of manufacturer's representative: --

5. Onay istek nedeni : ECE-R 67.01 Uygunluk  
Submitted for approval on : Concerning on ECE-R 67.01

6. Onay deneylerini yaptırmaktan sorumlu teknik servis:  
Technical service responsible for conducting approval tests:  
Türk Standartları Enstitüsü  
Necatibey Cad. No:112 06100 - Bakanlıklar/ANKARA

7. Bu servis tarafından verilen raporun tarihi: 06.12.2011  
Date of report issued by that service:

8. Bu servis tarafından verilen raporun numarası: TSE.06.R67.01.011.03  
Number of report issued by that service:

9. Onay-verildi / Reddedildi / Kapsam genişletildi / Geri-çekildi  
Approval-granted / Refused / Extended / Withdrawn

10. Kapsam genişletilmesinin neden(ler)i (varsa): Multivalf eklemesi  
Reason(s) of extension (if applicable): Adding multivalve

11. Yer : T.C. BİLİM, SANAYİ VE TEKNOLOJİ BAKANLIĞI / ANKARA  
Place:

12. Tarih: 23.12.2011  
Date:

13. İmza:

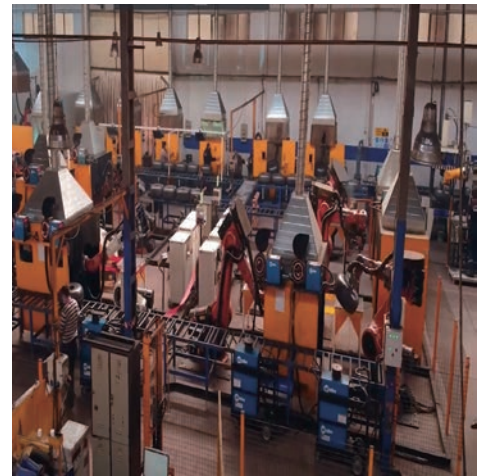
14. Onay başvurusu veya uzatılması ile ilgili dosyalanan dokümanlar talep üzerine temin edilebilir.  
The documents filed with the application or extension of approval can be obtained upon request.

## Production Base & Workshop

### Turkiye FACTORY Base



<b>Factory name</b>	Tugra makina turkey kaysei
<b>Location</b>	Serbest Bölge 8. Cadde No : 18, Anbar Mahallesi, 38070 Melikgazi / Kayseri, Turukiye
<b>Products</b>	Vehicle LPG Tank (Donut Type & Cylinder Type)
<b>Production scale</b>	500,000 units / Year



Press, robot welding, robot and transfer conveyor automation production system

Auto Parts Division



## Production Base & Workshop

### Workshop

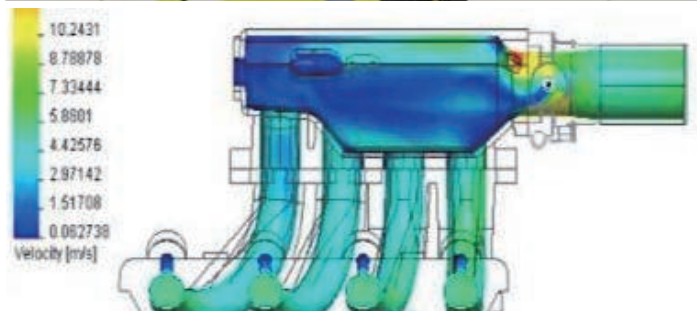
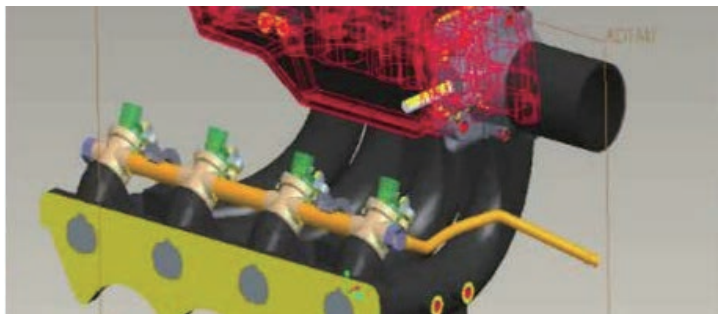


**Workshop name** Chosuk Automotive

**Location** 246, Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea

**Business area**

- Structural change of LPG/CNG fuel supply system
- Bi-Fuel System Analysis and R&D
- Distribution of LPG parts for automobiles



## Product

### LPG FUEL TANK



#### LPLI DONUT TYPE

For Hyundai & Kia LPG System

	CS-LPLI-D59	CS-LPLI-D62	CS-LPLI-D72	CS-LPLI-D76
Diameter (ØD) mm	650	680	650	680
Height (h) mm	230	240	270	270
Volume (v) ltr	59	62	72	76
limited	80%	80%	80%	80%



#### LPGI DONUT TYPE

After Market System

	CS-LPGI-D62	CS-LPGI-D68	CS-LPGI-D72	CS-LPGI-D76
Diameter (ØD) mm	650	680	650	680
Height (h) mm	230	240	270	270
Volume (v) ltr	59	62	72	76
limited	80%	80%	80%	80%

### Injection System



#### DIRECT INJECTION (ECU)

- Bluetooth and WiFi support.
- Calibration assistant.
- No need to connect the engine speed cable.
- Oscilloscope of petrol and gas injection signals.
- Load test (road dynamometer, power and torque measurement).
- Self-adapting multiplier.
- Audible indication of operating errors.
- Additional petrol injection function.
- Program change of the order of injectors.
- Built-in ignition angle advance variator.
- Valvetronik system operation.



#### CS-R400 (REDUCER)

- LPG reducer integrated with the solenoid valve.
- LPG liquid phase heating.
- Heated filter compartment.
- Universal filter cartridge.
- Gas inlet ø8 thread M12x1.
- Gas outlet connection ø16.
- Working temperature : from -40 ° C to + 120 ° C.
- Inlet manifold pressure connection ø4.
- Heating fluid connections ø16.
- Rotary connection nozzles.
- Screw-in temperature sensor 4k7, t hread M5.
- Working pressure range : 0.9 – 1.3 bar.



## Product

### CS-IJ2000 (INJECTOR)



- Maximum static flow, 3 mm nozzle (at 1.2 bar): 100 l/min.
- Maximum operating pressure: 4.5 bar.
- Supply voltage: 12 V.
- Operating temperature : -40 ÷ 120°C.
- Opening time: < 2.1 m/s.
- Closing time: < 1.3 m/s.
- Resistance of coil: 1.9 Ohm.
- Gas outlet : Calibration nozzles per line ø5.
- Effective output per cylinder : 12 – 45 HP.
- Versions: for single or rail mounting on 3 or 4 cylinders.
- Calibration nozzle sizes : 1.9 mm, 2.1 mm, 2.4 mm.



### CS-M1600 (MAP SENSOR)

- Working voltage range: 9-16 V (nominal 12 V).
- Pressure sensor output voltage 0-5 V.
- Measuring range of pressure sensors: 0-400 kPa.
- Maximum overload capacity of pressure sensors: 1,600 kPa.
- Temperature sensor type NTC 4k7.
- Operating temperature range of gas sensor from -25°C to +120°C.



### CS-F45 (GAS FILTER)

- Polyester filtration material.
- Filtration efficiency: 99% for 1 µm particles.
- Maximum operating pressure: 4.5 bar.
- Operating temperature from -40°C to +120°C.
- Diameter of the connectors: ø12 or ø16.
- Dimensions in mm: 100 x 80 x 80.



### CS-SW (SWITCH)

- Possibility to change the colour of the gas fuel diode to any colour from the RGB palette.
- The brightness of the LED backlight can be changed from the configuration software.
- Available with a metallized ring that allows for an aesthetic fit with the vehicle's dashboard.
- 4-pin connector socket accelerates the assembly process – no need to solder the wires

## R&D Project View

KG Mobility : Ssangyoung J100 LPG BI FUEL SYSTEM R&D Project



**TORRES**



Diesel cng dual system development Project



**AVANTE**

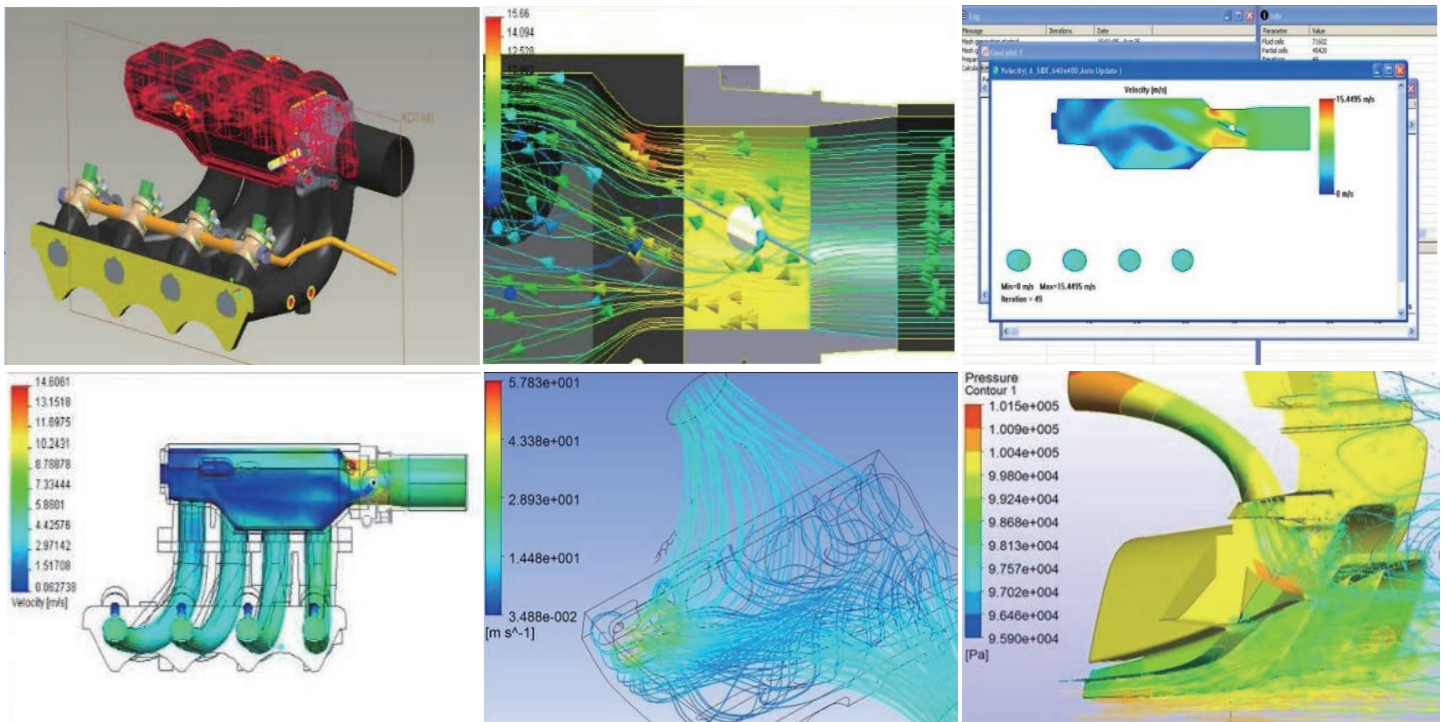


# R&D Project View

Diesel - CNG Truck dedicated system development project



## LPG/CNG Bi-fuel system air flow Analysis

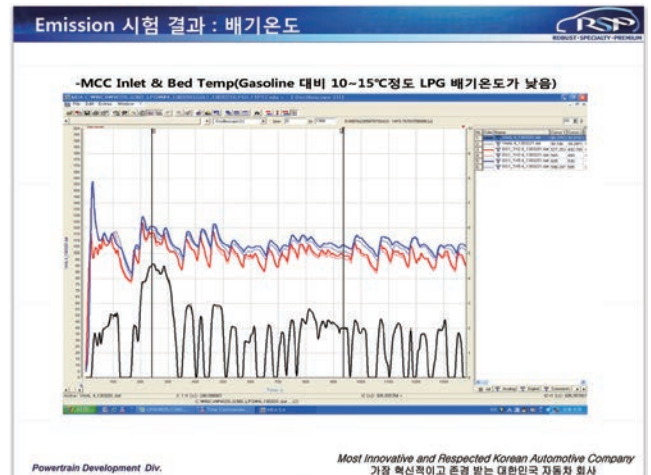
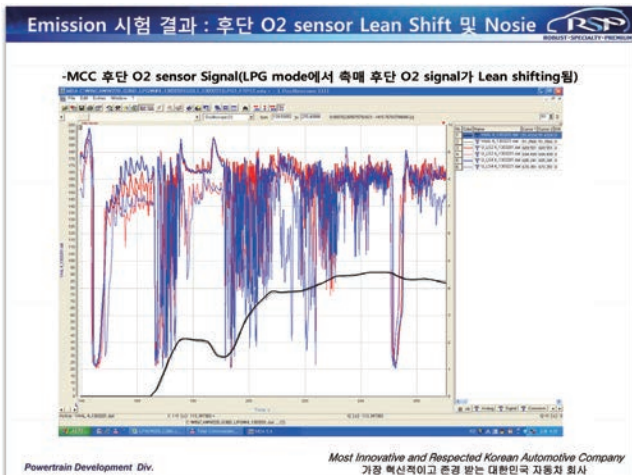
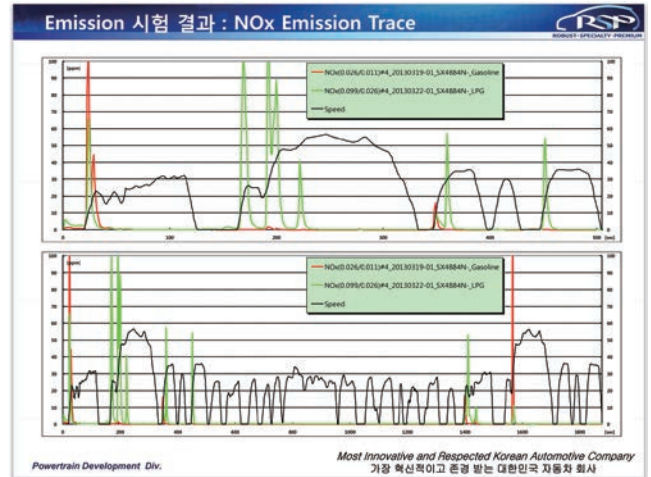
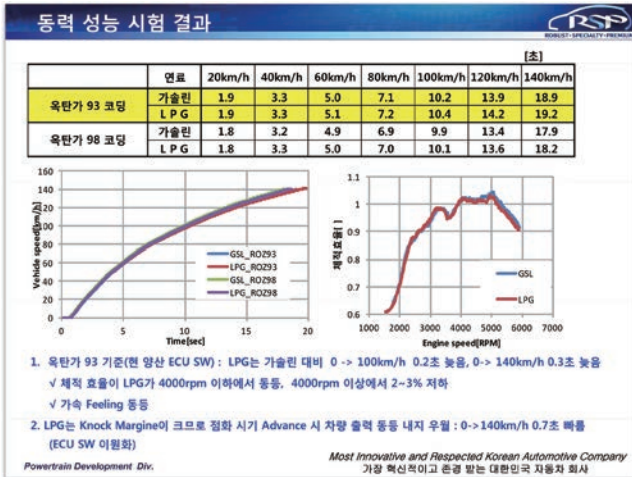
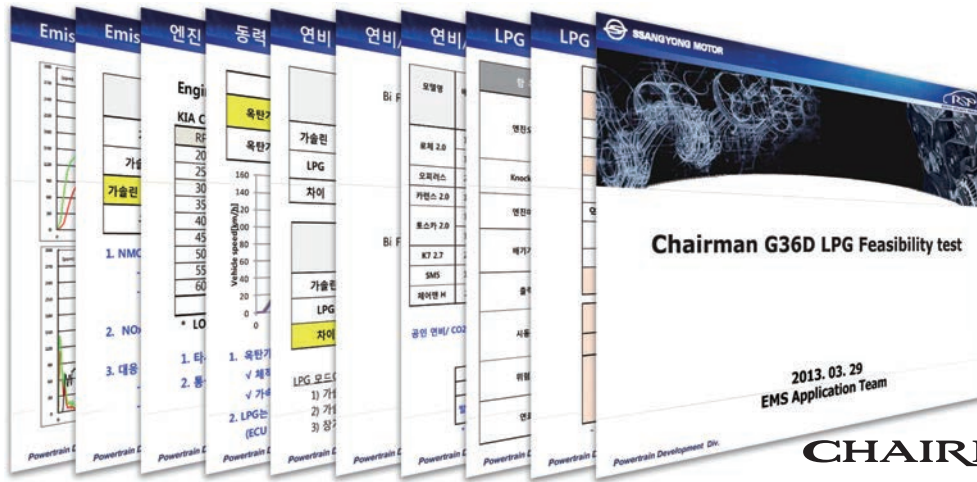


# R&D Project View

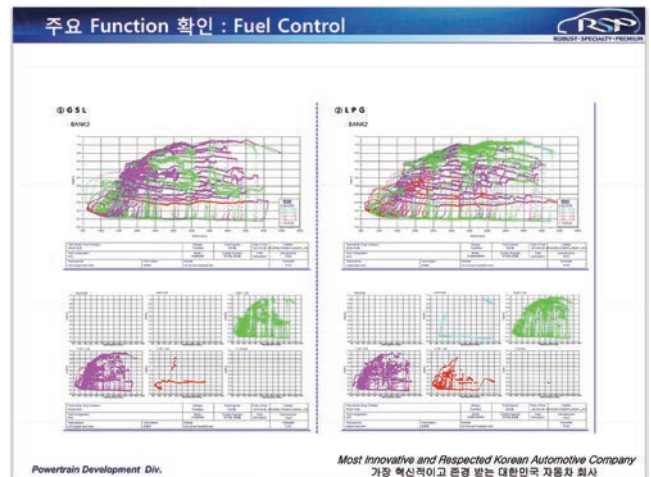
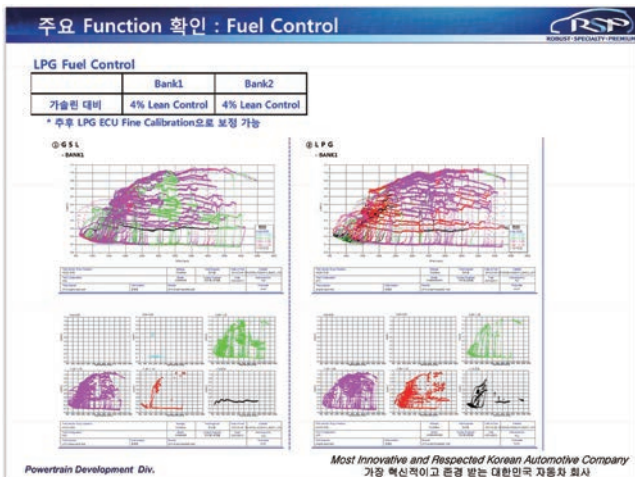
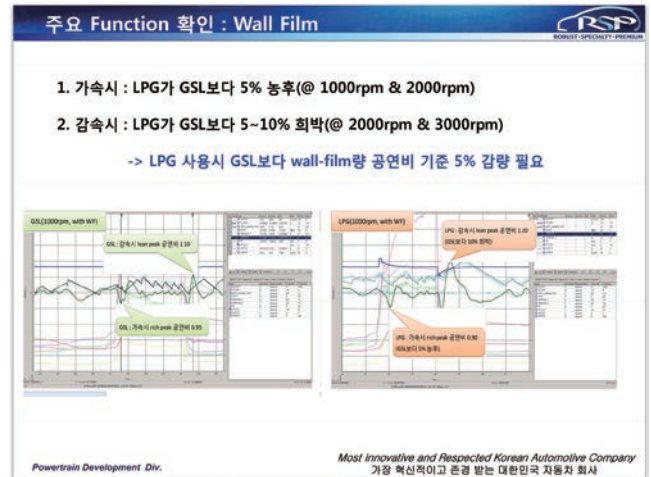
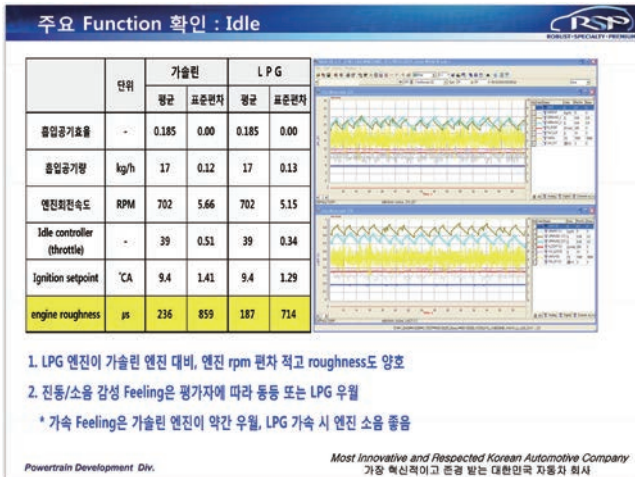
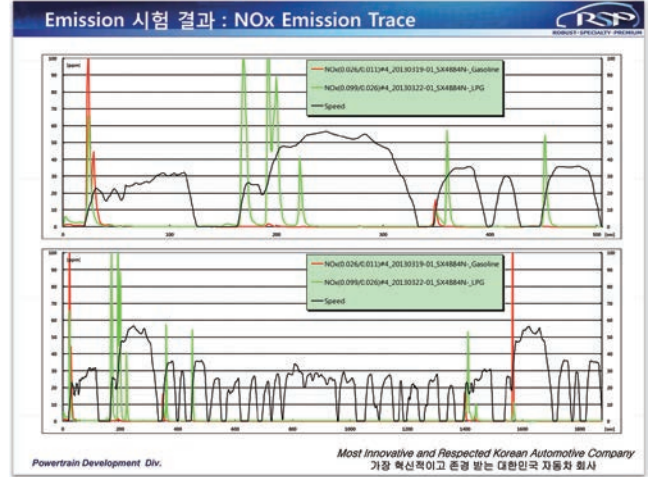
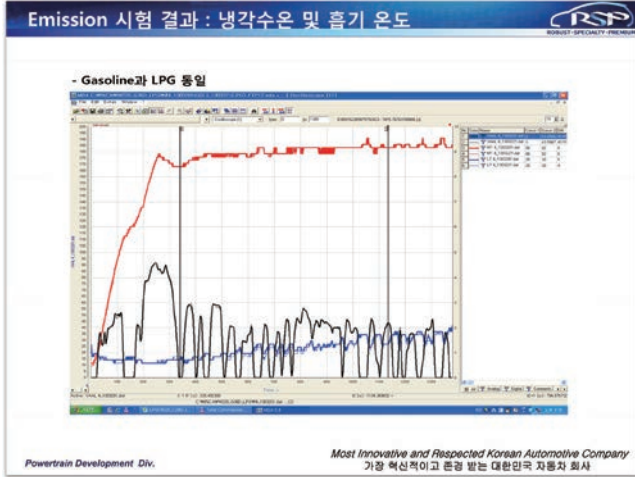
KG Mobility : Chairman G36D LPG Feasibility test



**SSANGYONG MOTOR**



# R&D Project View

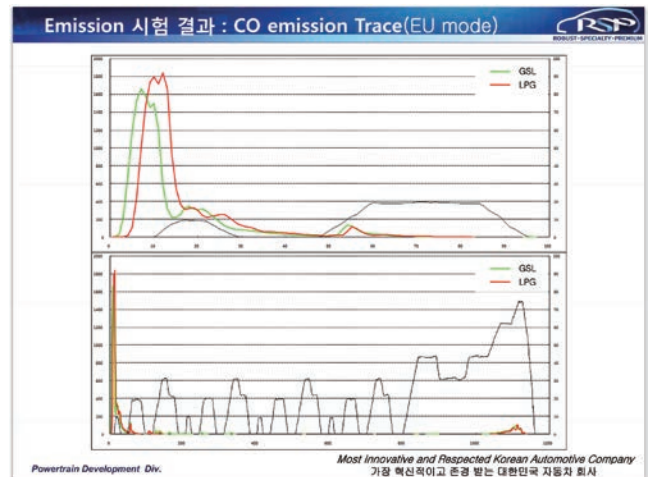
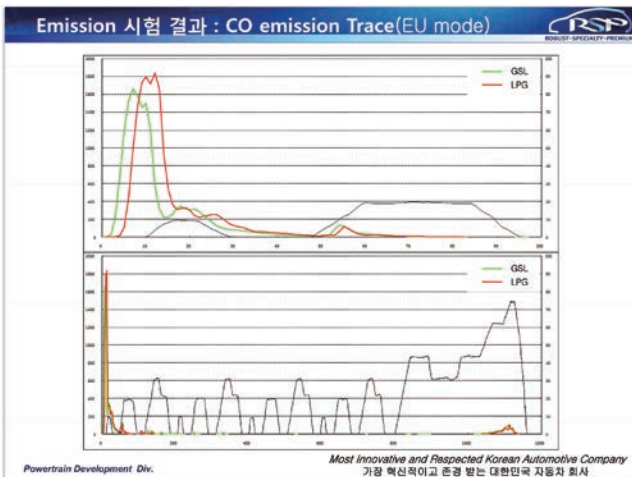
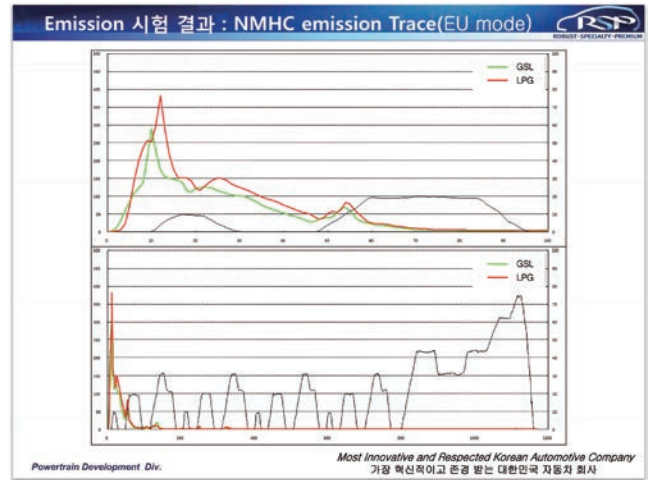
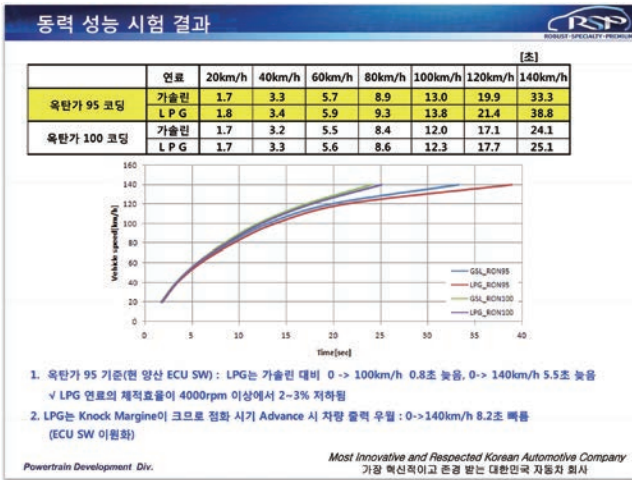
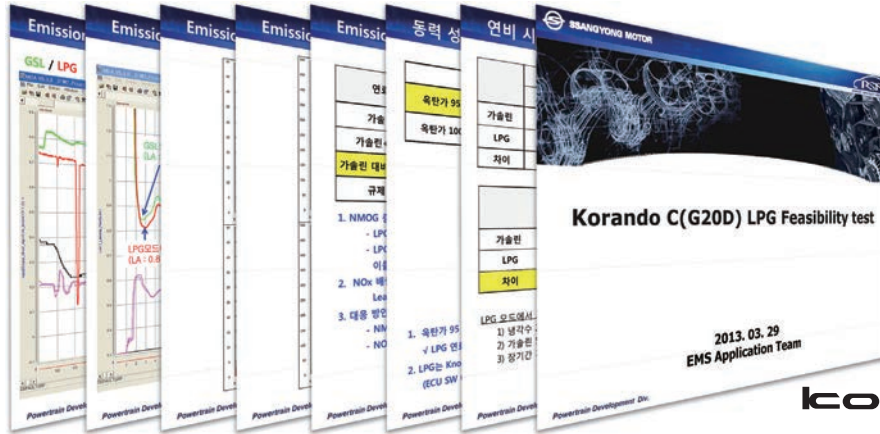


# R&D Project View

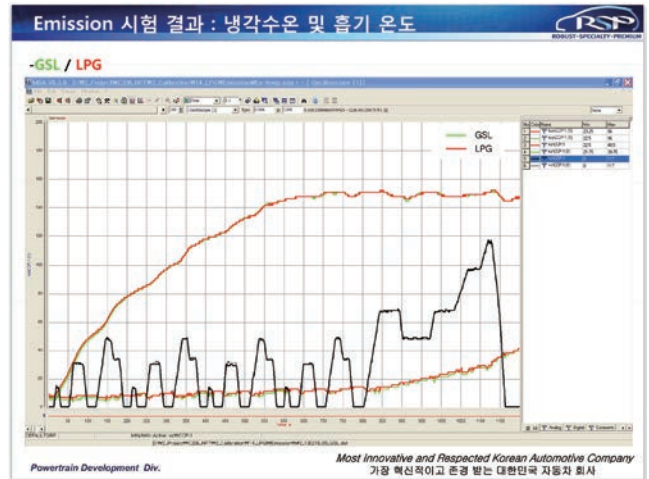
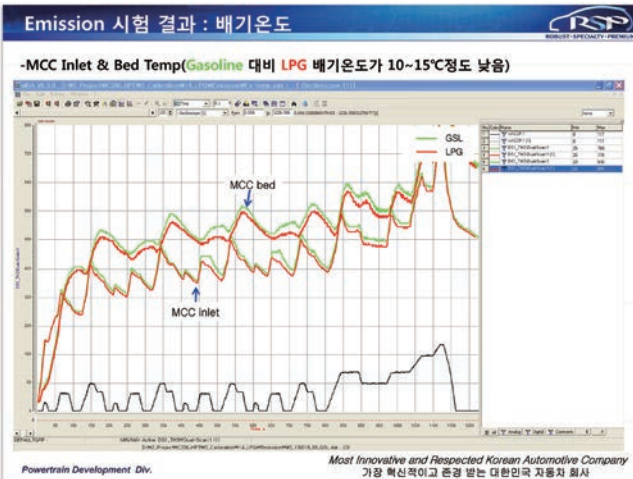
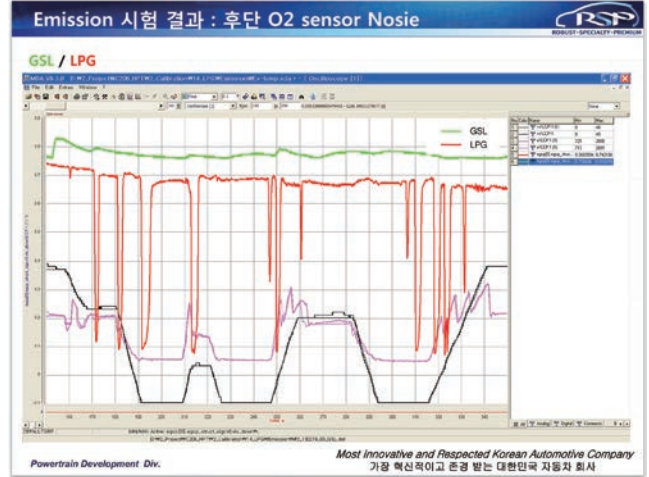
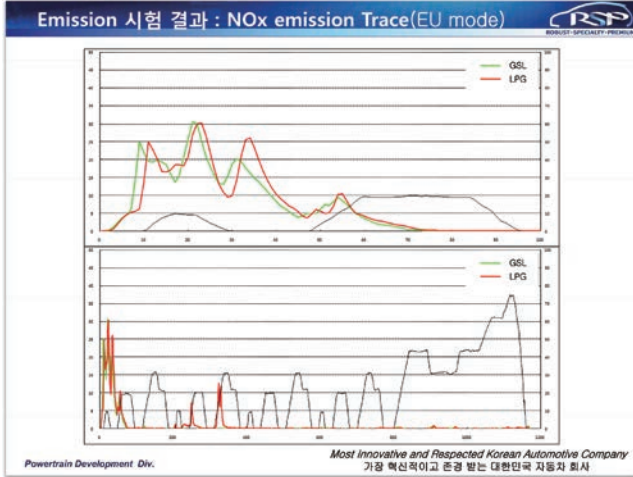
KG mobility : Korando C(G20D) LPG Feasibility test



**SSANGYONG MOTOR**



# R&D Project View



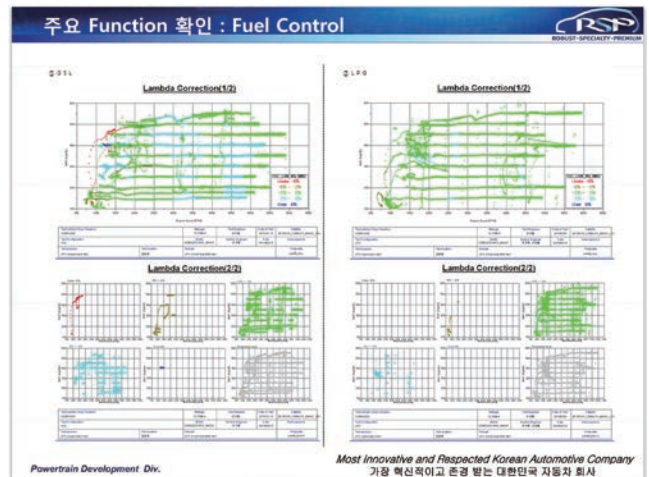
### 주요 Function 확인 : Idle(N단)

	단위	가솔린		LPG	
		평균	표준편차	평균	표준편차
흡입공기량	[l]	0.205	0.00	0.212	0.00
흡입공기량	[mg/stk]	103	0.37	106	0.39
엔진회전속도	[RPM]	704	3.71	705	3.81
Throttle position	[°]	2	0.00	2	0.00
Ignition setpoint	[CA]	5.2	1.01	4.3	0.94
engine roughness	[µs]	255	523	221	465

- LPG 엔진이 가솔린 엔진 대비, 엔진 rpm 편차 적고 roughness도 양호
- 진동/소음 감성 Feeling은 평가자에 따라 동등 또는 LPG 우월

\* 가속 Feeling은 가솔린 엔진이 약간 우월, LPG 가속 시 엔진 소음 좋음

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# R&D Project View

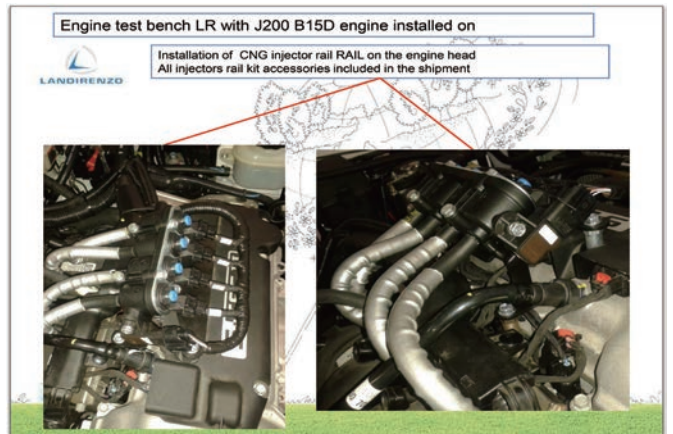
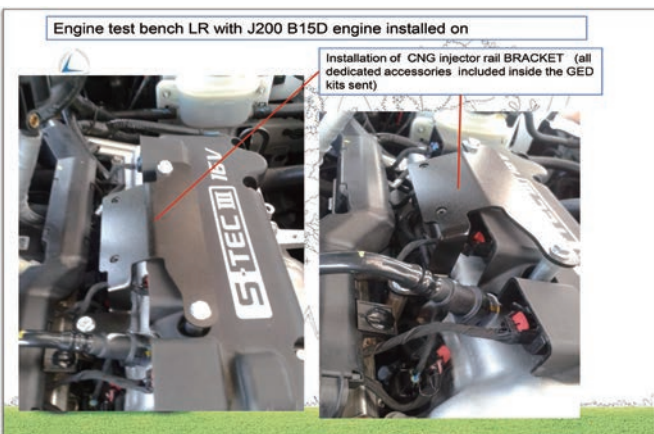
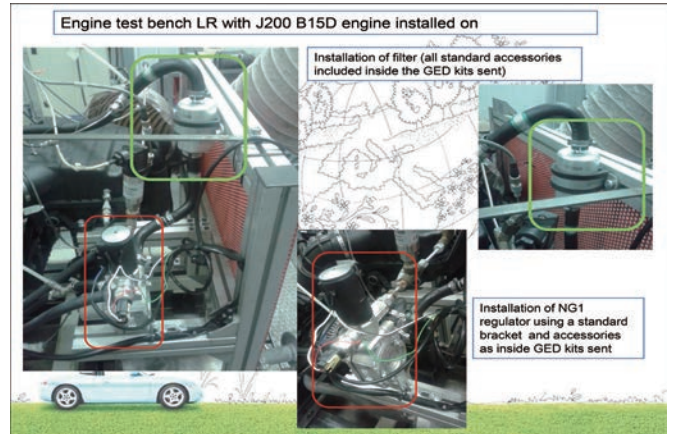
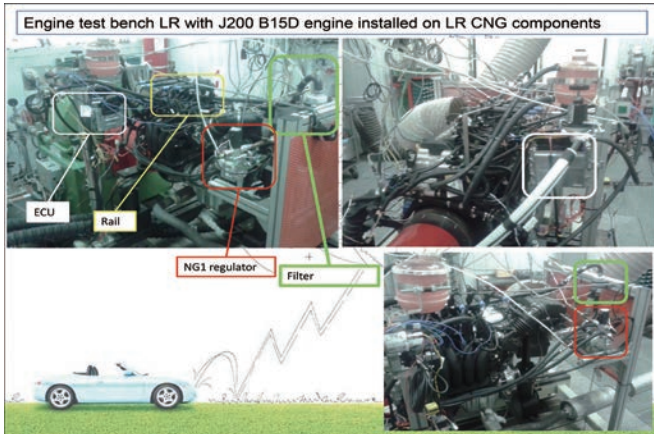
## General Motors : LPG/CNG BI-Fuel system Engine test



General Motors



**LACETTI  
SPARK  
TRAX**

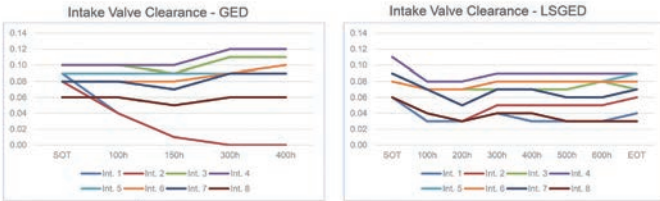




# R&D Project View

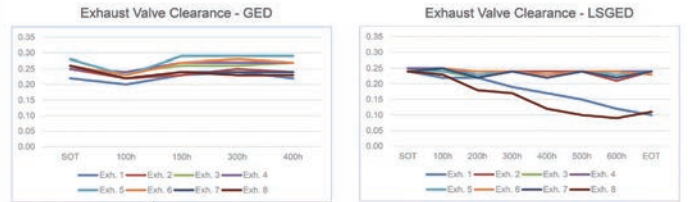
## TEST RESULT SUMMARY

**Intake Valve Clearance :** #1, 2 Valve Clearance started to be reduced from 100 hrs and became 0 clearance at end of test at GED. Overall Valve Clearance of LSGED is normal. Detail measurement for valve and seat is on going.



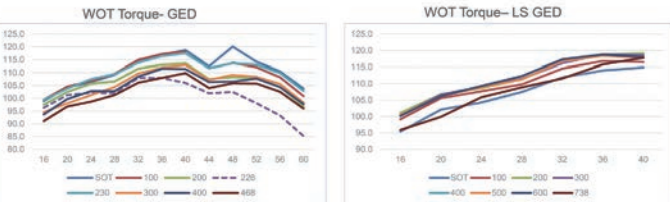
## TEST RESULT SUMMARY

**Exhaust Valve Clearance :** Valve Clearance of GED test is normal until EOT. #1, 8 Valve Clearance started to be reduced from 200 hrs up to 0.1 mm at EOT at LSGED which is not critical. Detail measurement is on going.



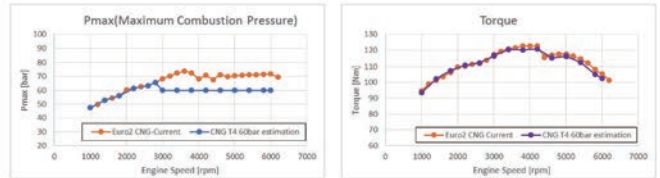
## TEST RESULT SUMMARY

**WOT Torque:** Engine Torque was reduced from 200 hrs at GED due to Converter melting. Torque recovered with new Converter and final torque at EOT is within guide. Engine Torque at LSGED is also within EOT guide.



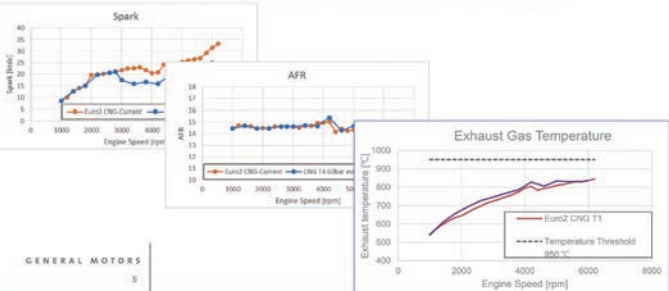
## TEST RESULT SUMMARY

**Combustion Pressure :** Max. Combustion pressure(Pmax) is about 74 bar which is higher than gasoline application. Pmax is recommended to reduce to 60 bar to prevent abnormal thermal load. WOT torque simulation with 60 bar Pmax showed similar torque to current performance.



## TEST RESULT SUMMARY

**GMPT Proposal :** Revise CNG WOT Cal data with LR by tuning Spark Timing and A/F at some points. Need detail study with LR and GMPT Performance Development Team.



## DYNO. DURA TEST PLAN WITH NEW CNG EMS CAL

Timing Plan for EMS Cal Revision

- EMS Cal Revision is planned to be completed by 1<sup>st</sup> week of March.
- GED confirm Test with revised EMS Cal is targeted by end of April.
- Interim VSO (GM1411, non-saleable) can be considered by end of Feb. to support non-saleable PPAP.
- Engine VSO (ENG069) timing can support VDC (02Jul2015).

	09-Feb	16-Feb	23-Feb	02-Mar	09-Mar	16-Mar	23-Mar	30-Mar	06-Apr	13-Apr	20-Apr	27-Apr
Dyno Setup @ LR												
EMS Cal Revision												
Confirm Pmax @ GMK Dyno												
GED Test												







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