



HANJOO METAL

COMPANY PROFILE



Contents

1. COMPANY OVERVIEW
2. PRODUCTS
3. HANJOO QUALITY SYSTEM
4. NEW TECHNOLOGY
5. CERTIFICATE & PRIZE AWARD

COMPANY OVERVIEW

About Hanjoo



● Headquarter Foundry



● 2nd Foundry

Company Name Hanjoo Metal Co., Ltd.

Business Aluminum Casting & Machining

Sales Amount US\$ 153 Million (2018)

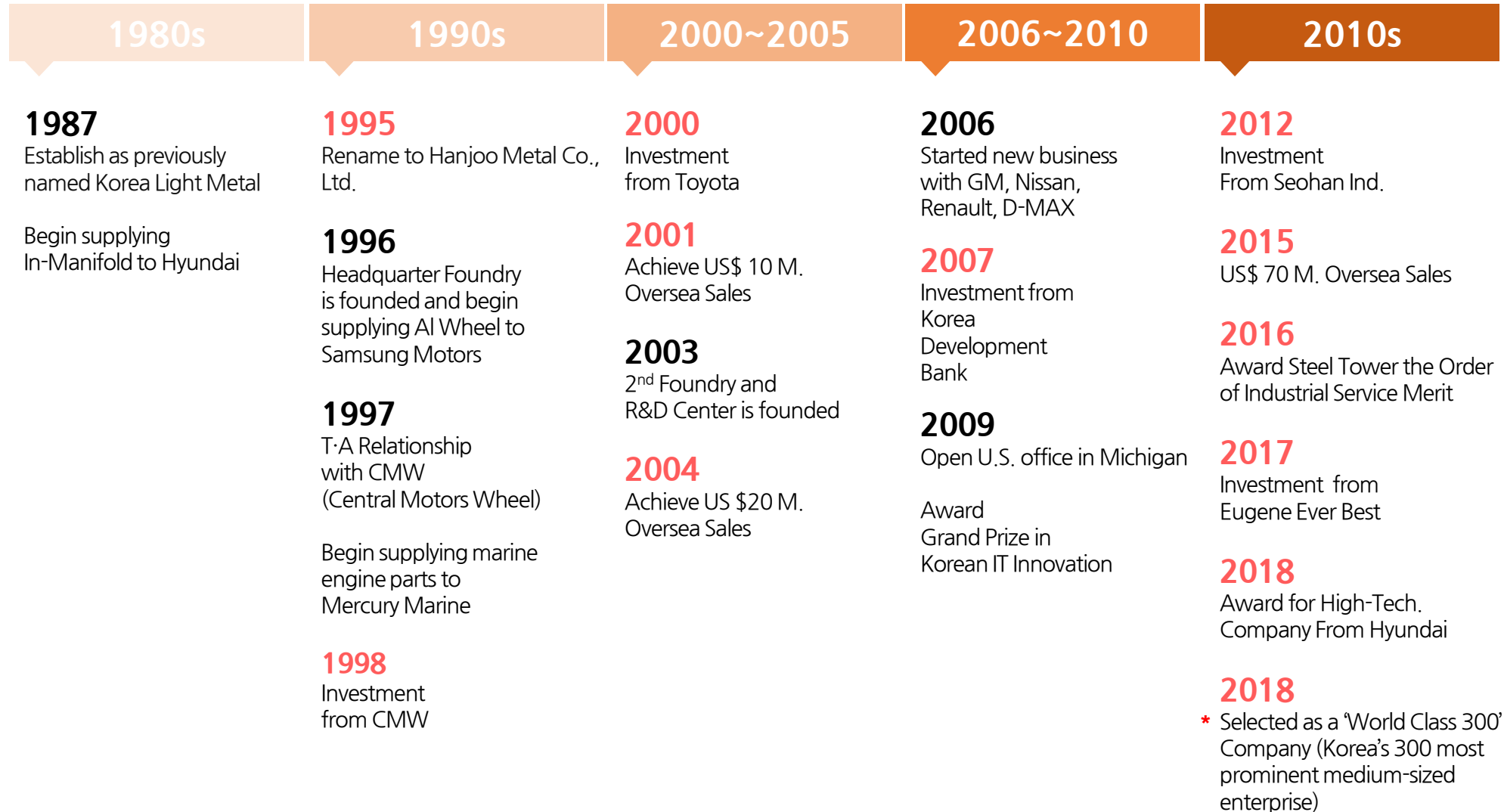
Shareholder HANJOO Management , Toyota Group
Seohan Group, UAMCO, Eugene Ever Best

Chairperson Ms. Sam Soon, JEONG

Established Date 1987. 12. 08

Number of Employee 621

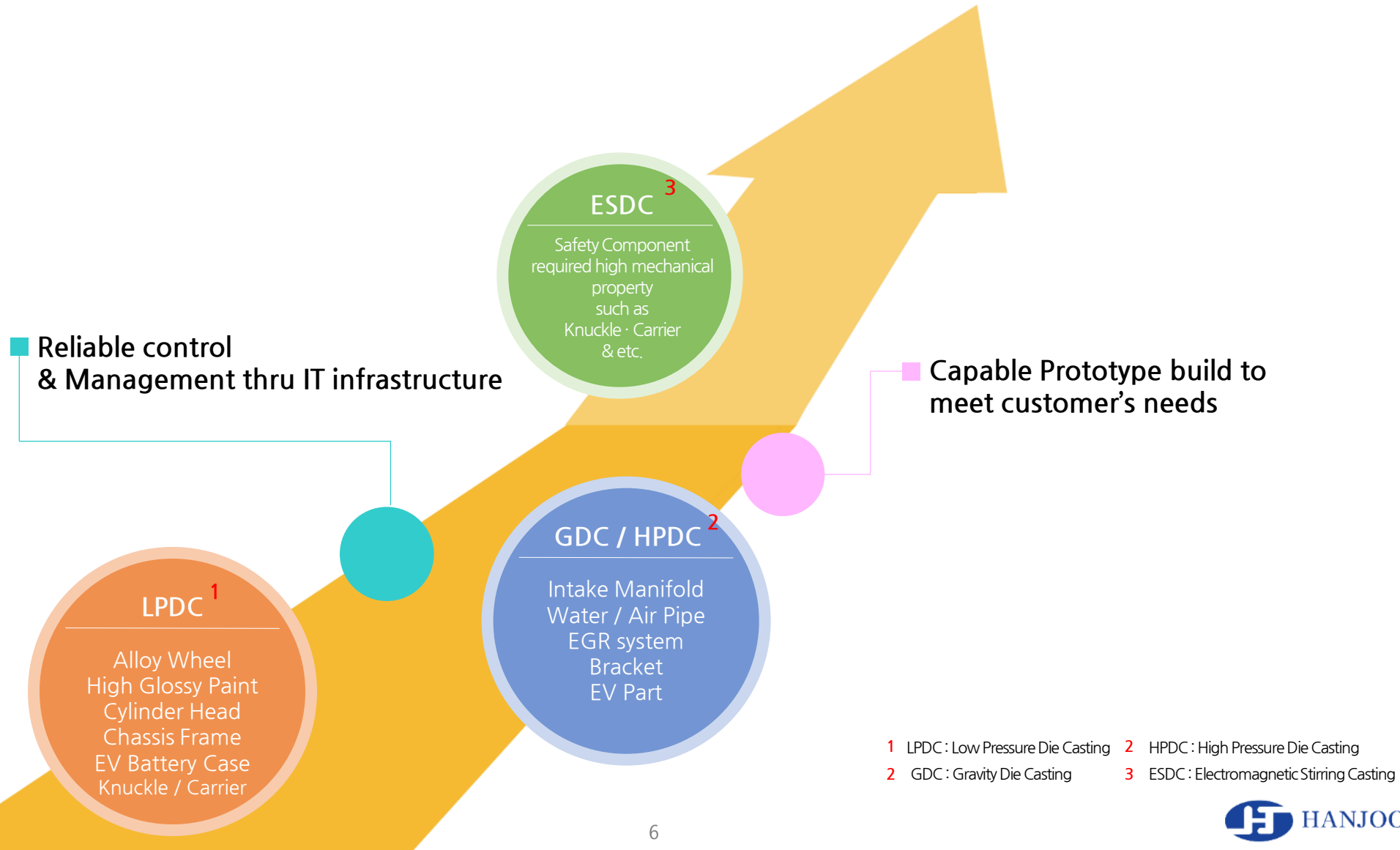
History



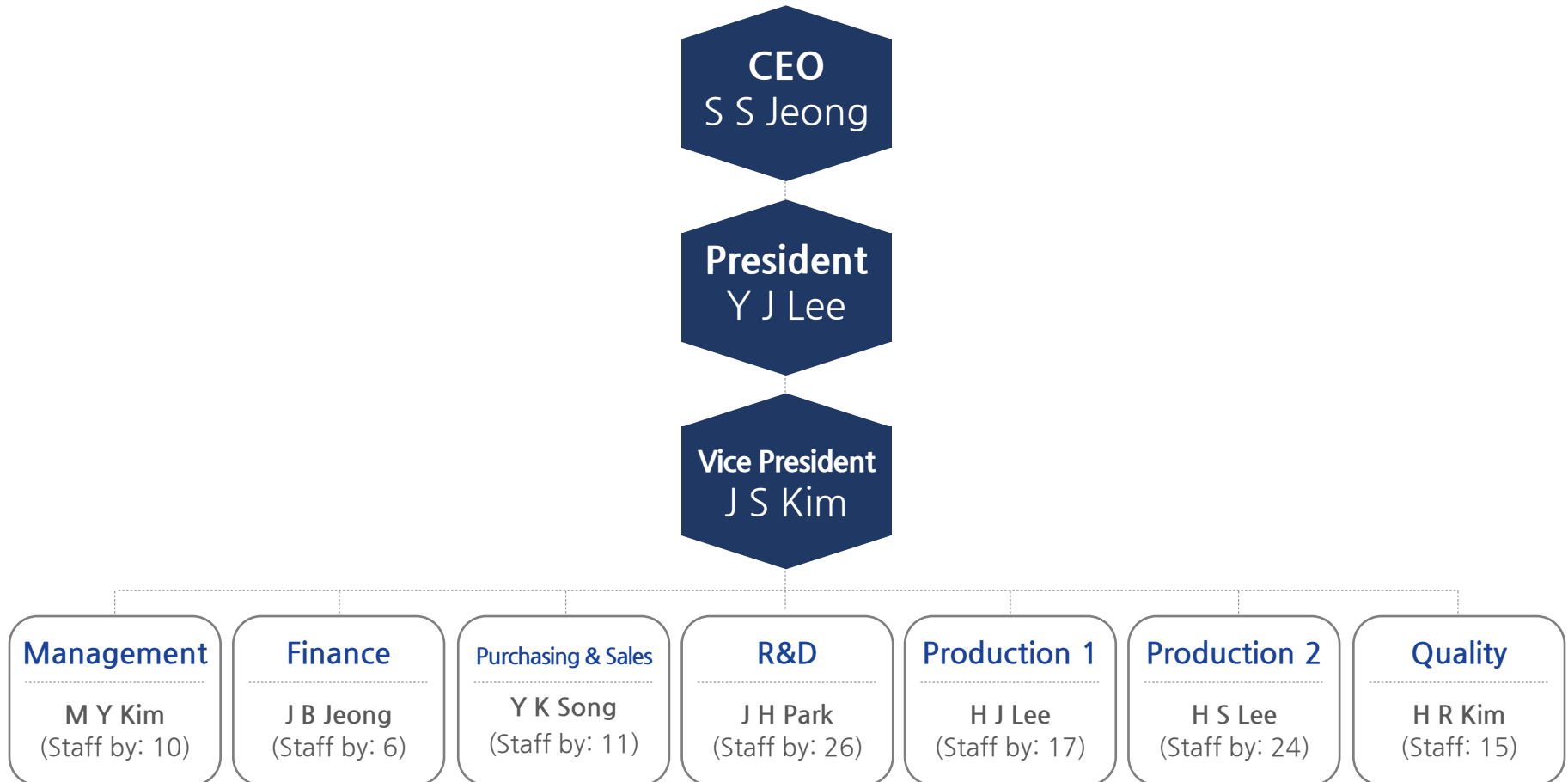
* The World Class 300 Project in which the government aims at promoting 300 'World-Class' enterprises by providing small and medium-sized enterprises with growth will and potentiality.

Hanjoo Business Scope

“Total Solution for Aluminum Casting · Machining parts”

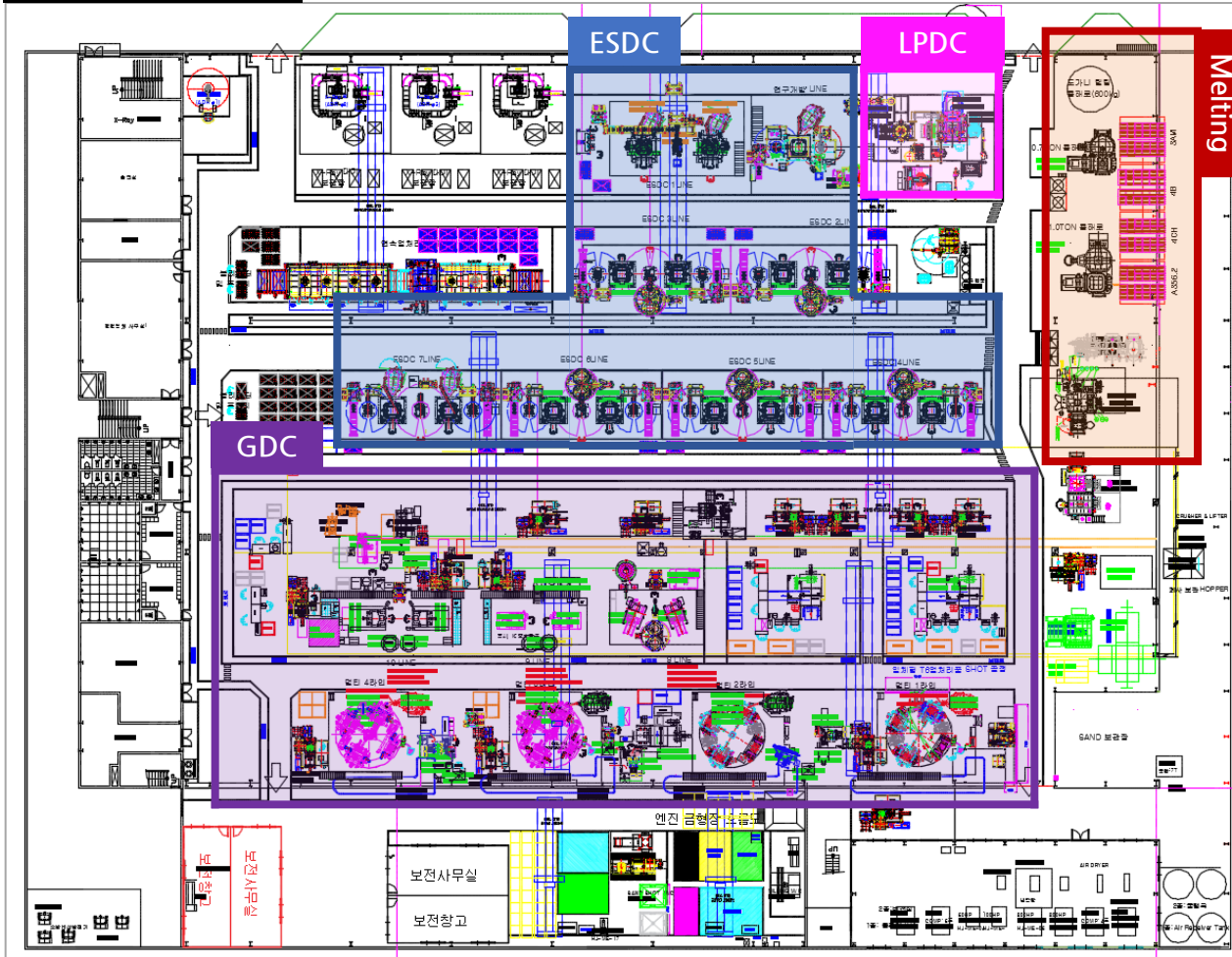


Organization



2nd Foundry Layout

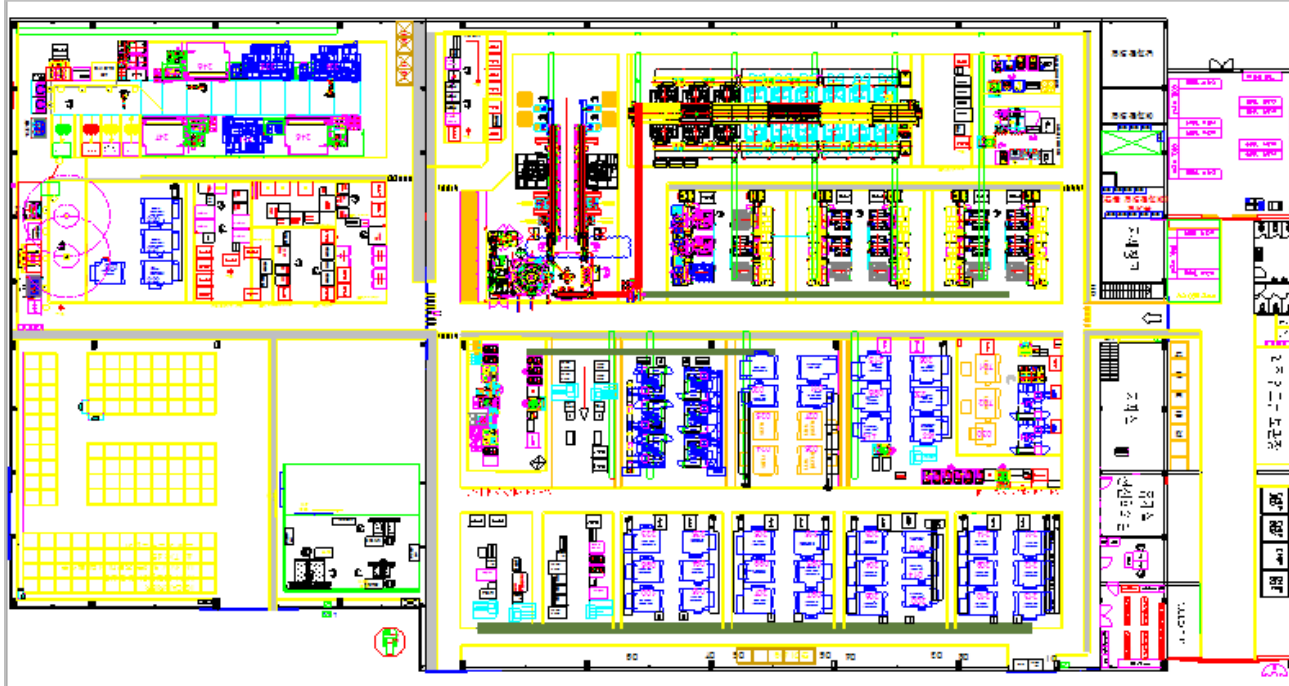
Foundry Shop



Equipment		
■	Melting furnace	4
	1.0 ton	2
	0.7 ton	2
Casting Equipment		41
■	GDC	22
■	LPDC	2
■	ESDC	17
■	Core Equipment	18
■	Shot Blast M/C	3
■	CNC Gate Cutting	25
■	Heat Treatment Furnace	4
■	Annealing Furnace	1

2nd Foundry Layout

Machining Shop

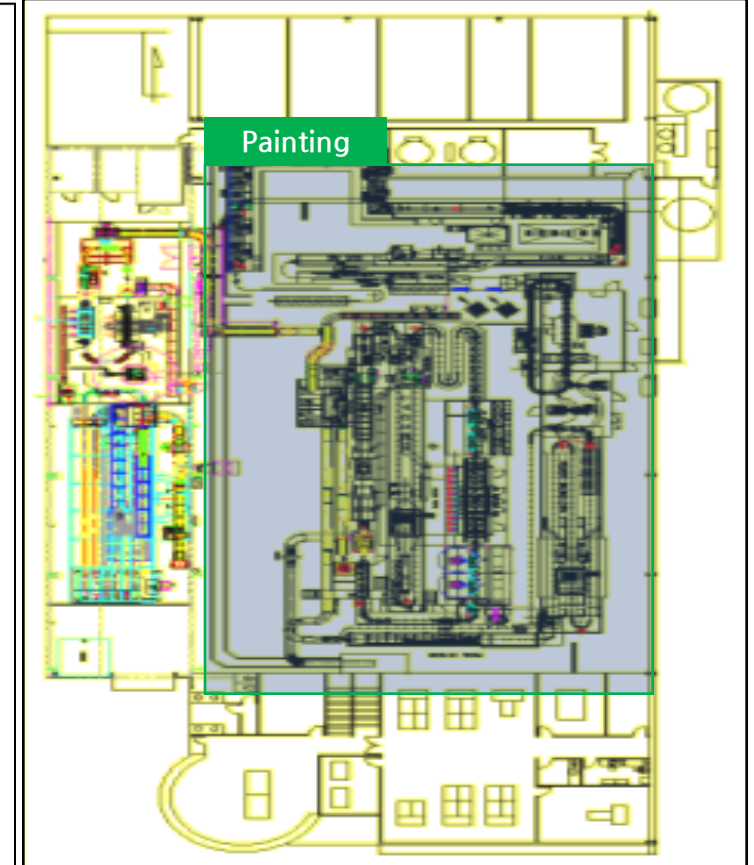
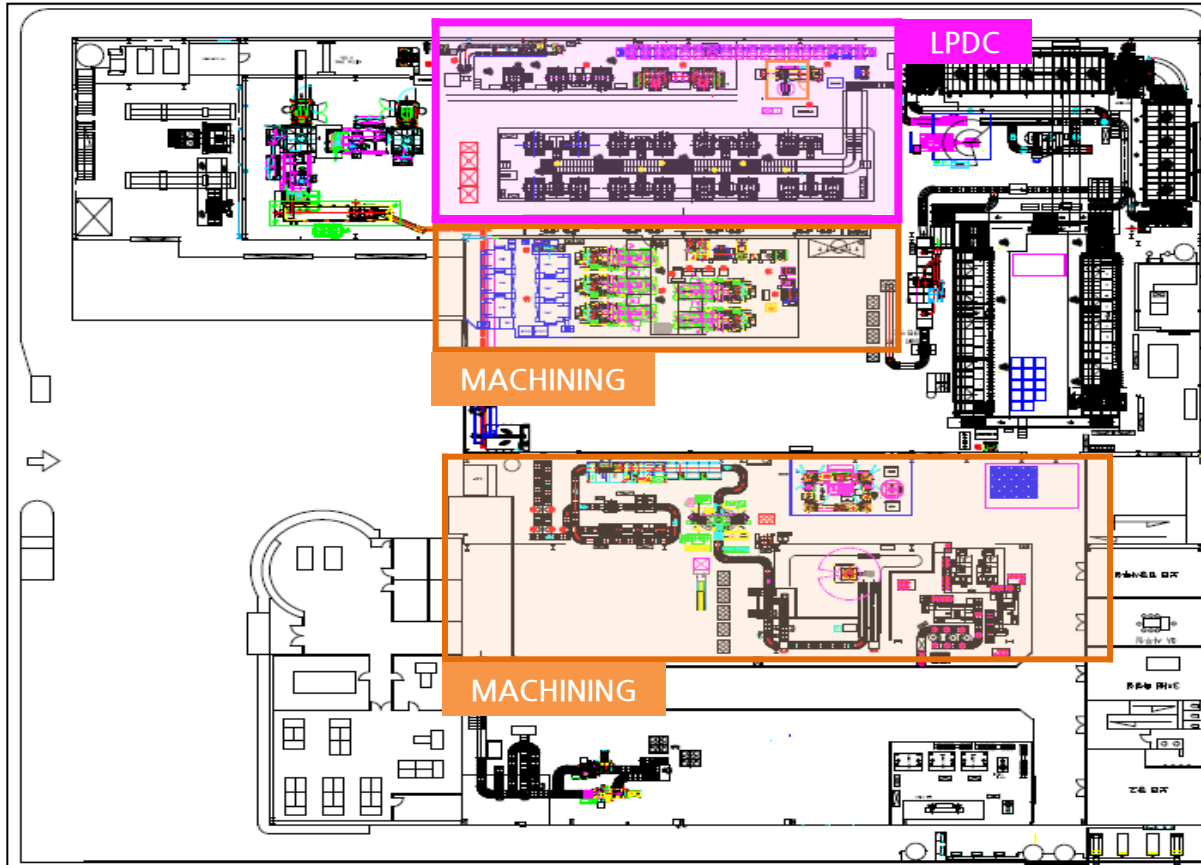


Equipment

Machining Center	57
Tapping Center	36
CNC Lathe	7
Assembly Machine	24
Leak Test Machine	43
Auto Washing M/C	13

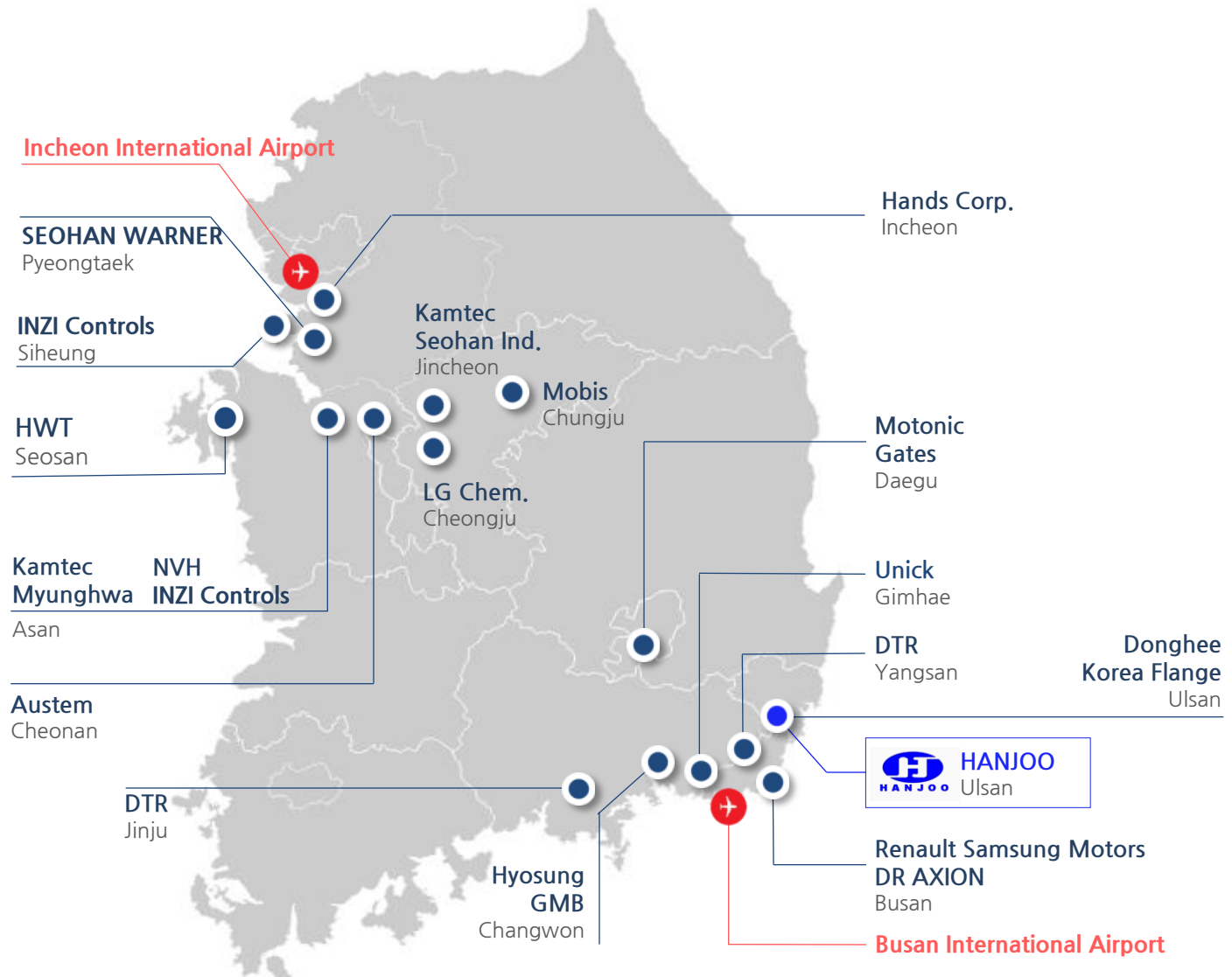


Headquarter Foundry Layout

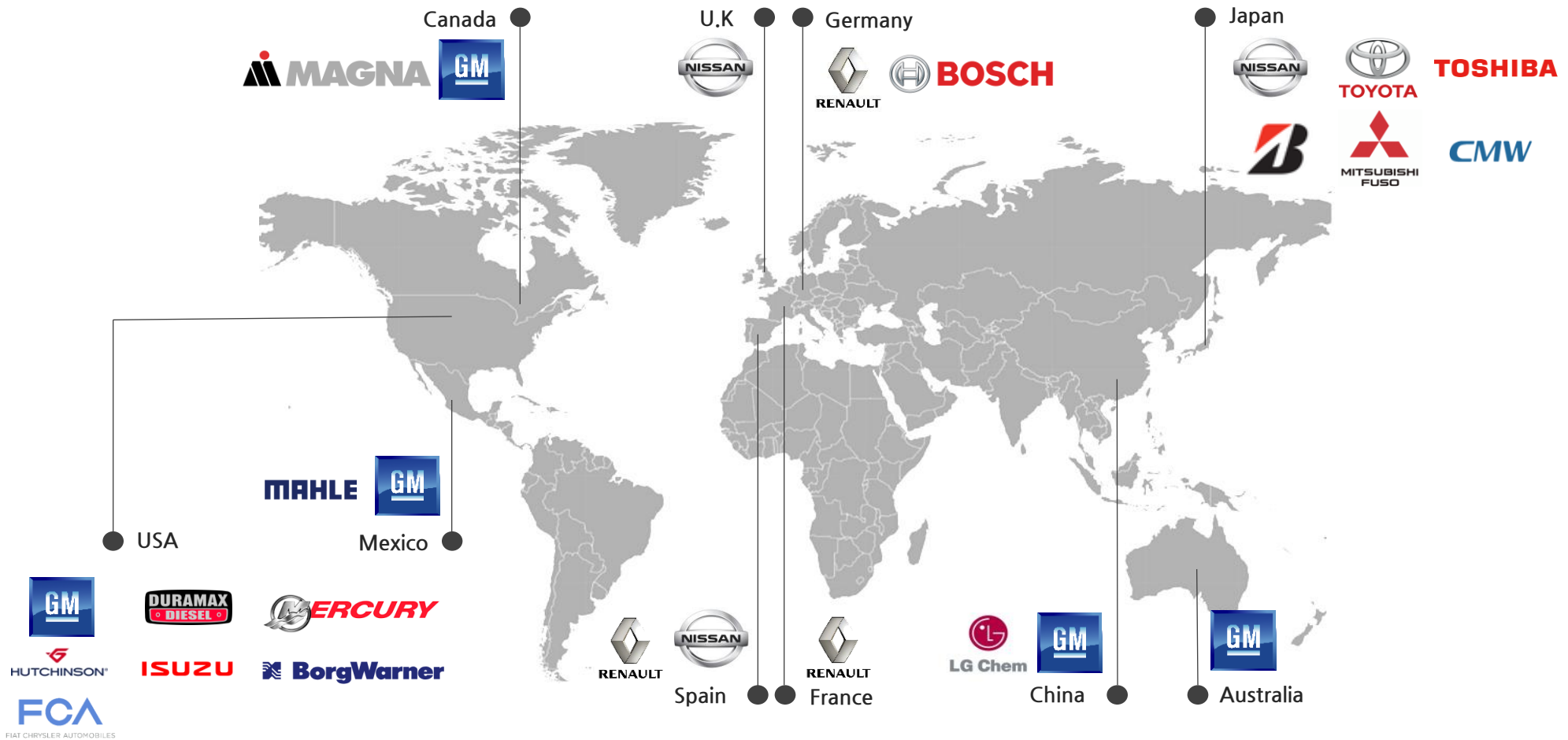


Foundry		Machining		Painting	
Combine Melting Furnace	1	Machining Line	8	Pretreatment Line	1
Rapidity Melting Furnace	1	Edge Master Line	2	Powder Paint Line	1
GBF Machine	2	Washing Line	1	Liquid Paint Line	1
Low Pressure Casting	20	He Leak Test Line	2	Acrylic Paint Line	1
Sprue Pressing Machine	1	Diamond Cutting Line	4	Balance Machine Line	2
Heat Treating Furnace	4			Package Machine	1
Shot Line	1				

Domestic Customers



Global Customers

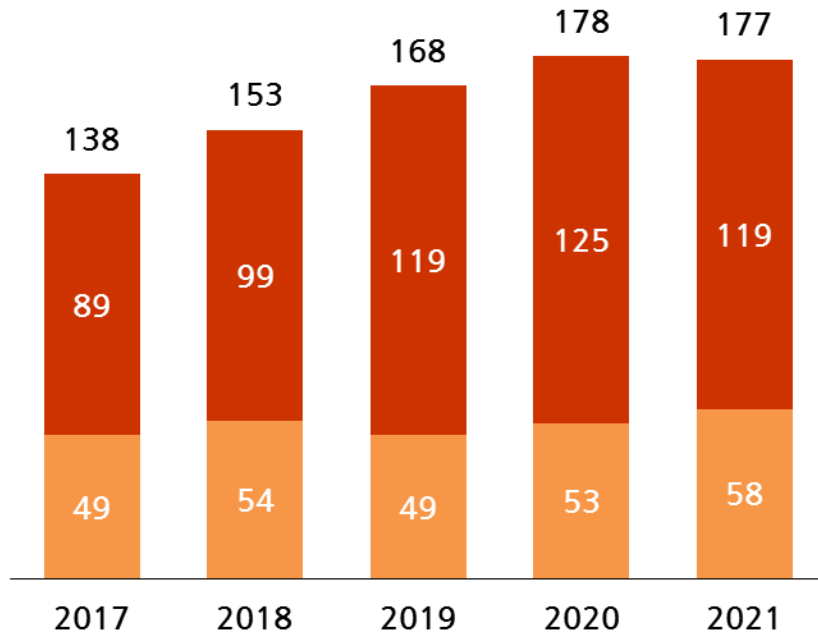


Sales Status

Sales By Division

Headquarter Foundry
2nd Foundry

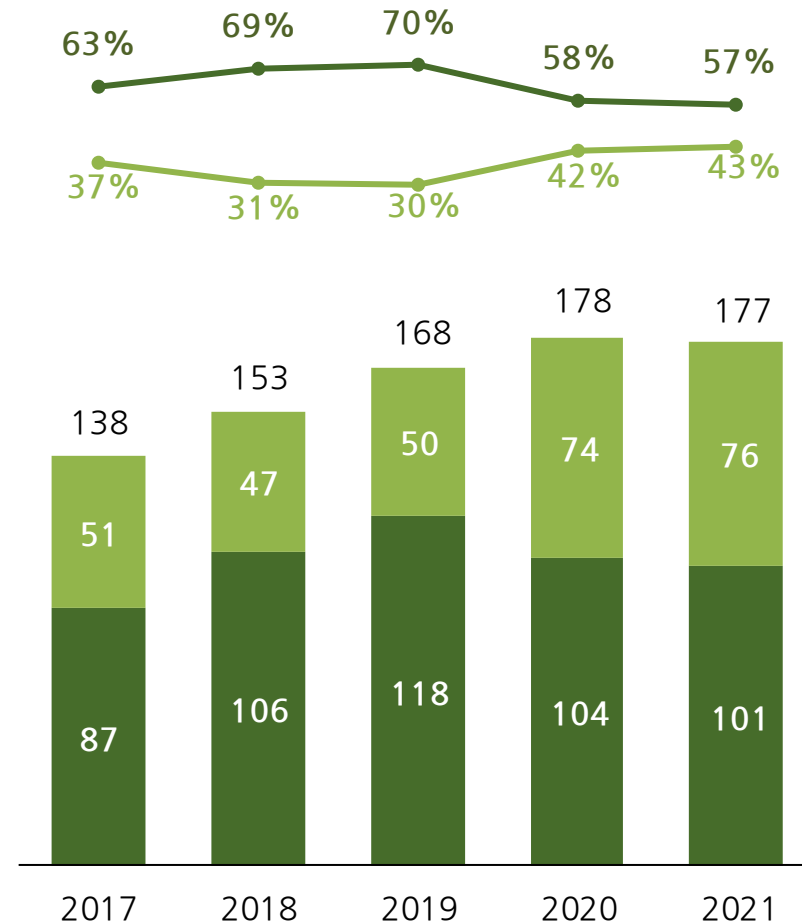
Unit: US\$ Mil.



Sales By Year

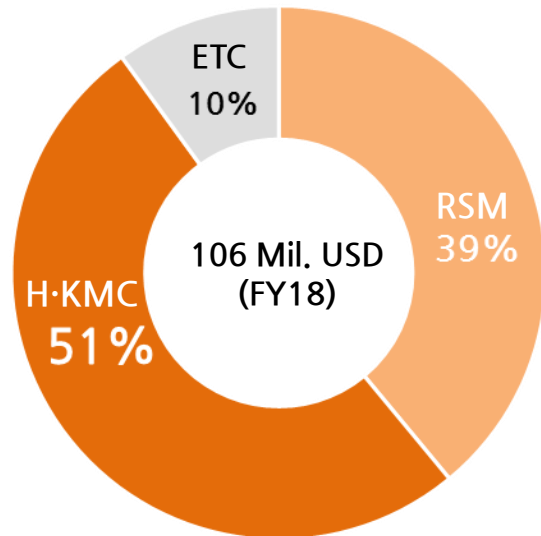
Export
Domestic

Unit: US\$ Mil.



Sales Status

Domestic Sales By Customer



Hyundai ·Kia Motors

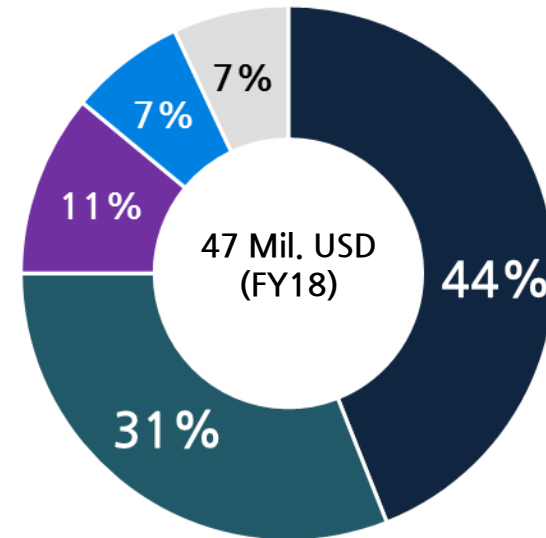
(Including Tier 1 Supplier)

- Intake Manifold
- Bracket
- Water / Air Pipe
- 40 Kinds of Powertrain Parts

Renault Samsung Motors

- 90% market share of Renault Samsung Motors wheel
- 20 Kinds of Powertrain Parts

Global Sales By Customer



RENAULT·NISSAN

- Renault 10 kinds of Powertrain Parts
- Nissan 20 kinds of Powertrain Parts

MERCURY MARINE

- Marine engine parts

GM

- Diesel Engine Parts(DuraMax)

FORD

- Engine Oil Pump Parts

PRODUCTS

Hanjoo Parts for the Customer Vehicle



8F MID TMOP COVER



2018 EXPLORER



2018 EDGE

Hanjoo Parts for the Customer Vehicle



DHPE Hybrid Disc



RJ Hybrid Disc



GENESIS G80 SPORT



KIA K9

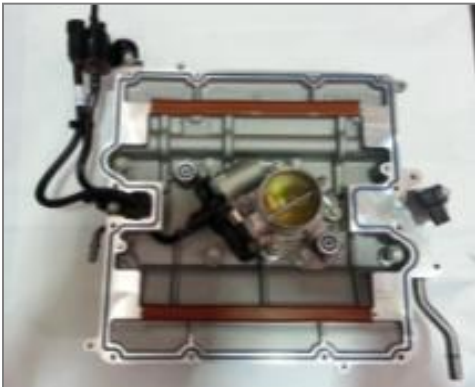
Hanjoo Parts for the Customer Vehicle



FRONT KNUCKLE



CHEVROLET BOLT

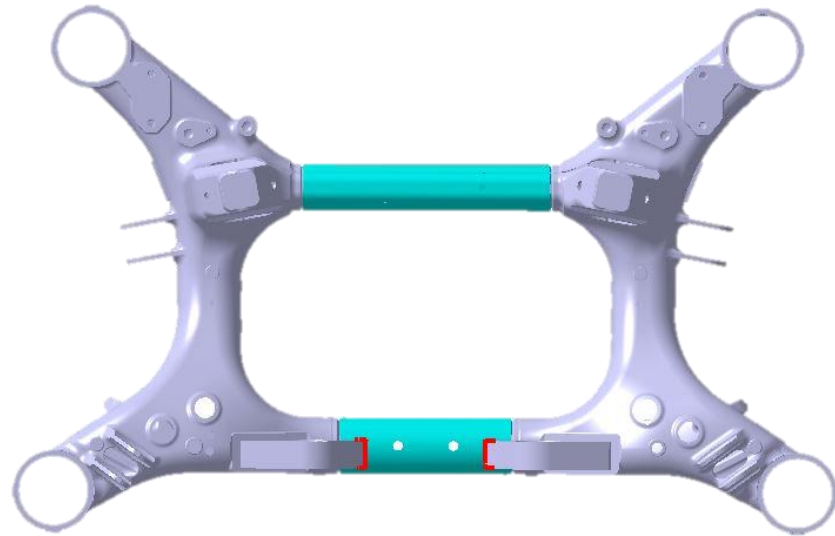


MANIFOLD ASM-INT



Cadillac ATS-V Sedan & Coupe

Hanjoo Parts for the Customer Vehicle



0.76 m

1.192 m

SUB FRAME



GENESIS G80

Hanjoo Parts for the Customer Vehicle



WATER PUMP



DODGE CHALLENGER SRT DEMON



GENERATOR HOUSING



NISSAN NOTE (e-Power)



NISSAN Serena (e-Power)

Hanjoo Parts for the Customer Vehicle



Carrier



HYUNDAI Azera



Carrier



Knuckle (2WD)



Knuckle (4WD)



HYUNDAI Santa Fe



1m

EV Battery Tray



Renault Kangoo Z.E. Van



1.3m

EV Battery Tray



Renault Samsung Motors SM3(L38) Z.E.

Renault Samsung Motors



GENERATOR HOUSING

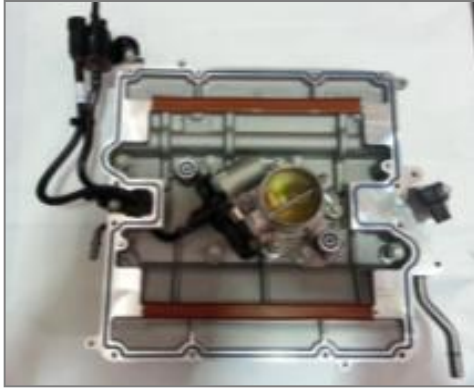


INVERTER HOUSING

Toyota



FRONT KNUCKLE



MANIFOLD ASM-INT



MANIFOLD ASM-INT



EU6 COMP-HOUSING



OUTLET ASM-WAT



WATER PUMP



EGR VALVE HOUSING ASSY.



8F MID TMOP COVER



Hybrid Disc



BRACKET-ALTNTR



BRACKET



INNER CORE



ENG MOUNT BRACKET



CONSOLE BRACKET



FUEL RAIL BRACKET



OUTLET WATER



THERMOSTAT-HOUSING

Marine Engine Parts



INTAKE MANIFOLD
(GDC)



BEARING CARRIER
(GDC)



EXHAUST TUBE ASSY.
(GDC)



EXHAUST MANIFOLD
(GDC)



EXHAUST PIPE
(GDC)



TRIM CYLINDER
(GDC)

EV / HEV Parts



FRONT COVER
(LPDC)



MOTOR HOUSING
(GDC)



MOTOR HOUSING
(GDC)



INVERTER HOUSING
(GDC)



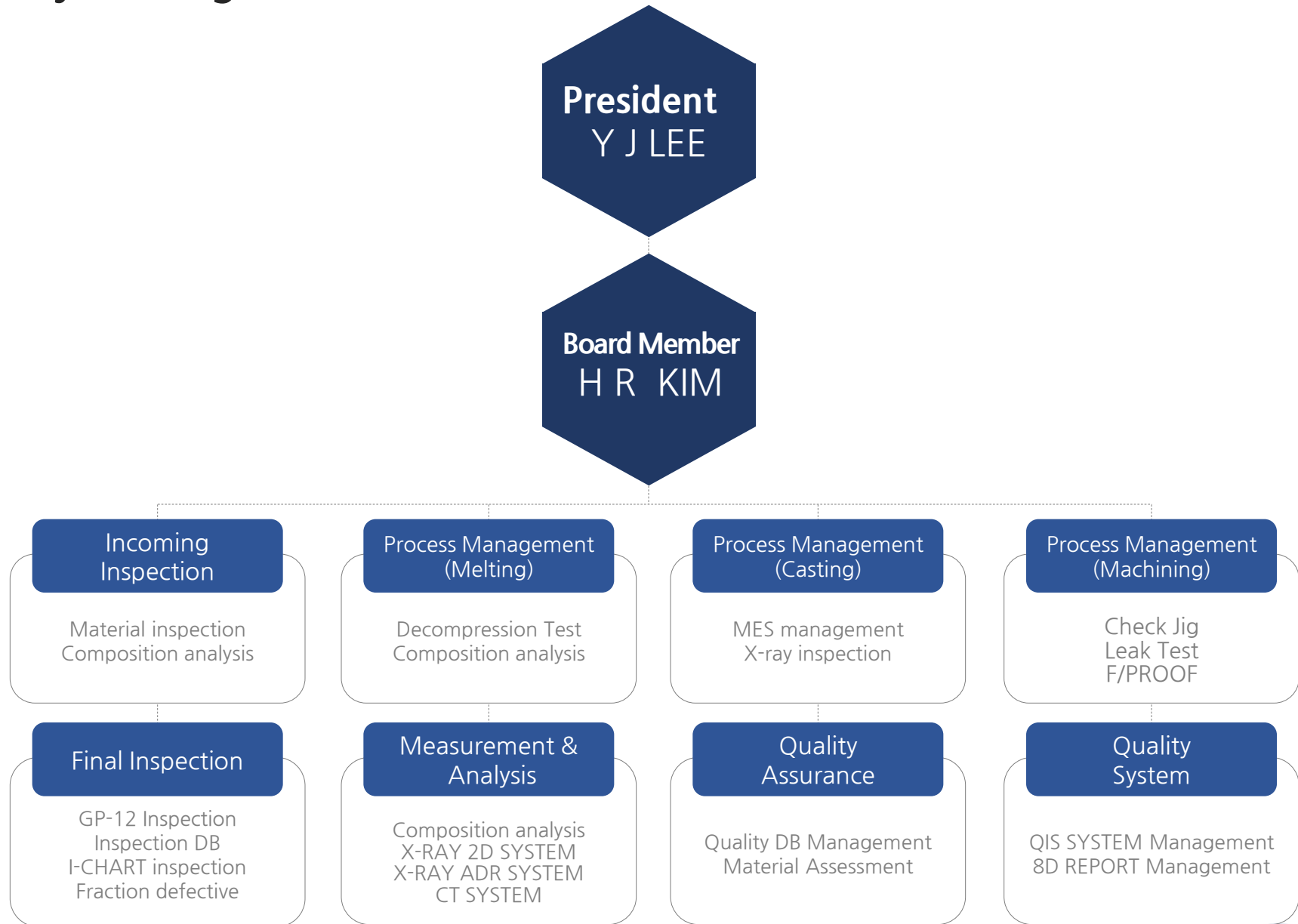
INVERTER HOUSING
(GDC)



GENERATOR HOUSING
(LPDC)

HANJOO QUALITY SYSTEM

Quality Management



Quality Assurance Equipments

1st Foundry (Headquarter)

Equipment	Qty
Radial Fatigue Test M/C	2
X-Ray Inspection M/C	2
CMM	1
13 Impact Test M/C	1
90 Impact Test M/C	1
Innering Test M/C	1
Cornering Fatigue Test M/C	2
Coating Thickness Gauge	1
Chroma Meter	1
Spectrometer	1
Hardness Test	2
Metallurgical Microscopes	1
Surface Roughness & Contour Tester	2
Water Bath	1
Cass Tester	1
Salt Spray Test	1
Universal Material Tester	1

2nd Foundry

Equipment	Qty
X-Ray Inspection M/C	6
CMM	5
CT(Computed Tomography) Inspection M/C	1
Spectrometer	1
Universal Material Tester	2
Florescent Penetrate Tester	1
Vibratory Sieve Shaking Machine	1
Transverse Rupture Strength Machine	1
Metallurgical Microscopes	2
Cleanness Tester / Analysis	1
Constant Temp & Humidity Chamber	2
Density Index Meter	2
Polishing M/C	1
Core Gas Determinator	1
Hardness Test	1



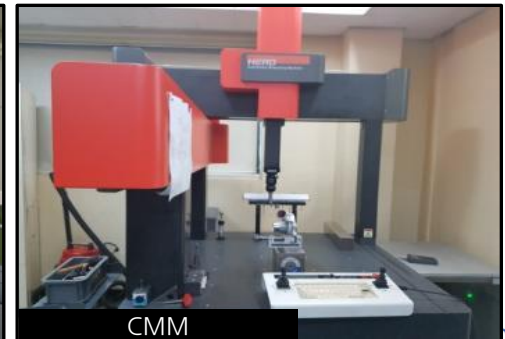
X-Ray Inspection M/C



X-Ray ADR M/C



CT Inspection M/C



CMM

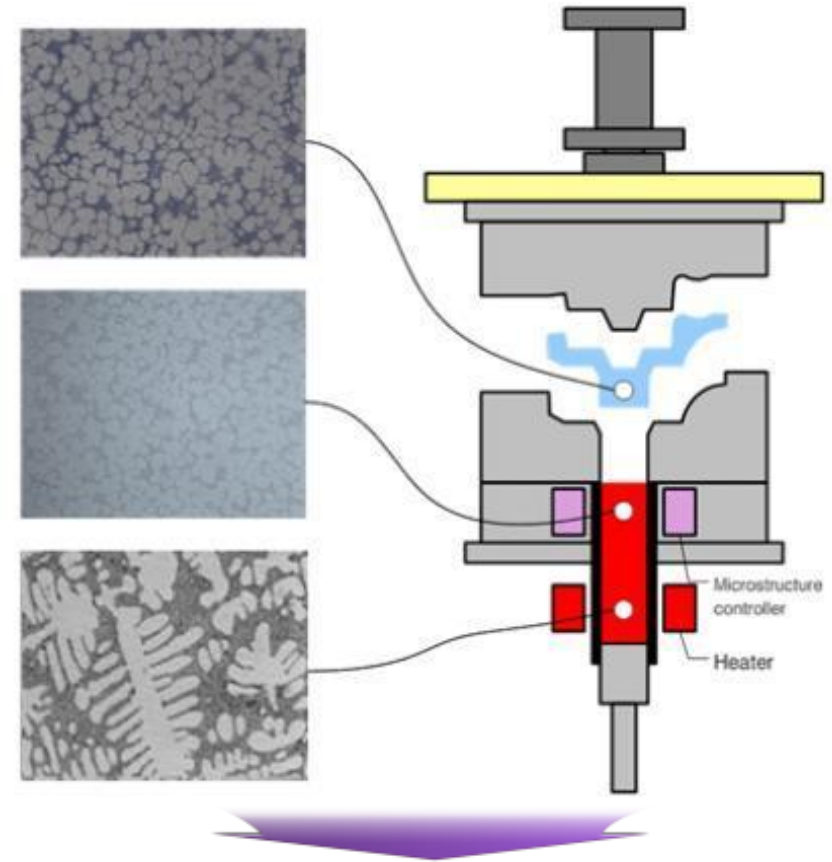
NEW TECHNOLOGY

Electromagnetic Stirring Casting



[Electromagnetic Stirring Casting]

Formed by **high pressure** after texture control using **electromagnetic power**

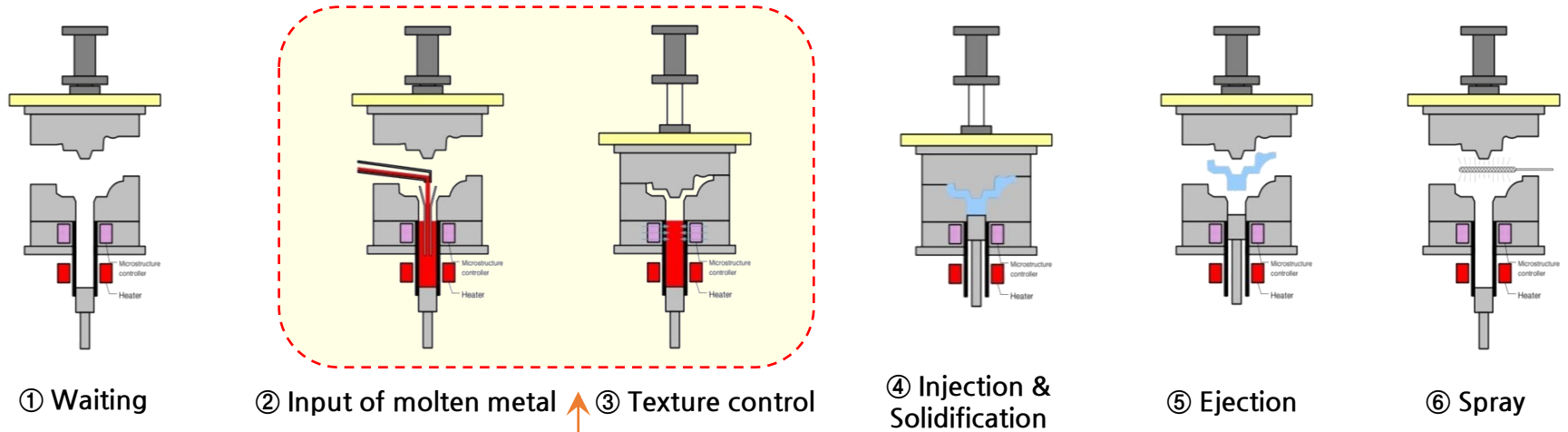


[Merit]

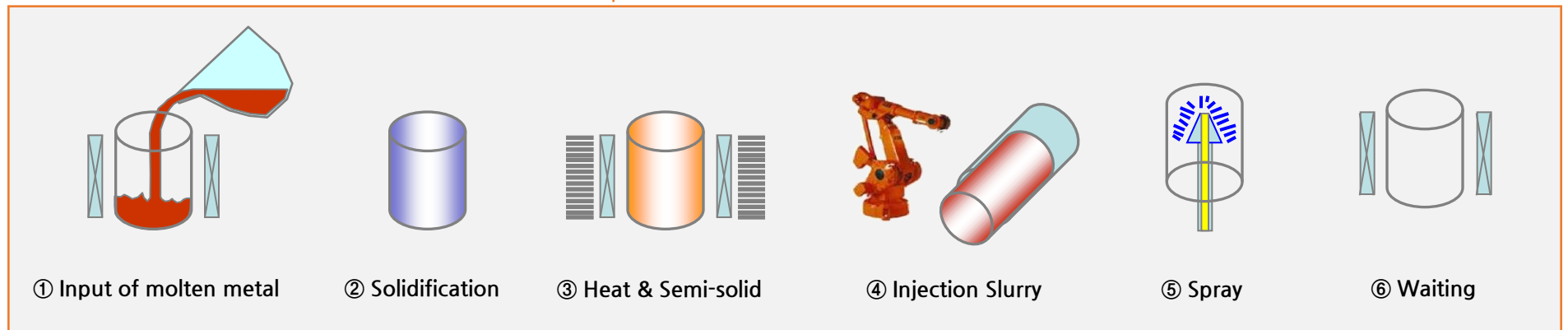
- Simplify process (no need to make any slurry)
- Easy to control temp.
- High productivity than Squeeze casting
- Available to reach high mechanical property

Electromagnetic Stirring Casting

Hanjoo Process A

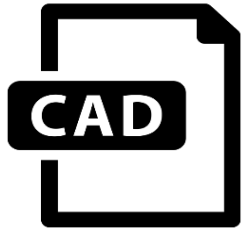


Rheo Casting Process

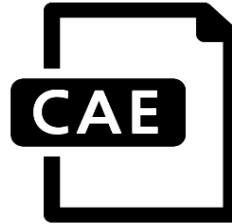


Tooling Design & IP

Tooling Design

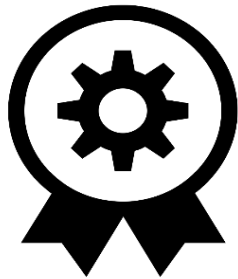


UG NX : 4
CATIA V5 : 3
Solidworks : 1
Pro-E : 1



Structural Analysis
- UG NX NASTRAN : 1
Solidification Analysis
- Any-Casting : 1
- Z-Cast : 1

Intellectual Property



Domestic(Korea): 4 Patent
- Gravity Casting Tool & Method, Semisolid Casting

International (US, JP,UK, GER etc.) : 18 Patent
- Slurry On Demand Casting

CERTIFICATE & PRIZE AWARD

5. CERTIFICATE & PRIZE AWARD

Certificate

IATF 16949 Chassis · Engine Division	
Registration Date	2018-09-04
Expiration Date	2021-09-03

CERTIFICATE

QUALITY MANAGEMENT SYSTEM



Registration Date: 2018-09-04
Expiration Date: 2021-09-03
Revision Date: 2018-09-04
Certificate Number: TS-09038 (-02)

HANJOO METAL Co., Ltd.

- ENGINE DIVISION : 69, Sannam-gil, Onsan-eup, Ulsan-gun, Ulsan, Korea (Zip code : 45010)
- HEAD OFFICE & CHASSIS DIVISION : 34-5, Hwasan 2-gil, Onsan-eup, Ulsan-gun, Ulsan, Korea (Zip code : 45009)

Korean Foundation for Quality certifies that
The Quality Management System of
the above organization has been audited and
has complied with the requirements of
the following standard

Standard
IATF 16949:2016

Scope of certification
PRODUCTION OF ALUMINUM DIECASTING PARTS

IATF Certificate Number : 0327894 ▶ PERMITTED EXEMPTION (8.3 DESIGN & DEVELOPMENT OF PRODUCTS AND SERVICES)



[KAB-OC-01]



[KAB-OC-01]



Daehyun Nam
President & CEO of Kfqa

13F, Wollon Lion's Valley Bldg. B, 160 Guseon digital 1-ro, Seoscheon-gu, Seoul, 06007, Korea

Page 1 of 2

ISO/TS 9001 Chassis · Engine Division	
Registration Date	2018-09-04
Expiration Date	2021-09-03

CERTIFICATE

QUALITY MANAGEMENT SYSTEM



Registration Date: 2018-09-04
Expiration Date: 2021-09-03
Initial Registration Date: 2015-09-09
Revision Date: 2018-09-04
Certificate Number: AC-09038 (-02)

HANJOO METAL Co., Ltd.

- ENGINE DIVISION : 69, Sannam-gil, Onsan-eup, Ulsan-gun, Ulsan, Korea (Zip code : 45010)
- HEAD OFFICE & CHASSIS DIVISION : 34-5, Hwasan 2-gil, Onsan-eup, Ulsan-gun, Ulsan, Korea (Zip code : 45009)

Korean Foundation for Quality certifies that
The Quality Management System of
the above organization has been audited and
has complied with the requirements of
the following standard

Standard
ISO 9001:2015/KS Q ISO 9001:2015

Scope of certification
PRODUCTION OF MOTORBOAT AND ALUMINUM DIECASTING PARTS

▶ PERMITTED EXEMPTION (8.3 DESIGN & DEVELOPMENT OF PRODUCTS AND SERVICES)



[KAB-OC-01]



[KAB-OC-01]



Daehyun Nam
President & CEO of Kfqa

13F, Wollon Lion's Valley Bldg. B, 160 Guseon digital 1-ro, Seoscheon-gu, Seoul, 06007, Korea

ISO 14001 Chassis · Engine Division	
Registration Date	2018-08-25
Expiration Date	2020-11-02

CERTIFICATE

ENVIRONMENTAL MANAGEMENT SYSTEM



Registration Date: 2018-08-25
Expiration Date: 2020-11-02
Initial Registration Date: 2015-08-31
Revision Date: 2018-08-25
Certificate Number: EAC-09034

HANJOO METAL Co., Ltd.

- HEAD OFFICE & CHASSIS DIVISION : 34-5, Hwasan 2-gil, Onsan-eup, Ulsan-gun, Ulsan, Korea (Zip code : 45009)
- ENGINE DIVISION : 69, Sannam-gil, Onsan-eup, Ulsan-gun, Ulsan, Korea (Zip code : 45010)

Korean Foundation for Quality certifies that
The Environmental Management System of
the above organization has been audited and
has complied with the requirements of
the following standard

Standard
ISO 14001:2015/KS I ISO 14001:2015

Scope of certification
HEAD OFFICE & CHASSIS DIVISION : DESIGN AND MANUFACTURE OF ALUMINUM WHEELS FOR AUTOMOTIVE APPLICATIONS AND ALUMINUM DIECASTING PARTS FOR AUTOMOTIVE APPLICATIONS
ENGINE DIVISION : MANUFACTURE OF ALUMINUM DIECASTING PARTS FOR MOTORBOAT AND AUTOMOTIVE APPLICATIONS AND ALUMINUM WHEELS FOR AUTOMOTIVE APPLICATIONS



[KAB-EC-01]



[KAB-EC-01]



Daehyun Nam
President & CEO of Kfqa

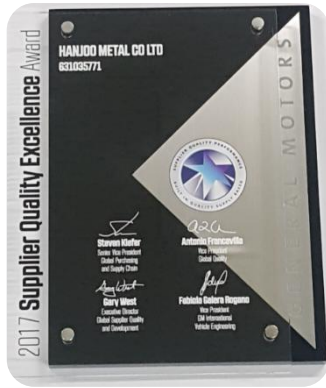
13F, Wollon Lion's Valley Bldg. B, 160 Guseon digital 1-ro, Seoscheon-gu, Seoul, 06007, Korea

Certificate



5. CERTIFICATE & PRIZE AWARD

Prize Award



GM
Supplier Quality Excellence Award
(2017)



Mercury
Preferred Supplier Award
(2016)



Renault
Best Supplier Award
(2013)



Renault Samsung Motors
Best Supplier Award
(2012)



Daimler
Plaque of Appreciation
(2011)



Renault / Nissan
ASES Audit "A" Rank
(2010)

Prize Award



Export Sales Amount Tower



HMC
High-technology company
(2018)



World Class 300
(2018)

Thank you