



Building
the **Credit** of
Metal
Technology



50TH
SINCE
1969

FORMETAL

2021

PLANT LAYOUT



COMPANY OVERVIEW

FORMETAL

FORMETAL is one of the leading forging product manufacturers in Korea with advanced technology and extensive experience

- Established in 1969

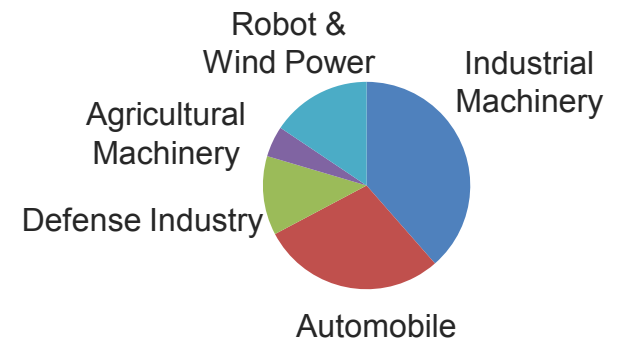
- Broad Product Portfolio
5 categories, 800 products

- World-class Manufacturing Facilities
Land: 39,670m², Floor space: 20,895m²

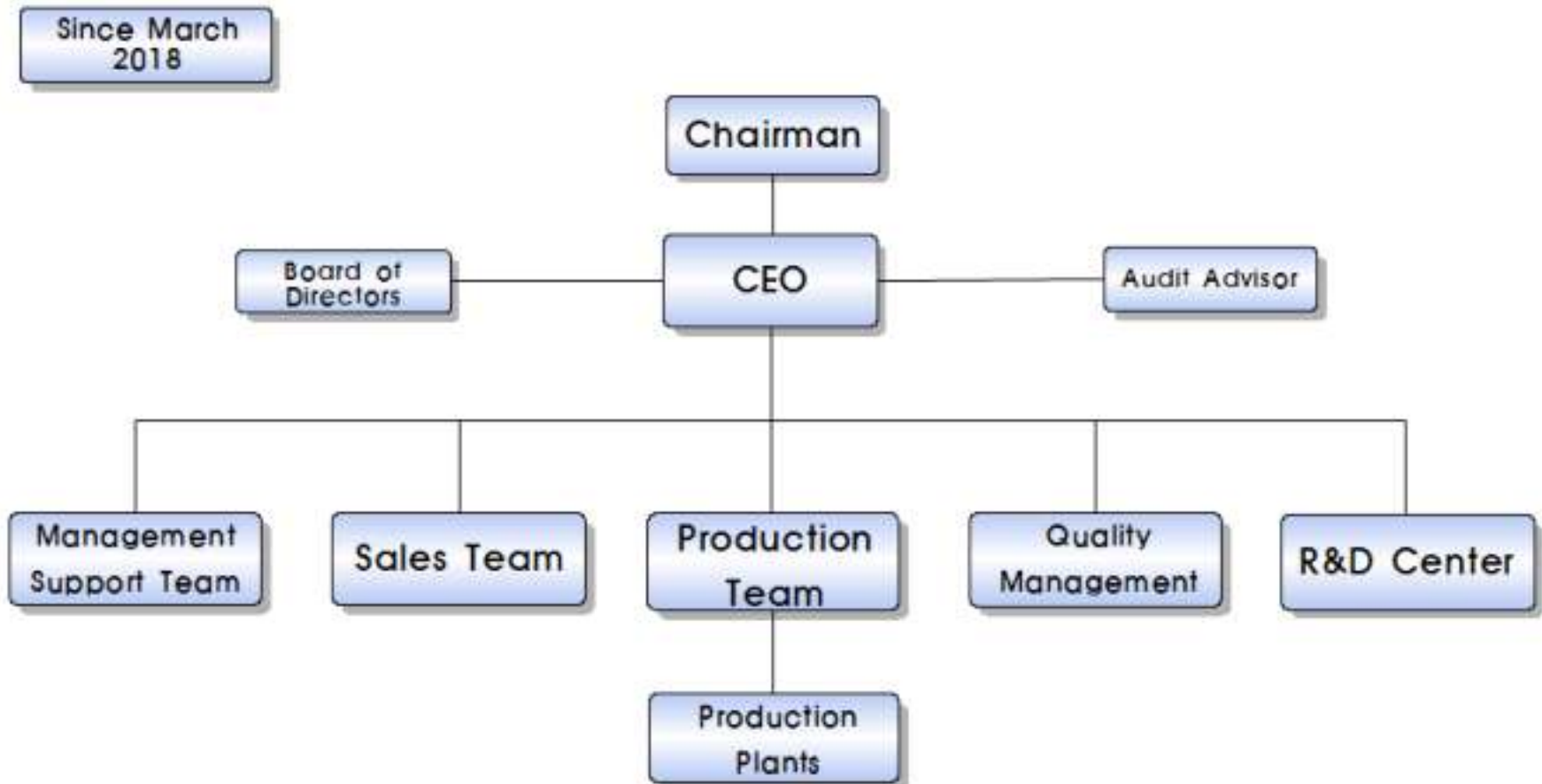
- Well-experienced People
136 Employees

- Listed on the KOSDAQ Market
September 2010

2020 Sales Breakdown
KRW 52bil. (USD 47mil.)



ORGANIZATION CHART



HISTORY & AWARDS



October 1969

- Hyupjin Metal Forging was founded

May 1979

- Relocated at the Banwol Industrial Park

Formative Period

February 1985

- Designated as a "Promising Small to Medium-Sized Firm" by the Korean Government

June 1991

- Received Presidential Award for "Excellency in Management"

September 2005

- Plant Enlargement & Facility Equipment Expansion

Emerging Period

January 2010

- The company name was changed to FORMETAL

September 2010

- Stock was listed on the KOSDAQ

July 2012

- Completed construction of new head office and plant in Seosan

October 2013

- Received Prime Minister Award for "Corporate Partnership"

June 2014

- Selected by Korean government as an *ATC contractor

May 2018

- Selected by Korean government as a Global Hidden Champion

Growing Period

*ATC : Advanced Technology Center

The Most Trustworthy Company

51 Years of Experience in Forging



**Trustworthiness,
Growth
& Technology
Centered Management**

Customer Centered Management

Inspire customer satisfaction through superior quality and service
Good partnership with customers to achieve win-win strategy

Global Centered Management

Move ahead as a global standard company by expansion into new renewable energy global business
Grooming personnel for goals toward globalization

Technology Centered Quality Management

Applying forging technology built over 51 years to new technology development
Concentrate on product development of high level of difficulty to enhance company brand value

PRODUCT PORTFOLIO

FORMETAL 5 Main Leading Industry Groups

Industrial & Heavy Equipment

34% including Doosan Infracore

Automotive

28% including Mando

Defense Industry Parts

11% including Hanwha Defense

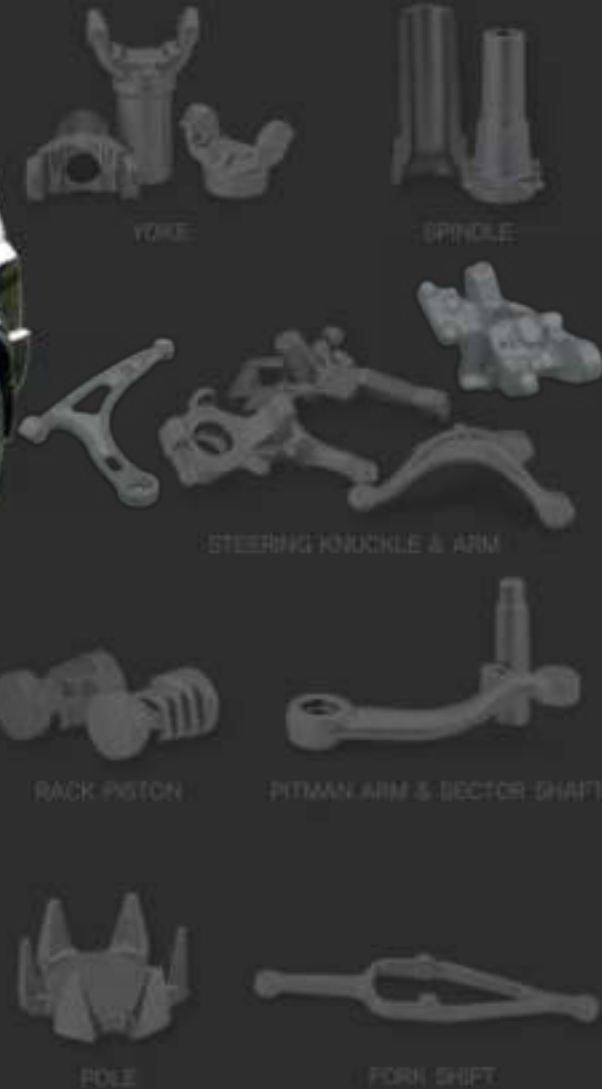
Agricultural Equipment Parts

5% including Daedong Industrial Company

Robot & Wind Power Parts

22% including Nabtesco (Japan)

PRODUCTS



Automobile Industry

Industrial Machinery

- Excavator
- CTL (Compact Track Loader)
- Crane



RING GEAR



BOOM BEARING



PINION SHAFT



CENTER BEARING



CYLINDER



FRONT BEARING



IDLER



SPROCKET

Building the Credit of Metal Technology

PRODUCTS



CONNECTING ROD



CRANK SHAFT

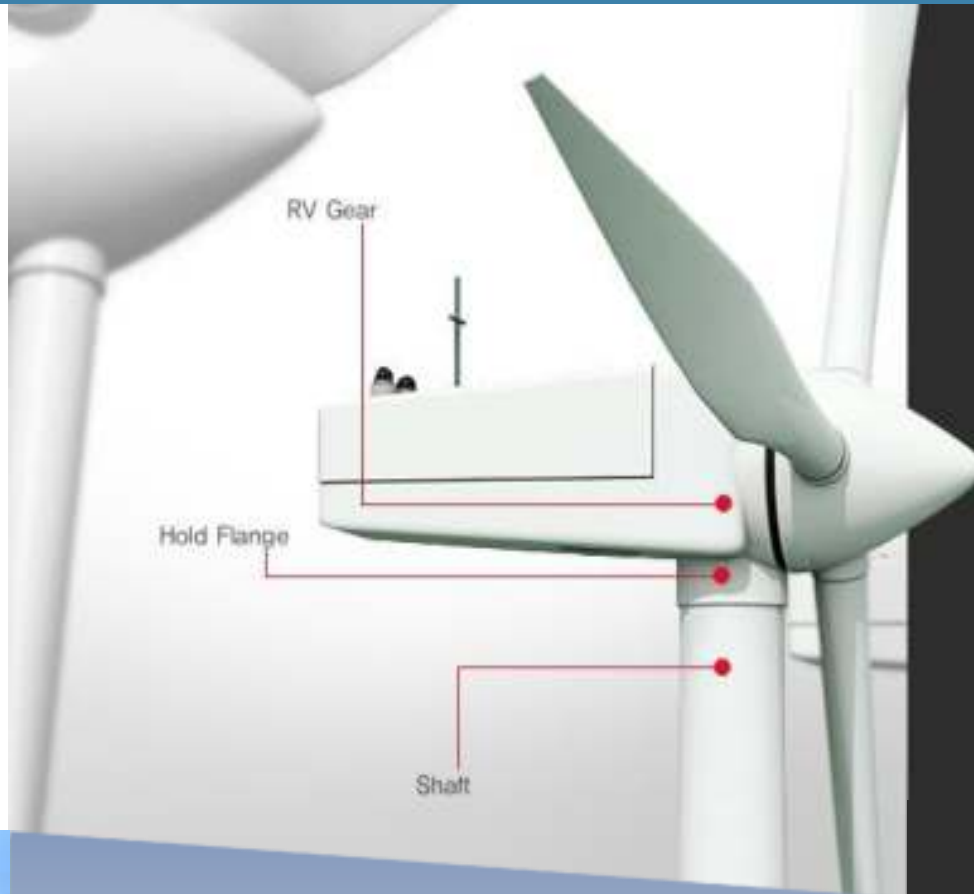


CAM SHAFT

Agricultural Machinery

- Diesel Engine
- Axle shaft, T/M Gear





Robot & Wind Power - Reduction Gear

PRODUCTS

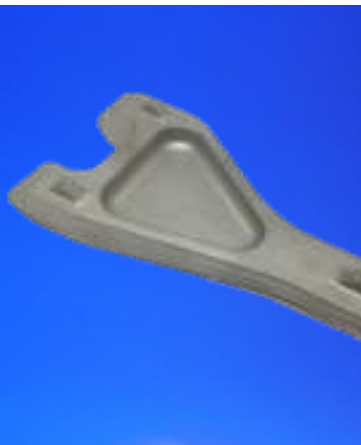


Defense Industry - Undercarriage

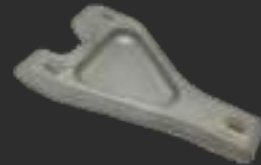
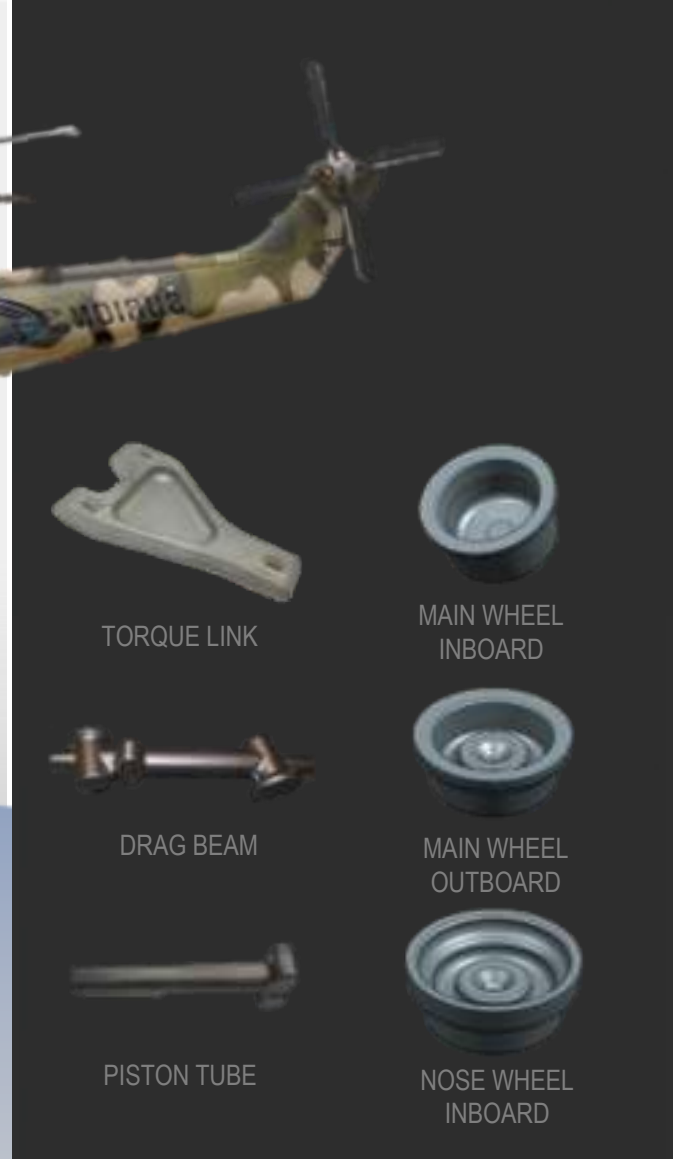
PRODUCTS



Landing gear
Wheels



Aircraft Industry



TORQUE LINK



MAIN WHEEL
INBOARD



DRAG BEAM



MAIN WHEEL
OUTBOARD



PISTON TUBE



NOSE WHEEL
INBOARD

PRODUCTS



WHEEL



CYLINDER



HUB



OIL CAP



STRUT SPADE

Non-ferrous Metal

CUSTOMER BASE

Customer	Products Supplied
Doosan Infracore	Automobile, Heavy Equipment Engine Parts
JINSUNG T.E.C.(CATERPILLAR)	Heavy Equipment Parts (Sprocket, Front(Idler), Cylinder)
Hanwha Defense	Defense Equipment Parts (Aluminum, Steel)
Mando/Dongil Machinery	Automotive Parts(Steering Rack Piston, Worm Shaft)
FMC/NABTESCO	Wind Power Parts, Robot Gear
Daedong Industrial Company Daedong Gear	Agricultural Equipment Engine Parts (Crankshaft, Conn-Rod, Camshaft) Heavy Equipment Parts(Pinion Shaft, Ring Gear)
Ssangyong Motor Company Hyorim Industrial	Automotive Parts (Steering Knuckle)
Dong-A Precision Machinery Pyung-An Precision Machinery	Automotive Housing Parts (Spindle)
Yanmar / Kubota	Heavy Equipment Parts (Sprocket)
Doosan Mottrol	Hydraulic Equipment & Defense Industry Parts (Aluminum, Steel)
Hwashin Precision	Hyundai Motor Related Automotive Parts
LS Mtron Millat Tractors	Agricultural Machinery (Crankshaft, Camshaft, Rear Axle Shaft) Agricultural Machinery (Crankshaft)
Daechang Forging	Heavy Equipment & Automotive Parts
Sunjin Powertech Shilla Precision	Heavy Equipment Parts (Ring Gear, Pinion shaft)

PRODUCTION PROCESS

1 Material Cutting

Purchase round bars and steel billet produced by SeAh, Posco, and other steel companies and cut according to required specifications.

2 Heating

Heat to 1100°C ~ 1250°C using induction heater or LNG blast furnace.

3 Forging

Forge products by free forging or using die to desired shape.

4 Heat Treatment

Heat treatment after forging to increase strength and to form mechanical properties.

5 Machining

Machining for forgings in accordance with customers' specifications.

6 Inspection

Inspect heat treated products for cracks, dimensions, hardness & texture before shipping.

FORGING PROCESS



MAJOR EQUIPMENT

Type	Line	1	2	3	4	5	6	7	SUM
Die Forging	Hammer	30KJ	40KJ	70KJ	4 Ton	120KJ	6 Ton	10 Ton	7
	Hydraulic Press	300 Ton	400 Ton	700 Ton	1250Ton				4
	Forging Press	1300 Ton	2500 Ton	6500Ton					3
	Screw Press	400 Ton	1300 Ton						2
Free Forging	Ring Rolling	Φ1000	Φ1800						2
	Hammer	1 Ton	3 Ton						2
	Hydraulic Press	500 Ton	2000 Ton						2
Total									22



10 Ton Air Drop Hammer



1250 Ton Hydraulic Press



6500Ton Forging Press



2500 Ton Forging Press

PRODUCTION CAPACITY

2 shift basis, 80% utilization

AIR DROP HAMMER	30KJ, 40KJ, 70KJ, 4Ton, 6Ton, 120KJ, 10Ton	2350 Ton/month
FORGING PRESS	1300Ton, 2500Ton, 6500Ton	1000 Ton/month
HYDRAULIC PRESS	300Ton, 400Ton, 500Ton, 700Ton, 1250Ton, 2000Ton	500 Ton/month
RING ROLLING	Φ250 ~ Φ1800	500 Ton/month
FREE FORGING	1 Ton & 3 Ton Air Hammer	600 Ton/month
NON-FERROUS METAL FORGINGS	Hammer & 1300Ton Screw Press	50 Ton/month
TOTAL		5000 Ton/month

PATENTS & CERTIFICATIONS



IATF 16949



ISO/14001



Korea



Italy



Japan



Norway



France



U.S.



U.K.



Germany

Patents/Programs Pending & Registered

No	Registered Applicant	Patent/Program Name	Country	Application Date	Pending Registration No	Notes
1	Formetal	Yoke Manufacturing Process	Korea	2010.7.13	10-2008-0004511	
2	Formetal	Spindle Adapter	Korea	2016.11.22	10-2015-0100310	

PATENTS & CERTIFICATIONS

No	Certification Name	Certification Organization	Certification No	Certification Date	Expiry Date	Notes
1	SQ	Hyundai Transys	FM024	2001.11.08	2020.12.31	-
2	IATF16949	KFQ	TS-05624	2018.10.25	2021.10.24	-
3	ISO/14001	KFQ	EAC-05846	2008.04.08	2020.10.12	-
4	ISO/9001	KFQ	AC-05624	2009.02.05	2020.10.24	-
5	KSQ9100 : 2018 (AS9100 : 2016)	KFQ (SGS U.K. Ltd)	AS-07475 (GB17/872543)	2019.11.28 (2017.01.15)	2022.11.27 (2020.01.14)	-
6	Ssangyong Motors	Hyorim Industrial	SO295F00269	2007.07.18	2020.12.31	-
7	LR	UK Register	MD00/4233/0002/3	2017.01.15	2022.10.06	-
8	DNV	Norway Register	AMMM00000N8	2019.04.29	2022.06.15	-
9	BV	France Register	SMS.W.II./67802/C.0	2016.04.15	2020.03.17	-
10	RINA	Italian Register	FAB004618PU	2018.01.31	2023.01.15	-
11	ABS	US Register	FOR-T1361886	2014.10.08	2024.10.07	-
12	KR	Korea Register	PTD25475-SF001	2009.11.03	2024.12.02	-
13	NK	Japan Register	TA15486E	2015.05.18	2020.05.17	-
14	GL	German Register	AMMM00000N8	2019.04.29	2022.06.15	-
15	CCS	Chinese Register	FS18W00018	2019.01.10	2022.01.10	-

FORMETAL
THANK YOU!

