

Seil Forging promises world's best forging

**And Make it**

“ Life Time Health Management for Human &  
Life Time Quality Management for Company ”



**SEIL Forging** co.,Ltd.

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## 1-1 Company History

**1998. Feb** Established Seil Forging Co.,Ltd

**1999. Aug** Developed Bearing (Ball, Taper)

**2001. May** Acquired ISO9001 Certificate (BSI Certification Institute)  
**Feb** Developed Gear for Transmission

**2002. Jun** Developed C/F for Rear Axle  
**Mar** Developed T/B for Automobile

**2003. Oct** Acquired ISO/TS16949:2002 Certificate (BSI Certification Institute)

**2005. Sep** Developed DT Bearing(Hyundai Motors)  
**Jul** Developed VQ Bearing (Kia Motors)

**2006. Jan** Acquired SQ Quality Assurance for Hyndai Motors and Kia Motors (CF017)

**2006. Apr** Expanded and moved to present Jinsung Factory

**2007. Dec** Management Innovative S&M Business Certification (Ministry of SMEs and Startups)

**2008. Jun** Developed 6-Speed Bearing of Hyundai Motors

**2010. Aug** Extended to 2-lines of Forging (2 1,600ton units)  
**Sep** Operated Aluminum Forging Line

**2015. Jan** Developed MOJAVE Wheel Bearing

**2015. Jan** Developed Wheel Bearing for Hyundai Avante

**2015. Dec** Developed Wheel Bearing for GM Spain 9BXX

**2016. Feb** Developed Wheel Bearing for Diamler VS30

**2016. Mar** Developed Wheel Bearing for GM China A2LL

**1-2** General Status **Establishment** ● Feb, 1998 **Plant / Floor Area** ● 1<sup>st</sup> Factory Area / Floor 12,324m<sup>2</sup> / 7,030m<sup>2</sup>  
2<sup>st</sup> Factory Area / Floor 400m<sup>2</sup> / 280m<sup>2</sup> **Employees** ● 70 **Products** ● Bearing, Gear, Shaft, Roller, Others



## 2-1 Manufacturing Process Status

### Forging Part

- Hub Bearing Flange
- Hub Bearing Outer
- Gear



Capa (Min order)

Max : 月 1,000,000EA

Min : 月 1,000EA

### Turning Part

- Hub Bearing Flange
- Hub Bearing Outer
- Gear



Capa (Min order)

Max : 月 1,000,000EA

Min : 月 1,000EA

### Gear&Shaft Part

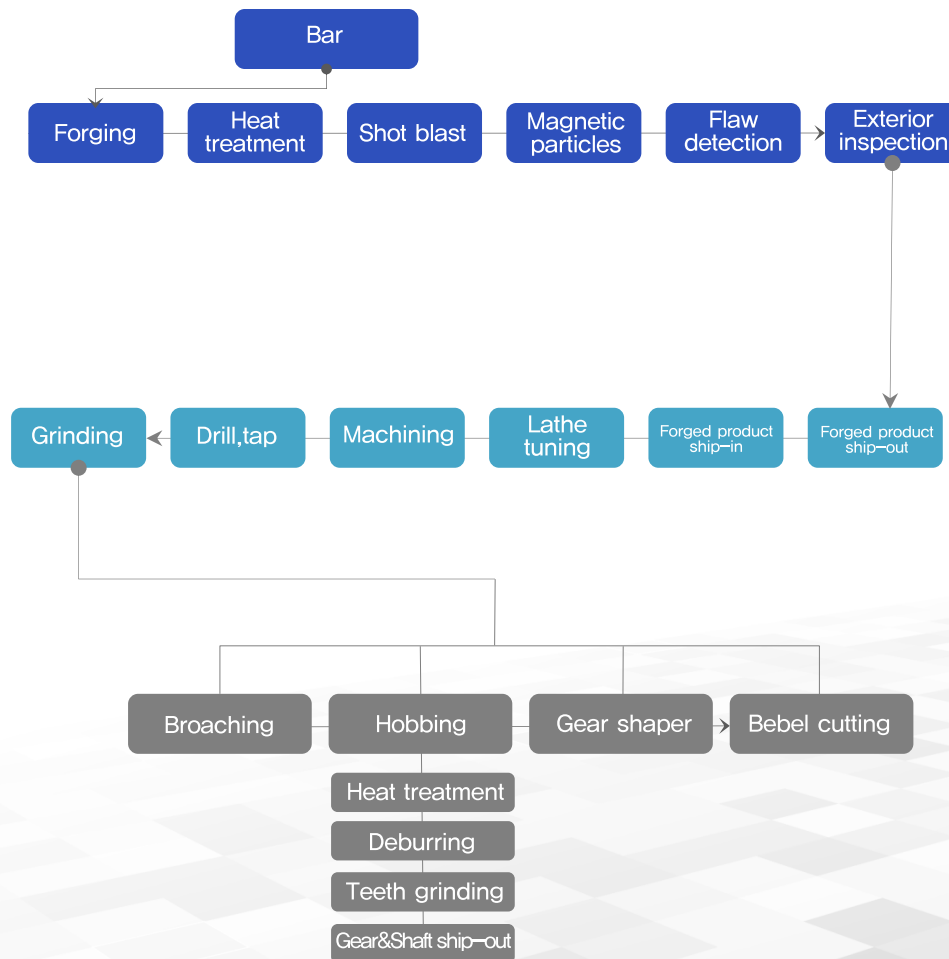
- Engine Gear
- Trans Mission Gear
- Shaft



Capa (Min order)

Max : 月 150,000EA

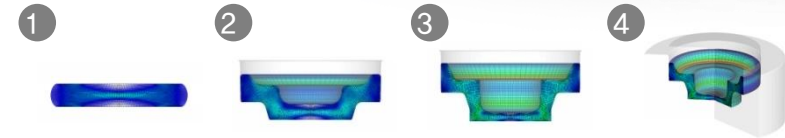
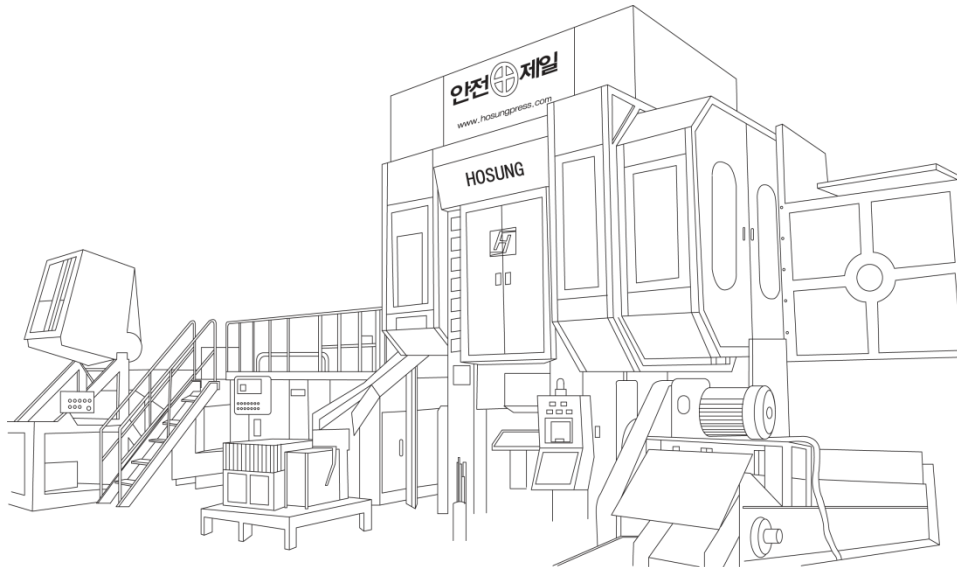
Min : 月 500EA



## 2-2 Introduction to Manufacturing Equipments

1,300 ton press ,  
( Type ) Products – 3 Lines

Max 7,200,000pcs / year  
Load 6,000, 000pcs



Major Products



Spindle / Cylinder Gear

Out dia	MAX: $\varnothing$ 125 MIN: $\varnothing$ 80
Net weight	MAX: 3.5kg MIN: 1.0kg
Capa	200,000EA / month



Taper bearing housing(Outer, Inner)

Out dia	MAX: $\varnothing$ 125 MIN: $\varnothing$ 80
Net weight	MAX: 2.5kg MIN: 0.5kg
Capa	250,000EA / month



Gear

Out dia	MAX: $\varnothing$ 125 MIN:
Net weight	MAX: 3.0kg MIN: 0.8kg
Capa	200,000EA / month

## 2-2 Introduction to Manufacturing Equipments

1,600 ton press  
( Robot transfer Type ) Products – 2 Lines

Max Capability 3,000,000pcs / year  
Load 2,300, 000pcs



Major Products



### Ring Gear / CAM-Shaft Gear

Out dia MAX:  $\varnothing$  160 MIN:  $\varnothing$  90  
Net weight MAX: 8kg MIN: 2kg  
Capa 150,000



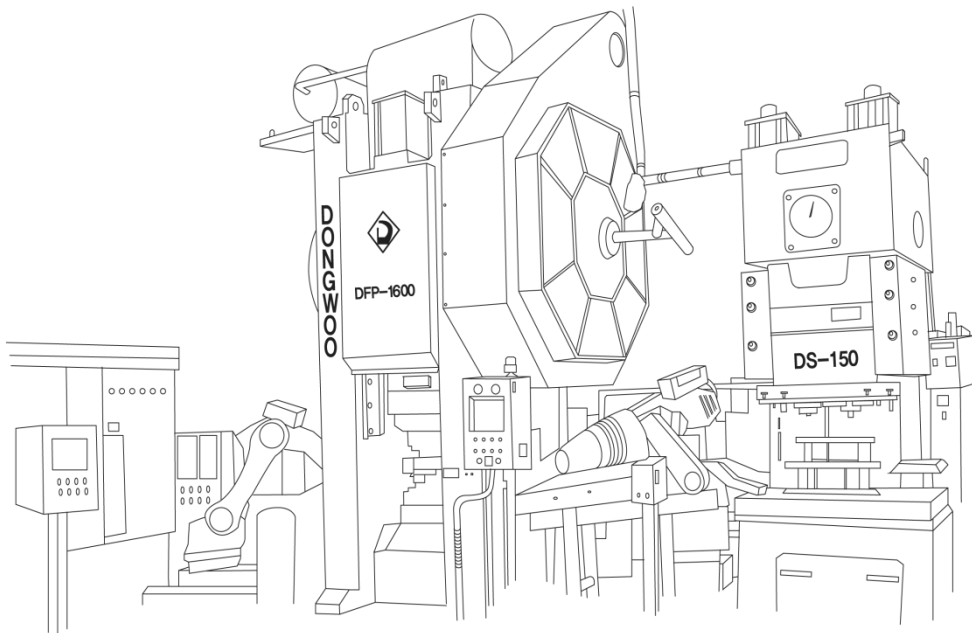
### Hub bearing outer ring

Out dia MAX:  $\varnothing$  180 MIN:  $\varnothing$  90  
Net weight MAX: 8kg MIN: 1.5kg  
Capa 200,000



### Final Gear

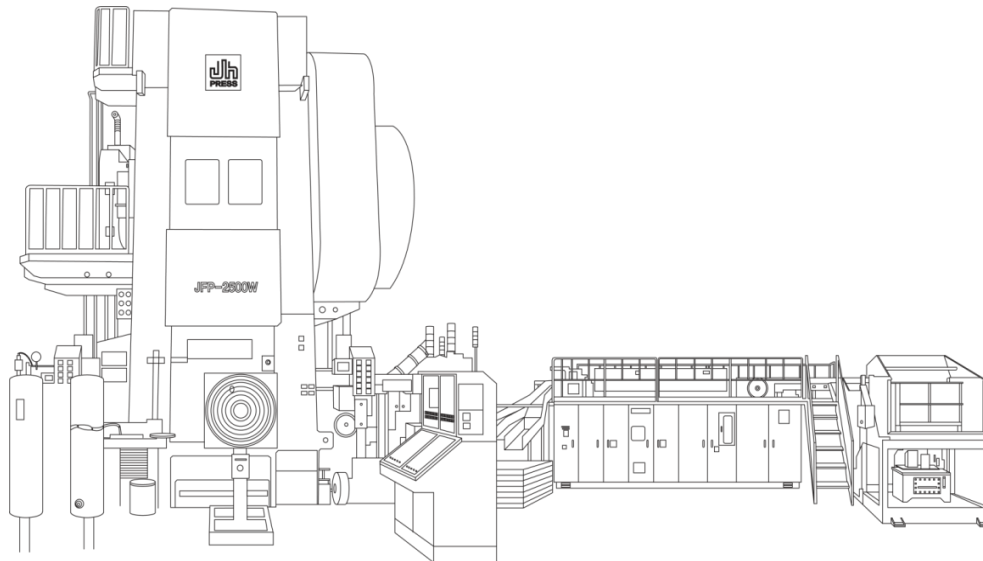
Out dia MAX:  $\varnothing$  180 MIN:  $\varnothing$  90  
Net weight MAX: 10kg MIN: 1.5kg  
Capa 150,000



## 2-2 Introduction to Manufacturing Equipments

2,500 ton press  
( Auto Transfer Type ) – 2Lines

Max Capability 3,600,000pcs / year  
Load 2,800, 000pcs



Major Products



### Hub Bearing

Out dia      MAX:  $\varnothing$  210 MIN:  $\varnothing$  120  
Net weight    MAX: 12kg    MIN: 2.5kg  
Capa 300,000



### Shaft / Pinion Drive

Length      MAX: 500mm MIN: 100mm  
Net weight    MAX: 12kg    MIN: 2.5kg  
Capa 150,000



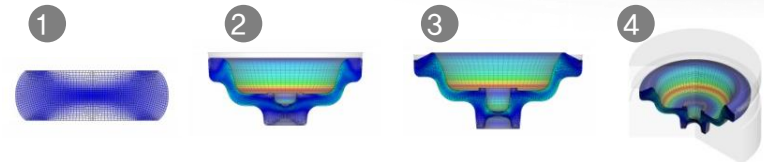
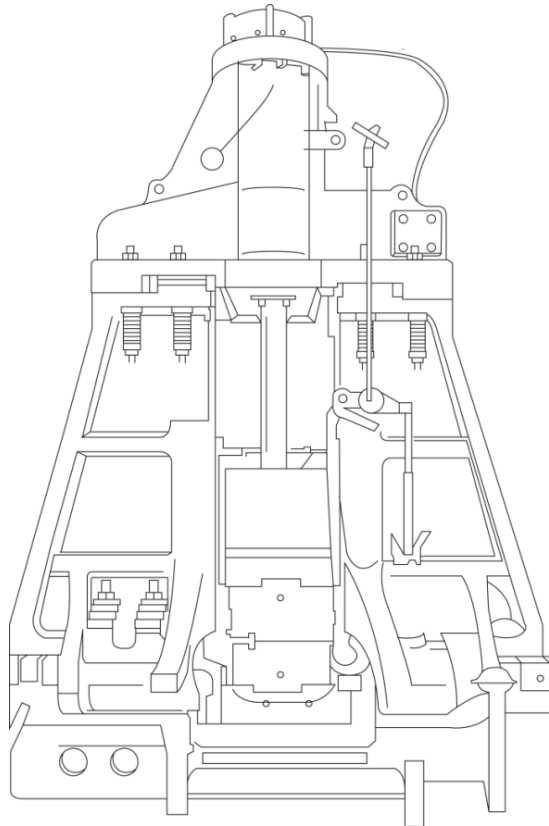
### CAM-Shaft Gear

Out dia      MAX:  $\varnothing$  210 MIN:  $\varnothing$  120  
Net weight    MAX: 15kg    MIN: 2.5kg  
Capa 100,000



## 2-2 Introduction to Manufacturing Equipments

### Air Drop Hammer – 2 Lines ( 3ton, 1ton )



#### Major Products



Gear



PTO Shaft



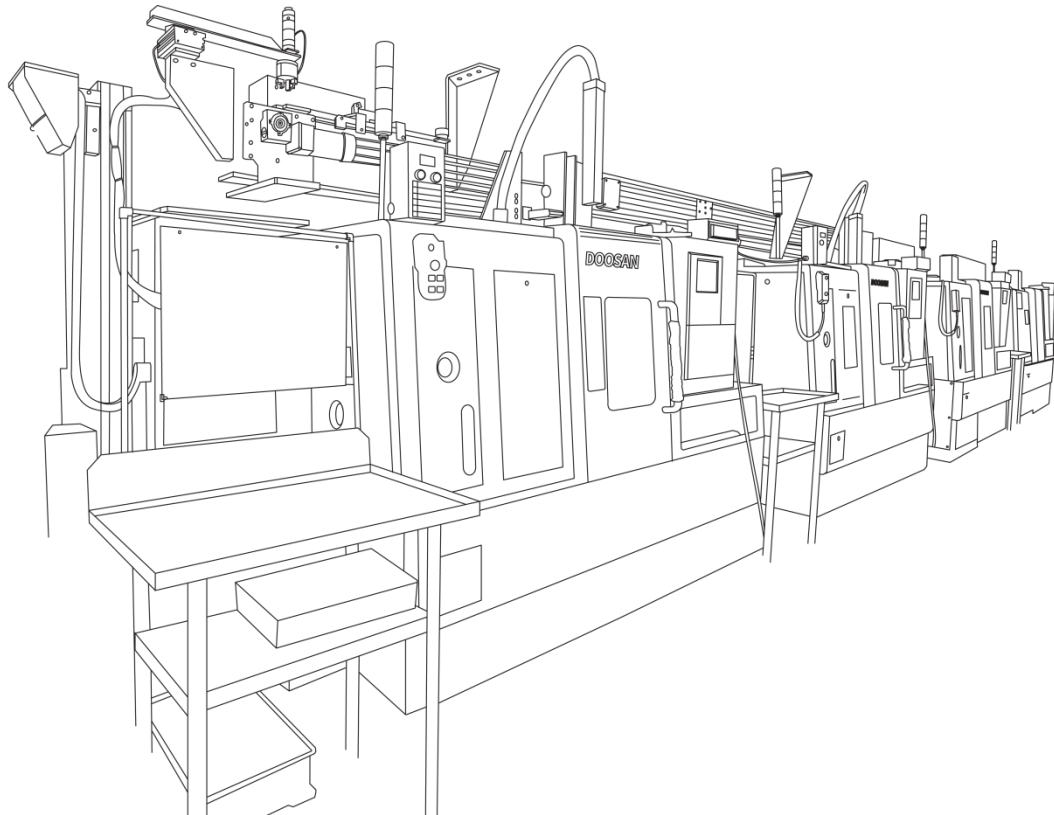
Lift arm



Fork

## 2-2 Introduction to Manufacturing Equipments

### Taper Bearing Auto Turning Line (4 Lines)



#### Taper bearing housing

Out dia      MAX:  $\varnothing$  180 MIN:  $\varnothing$  80  
Net weight    MAX: 2.5kg MIN: 0.5kg

## 2-2 Introduction to Manufacturing Equipments

### Ball Bearing Turning Line (4 Lines)



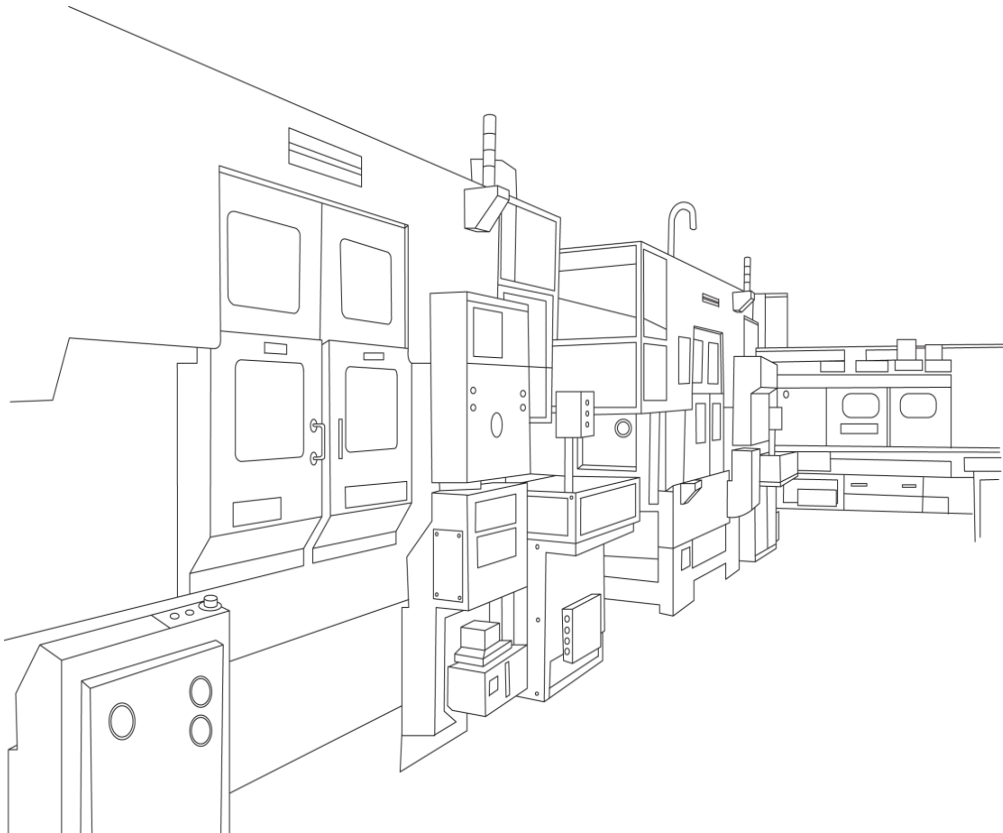
Ball bearing housing

Out dia	MAX: $\varnothing$ 180 MIN: $\varnothing$ 80
Net weight	MAX: 2.5kg MIN: 0.5kg



## 2-2 Introduction to Manufacturing Equipments

### Hub Bearing Turing Line (8 Lines)



Hub bearing flange

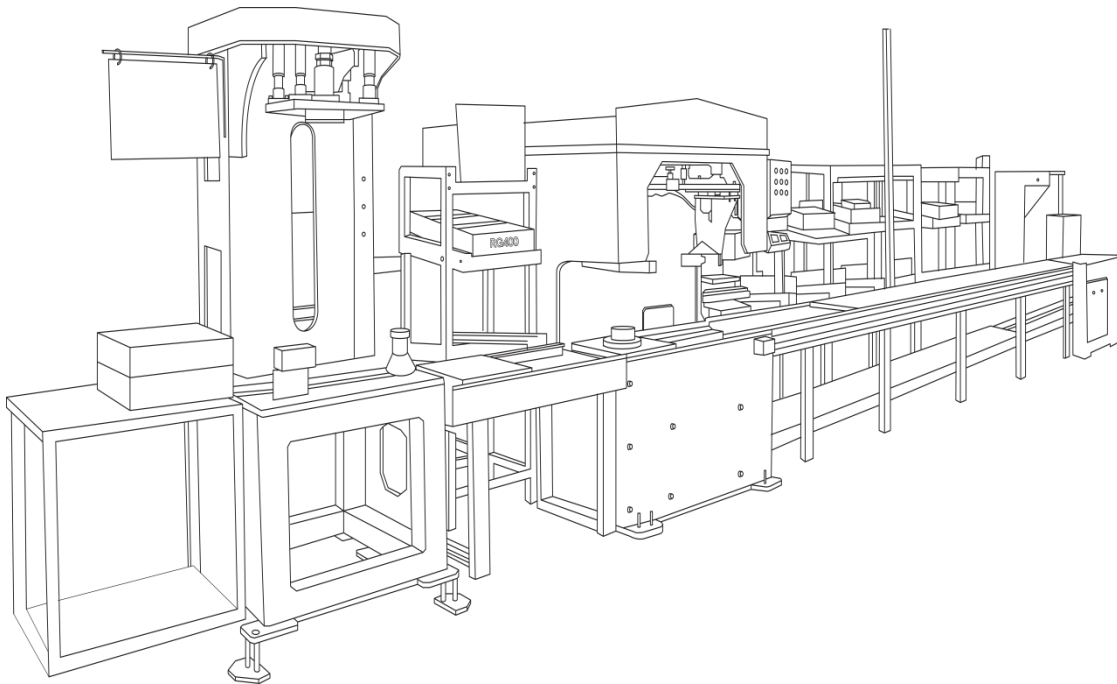
Hub bearing outer

Front hub assy

Out dia	MAX: $\varnothing$ 180 MIN: $\varnothing$ 80
Net weight	MAX: 8kg MIN: 1.5kg

## 2-2 Introduction to Manufacturing Equipments

### Gear Machine Line (4 Lines)



Engine Gears

Transmission Gear

Shaft

Out dia	MAX: $\varnothing$ 210 MIN: $\varnothing$ 40
Net weight	MAX: 15kg MIN: 1kg

### 3-1 Introduction to Manufacturing products



**Engine Gear**



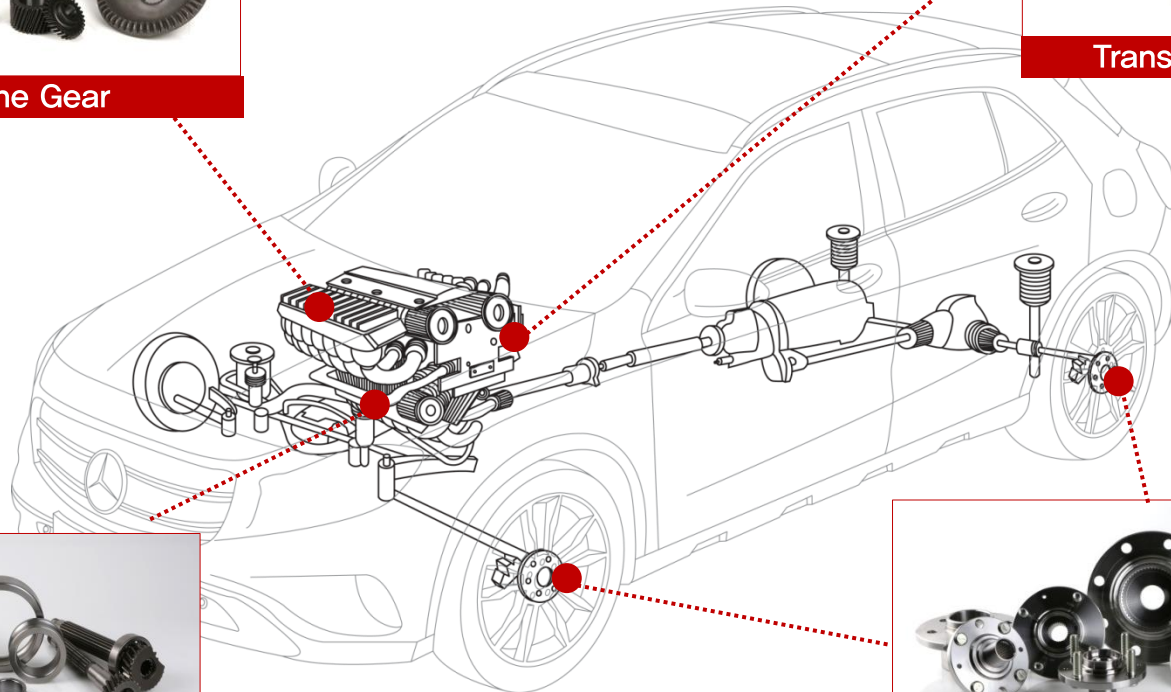
**Trans Mission Gear**



**Bearing & Shaft**



**Hub Bearing Axle Shaft**



### 3-1 Introduction to Manufacturing products

#### CAR ARTS



HUB BEARING



TAPER BEARING



6TH BEARING CASE



RING GEAR



RING GEAR



COMPANION-FLANGE



SHAFT



COMPANION FLANGE



FLANGE U JOINT



FORK



SPINDLE



PINION DRIVE



CYLINDER GEAR



P.T.O COUNTER SHAFT

#### HEAVY EQUIPMENT



ROLLER



KNUCKLE



TRACK LINK



SPRING PAD



TRACK-LINK(大)



END-GEA



CYLINDER ROD EYE

#### OTHERS



BEVEL GEAR



CAM-SHAFTGEAR



FINAL GEAR



WHEEL SHAFT



SPIDER



PARKING GEAR



WHEEL SPROCKET



## 3-2 Manufacturing products

### Parts of a Bearing

Seil Forging is the consolidated leader in the field with securing 60% of share of taper bearing production of Korea.



## 3-2 Manufacturing products

### Part of an automobile (Gear)

We are dedicated to securing competitiveness by cutting the cost through continuous R&D on core automobile parts. In addition, the product line-up is being extended from steel products to non-steel forging



## 3-2 Manufacturing products

### Parts of an automobile (Shaft)

We are dedicated to securing competitiveness by cutting the cost through continuous R&D on core automobile parts. In addition, the product line-up is being extended from steel products to non-steel forging





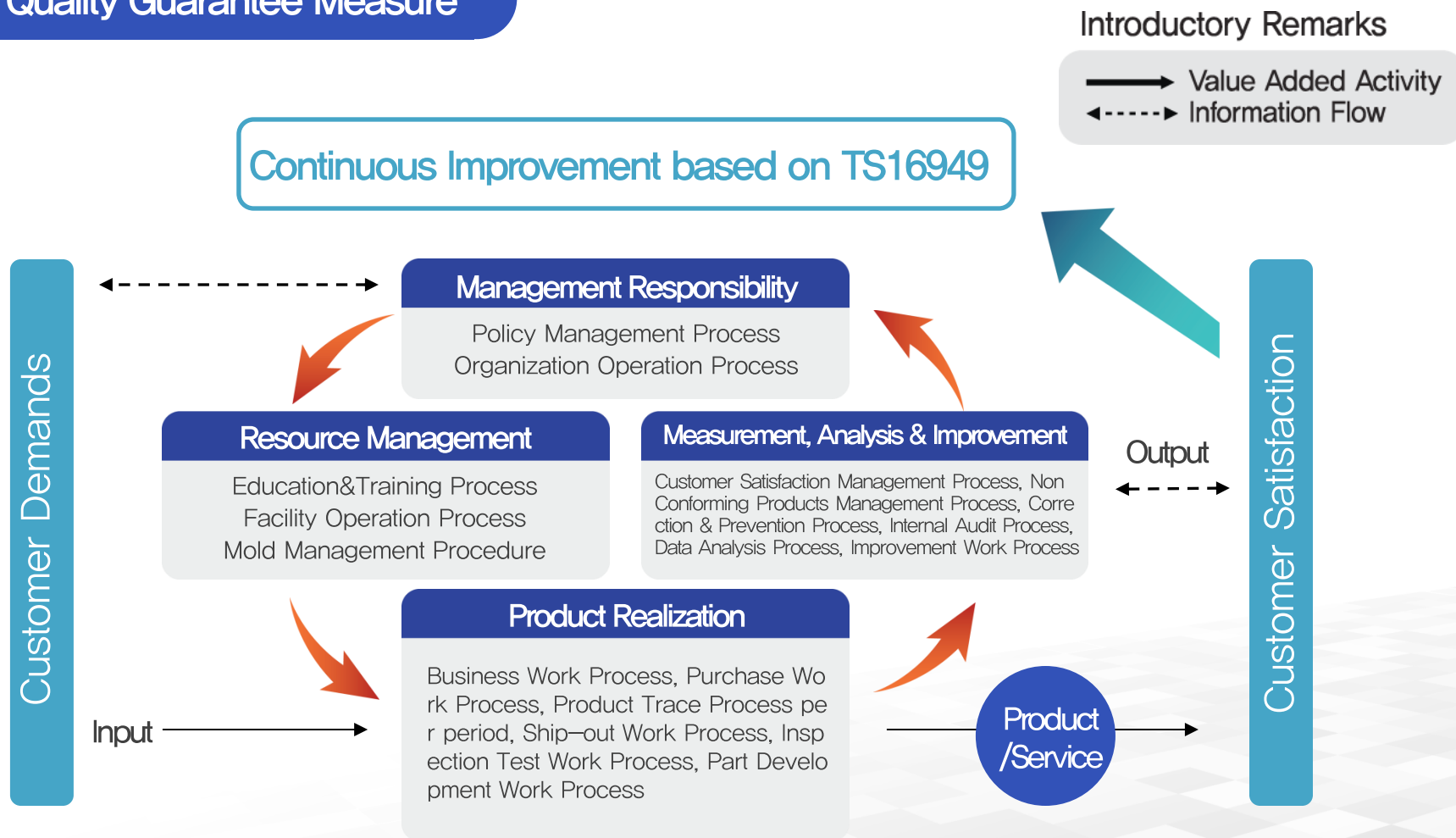
## 3-2 Manufacturing products

### Part of an agricultural machinery

For the past 20 years, Seil Forging has been the main supplier for the four largest farm machinery manufacturers in Korea (Dongyang, Daedong, Kukje and LS) by offering engine, transmission and axle parts.



## 4-1 Quality Guarantee Measure



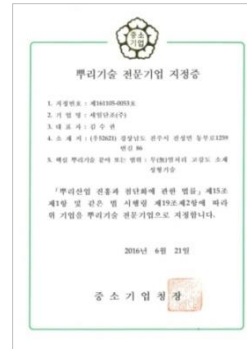
## 4-2 Quality Certificate Status



TS Certificate



TS Certificate



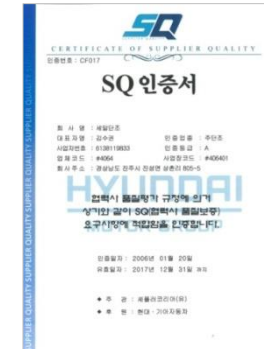
Certificate of  
Designated Root  
Technology Profes  
sional Company



Ino-Biz



Confirmation of  
Material Part Profe  
ssional Company



SQ Certificate



Certificate of Water Precision CLEAN Business Site



BSI Certificate



SQ Certificate

## 4-3 Test Equipment Procurement Status

3-Dimensional  
Measuring Device



Components Analyzer



Portable  
Component Analyzer



Brinell  
Hardness Tester



Rockwell  
Hardness Tester



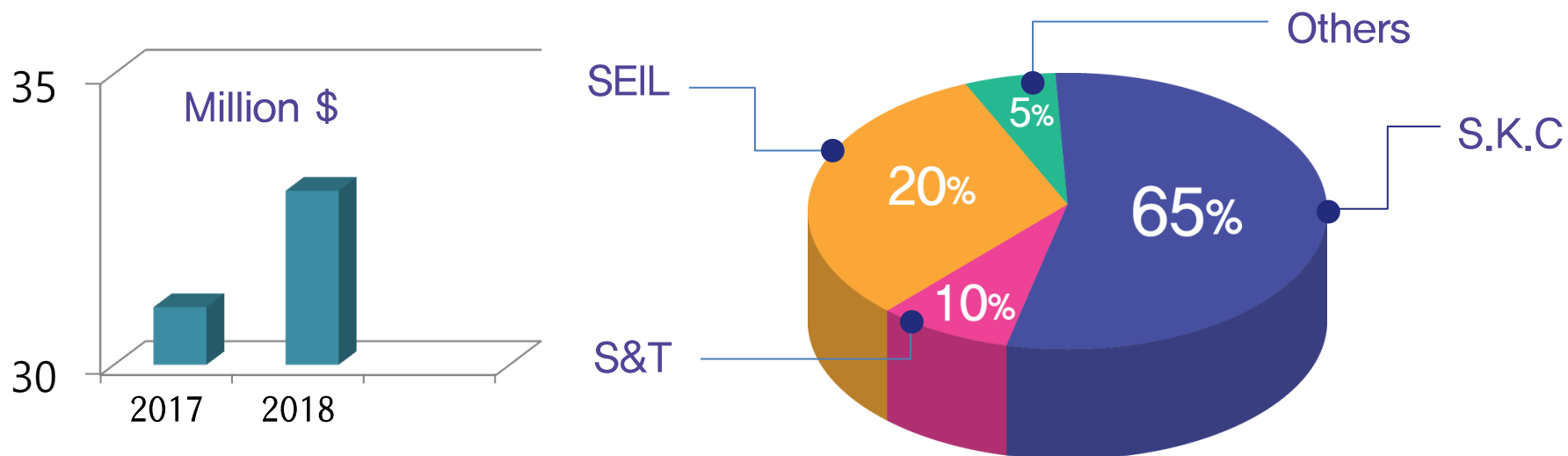
Temperature Management System



MPI System



## 4-4 Buyer Status & Turnover



Costomer	Distribution	User
S.K.C	65%	HYUNDAI, KIA
SEIL Industry	20%	JOHN DEERE, ISEKI, DONGYANG
S&T	10%	HYUNDAI, KIA
OTHERS	5%	UNDERCARRIAGE PARTS

## 5 Factory Management System

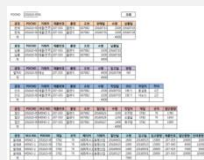
### NEW ERP (2016)

Production Plan Management  
Delivery Management

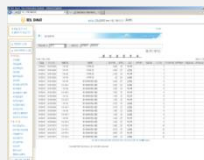


Pattern Management

LOT Management



Productivity Analysis



### MES (2019)

Integrated  
management



Temperature Auto Management System of  
Material (Completed)

Video System (Completed)

Efficiency Improvement by Auto  
management of compressor (Completed)

Real time checking production  
quantities (MES)

Energy Efficiency Improvement by Auto  
Management of Energy consumption



## 6 Long Term Vision



### Development Stage

<b>Management Goal</b>	Quality First Policy
<b>Main Promotion Business</b>	Expansion of the manufacturing of auto parts
<b>Detail Promotion Business</b>	Quality Certificate and Maximization of the Manufacturing

### Innovation Stage

<b>Management Goal</b>	Customer Oriented
<b>Main Promotion Business</b>	Expansion of the Manufacturing Of Auto Parts, Promotion of process automation(Installed Robot)
<b>Detail Promotion Business</b>	Overseas Market Pioneering (North America and Europe)

### Growth Stage

<b>Management Goal</b>	Quality & Customer in Priority
<b>Main Promotion Business</b>	Factory Environment Improvement, Entire Line Automation Promotion
<b>Detail Promotion Business</b>	Expansion of Forging & Manufacturing for Non-Ferrous Metal



## 7 How to get here

