

Changjin ENG Co.,Ltd

Company Introduction

1. Overview

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- History & Achievements

2. Business Plan

- Current Status & Objectives

3. Business Areas

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- Automated Line Components

4. Production Capacity

- Production Facilities
- Smart Factory,
- Production Process / Quality Control /
- Equipment / Subcontractor Management

5. Development and Certification Status

- Localization Development Status
- Certifications
- Awards

Company Information

Company Name	Changjin ENG Co., Ltd.
Established	October 20, 2006
Head Office	3-gil 59, Seokgye Industrial Complex, Sangbuk-myeon, Yangsan-si, Gyeongnam, Korea
CEO	Kim Soon-chul, Kim Kyung-ik (Co-CEOs)
Main Business Areas	Supply of repair parts to the Defense Acquisition Program Administration and logistics commands of each military branch (Army, Navy, Air Force); Production of repair parts for Nexen Tire's automated line
Number of Employees	16 (as of December 2024)
Annual Sales	USD \$2,238,000 (2024)
Website	http://cjeng.net

Land status

Manufacturing Plant Overview

Location	Sangbuk-myeon, Yangsan-si Gyeongsangnam-do, Korea
Completion Date	November 2019
Total Area	3,300 m ²
Production Area	660 m ² × 3 units
Products	Military parts, Industrial machinery parts



Manufacturing Plant located in Sangbuk-myeon, Yangsan-si

Company History

History & Performance

2006

October: Established as Changjin ENG Co., Ltd.

2007 ~ 2012

2008

March: Designated as a Defense Subcontractor
June: Acquired ISO9001 Certification

2013~2019

2013

August: Established R&D Department

2014

April: Certified as a Technology-Innovative SME (INNO-BIZ)

2015

March: Patent Registered (Spring Heat Treatment Jig)

2019

February: Patent Registered (Tire Original Mold Fixture)

2020~2022

2020

February: Patent Registered (Bead Forming Tool)
October: Relocated Headquarters (Wasan Seokgye Industrial Complex)

2021

May: Built Smart Factory (basic)
May: Registered as Family Company with Changwon National University
July: Certified as a Management-Innovative SME (MAIN-BIZ)

2022

October: Registered as a Specialized Company for Materials, Parts, and Equipment

2023~2024

2023

March: Established Corporate R&D Center
August: Certified with Defense Quality Management System (DQMS)

2024

March: Designated as Work-Learning Dual System Company
May: Certified as a Root Industry Company
June: Registered as a Supplier for Hanwha Aerospace
November: Selected as a Defense Innovation Company
December: Commended by Head of Naval Defense Development Command

2025

January: Commended by Deputy Minister of Army Defense Development



1. Overview

Major Achievements

History & Performance

2006

2006
Established as
Changjin ENG Co.,
Ltd.

2007 ~ 2010

2007

Supplied K200 clutch parts
(Army)

2008

Supplied turret base parts for
K-9 self-propelled howitzer
(Army)

2009

Supplied electrical components
for guided weapons (Air Force)
Supplied 500MD helicopter
repair components (Army)

2011~2014

2010

Supplied parts for Armored
Combat Dozer (Army)

2011

Supplied MTU engine repair
components (Navy)

2012

Supplied parts for Tire Research Center
(Nexen Tire)

2013

Supplied KF-16D POD LIFT
components (Air Force)
Supplied F-5 vertical tail nozzle
assembly (Korean Air)

2014

Participated in F-15K aircraft support
project (Air Force)
Supplied trailer parts (Air Force)
Supplied mast communication
system parts (Army)

2015~2019

2016

Supplied repair parts for
Cheonma missile system
(Army)

Supplied functional noise
reduction parts for
Korean Army helicopters

2019

Supplied KF-5 vertical tail
nozzle assembly as part of
national defense
development (Air Force)

2020~2024

2020

Relocated to Seokgye General
Industrial Complex in Yangsan

2024





Supplied national defense
development parts (injector)
for Hanwha Aerospace



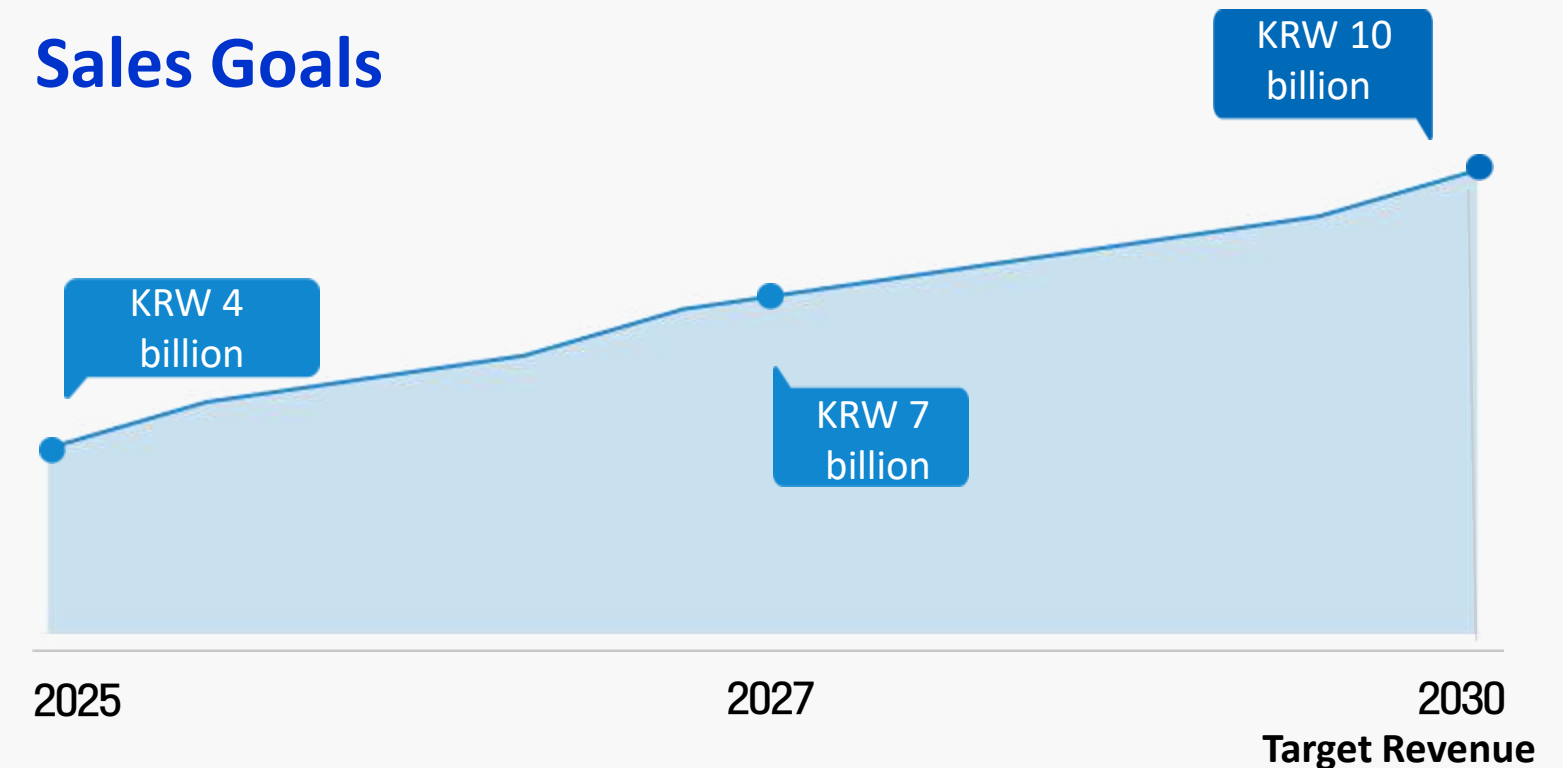
Business Status & Objectives

Business status & objectives

(as of 2024)

Revenue	Completed Localization Projects
 TOTAL KRW 3 BILLION	 TOTAL 17cases
On-Time Delivery Rate (incl. civil)	Production Plan Fulfillment Rate
 TOTAL 98% or higher	 TOTAL 95% or higher

Sales Goals



Business Goals (by 2030)

Total Revenue	KRW 10 billion annually
Localization Projects & Related Revenue:	100 cases, KRW 3 billion per year
Sales to Nexen Tire / Korea Aerospace Industries / Hanwha Aerospace:	KRW 5 billion annually (including KRW 1 billion export to Poland, Czech Republic, China, etc.)
Industry-Academia Research Output:	KRW 1 billion, 5 patents registered
Number of Employees:	30

Business Description

Business description

01 Manufacturing of Military

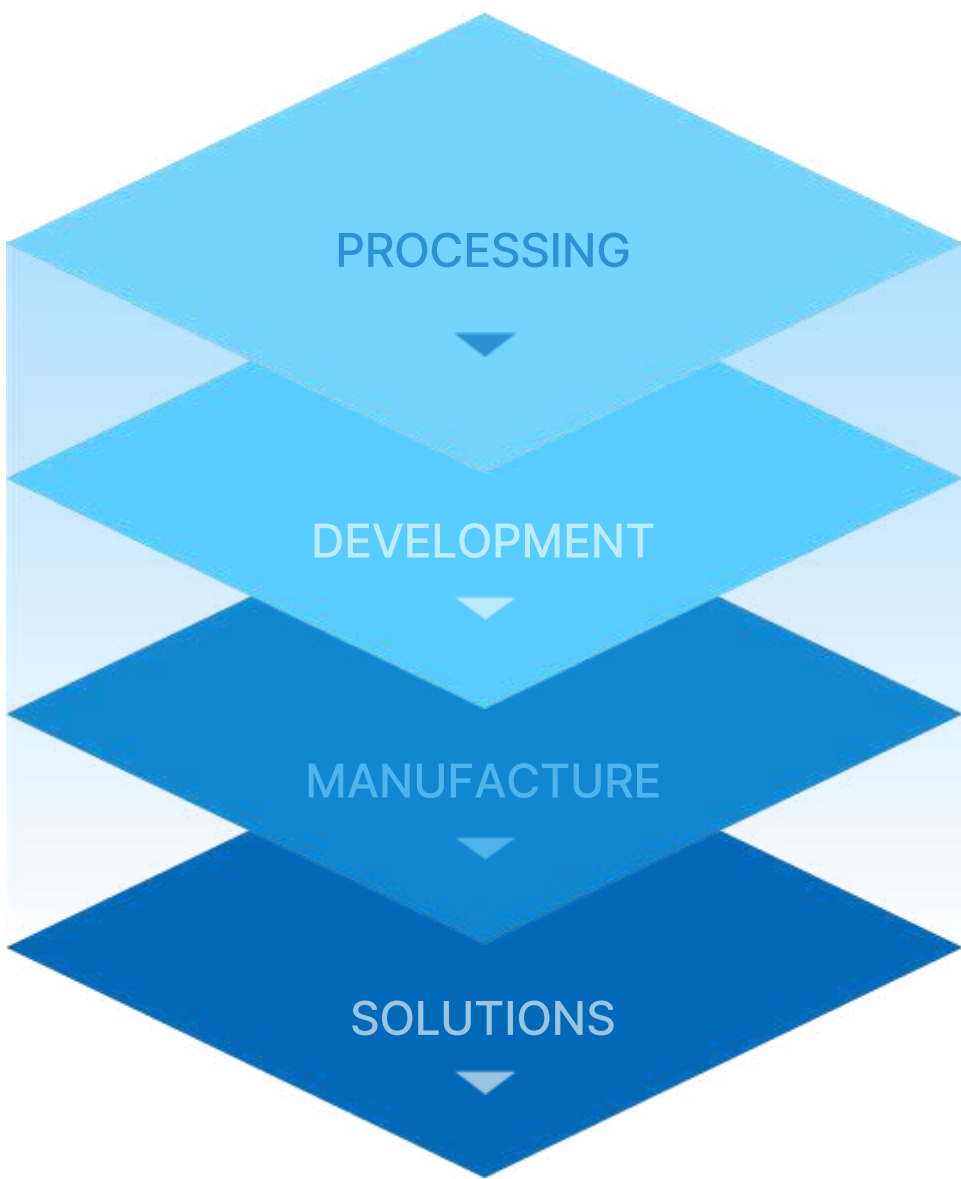
Equipment Repair Parts

We produce repair parts for a wide range of military equipment, including:

- Army: Tanks, armored vehicles, general-purpose weapons, communication devices, combat helicopters
- Navy: Warships, air compressors
- Air Force: Fighter jets, auxiliary power units (APU), and more

03 Localization of Military Parts

We reverse-engineer and manufacture import-substitute parts as required by military logistics commands, achieving performance equal to or better than the original.



02 Manufacturing of Tire

Production Equipment Parts

We manufacture custom equipment parts on-site, such as:

- Rubber extrusion dies, bead wire coating dies, cutting knives, etc.
- Capable of handling a wide range of equipment without limitation

04 Industry-Academia Joint

Development Projects

We conduct joint R&D projects in the military and industrial sectors with universities and research institutes.

We utilize specialized personnel, testing equipment, and programs for prototype manufacturing and performance testing.

3. Business Areas

ARMY Parts for Tanks, Armored Vehicles, and Self-Propelled Guns



Applicable Equipment:

K200 series armored vehicles / K1 tank / K532 tactical vehicles / K31 Cheonma / Hyeongung

Main Products:

Transmission components, engine parts, mechanical drive housings, and more



Stator, for Transmission (M48)



Centrifugal Clutch, for Transmission (K200)



Plate, for Oil Delivery (K200)



Intake Manifold (K1)



Bracket Assembly (K1)



Dehumidifier, for Missile Launcher)



Support Stand, for Steering Assembly



Magnetic Clutch (K1)



Housing (K1)



Support Bracket Assembly (K200))

ARMY Support & Combat Engineering Equipment Parts



Applicable Equipment

KM9 Armored Combat Dozer / K532 Tactical Vehicle / MX761 Trailer

Main Products

Engine and Transmission Components, Mechanical Drive Housings, etc.



Plate, Vibration Damper, and Clutch Plate (for Combat Dozer)



Gear Shaft (for Combat Dozer)



Hub & Drum Assembly (K511)



Towing Device (MX761 Trailer)



Blower (for Combat Dozer)



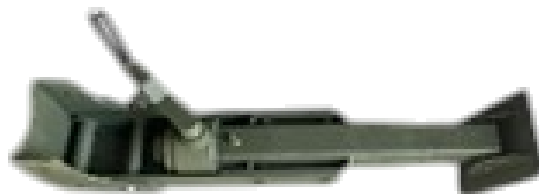
Blower (for Combat Dozer)



Mechanical Articulated Housing (for Combat Dozer)



Assembly for Mounting (for Combat Dozer)



Support Frame & Roller Use (DA800)



Intermediate Shaft Assembly (K1)

ARMY Artillery and Fire Control System Components

Applicable Equipment

KH179 155mm Howitzer / 81mm Mortar / 90·106mm Recoilless Rifle /
KM1A2 Aiming Device



Main Products

Manual Wheels, Various Housings and Brackets, Shaft
Assemblies, Directional Screws, Breech Mechanisms
Gear Sets, Hinge Blocks, Worm Gears, Rifle Mounts



Mortar / Recoilless Rifle Components



Link Loader Regulator (for BIHO Gun)



Fire Control System Components



Rifle Mount

ARMY Tactical Communication Components

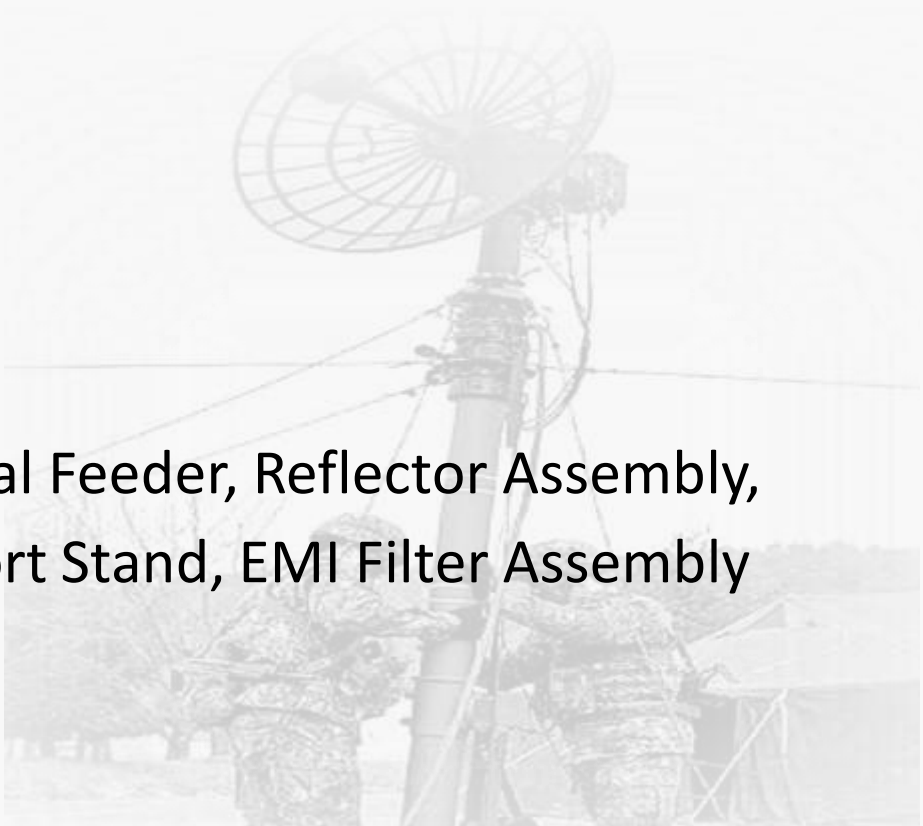


Applicable Equipment

PRC-821K, TSC-791K Satellite Communication Terminals / MSC-500K Tactical Communication System

Main Products

Mast Components, Satellite Terminal Feeder, Reflector Assembly, Tripod, Battery Box, Antenna Support Stand, EMI Filter Assembly



Antenna Set (PRG-184K)



Auxiliary Reflector Assembly (TSC-791K)



Battery Box (TSC-791K)



EMI Filter (TSC-791K)



Antenna Feeder Unit (TSC-791K)

3. Business Areas

ARMY Helicopter Components



Applicable Equipment

KUH Surion / 500MD Armed Helicopter



Rod End Bearing / Tie Rod (KUH)



Ammunition Box Assembly (500MD)

Main Products

Machine Gun Ammo Box and Housing, Bolts and Nuts, Rod End Bearings, Clamps Nitrogen Charging Trailer



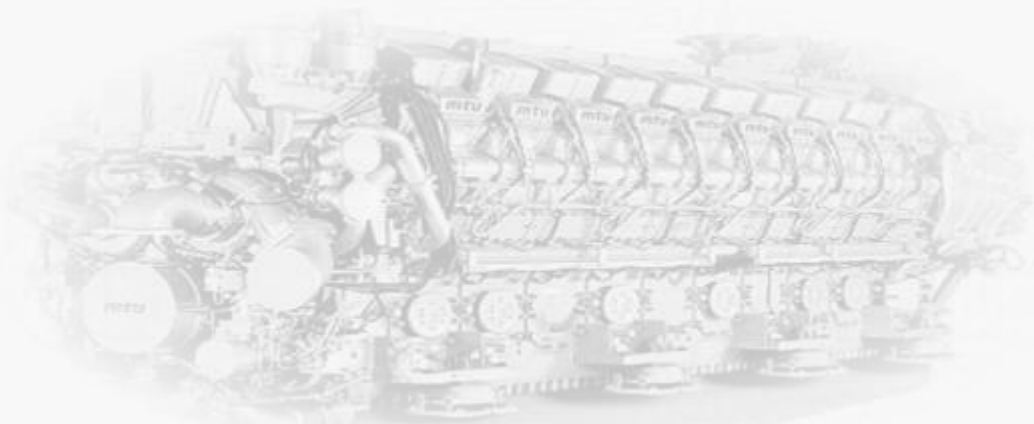
Nitrogen Charging Trailer (KUH)

3. Business Areas

NAVY Engine Components

Applicable Equipment
MTU Marine Diesel Engine

Main Products
Exhaust System Components, Impellers, Solenoid Valves, Burners, Pumps, Filter Housings, Bellows Poppet Valves, Valve Guides, Turbocharger Housings, Hose Clamps, Brake Plates, Fluid Filters



Exhaust System Assembly



Plate for Brake



Shaft, Shoulder Type



Elbow for Air Piping



Intake Elbow



Rotor for Engine Poppet Valve



Bellows



Burner



Heating



Element Connector Assembly



Impeller



Solenoid Valve

3. Business Areas

NAVY Air Compressor Components



Applicable Equipment

18L-100 Air Compressor / MTU Engine Starter Air Compressor

Main Products

Connecting Rods, Pistons, Safety Valves, Cylinder Heads, Concentric Valves, Directional Control Valves, Stop Valves



Connecting Rod



Cylinder Assembly



Cylinder Head



Concentric Valves

3. Business Areas

NAVY Naval Vessel Components

Applicable Equipment

76mm Naval Gun / Guided Missile Loading System
/ KAVV Amphibious Assault Vehicle

Main Products

Decoy System Components, Naval Gun Parts, Launcher Assembly, Oil Cooler,
Cartridge Ejection Case, Explosive Bolt, Reducer



Torpedo Mount



Cartridge Ejection Case



Explosive Bolt / Igniter



Reducer



Ammunition Extractor



Sensor



Yoke

AIR FORCE Starter Generator Components

Applicable Equipment

KGTG Aircraft Starter Generator



Main Products

Electrical and Electronic Control Units, Cable Assemblies, Fuel Tanks, Heat Exchangers, Actuators



Battery



Module Unit



Regulator



AC Power Supply Box



Control Panel



Heat Exchanger

AIR FORCE Fighter Jet Components and Aircraft Support Parts



Applicable Equipment

KF-16 Fighter Jet, F-15K Fighter Jet

Main Products

Cooling Turbine Nozzle Assembly, Pod Mount, Trailer for Fuel Tank Installation



Pod Mount (KF-16)



Fuel Tank Lift-Type Trailer (F-15K)



Nozzle Assembly for Cooling Turbine (KF-5)

AUTOMATION LINE COMPONENTS



Manufacturing Equipment Parts

Applicable Equipment

Tire Forming Machine, Extruder

Main Products

Forming Knife, Extruder Forming Machine Parts, Mold and Jig Storage Rack, Fabric Transfer Cart



Bead Wire Coating Die



Filler Die



Final Die



Preformer



4. Production Capacity

SMART FACTORY MES System Implementation

Transitioning from paper-based manual management of work orders, drawings, and manufacturing history to MES-based digital management.



4. Production Capacity

PRODUCTION PROCESS OVERVIEW

01

Material
In



04

CNC



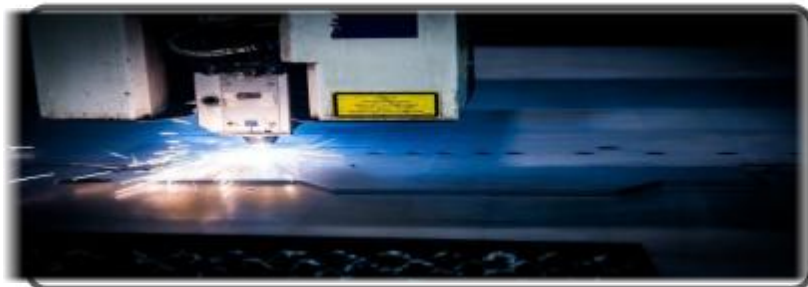
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Assem
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02

Cutting



05

MCT



08

Testing



03

Machin
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06

Finishing



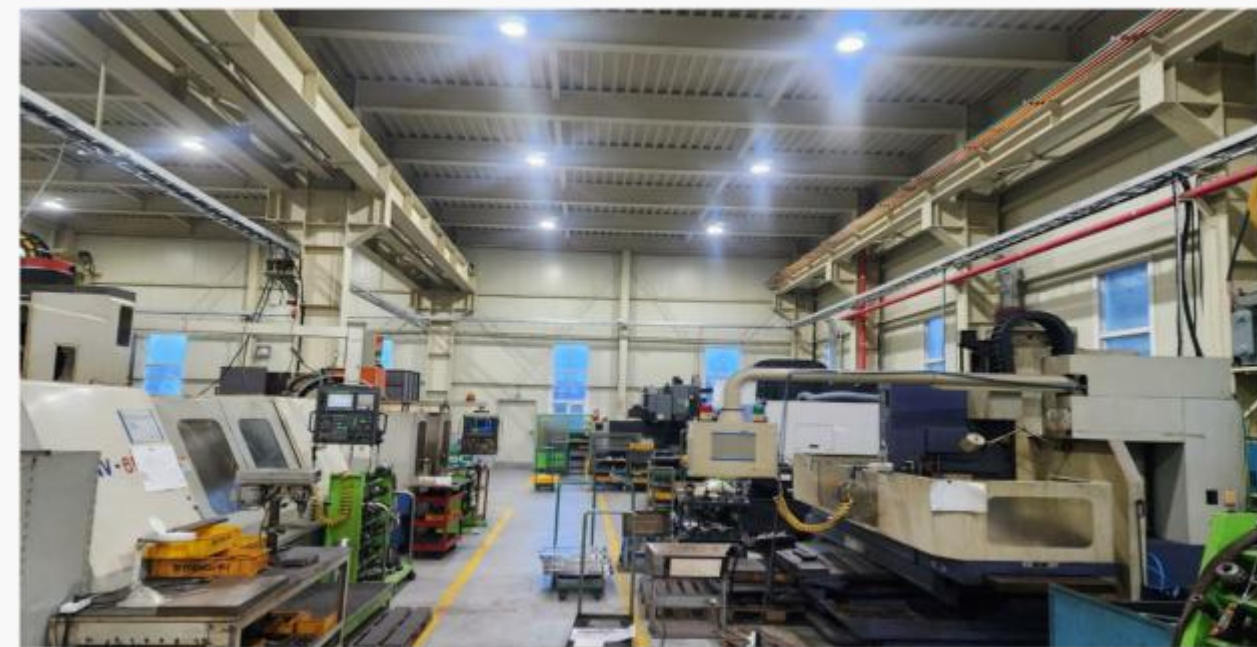
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Packag
ing



4. Production Capacity

PRODUCTION EQUIPMENT



4. Production Capacity

PRODUCTION EQUIPMENT Machining Center(MCT)



MAKINO FNC-106
(XYZ: 1000-580-550)



MATSUURA 600-VF
(XYZ: 600-410-470)



DOOSAN MYNX-6500
(XYZ: 1270-670-625)



MAZAC MTV-414
(XYZ: 810-400-457)



SNT TNV-650A
(XYZ: 560-410-510)



HWACHEON D-5AX
(XYZ: 650-500-500)

4. Production Capacity

PRODUCTION EQUIPMENT CNC Lathe (CNC)



SNT TNL-120V
(DIA 1250mm)



DOOSAN PUMA-280
(DIA 10")



WIA SKT-200
(DIA 8")



HWACHEON HI-ECO21HS
(DIA 10")



DAEWOO PUMA-12L
(DIA 12")

4. Production Capacity

PRODUCTION EQUIPMENT Pressing, Welding, Grinding, etc.



Hydraulic Press 600 Ton



Electric Discharge Machine
(EDM)



Argon Welder



Surface Grinder

4. Production Capacity

QUALITY CONTROL Thorough inspection of control points and traceability management for clear root cause analysis and recurrence prevention.



Specification of control items upon issuance of work instructions.

Inspection of purchased items and raw materials after assigning a responsible person before and after order placement.

Dimensional critical control is carried out by designated operators, followed by inspections by the 1st and 2nd inspectors.

Outsourcing process management – assign responsible personnel and inspectors before inspection: heat treatment, plating, grinding, etc.

Functional inspection – designate responsible personnel for key functional tests and certified (outsourced) inspections

Final inspection of appearance and packaging before shipment

Traceability Management

Manage the history of input raw materials by lot, production and assembly personnel, outsourced processing, etc.

Accumulated Production and Quality Data

Build databases for quality and on-site operation data.

품질관리시스템									
작업명	제품명	작업번호	작업일자	작업시간	작업인원	작업장소	작업내용	작업결과	작업비고
1001	1001	1001	2024-11-01	09:00	09:30	01	1001	1001	1001
1002	1002	1002	2024-11-01	10:00	10:30	02	1002	1002	1002
1003	1003	1003	2024-11-01	11:00	11:30	03	1003	1003	1003
1004	1004	1004	2024-11-01	12:00	12:30	04	1004	1004	1004
1005	1005	1005	2024-11-01	13:00	13:30	05	1005	1005	1005
1006	1006	1006	2024-11-01	14:00	14:30	06	1006	1006	1006
1007	1007	1007	2024-11-01	15:00	15:30	07	1007	1007	1007
1008	1008	1008	2024-11-01	16:00	16:30	08	1008	1008	1008
1009	1009	1009	2024-11-01	17:00	17:30	09	1009	1009	1009
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4. Production Capacity

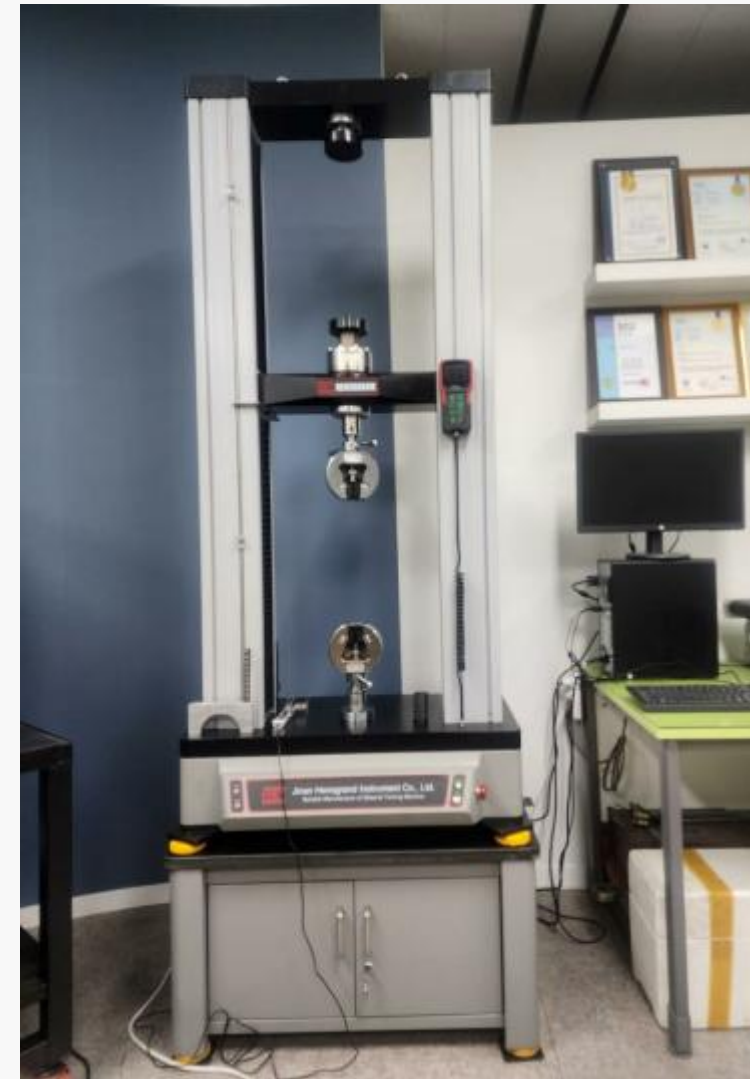
INSPECTION EQUIPMENT 3D Measuring Machine, etc.



3D Coordinate Measuring Machine
(CMM)
Mitutoyo MiSTAR 555
(XYZ 570-500-500)



Rockwell Hardness Tester



Tensile and Compression
Strength Tester



Balancing Machine

4. Production Capacity

COMPANY-AFFILIATED RESEARCH INSTITUTE

Exterior View of the Affiliated Research Institute



HUMAN RESOURCES OVERVIEW



Certification Status (Including Multiple Certifications per Person)



Certified Industrial Engineer

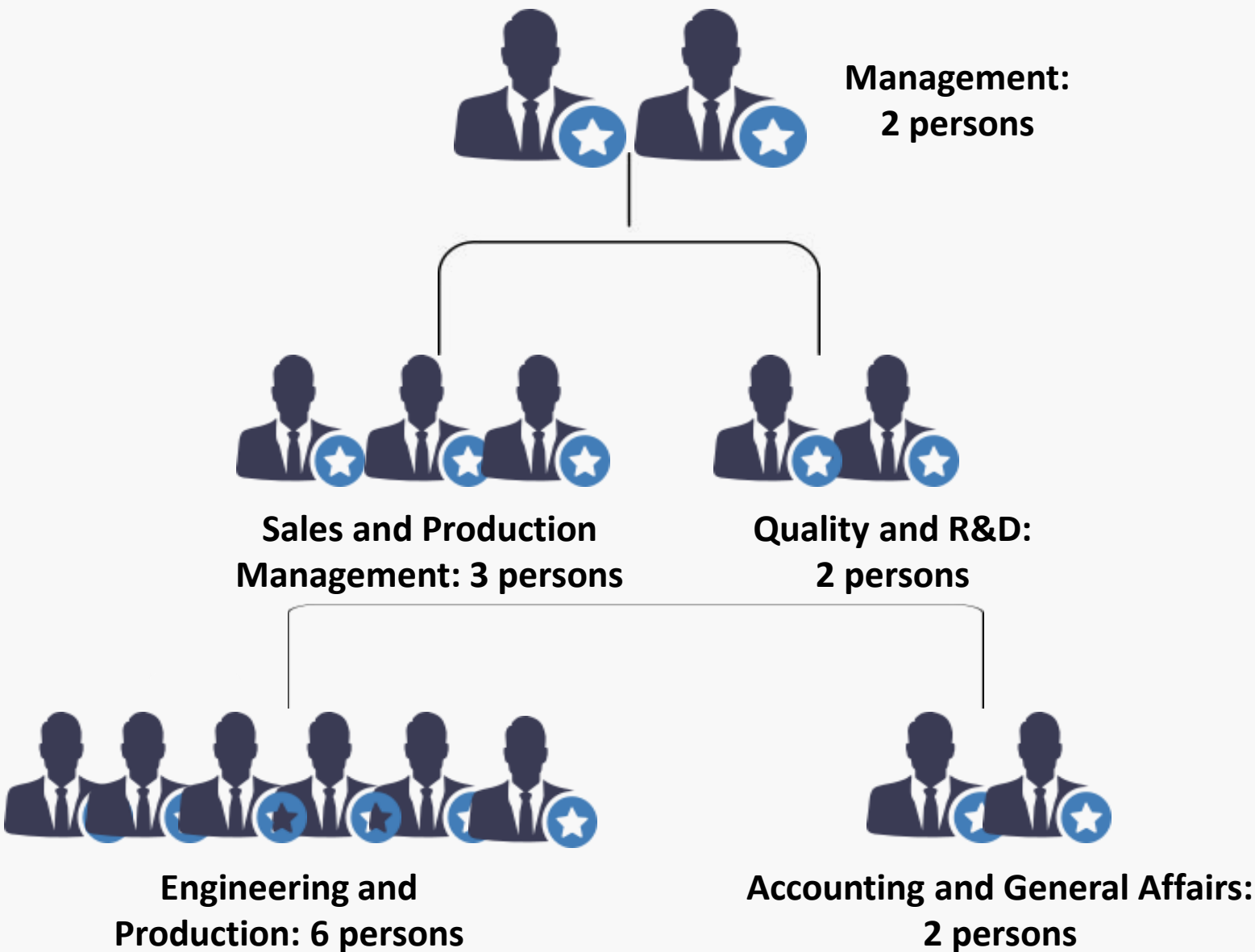
- Mechanical Design: 3 persons
- Computer-Aided Machining: 2 persons
- Welding: 1 person



Certified Craftsman

- Machining & Assembly: 2 persons
- Computer-Aided Lathe & Milling: 2 persons
- Special Welding: 2 persons
- Computer-Aided Machining: 1 person

Personnel Status (as of January 2025)



PARTNER NETWORK OVERVIEW

Reliable partners across various fields, equipped with the latest technology and proven for fast delivery



Metal Raw Materials

Carbon Steel, Alloy Steel, Special Steel, Imported Special Steel, Non-Ferrous Metals, Pipes, and Special Profiles — supplied by over 30 companies



Special Processing

Mass production of small parts, honing, special gear machining, grinding, laser processing, bending, waterjet cutting — provided by over 20 partner companies.



Heat Treatment

Carburizing, Vacuum, and Special Material Heat Treatment — provided by 3 companies



Surface Treatment

Various Plating, Painting, and Coating — handled by 3 partner companies



Other Materials

Approximately 10 partner companies specializing in rubber, plastic, injection molding, and custom machining



Mold & Casting

Wood Patterns and Resin Molds for Casting Castings, Steel Castings, Non-ferrous Castings Precision Casting About 10 Partner Companies



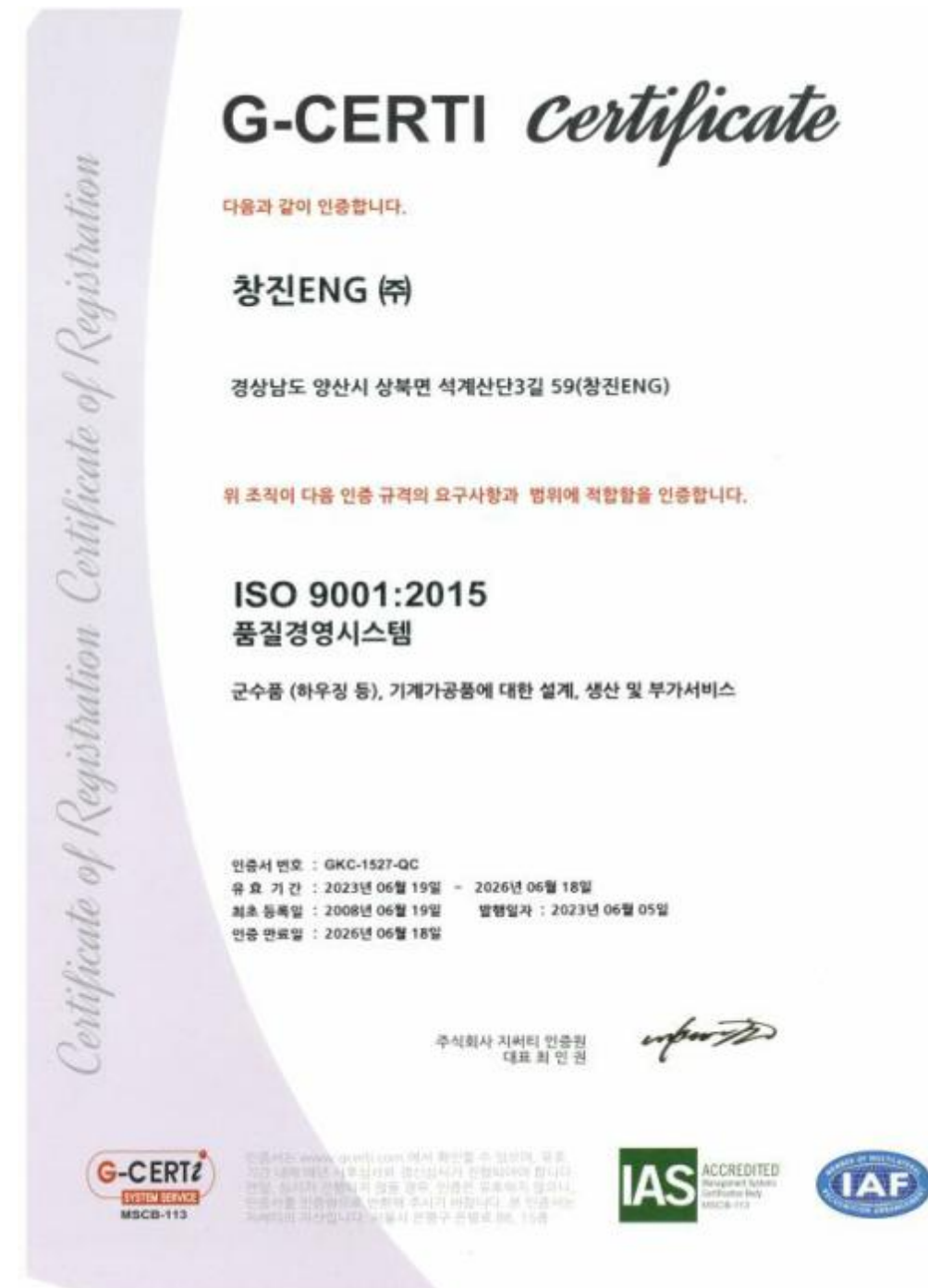
Commercial Products

Bearings, Special Metal Products Electrical & Electronic Components Filters, Fasteners Over 10 Partner Companies

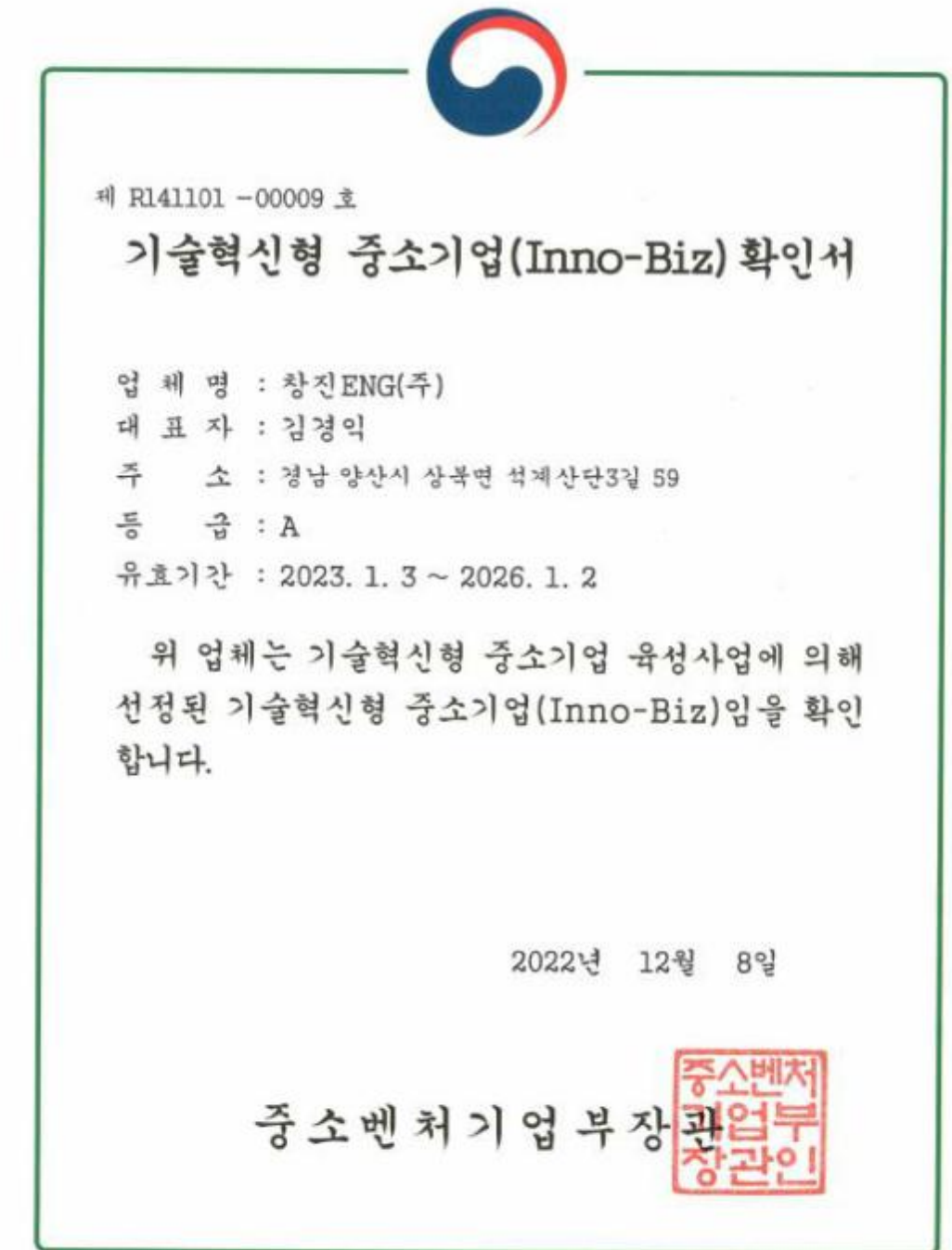
5. Development & Certification status



Defense Quality Management System (DQMS)

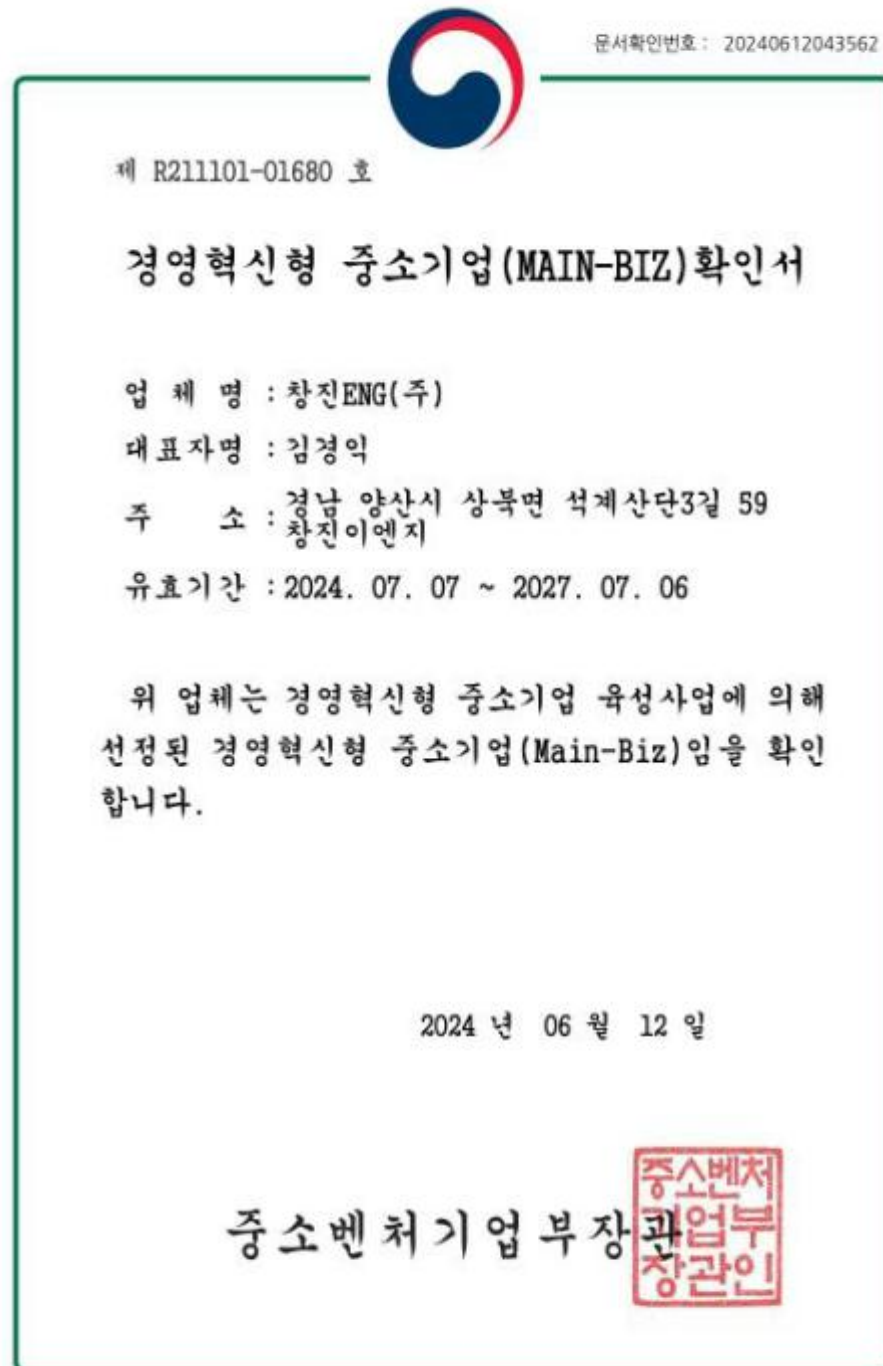


Quality Management System (ISO 9001)

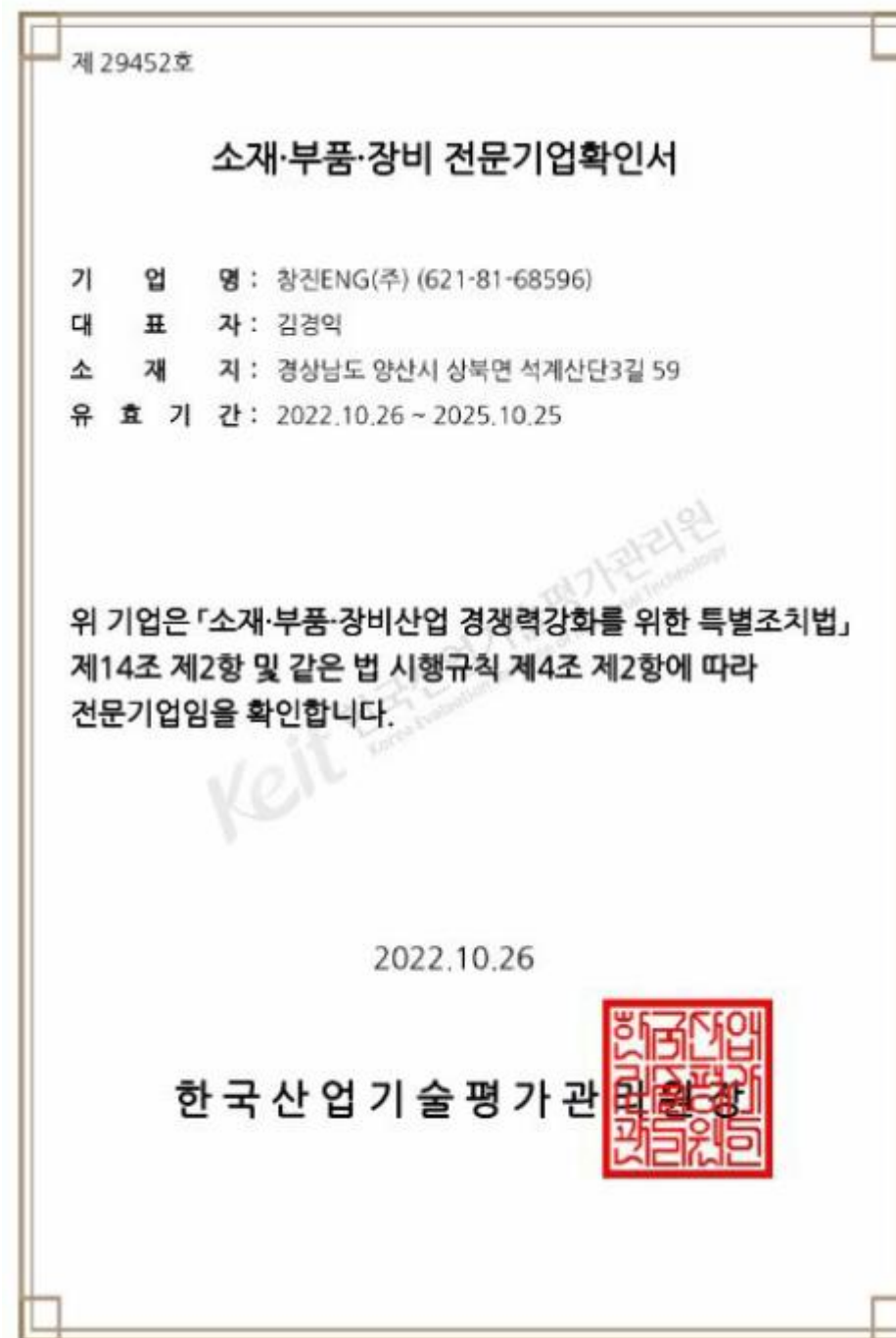


Technology Innovation-Based Small Business (INNO-BIZ)

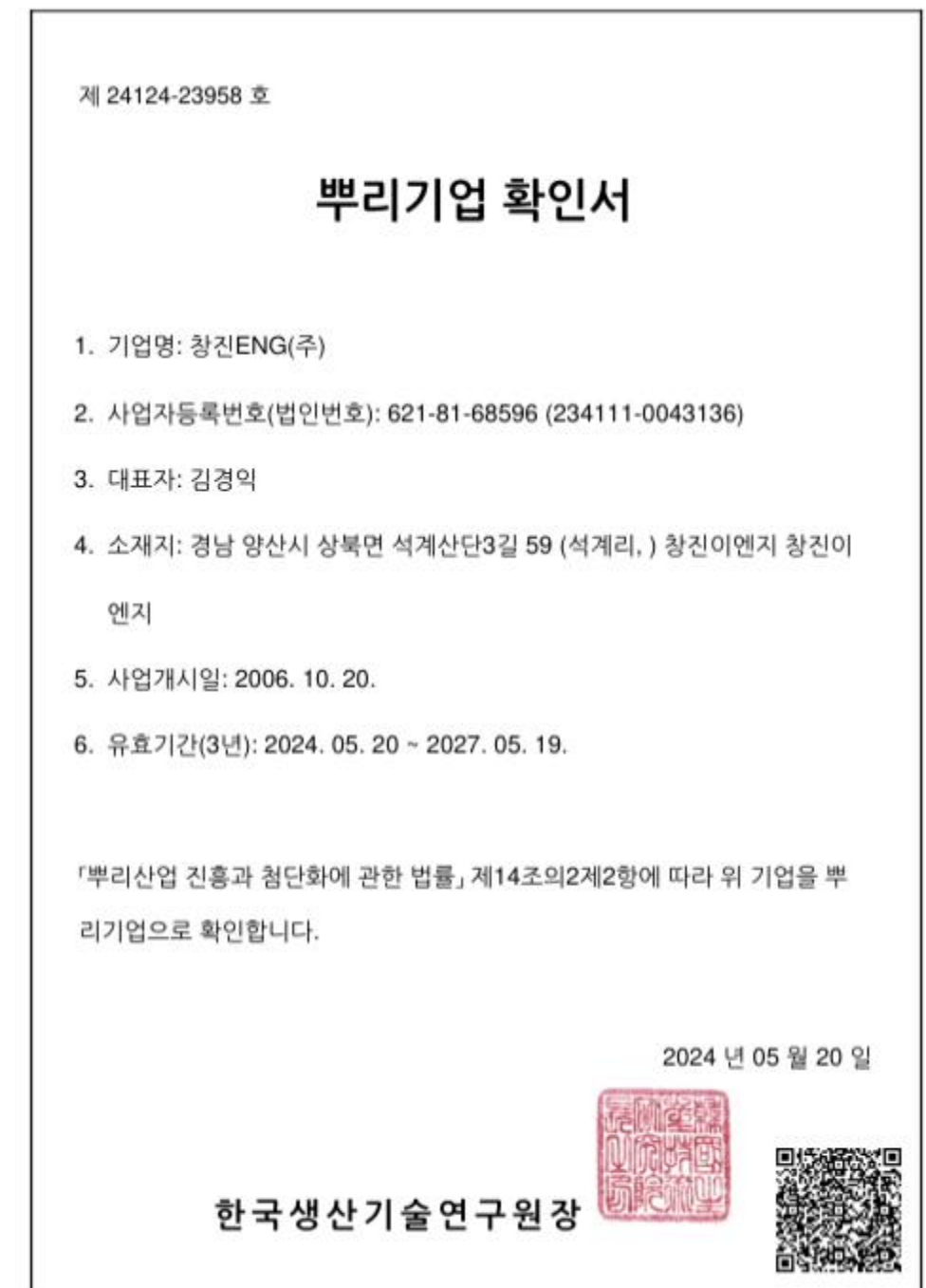
5.개발 및 인증현황



Certificate of Management
Innovation-Type Small Business
(MAIN-BIZ)



Certificate of Specialized Enterprise in
Materials, Parts, and Equipment

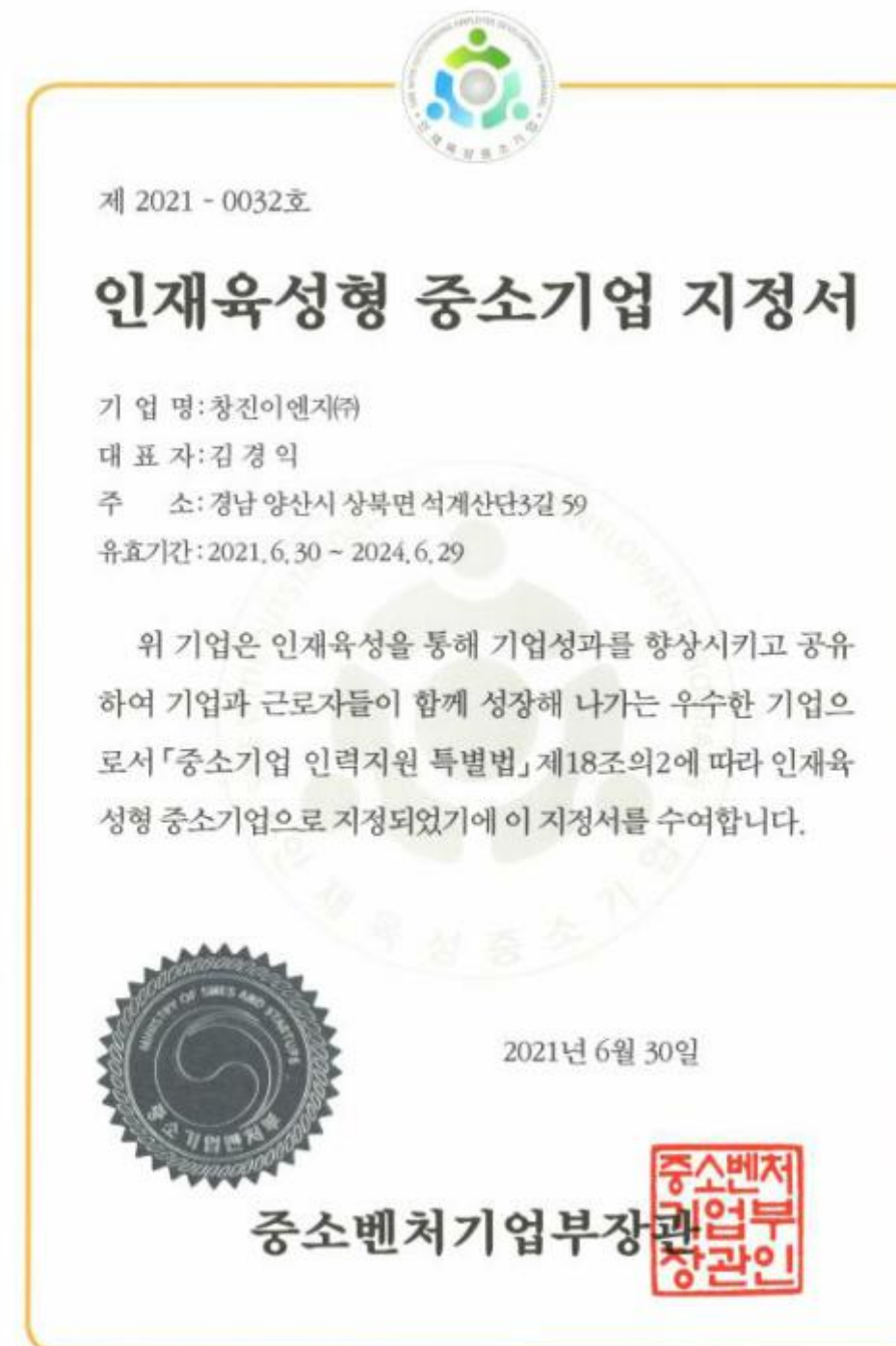


Certificate of Root Industry Enterprise

5. Development & Certification Status



Smart Factory Level Confirmation



Human Resource Development SME Designation



Corporate Research Institute Certification

Successfully Localized Parts

IMAEGE				
Part Name	Tow Hook	Cover, Left	Cover	덮개, 입구용
Stock Number	5365-37A196225	2910-375185158	2910-375185159	5340-375182384
Function	Hook for bridge construction boats	Outer cover for K532 transport vehicle	Outer cover for K532 transport vehicle	Toolbox cover for K532 transport vehicle
Development Period	Jan 2007 – Dec 2009	Nov 2009 – Dec 2013	Nov 2009 – Dec 2013	Nov 2009 – Dec 2013
Approval Authority	Army Logistics Command	Army Logistics Command	Army Logistics Command	Army Logistics Command

Successfully Localized Parts

IMAEGE				
Part Name	Nozzle for Aircraft Cooling Turbine	Injector	Inner (Outer) Wire Race	Bush
Stock Number	1660-375455606	2590-375492719	9505-375492953(2954)	5340-37A134515
Function	Cockpit cooling turbine for the F-5 fighter jet	Hydraulic fluid injector for internal hydraulic tank	Support guide for turret's internal ball bearings	Insulating material for dust collector inside K1 tank reactor
Development Period	Dec 2016 – Nov 2019	Jan 2019 – Apr 2022	Dec 2017 – Nov 2022	Nov 2019 – May 2022
Approval Authority	Air Force Logistics Command	Agency for Defense Development	Agency for Defense Development	Army Logistics Command



Successfully Localized Parts

IMAEGE				
Part Name	Filter, Fluid Use	Filter, Fluid Use	Cooler, Lubrication Oil Type (Engine Use)	Clamp, Loop Type
Stock Number	2940-375266842	2940-375577658	2930-375581327	5340-375533488
Function	Primary filter for hydraulic operating oil	MTU 12V 396 filter housing	Engine lubrication oil cooling device	Exhaust pipe connection use
Development Period	Dec 2009 – Feb 2013	May 2014 – Dec 2016	Dec 2009 – Nov 2013	Nov 2016 – Oct 2023
Approval Authority	Naval Logistics Command	Naval Logistics Command	Naval Logistics Command	Naval Logistics Command

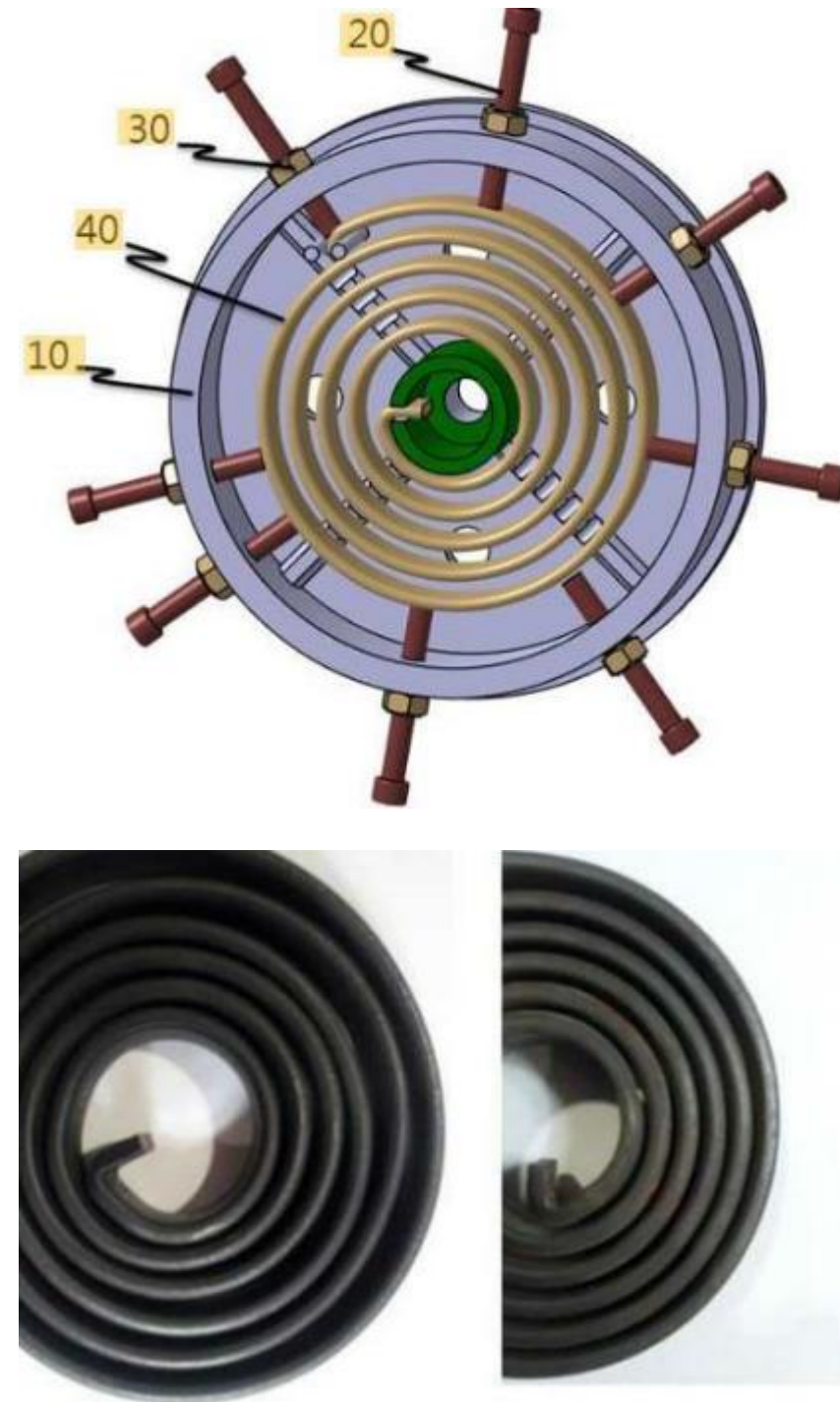
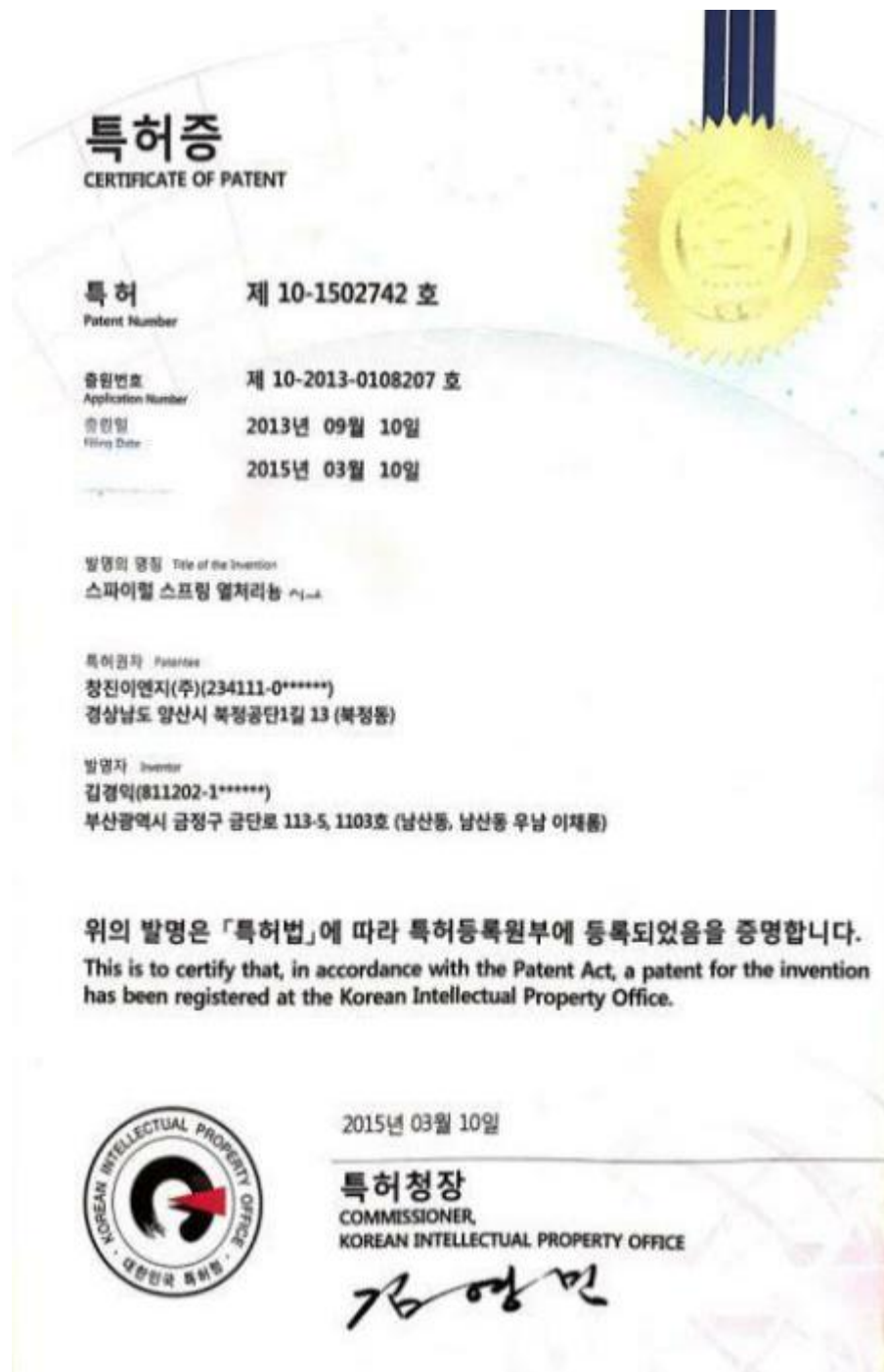
Successfully Localized Parts

IMAEGE				
Part Name	Spacer, Flexible (for pipelines) Spacer, Flexible (for pipelines)	Spiral Compression Spring	O-Ring	Stud, Flat Type
Stock Number	4730-145049038	5360-375543185	5331-375545011	5307-375548059
Function	Intermediate connection flange for pipeline systems	Non-leakage exhaust valve component	Underwater equipment maintenance set component	Non-leakage and non-magnetic material
Development Period	Nov 2016 – Dec 2023	Jun 2021 – Jan 2024	May 2022 – Apr 2024	Jun 2021 – Jun 2024
Approval Authority	Naval Logistics Command	Naval Logistics Command	Naval Logistics Command	Naval Logistics Command

Parts Successfully Localized

IMAEGE				
Part Name	Valve Body	O-Ring		
Stock Number	4820-375587061	5331-375587060		
Function	Connecting component for submarine fuel system	For submarine seawater pump		
Development Period	Dec 2021 – Jan 2025	Jun 2021 – Jan 2024		
Approval Authority	Naval Logistics Command	Naval Logistics Command		

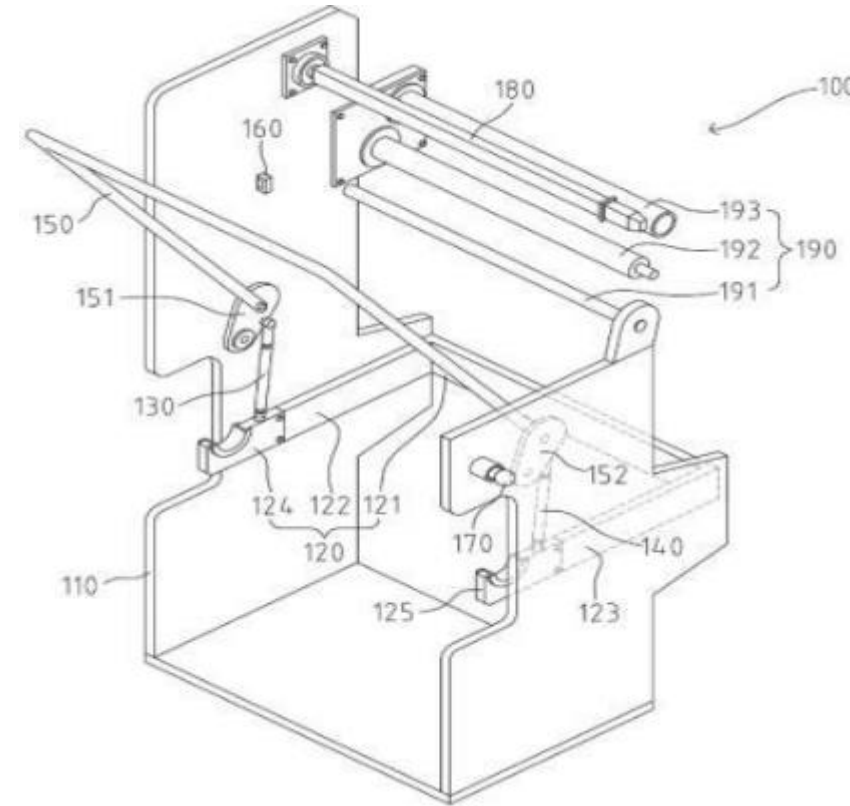
5. Development & Certification Status



Patent 1

- **Title of Invention:** Spiral Spring Heat Treatment Jig
- **Description:** A device designed to maintain a consistent pitch during the heat treatment of spiral springs
- **Date of Registration:** March 10, 2015
- **Approval Authority:** Korean Intellectual Property Office
- **Patent Number:** No. 10-1502742

5. Development & Certification Status



Patent 2

•**Patent Title:** Tire Tread Feeding Device

•**Description:**

A device that safely and efficiently feeds high-weight tire treads into an automated production line.

•**Registration Date:** February 27, 2020

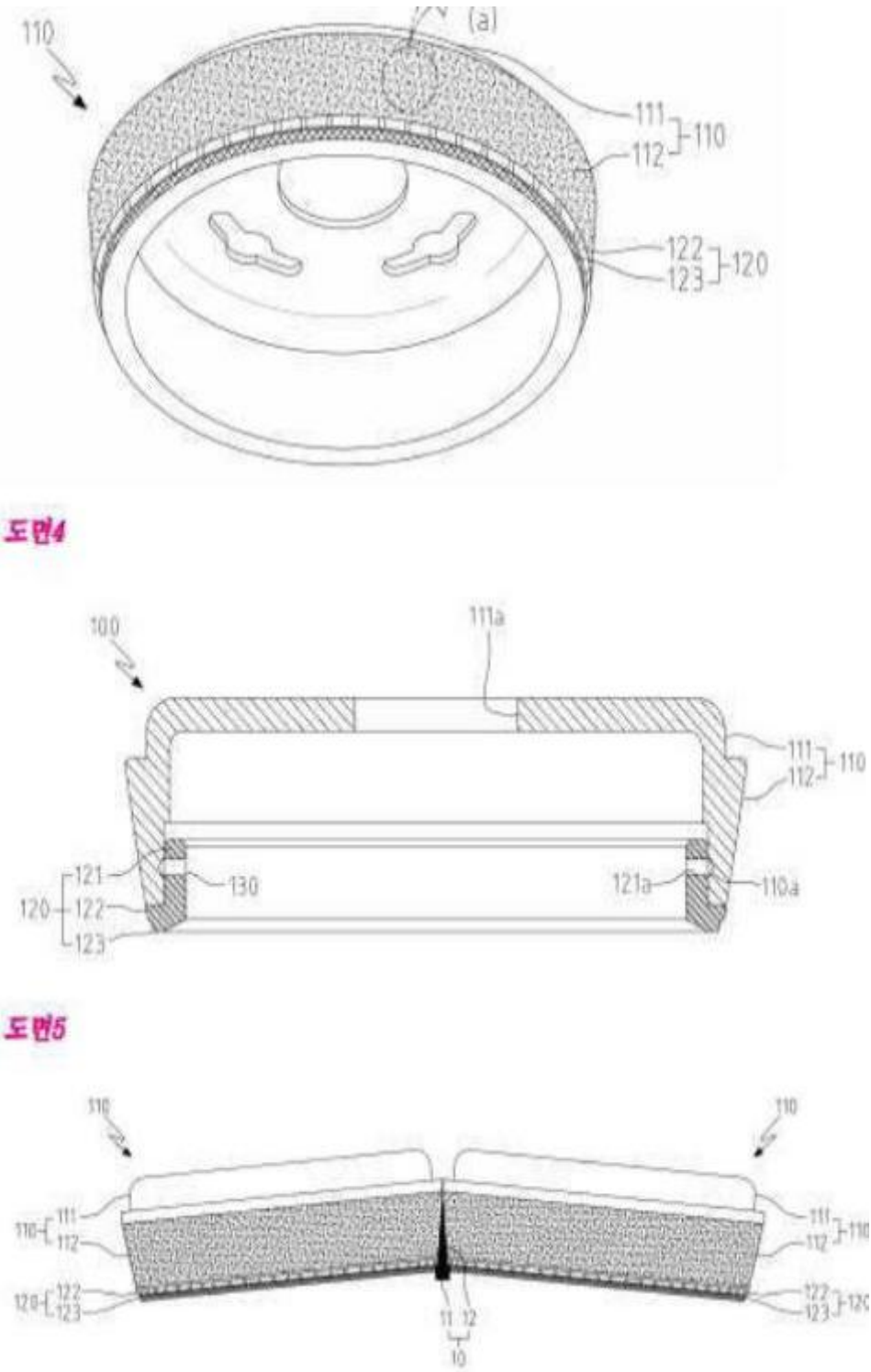
•**Issuing Authority:** Korean Intellectual Property Office (KIPO)

•**Patent Number:** 10-1984000

Certificate issued by the Korean Intellectual Property Office

Commissioner: Wonjoo Park

5. Development & Certification Status



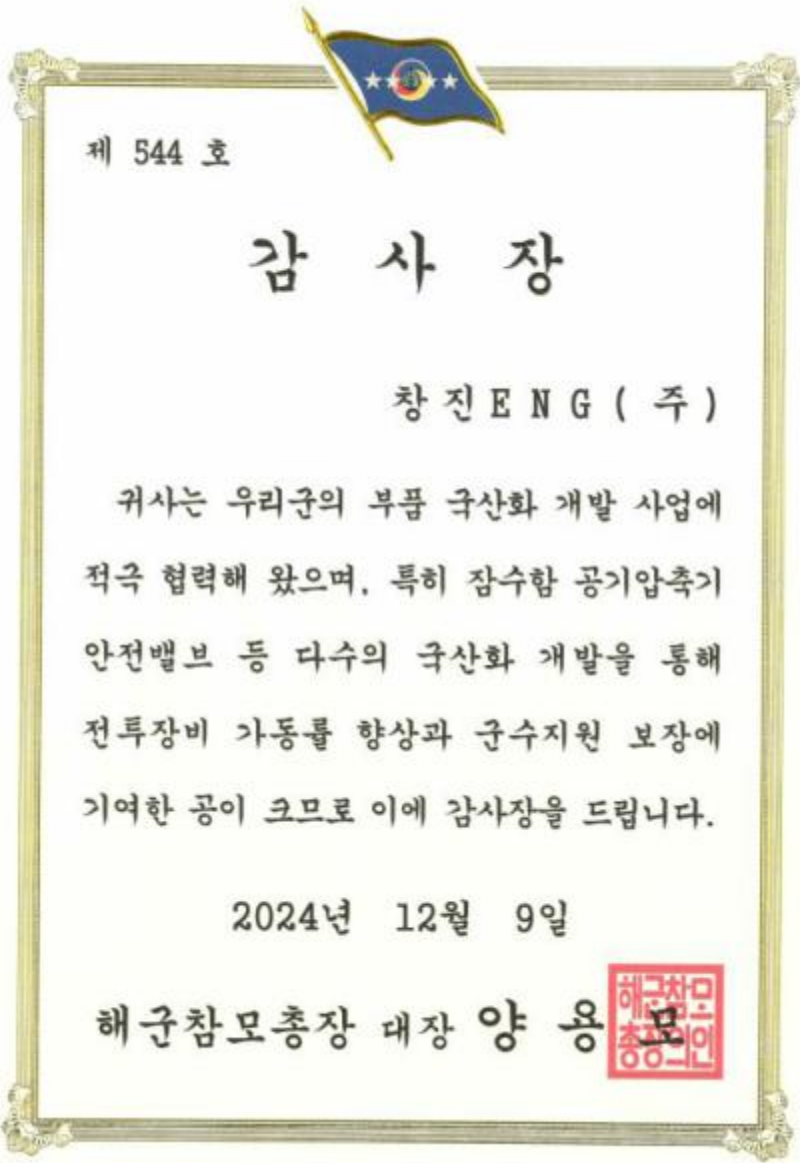
Patent 3

- Patent Title: Bead Forming Roll
- Description: (Not specified in the image)
- Registration Date: March 11, 2019
- Issuing Authority: Korean Intellectual Property Office (KIPO)
- Patent Number: 10-1958994

Certificate issued by the Korean Intellectual Property Office

Commissioner: Wonjoo Park

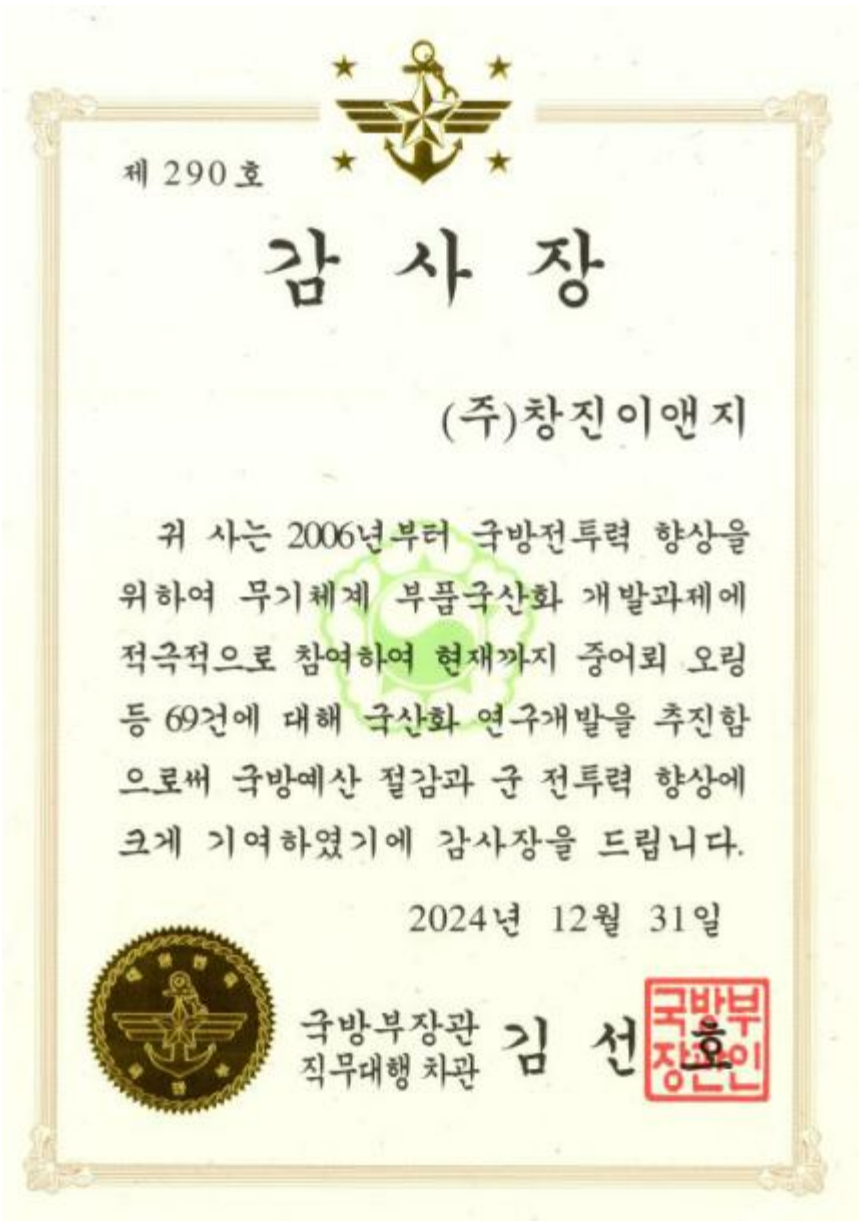
Awards



:Award Title: Outstanding Company in Component Localization Development

:Presented by: Chief of Naval Operations

:Date Awarded: December 9, 2024



•Award Title: Outstanding Company in Component Localization Development

•Presented by: Minister of National Defense

•Date Awarded: December 31, 2024

CHANG JIN ENG
PROPOSAL

THANK YOU

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Sangbuk-myeon, Yangsan-si, Gyeongnam**E-mail**

master@cjeng.net

Tel/ Fax

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