

The Best Power Plant Service Company





CONTENTS

01 | COMPANY

CEO's Greeting
History
Management Philosophy
Organizational Chart

02 | BUSINESS

Power Plant
On Site Maintenance
R&D Center

03 | EQUIPMENT STATUS

04 | RESULT STATUS

05 | CERTIFICATIONS

06 | MAIN CUSTOMERS

About
**GEO
MYEONG**

INNOVATION PARTNER!



"We will be the Geo Myeong Power that puts customers first"

Geo Myeong Power is an enterprise that specializes in maintenance of power installation such as nuclear power and thermal power, which produces various components for power installation and provides maintenance service.

With a system established for inspection and maintenance of turbines from a small power station up to a huge power plant, Geo Myeong Power endeavors to provide the clients with best service and highest quality resulted from endless research and development and innovation management on the basis of accumulated technical power.

All executives and staffs of Geo Myeong Power, as well as I (the representative), strive for further development of international market on the ground of diverse domestic and international experiences, and of the spirit of challenge. Our future is on the way for the goal of a global first-class enterprise in the field of power plants.

Geo Myeong Power Co., Ltd

CEO *Park Jae Cheol*



> HISTORY

2005 ~ 2014

2005 ~ 2009

- Geo Myeong Tech Co., Ltd. Founded.
- Acquired KS A9001/ISO 9001 international quality management certificate by Crebiz QM. (QSC-053917)
- Bidding, Computing and Registering E-commerce in the electricity field through an integrated platform.
- Registered as the repair & maintenance (cooperative) company of KOEN, KOSPO, EWP, KOWEPO and KOMIPO. (2005.08 KOSPO, 2005.10 KOMIPO, 2005.12 EWP, 2006.02 KOWEPO, 2008.05 KOEN)
- New headquarters and relocation. (Renamed as Geo Myeong Turbine Co., Ltd.)

2010 ~ 2014

- Consortium for HRD Ability Magnified Program Agreement with KOSPO.
- Registration of a Mechanical Equipment Works Business License.
- Received the Honest Tax Payer Award by the Ministry of Strategy and Finance.
- Conclusion of Industry Cooperation Agreement with Changwan Mechanical Technical High School.
- Registered as the repair & maintenance company of KHNP.

2015 ~ 2016

- Corporate Research & Development Center founded.
- Signed up as a regular member of Korea Industrial Technology Association.
- Registered as the repair & maintenance company of KEPCO KPS (nuclear power, thermal electric power)
- Registration of a patent for Portable Machine to process inside of a Turbine Casing.
- Received the best prize in Chief Executive Officer of Korea Industrial Economic Association.
- Registration of a Patent for Rot or Turning Device.
- Technical development of dedicated equipment for fastening bolts removal of a steam turbine casing.
- Received an achievement award in recognition of successful Generating unit repair works by KDWEPCD Seoincheon Combined Cycle Power Complex Division.
- Conclusion of the convention on Win-win assistance with Korea Southern Power Co., Ltd.
- Received a best maintenance quality appreciation plaque from KDEN Yeongheung Division.
- Received maintenance quality award of material and equipment of the year from KDWEPCD.

2017~2018

- Acquired OHSAS 18001 Occupational Health and Safety Assessment Series by ICR. (OHK004317)
- Selected as Hidden Champion in Korea by IBK.
- Selected as INNO-BIZ by Small and Medium Business Administration.
- Selected as Small Giant Company of the year by the Ministry of Employment and Labor.
- Signed up as a regular member of INNO-BIZ Association.
- New headquarters and relocation (Renamed as Geo Myeong Power Co.,Ltd.)
- Fair trade and Mutual growth Agreement of KEPCO KPS and Geo Myeong Power.
- Conclusion of University-Industry Cooperation Agreement with Korea Maritime and Ocean University.
- Received a rating of "excellent" for technological competence and credit evaluation from Korea Enterprise Data.

> CORE VALUE

SINCERITY

CREATION

TRUST

> MANAGEMENT PHILOSOPHY



Respect of
Values



Talent
Nurturing



Loyalty



Practice of
the 3J 5S

기명파워(주)

> ORGANIZATIONAL CHART



> BUSINESS

■ Power Plant

- ▶ Turbine Diaphragm
- ▶ Turbine Major Valve
- ▶ Turbine Rotor & Blade
- ▶ Turbine Casing
- ▶ Axial Flow Fan
- ▶ Boiler

■ On Site Maintenance

- ▶ Repair & Maintenance of BFPT Casing Seal Face
- ▶ Removal of Turbine Casing Bolt and Screw Size-Up
- ▶ Repair & Maintenance of Motor Base

■ R&D Center

- ▶ Development of Equipment
- ▶ Research Project
- ▶ Reverse Engineering

I. Power Plant

Geo Myeong Power secures techniques for producing and maintaining diaphragm as a core part of a turbine which can be used for a small power station of 20MW up to a huge nuclear power plant of 1,400 MW.

Based on these techniques, Geo Myeong Power provides the products and maintenance service to 5 domestic power stations and generation plants abroad as well.

In addition, a special welding system and a coating system have been established in order for maintenance of an impaired blade, so that high technical skills are acknowledged by virtue of the best service and quality based on accumulated skills and experiences.

Our future will be prosperous as an enterprise getting more strengthened technical competitiveness being supported by perpetual research and development, not only in the field of power generation but also in different industries, aircrafts and even national defense.



Capability of maintenance

- Thermal Power Plant
- Nuclear Power Plant
- Combined Cycle Power Plant
- Hydropower Plant

1. Turbine Diaphragm

Diaphragm, as a core part of a turbine, which converts thermal energy of steam to speed energy, serves to guide steam to a blade. We diagnose all problems of Diaphragm during operation and provide appropriate solutions such as welding, coating, and parts replacement.

Manufacture of Turbine Diaphragm



Inner Ring
Processing



Outer Ring
Processing



Nozzle Partition
Manufacturing



Welding & Heat Treatment
of Inner/Outer Ring and Partition



Manufacture
Completion

Manufacture of Pressure Plate



Pressure Plate
Processing



Pressure Plate
Manufacturing



On site Maintenance
& Assembly of Pressure Plate

Repair & Maintenance of Nozzle partition



Partition
Damage



Truncation



Welding



Mapping &
Inspection



HVOF Coating



Coating
Completion

Repair & Maintenance of Diaphragm Body



Diaphragm Body
Damage



Welding



Grinding



Diaphragm
Blasting



Coating
of Inconel



HVOF Coating

Manufacture & Replacement of Spill Strip



Spill Strip
Damage



Spill Strip
Disassembly



Spill Strip
Manufacturing



Spill Strip
Assembly



Manufacturing
Completion

Repair & Maintenance of Nozzle Box



Nozzle Box Damage
(Spill Strip)



Maintenance
Completion



Nozzle Box Damage
(Partition)



Welding



Maintenance
Completion



2. Turbine Major Valve

A valve is a device to control switching or flow rate of the fluid such as steam used for operating a turbine. The company possesses techniques for manufacturing of the valve, assembling and on-site maintenance in order to provide the client with the most suitable service.

Types of Valves

- Main Stop Valve (M.S.V)
- Control Valve (C.V)
- Reheat Stop Valve (R.S.V)
- Intercept Valve (I.V)

Manufacture & Replacement of Control Valve Assembly



Assembly of Main Stop Valve (M.S.V)



Repair & Maintenance of Strainer Screen



Strainer Screen
Damage



Screen, Rivet
Disassembly



Screen Welding



Screen, Rivet
Assembly



Maintenance
Completion

3. Turbine Rotor & Moving Blade

Manufacture of TBN Blade

A blade is a core part of a turbine, which transforms speed energy of steam from a nozzle to rotational energy. Together with a rotor, a blade generates the highest stress, so that it should be made of a material having sufficient strength. The company is fully equipped with a manufacturing system for every kind of blade.



Pinetree Type



Side Entry Type



Round Skirt Type



Others



Blade Cover

Manufacture and Coating of TBN Blade

Since a vane part is vulnerable to corrosion and abrasion because of the exposure to steam of high temperature and high pressure, it is coated to get improved corrosion resistance and wear resistance.



HVOF Coating



Titanium Coating



Repair & Maintenance of Turbine Rotor

► Replacement of Turbine Blade



Blade Damage



Blade Disassembly



Rotor Wheel Cleaning



Blade Assembly



Riveting



C of C Grinding



Low Speed Balancing

► Replacement of Turbine Blade Cover



Blade Cover Damage



Blade Cover Disassembly



Blade Cover Manufacturing



Blade Cover Assembly



Blade Cover Riveting



Maintenance Completion

4. Turbine Casing

A casing is a component to accommodate an impeller in a turbine and form a passage for steam or gas. The company serves the maintenance of the casing, manufacture, and maintenance of pipes.

Repair & Maintenance of TBN Casing (Half Joint Face)



Casing H/J Damage



Welding



Flatness Test



Maintenance Completion

Repair & Maintenance of TBN Casing (Inner Face)



Casing Rib Damage



Machine Set-Up



Machining(CNC)



Maintenance Completion

Repair & Maintenance of N2 Packing Casing

▶ Horizontal Joint Face



Horizontal Joint Damage



Welding



Maintenance Completion

▶ Steam Joint Face



Steam Joint Damage



Welding



Maintenance Completion

Manufacture of Gib Key



Repair & Maintenance of MSI Snout Pipe



Manufacture of Snout Pipe



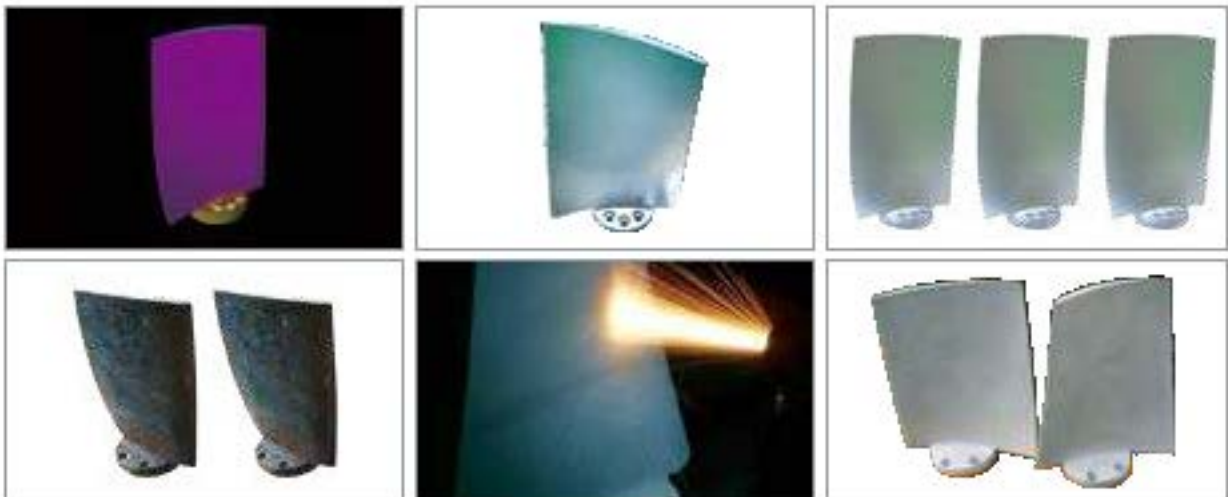
5. Axial Flow Fan

An axial ventilator has the same structure as a propeller pump, being a device employed for a forced draft of an indoor room, a mine, a ship, or a boiler. The company manufactures and maintains components of an axial ventilator, such as a blade.

Repair & Maintenance of Fan Blade Assembly



Manufacture of Fan Blade and HVOF Coating



6. Boiler Tube Coating

The company carries out a corrosion resistant and wear resistant coating to ensure long life and reliability of a water pipe of a boiler.

Wear-resistant and Corrosion-resistant coating of Boiler Tube

▶Boilertube Damage



▶Grit Blasting



▶Coating (Arc-Spray)



▶Coating Completion



II. On-Site Maintenance

The company developed and employs a variety of on-site equipment in order to carry out repair of components that cannot be taken out of the site.

Type of Machine

- TBN Casing Machine
- Boring M/C(A dedicated device for a screw thread and Bolt removal)
- Milling Machine
- Polishing Machine
- Etc.

1. Repair & Maintenance of BFPT Casing Seal Face



BFPT Casing Seal Face
Damage



Machine Set-Up



Machining[CNC]



Maintenance Completion

2. Removal of Turbine Casing Bolt and Screw Size-Up (2"~10")



Machine Set-Up



Bolt Removal



Size up & Tapping(CNC)



Maintenance Completion



3. Repair & Maintenance of Motor Base



Motor Base Damage



Machine Set-Up



Motor Base Grinding



Maintenance Completion

III. R&D (Research and Development)

1. Development of Equipment



▶ Rotor Turning Device



▶ Portable CNC Milling & Tapping Machine
(3-D/Vertical, Horizontal)



▶ Portable CNC TBN
Casing Repair Machine (3-D)



▶ Portable CNC Boring Machine



▶ Portable CNC Milling Machine

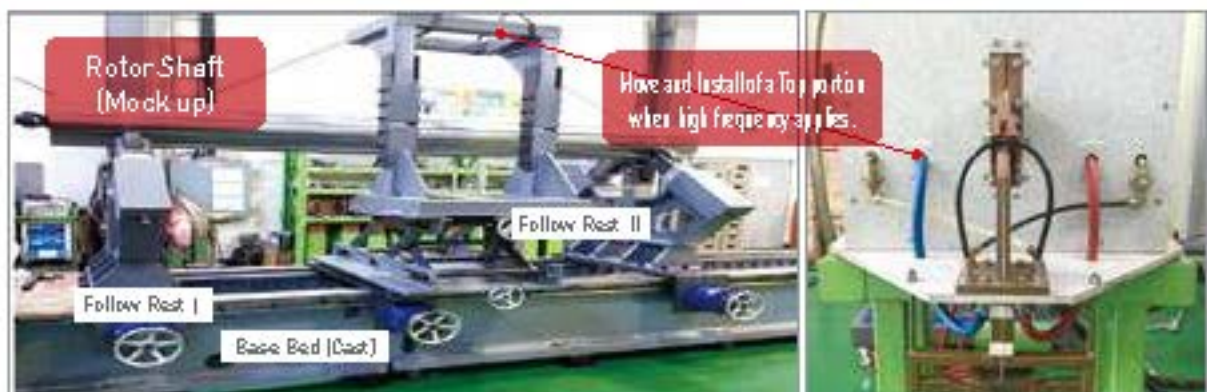
2. Research Project

– Process and Technical Development of Calibration Equipment for Rotor Bending



- | | | |
|---|--|--|
| ① Low Frequency generator | ⑥ High Frequency generator | ⑧ Transformer I |
| ② Transformer II | ⑦ Chilled water tank | ⑨ Chiller |
| ③ Flexible Coil Distributor | ④ High Frequency plate coil | ⑩ Control roller for low-frequency generator |
| ④ Controller for high-frequency generator | ⑪ Flexible Coil | ⑪ Support |
| ⑤ V-Block | ⑫ Rotor Shaft (Test Specimen for Test - Run) | ⑬ S45 C serve as Blade |

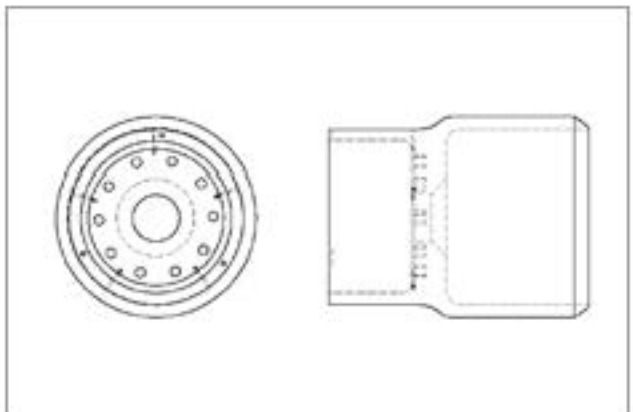
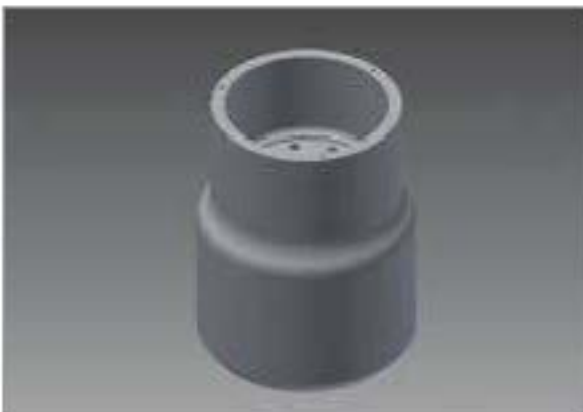
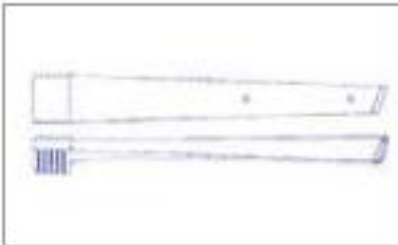
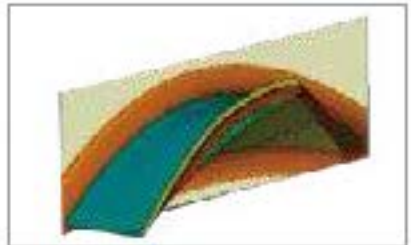
– Verification Test Device



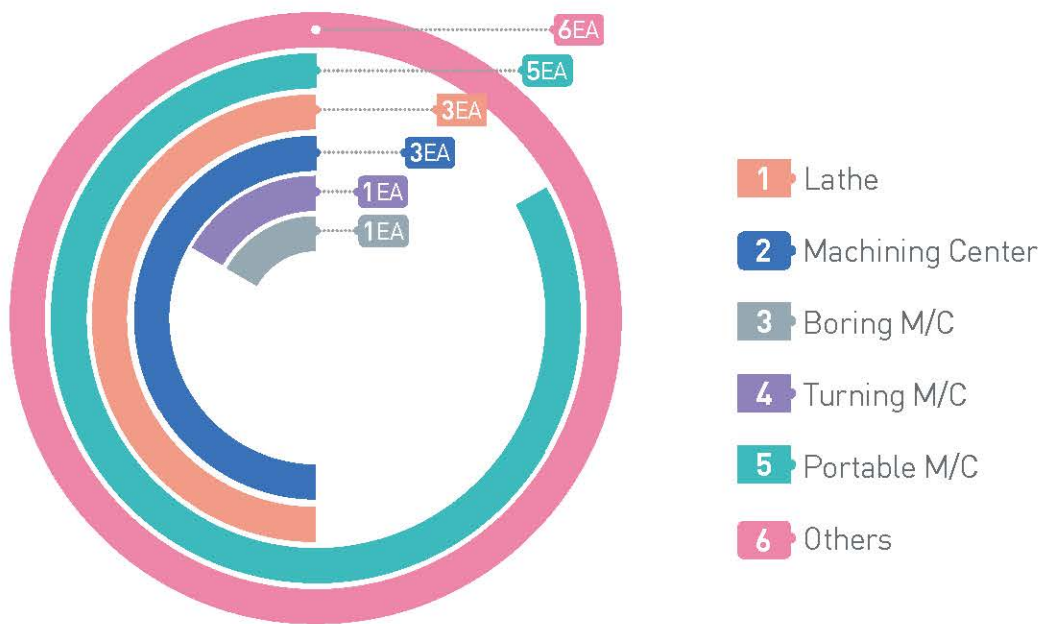
High Frequency Equipment

3. Reverse Engineering

A skill wherein three-dimensional (3D) data is obtained by using a 3D scanner or the like from a product without drawing (having no mold or actual object), and the 3D data is optimized to generate a planning data.



EQUIPMENT STATUS



No.	Description	Equipment	Capacity	Q'TY	Maker	Purchase
1	Lathe	Large CNC Lathe	Ø4000 * L20000	1	Waldrich-Siegen	2013
2		CNC Lathe	Ø550 * 2092	1	Doosan Machine Tools	2018
3			Ø481 * 1275	1		2018
4	Machining Center	4-Axis CNC Machining Center	X2500, Y950, Z850	1	Doosan Machine Tools	2017
5			1550 * 750 * 720	1	WIA	2009
6		VC 630/5AX Machining Center	X650, Y765, Z520	1	Doosan Machine Tools	2018
7	Turning M/C	CNC Turning M/C	D4250 * 2000	1	TITAN	2015
8	Boring M/C	CNC Boring M/C (135T)	4000 * 2500 * 2000	1	Doosan Machine Tools	2015
9	Portable M/C	CNC Portable Milling M/C	X600, Y300	1	Geo Myeong Power	2017
10		CNC Portable Boring M/C	350 * 350	1	Geo Myeong Power	2017
11		CNC Portable Drilling M/C	366 * 239 * 725	1	BDS	2018
12		CNC Portable Tapping M/C	300 * 300 * 1000	1	Geo Myeong Power	2015
13		CNC Portable Turbine Casing M/C	Ø1700 * 3000	1	Geo Myeong Power	2015
14	Others	Drilling M/C	1000L	1	YongSoo Precision	2009
15		TIG Welding Machine	300A, 500A	3	Seil Electronics	2016
16		Band Saw M/C	L4770 * W41 * T1.3	1	COSEN	2018
17		Welding Rod Dryer	MAX400°C	1	JinWon Tech	2013

RESULT STATUS

5 Thermal Power Stations	Manufacture, Repair and Maintenance of TBN Diaphragm.
	Repair and Maintenance of TBN Nozzle Box.
	Manufacture of TBN Spill Strip, Packing Ring.
	Manufacture of Nozzle Box, Gib Key, Blade Shim.
	Manufacture of TBN LSB[A] TE Side Pressure Plate.
	Manufacture of TBN Major Valve (MSV, CV, RSV, IV).
	Replacement of Strainer Mesh (MSV, RSV).
	Repair and Maintenance of TBN Casing.
	Removal and Size-Up of TBN Casing Fixed Bolts (2"-6")
	Manufacture of TBN Casing Bolt.
	Manufacture of Snout Pipes for High-Pressure Turbines.
	Repair and Maintenance of BFPT Diaphragm and Casing.
	Repair and Maintenance of Feedwater Pump for Boilers.
	Manufacture of Steam Turbine Blade.
	Repair and Maintenance of Air Comp[A] MTR Base.
	On-Site Maintenance for contact surfaces of Motor Bases such as Pulverizing Mill.
	Coating for wear-resistant of Boiler Tube.
	Manufacture of EV Cylinder.
	Repair and Maintenance of N2 Packing Seal Box / Manufacture of N2 Packing Casing.
	Repair and Maintenance of BUF Blade.
	Repair and Maintenance of BFP Impeller.
	Manufacture of Balance Weight.
	FD Fan Rotor Vibration correction repair and performance recovery.
Maintenance of Small Hydro Power Runner Chambers.	
Repair and Maintenance of Thermal Couple Guide.	
Repair and Maintenance of damaged parts of the Steam Guide.	
KEPRI	Process and Technical Development of Calibration Equipment for Rotor Bending.
KEPCO KPS	Repair and Maintenance of S/T Carrier in Sudan KNPS Unit #3,4.
Hyundai Engineering & Construction	Repair and Maintenance of HIP TBN Casing Fixed Bolts in Vietnam Mong Duong Unit #2.
Hyundai Heavy Industries	Repair and Maintenance of Turbine Generator Overhaul.
Korea Hydro and Nuclear Power	Repair and Maintenance of TBN Diaphragm.
	Manufacture and Installation of Vibration/Stress Testing Equipment for the Final Moving Blade in Low-Pressure Turbines.
	Repair and Maintenance of the "A" Diaphragm of Low-Pressure Turbines in KHNP Hanul Unit #4.
	Manufacture of Turbine MOP Seal & Wear Ring.
	Repair and Maintenance of FC-UV008 Plugs and Sheet Rings.
	Repair and Maintenance of High-Pressure Control Valves for Main Feedwater Turbines.
POSCO	Manufacture and Maintenance of Safety Valve DISCs for Boilers.
	Localization Development of 1st&2nd Blades of Steam Turbine IP.
	Repair and Maintenance of TBN Diaphragm & Rotor.
	Disassembly and Maintenance of Rotary wing of 2CDQ Steam Turbine.
DIMCO	Manufacture of TBN Last Blade in Sudan KNPS.
Busan Fashion Center	Manufacture and Replacement of Turbine Rotor & Carrier Blade.
	Repair and Maintenance of Gear Unit.
Pocheon Power	Repair and Maintenance of Bypass Ventilator Valve in Unit #2.
	Manufacture of Spare Parts for the Maintenance of ST MSCV & BVVs.
Gimhae Waste Incineration Facility	Manufacture of Turbine Blade & Disc.

CERTIFICATIONS



MAIN CUSTOMERS



Location



 **GEOMYEONGPOWER**

65, Bamsan-ro 269beon-gil, Jinyeong-eup, Gimhae-si, Gyeongsangnam-do, Korea
Tel | +82-55-345-5500 / Fax | +82-55-346-1185-6