

# TAEHA

Taeha Mechatronics Co.,Ltd.

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# COMPANY OVERVIEW

## Taeha Mechtronics Co.,Ltd.

CEO	Sang Hee, Lim
Foundation	1995. 1. 26
Business	Industrial control parts, Sports goods
Location	Anyang, Gyeonggi-do, Republic of Korea
Employees	95
Revenue	\$16 million (USD) (2021)



**Organization**

- R&D : 37persons
- QC/Production : 35persons
- Sales / Management / Planning : 23persons

# COMPANY HISTORY

## 1995~2004

- 1995** • TAEHA MECHATRONICS CO.,Ltd. was founded in 1995

**TAEHA**

- Developed Mode Selection Controller for excavator

- 1996** • Established R&D Center  
• Developed treadmill for exercise tolerance

- 2000** • TAEHA MECHATRONICS moved offices and manufacturing facility to Anyang, South Korea  
• STEX brand launched  
• Developed automatic control unit for excavator of Hyundai Heavy Industrles



- 2002** • Developed Hyundai Heavy Industry Teaching Pendant

- 2004** • Certificated ISO9001:2000

## 2006~2015

- 2006** • Developed and started mass production of ECU for mid-size excavator  
• 5 million (USD) export tower achieved

- 2007** • TAEHA MECHATRONICS moved offices and manufacturing facility to larger location in Anyang, South Korea (Current address)

- 2007-2015** • Developed and started mass production of ECU, cluster, monitor, telematics, rotary switch, ETC (Excavator & Wheel loader & Fork lift)

## 2019~2022

- 2019** • Acquired IATF16949 certification  
• Registered as Volvo CE Group partner and development projects in progress



- 2020** • Registered as Daedong group partner and development projects in progress



- KONVIS, off the shelf products division brand launched
- KONVIS**

- 2022** • Registered as LSMtron partner and development projects in progress



# OUR BUSINESS

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Electronic parts Division



KONVIS Division



STEX Division



# CURRENT STATUS OF TECHNOLOGY

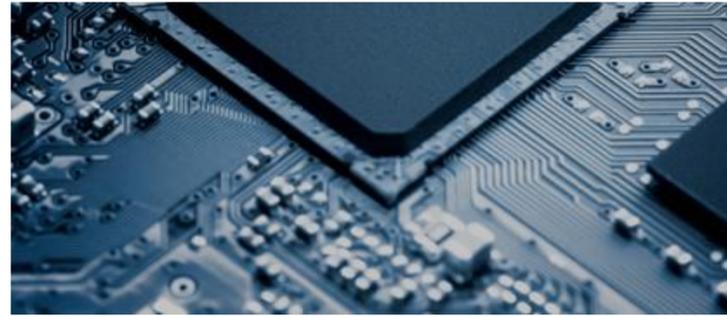
## | What we do

### Mechatronics Control



Machine Control  
Motor Control  
E&E Control  
Robot Control

### Engineering Competences



Hardware & System Design  
Product Design  
UI/UX Design

### Operating System Scope



RTOS (C++)  
Linux  
Android  
Window CE  
CODESYS

### Network & Telecommunication



Telematics Management System  
FMS (Fleet management System)  
Connected Vehicle Solution

# MASS-PRODUCED PRODUCTS

## 1<sup>st</sup> Generation



EXCAVATOR S1  
MCU(1995)



EXCAVATOR S2  
MCU(1995)



EXCAVATOR S3  
MCU(1997)



EXCAVATOR S5  
MCU(1997)

## 2<sup>nd</sup> Generation



EXCAVATOR S7  
MCU(2000)



Wheel Loader  
S7MCU(2002)

## 3<sup>rd</sup> Generation



EXCAVATOR S9  
MCU(2007)



Wheel Loader S9  
MCU(2008)



Fan Drive Control  
Unit(2010)

## 4<sup>th</sup> Generation



EXCAVATOR F-SERIES  
MCU



EXCAVATOR F-SERIES  
MCU

# MASS-PRODUCED PRODUCTS

## Remote Management Control System

- Location Information
- Alarm Alert
- Status of equipment by MCU to RMCU
- Geo-fencing / Time-fencing / DTC
- FOTA(F/W over the air)



## Robot / Teach Pedent



TP300 MP (2001)



TP510 MP (2012)



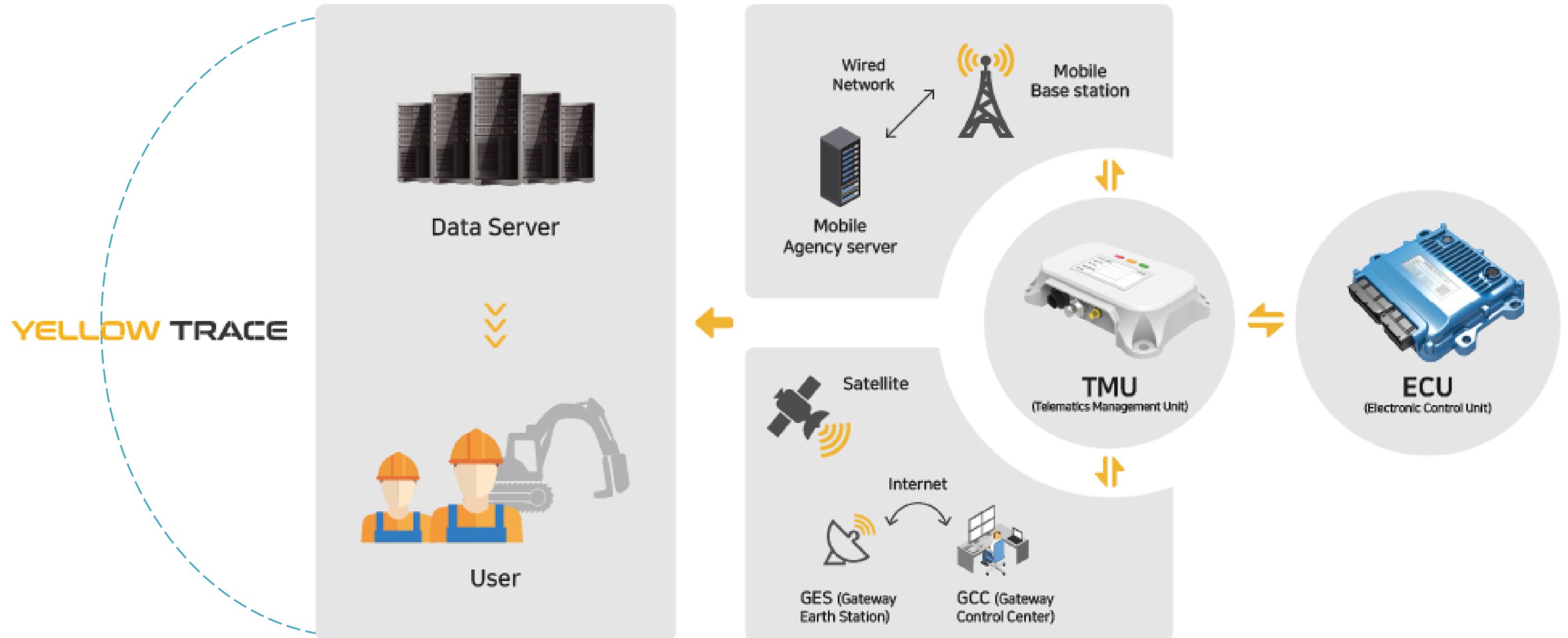
TP511 MP (2014)



TP520 MP (2015)



# TELEMATICS MANAGEMENT SYSTEM



# USER INTERFACE ASPECT



관리자 (Administrator)



유지보수 (Maintenance)



**YELLOW TRACE**



판매자 (Dealer)



최종사용자 (End-User)



# MASS-PRODUCED PRODUCTS

## Wheel loader



**F-Series Wheel loader Cluster**  
2.7inch LCD Touch



**F-Series Wheel loader Monitor**  
7inch LCD Touch

## Excabators



**F-Series Excavator COU**  
HVAC  
Navigating Display by haptic control



**F-Series Excavator MCU**  
Hydraulic pump control

## Fork lift



**Compact**  
Electric folk lift  
2inch LCD Touch



**Mid-size**  
Electric folk lift  
3.5inch LCD Touch



**Mid-size**  
Electric folk lift  
4.3inch LCD Touch



**5.7inch Monitor**



**9s large folk lift Cluster**  
4.3inch LCD Touch



**7inch Monitor**  
4ch Camera

# MASS-PRODUCED PRODUCTS



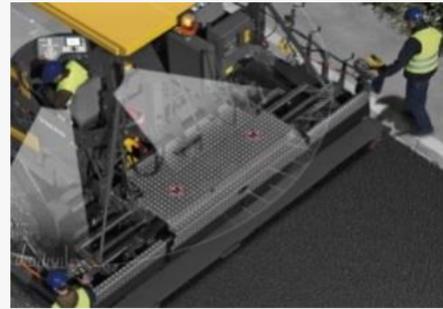
F-Series Excavator MCU  
4.3inch LCD Touch



F-Series Excavator MCU  
7inch LCD Touch



F-Series Excavator MCU  
7inch LCD Touch



F-Series Excavator MCU  
proposal



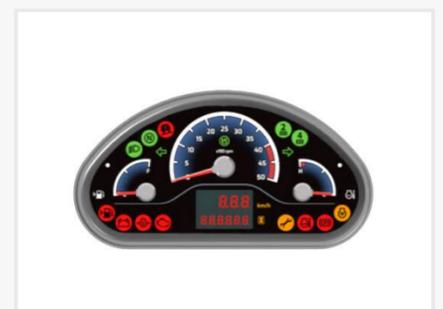
F-Series Excavator MCU  
4.3inch LCD



F-Series Excavator MCU  
10inch LCD Touch



F-Series Excavator MCU



F-Series Excavator MCU

# MASS-PRODUCED PRODUCTS



## Flat Series CUBE HMI 4.3 inch Display

The Flat Series - CUBE is 4.3" TFT LCD with direct bonding display for use on small off-highway vehicle, construction, and agricultural equipment. CUBE is compact size of off-the-shelf display as well as IP67 rating for protection and has the function of visualizing the vehicle parameters on the display.



### Key Features

Item	Specification	Item	Specification
Model	Working Voltage: 12V DC/24V Supply Voltage: 12V DC/24V/48V Operating Temperature: -40 ~ +85°C Storage Temperature: -50 ~ +100°C 4.3" Color Display (TFT-LCD) Resolution: 800x480 / 1280x800 Brightness: 1500 nits IP67 (Dustproof, Waterproof)	Interface	RS485 / CAN / LIN / SWD / J1939
USB	4 Pin Power Reading (V/F/T/Ohm) 4 Pin CAN / LIN / SWD / J1939 4 Pin Color Display Resolution: 800x480 / 1280x800 Brightness: 1500 nits IP67 (Dustproof, Waterproof)	Connection	4 Pin / 2 Pin / 3 Pin
Display Interface	4 Pin CAN / LIN / SWD / J1939 4 Pin Power Reading (V/F/T/Ohm) 4 Pin Color Display Resolution: 800x480 / 1280x800 Brightness: 1500 nits IP67 (Dustproof, Waterproof)	Display	4.3" / 4.8" / 5.0"
		Programmer/Adapter	For CAN / LIN / SWD / J1939
		Mounting Bracket	With 4 Screws / With 2 Screws

## Dash Series UNO Basic Instrument Cluster

The Dash Series - UNO is basic type of instrument cluster which is sleek and robust design, and has highly readable typography itself. This is ideal solution in common use for various off-highway vehicle, construction, and agricultural equipment as well.



Customizable front design, bezel, and LCD UI design to suit customers needs



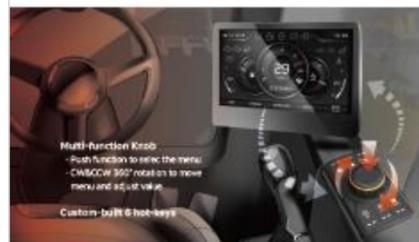
Up to 18 hard buttons to the maximum

### Key Features

Item	Specification
Model	Working Voltage: 12V DC/24V Supply Voltage: 12V DC/24V/48V Operating Temperature: -40 ~ +85°C Storage Temperature: -50 ~ +100°C
Resolution	800x480 / 1280x800
USB	4 Pin Power Reading (V/F/T/Ohm) 4 Pin CAN / LIN / SWD / J1939 4 Pin Color Display Resolution: 800x480 / 1280x800 Brightness: 1500 nits IP67 (Dustproof, Waterproof)
Interface	RS485 / CAN / LIN / SWD / J1939
Connection	4 Pin / 2 Pin / 3 Pin
Display	4.3" / 4.8" / 5.0"
Programmer/Adapter	For CAN / LIN / SWD / J1939

## Trace Series RS1 Rotary Switch

The Trace Series - RS1 is basic rotary switch controller which allows navigating display integrated with custom-built 6 hot-keys. RS1 makes it easy for driver to operate the function of cabin controlling multi-function knob and hot-keys.



Multi-function Knob  
- Push function to select the menu  
- CW/CCW 360° rotation to move menu and adjust value

Custom-built 6 hot-keys

### Key Features

Item	Specification
Model	Working Voltage: 12V DC/24V Supply Voltage: 12V DC/24V/48V Operating Temperature: -40 ~ +85°C Storage Temperature: -50 ~ +100°C
Resolution	800x480 / 1280x800
USB	4 Pin Power Reading (V/F/T/Ohm) 4 Pin CAN / LIN / SWD / J1939 4 Pin Color Display Resolution: 800x480 / 1280x800 Brightness: 1500 nits IP67 (Dustproof, Waterproof)
Interface	RS485 / CAN / LIN / SWD / J1939
Connection	4 Pin / 2 Pin / 3 Pin
Display	4.3" / 4.8" / 5.0"
Programmer/Adapter	For CAN / LIN / SWD / J1939

## Dash Series DOT Circular Cluster

The Dash Series - DOT is compact circular cluster which its diameter 103 mm and IP66 rating for protection. This is ideal solution for off-highway and compact size of construction and agricultural equipment.



Customizable front design, bezel, and dial plate UI to suit customers needs  
- Diameter: ø102 / External frame: ø112  
- 20 hard buttons



### Key Features

Item	Specification
Model	Working Voltage: 12V DC/24V Supply Voltage: 12V DC/24V/48V Operating Temperature: -40 ~ +85°C Storage Temperature: -50 ~ +100°C
Resolution	800x480 / 1280x800
USB	4 Pin Power Reading (V/F/T/Ohm) 4 Pin CAN / LIN / SWD / J1939 4 Pin Color Display Resolution: 800x480 / 1280x800 Brightness: 1500 nits IP67 (Dustproof, Waterproof)
Interface	RS485 / CAN / LIN / SWD / J1939
Connection	4 Pin / 2 Pin / 3 Pin
Display	4.3" / 4.8" / 5.0"
Programmer/Adapter	For CAN / LIN / SWD / J1939



# STEX DEPARTMENT

| Treadmill / Bike / Elliptical / Weight Equipment



S24 SERIES



S25U SERIES



S25R SERIES



S25E SERIES



Ergonomic movement trajectory system  
(Patent registration Number: 10-0499232)



NO.1 in Korea



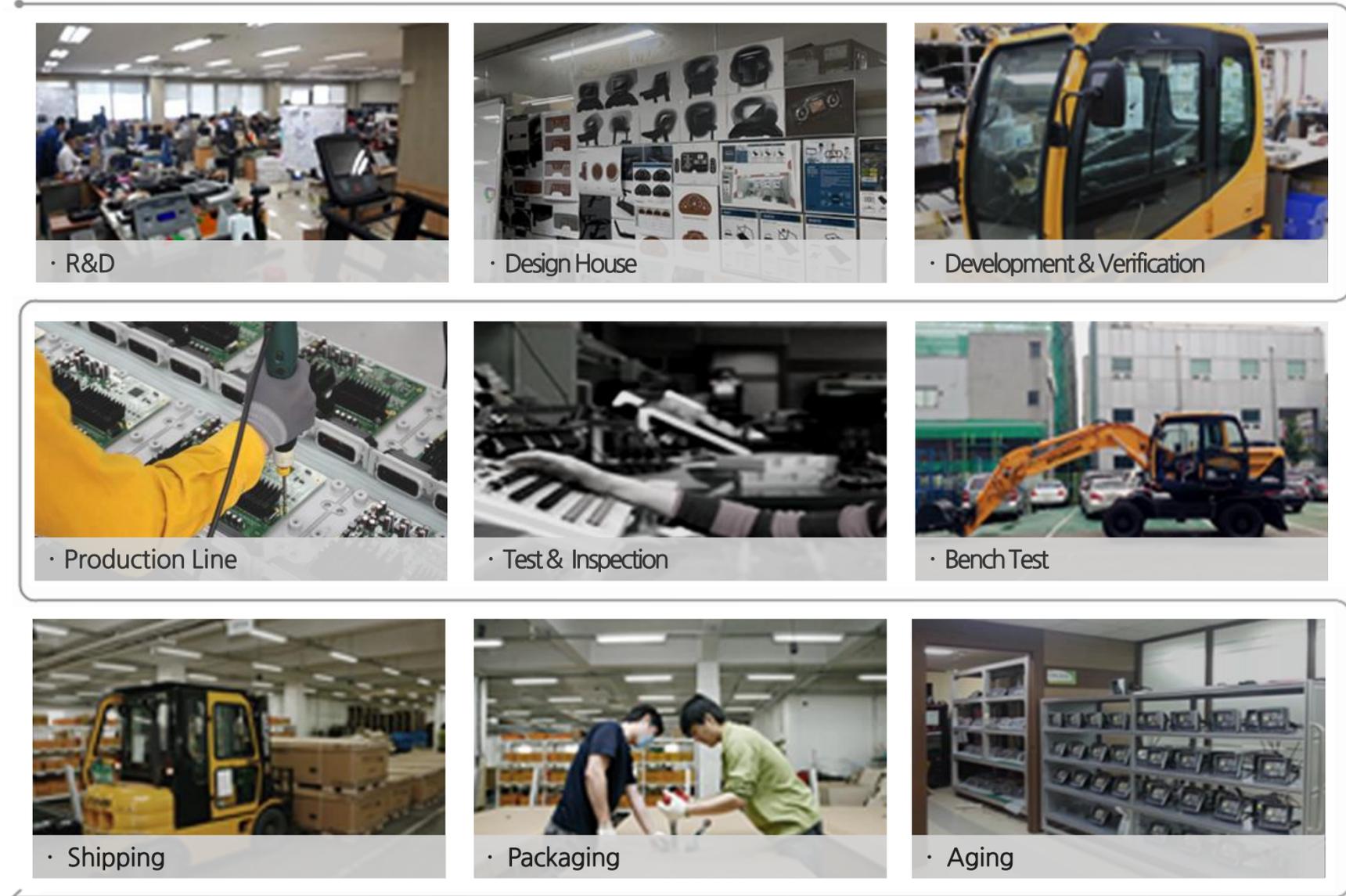
# PRODUCT DEVELOPMENT PROCESS CHART

## Plant Facilities



Plant Site: 2,600 m<sup>2</sup>  
 Manufacturing facilities: 6,300 m<sup>2</sup>  
 Other area: 4,040 m<sup>2</sup>

4F	R&D / Planning Dep. / Sales
3F	Production Line (Electronic parts)
2F	Sales / QC / Customer support
1F	Production Line (Fitness equipment)



# INTELLECTUAL PROPERTY RIGHTS

## 1. Patent

- Camera module (No. 10-1480166)
- Medical robot base with improved braking structure (No. 10-1376544)
- Medical robot base with improved steering structure (No. 10-1376543)
- Multi-mode dial device (No. 10-1369927)
- Treadmill that outputs the number of steps or runs in letters, numbers, and voice (No. 0379018)
- Electromagnetic braking device and ergometer using it (No. 0389478)
- Exercise information provision system using the Internet and its operation method (No. 0398958)
- Elliptical (No. 0499232)
- Exercise device with improved exercise load control performance (No. 10-0944809)
- Intelligent composite motorcycle (No. 10-0974341)
- Registration of rotation operation conversion device (No. 21-134472)
- Provides an interface for display device and user settings  
Display system application (2021.10.08)·
- Application for industrial vehicle telematics system (2022.03.04)

## 2. Practical Design

- Bike saddle adjustment device (Utility Model No. 20-0410965)

## 3. Design registration

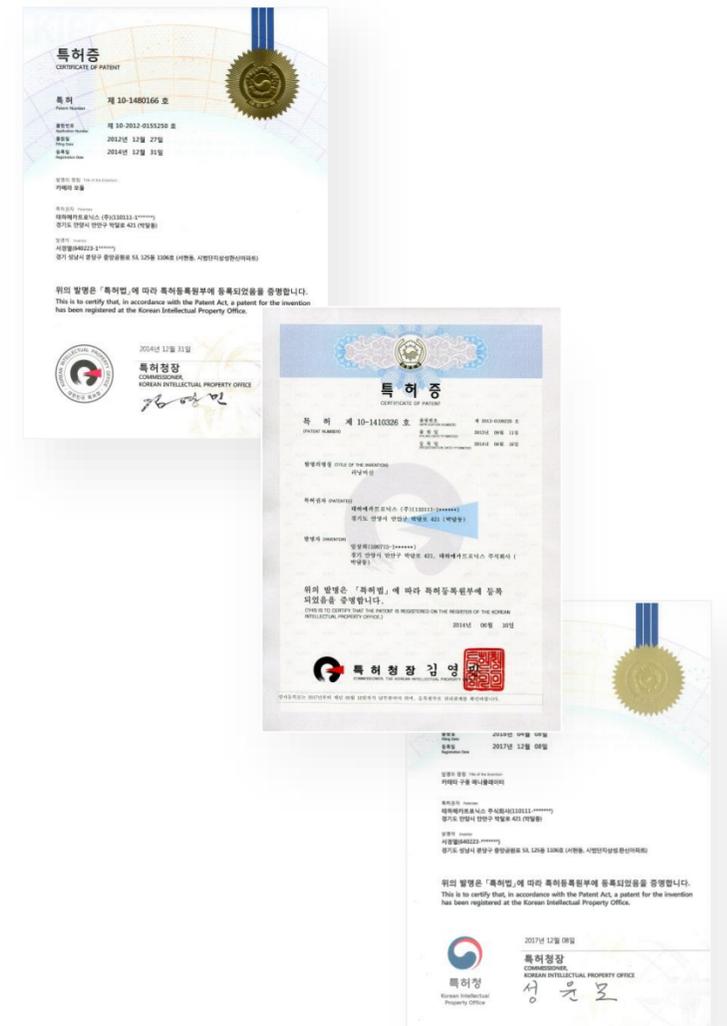
- Commercial treadmill design registration (No. 219564)
- Home treadmill design registration (No. 0238127)

## 4. Trademark registration

- INTERTRACK trademark registration (No. 0511331)
- FITPIA trademark registration (No. 0502339)
- STEX trademark registration (No. 0025159)
- KONVIS(2020.02.12)

## 5. Product Design registration

- Display device application (2021.12.27) - Dot product
- Display device application (2022.02.23) - Cube product
- Display device application (2022.04.21) - Duke product



# CERTIFICATION HOLDING STATUS

- INNO-BIZ company confirmation
- Venture business certification (R&D part)
- ISO 9001 (renewed in 2015)
- Designated as an excellent sports equipment manufacturer (Ministry of Culture, Sports and Tourism)
- CE for home and commercial treadmills (1997 to present)
- ETL certification
- TUV certification
- KISS quality certification (Korea Sports Science Research Institute)
- K mark certification (Korea Industrial Technology Testing Institute)
- KC safety certification (all products)
- ISO 14001 (April, 2019)
- IATF 16949(September, 2019)



THANK YOU