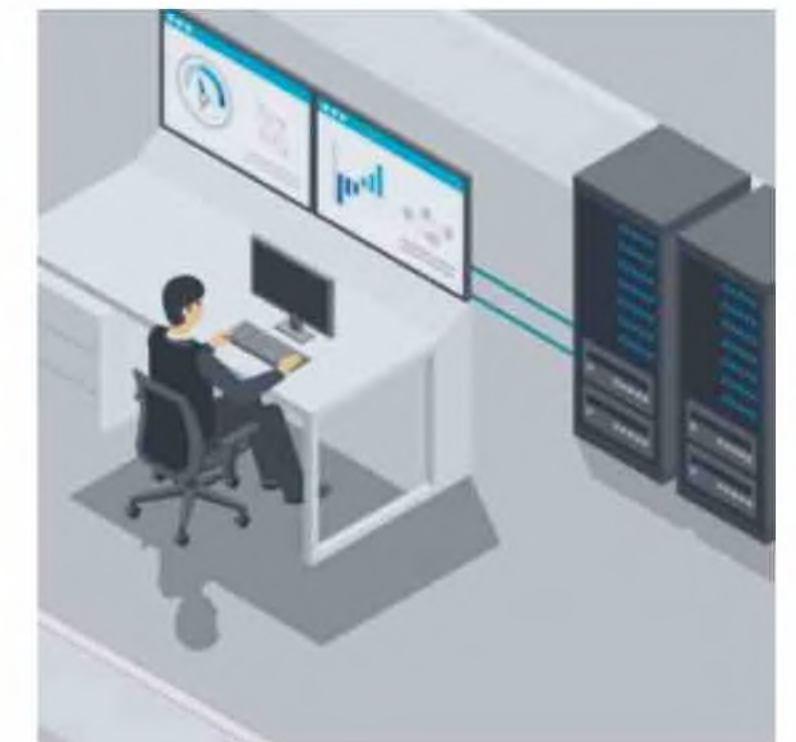
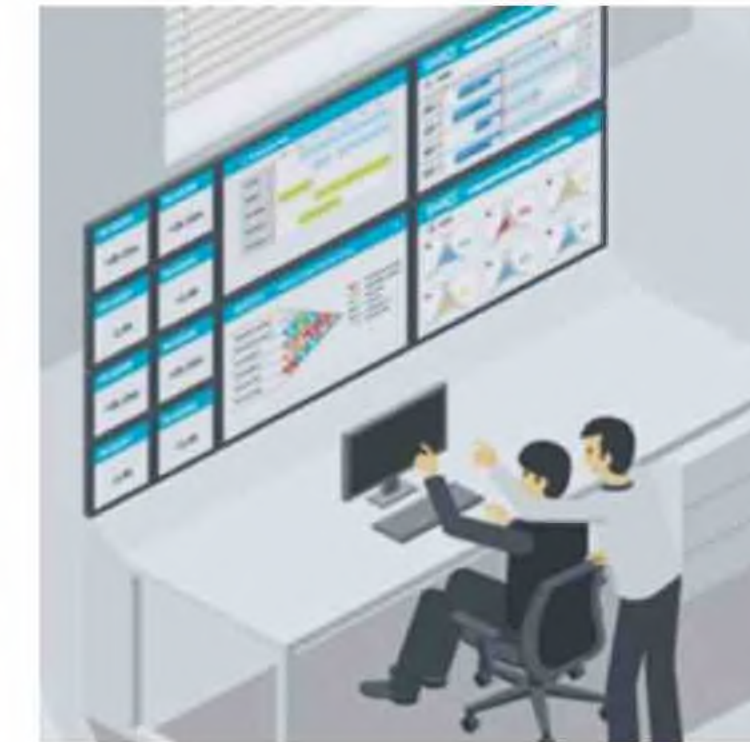
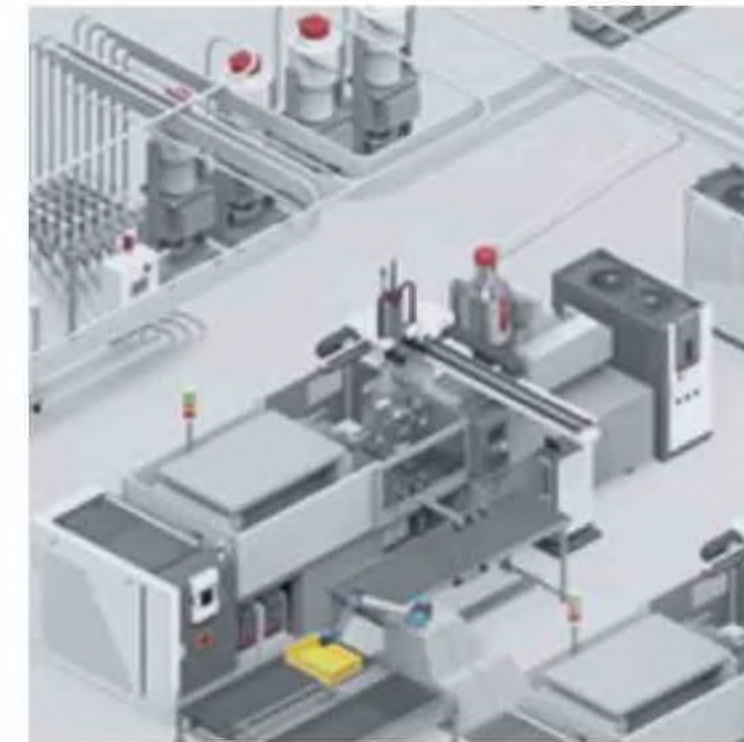




Company Introduction

Solutions for Factory Automation

아비만엔지니어링(주) 회사소개서 Ver.1.3



1

Company overview

- Information
- Vision
- Competitiveness
- History
- Organization
- Certification

2

Business line

- Hardware
- Software
- Smart Factory Solution

3

Global network

- Affiliated company/sales office
- Europe/America
- South-east Asia
- North-east Asia
- Main customer

1

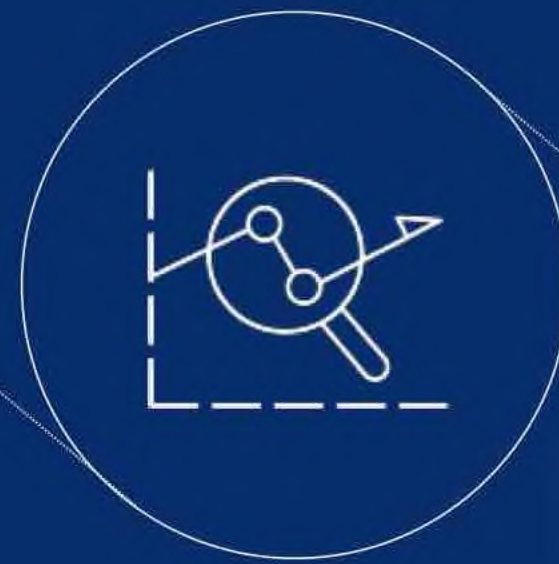
corporate overview



Information



Vision



Competitiveness



History



Organization



Certification

Company Profile

Company information

Abiman Engineering Co., Ltd.'s leap for smart manufacturing continues, from hardware to software with its extensive technology

Abiman engineering

Solutions for Factory Automation



Abiman Engineering was born to meet any customer's needs. We are constantly strived the development of injection molding, Robot and processing automation industry in accumulated know-how.

YUDO SUNS Co., Ltd., and YUDO ROBOTICS Co., Ltd. Are merged to Abiman engineering co., ltd on July 1st, 2019. The main purpose of the merger is to achieve expanding of overseas markets and build global marketing strategies for the automation equipment business. We will continue to challenge the customer's needs in unique technology and trust.

Company Profile

Company vision

Abiman engineering will continue to explore smart factory areas by providing more competitive products through quality improvement and cost reduction.

/ MISSION

We will provide the best quality and service for the benefit of our customers

/ VISION

Global leader in the future of smart factory

/ MANAGEMENT PHILOSOPHY

Transparent

Lower costs with transparent management
and Supply outstanding products at a
good price

Communication

Communicate constantly with
customers
Innovative product development,
service improvement

Carefulness

With Abiman's own
meticulousness,
Grow together while
maintaining the highest
quality

Company Profile

Company competitiveness

Abiman Engineering Co., Ltd. has differentiated technology with its systematic design system and stable customer service.



1. Self-robot-based automation expertise

Driven by challenges for 40 years (Launched in 1980)

Robot Function: Extraction and Special Purpose
Applied industries:: automobiles, packaging, home appliances, mobile, etc.



2. Technology-driven problem-solving capacity

Research, design and technical support for more than 120 people

Worldwide and Nationwide sales Network

Professional Partner Network



3. Provides smart factory integrated solution

Supply of smart factory solutions specialized for the customer's industry

Creation of added value through software platform



4. Abiman brand of trust

YUDO-SUNS and YUDO-ROBOTICS were merged to establish ABIMAN

Maintaining the soundness and stability of the company

The No. 1 ABIMAN brand in Korea

Company Profile

Company history

We will continue to challenge the customer's needs in unique technology and trust



- **2023**
05 | Minister of Trade, Industry and Energy Award for Global Management Division
05 | SAVETICS Agreement - Consultation pact for cooperative robot collision safety evaluation.
03 | Participation in the 2023 Koplas Exhibition - Participation in all global group companies.
- **2022**
12 | XTEND Agreement - Collaborative production of medical assistance service robots.
- **2021**
07 | Construction of Pyeongchon R&D Center
- **2020**
01 | ABIMAN Engineering Co.,Ltd moved to new factory in Hwaseong
- **2019**
07 | Awarded K Design FRANCIA 509is, YU-Storage
07 | YUDO-SUNS Co.,Ltd. merged with YUDO-ROBOTICS Co.,Ltd
07 | Established ABIMAN Engineering Co.,Ltd.
- **2018**
11 | Awarded Good Design FRANCIA 308
05 | Awarded K Design FRANCIA Series, ZEMA 508
- **2017**
05 | YUDO-SUNS Co.,Ltd. moved to an enlarged plant in Hwaseong
01 | YUDO-SUNS Co.,Ltd. merged with YUDO-STAR Co.,Ltd.
- **2016**
06 | ICC (Intergrated Clinic Care) system construction
- **2015**
11 | RICH series PMS (Preventive Maintenance System) development
09 | YUDO Smart factory simulation construction
02 | Development and Patent Progress of Smart Robot Solution
- **2014**
10 | Registered Korea institute of carbon convergence technology
08 | Branched into the Confederation of North, Central America
06 | Certified 2008 YUDO-SUNS ISO 9001
- **2013**
12 | A day of trade Twenty million dollar, prize for tp of export
07 | Awarded 31th Commerce & Industry Grand Prix
05 | Patent registration related to RICH return valve control
- **2012**
12 | Established YUDO-SUNS R&D center
08 | Education courses of YUDO School newly launched
03 | Established ValuePro Institue
- **2011**
12 | A day of trade Ten million dollar prize for top of export
05 | Awarded 23th Gold Tower Order of Industrial Service Merit
- **2010**
12 | 30th anniversary of YUDO
- **2008**
11 | Established Weihai YUDO Machinerty Co.,Ltd.
11 | YUDO-SUNS Co.,Ltd. switch to a sales company
- **2006**
07 | YUDO-SUNS, ROBOTICS Co.,Ltd. moved to Incheon
- **2004**
07 | Awarded Good Design SMUS
- **2000**
08 | Established YUDO-SUNS Co.,Ltd.
01 | Established YUDO-STAR R&D center
- **1997**
11 | Certified CE, ISO 9001
- **1995**
06 | Development of injection process optimization equipment
- **1992**
10 | Lanced into export Take-out Robot
03 | Established YUDO-STAR Co.,Ltd.
- **1988**
05 | Developed and marketed Take-out Robot
- **1980**
12 | Established YUDO Co.,Ltd.

Company Profile

Organization

We aim to create an organization that can create synergy by optimizing the members' abilities.



Company Profile

Certificates & Patents



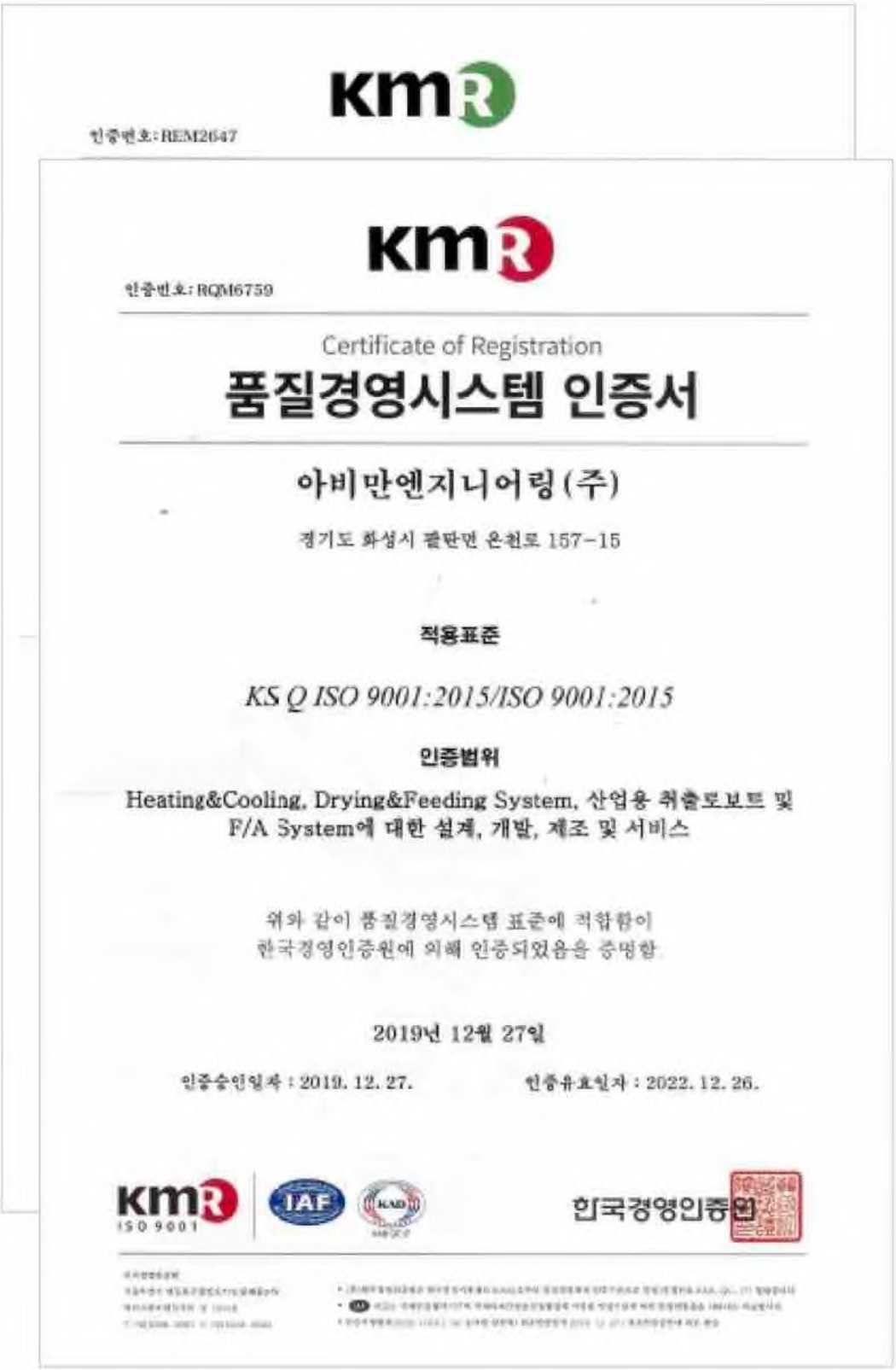
Holding a letter of recognition for an affiliated research institute

- Future Technology laboratory



Patent, hold design registration

- 32 Patent
- 17 Design registration
- 2 Trademark registration



The Certificate of Quality Management

- Take-out Robot, H&C, D&F,
- Design, Development, Manufacturing and Services for FA



The certificate of self-safety verification

- AWC, Gantry, Conveyor

2

Business Area



Hardware

Providing total engineering solutions for injection mold and cutting process



Software

Provide convenient software solution for customer production environment



Smart Factory Solution

Automated systems that maximize the turnover of warehouses and logistics

Hardware

We provide comprehensive Injection molding solution for optimized for production environment.

Take-out Robot



- Adaptation Optimization, Robot Design
- Reproducibility & Business Scalability
- Optimal robot control solution for powerful, automated performance
- Work Environment Improvement and Safety Improvement Solutions
- Energy Efficiency Solutions
- User Experience Optimization Solution

Heating & Cooling



- Solution for improving shape due to poor flow
- Solutions to improve cracks due to residual stress
- Solution for improving strain due to cooling imbalance
- High Gloss & Surface Quality Improvement Solutions
- Coolant cycle time reduction solution

Drying & Feeding



- Transparent product injection solution
- Various raw material injection solutions
- Dust & Foreign Substance Removal Solution
- Water retention. Management solution
- Pipe durability/improvement solution
- Material Recycle Solution

Factory Automation



- Automotive
- Packaging
- PET-Preform
- Micro & Precision
- Home appliance
- Consumer Goods
- Mobile
- Medical

Take-out Robot

Innovative ‘Robotic automatic solution’ for customer’s complete QC and maximization of productivity

Abiman Engineering robot has been proven and satisfied by customers for years with its optimal design, know-how, reliable battlefield configuration, and exceptional scalability to respond to a wide range of injection-type businesses.



Products



GIGA | High speed and precision take-out robot (Movable X-axis)
(IMM : 1,600~4,500 ton)



GIGA II | High speed and precision take-out robot (Movable X-axis)
(IMM : 350~1,600 ton)



FRANCIA | Excellent performance take-out for any sized machines (Non-movable X-axis)
(IMM : 80~3,000 ton)



FRANCIA-H | Middle size high-end performance class (Non-movable X-axis)
(IMM : 100~850 ton)



FRANCIA-E | High Speed take-out robot (Non-movable X-axis)
(IMM : 80~350 ton)



SEKO | Pneumatic, servo hybrid type take-out robot
(IMM : 80~350 ton)



EZi | Pneumatic, servo hybrid type take-out robot
(IMM : 350~550 ton)



ZEBA | Side entry type ultra high speed take-out robot
(IMM : 150~350 ton)



SMUS | Pneumatic, swing type small take-out robot
(IMM : 30~220 ton)

Heating & Cooling

'Heat exchange optimization solution' for productivity improvement and quality control

Abiman Engineering is completing an injection molding process to produce the highest quality products efficiently with know-how to control flow and diverse heat exchange



Products



FOS100 |
Mold Temperature
Controller

Leakage & scale
free mold
tempereture
controllers
(High efficiency)



FOS200 |
Mold Temperature
Controller

For precise plastic
injection molding
(Water medium
only)



FOS300 |
Mold Temperature
Controller

No carbonization
and no scale mold
temperature
controller for high
temperature
(160°C High
temperature)



FOS2000 |
Mold Temperature
Controller

High flow & high
head-capacity
mold temperature
controller
(High lift/large
flow)



RICH |
Steam Control
System

Temperature
controlling system
for high glossy
products



SOCUL II |
Chiller

Highly efficient
and precise mold
cooling chiller

Drying & Feeding

‘Raw material management solution’ that provide optimization for the injection molding process from pre inspection to post management

Abiman Engineering creating a new paradigm for injection molding and raw material management for high-quality product production.
We forward to Future of Plastic industry in technical know-how to accumulated raw material management/feeding .



- Raw material feeding solution

- ① Stable operation of raw material transfer facilities and secured consistent environment
- ② Improvement of quality and productivity by optimizing raw material management and transportation
- ③ Reinforced competitiveness by saving time and cost with an efficient system

Products

 CAD Drying & Dehumidification Compressed Air Dehumidifier	 D Drying & Dehumidification Dehumidifier	 DWC Drying & Dehumidification Honeycomb/2 Blower Compact type	 H/Multi-hopper Drying & Dehumidification Muti hopper system	 HED Drying & Dehumidification Hot Air Dryer
 VLM Feeding Single Phase Loader	 HECA Feeding Cyclone	 HELA Feeding Hopper Loader	 Storage bin Feeding Storage Bins	 JAWS Granulator Granulator(Low&High speed)
 Matrix receiver Auto feeding System Designed for centralized auto feeding system	 Matrix filter&blower Auto feeding System Cyclone	 Manifold Auto feeding System Manifold	 Maintenance hopper Auto feeding System Maintenance Hopper	 Piping Auto feeding System Piping system

Factory Automation

Providing 'Injection molding automation solution' required by customers with our accumulated technology and experience

Abiman Engineering provides Factory Automation in variety of Industries with know-how of precision control.

We able to innovative productivity improvement in Take out, machining, inspection, assembly, transportation process



Automotive



Packaging



Home appliance



Mobile



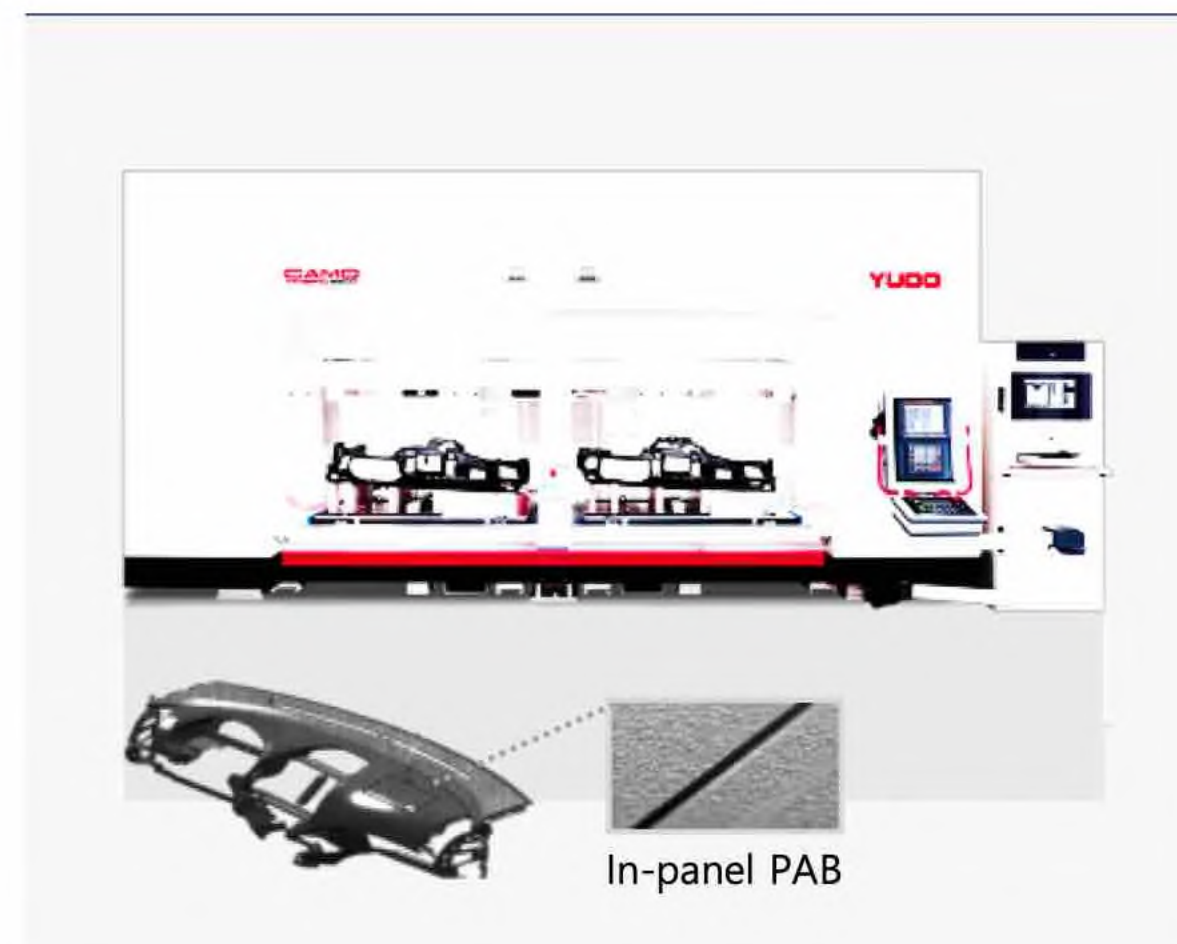
Gantry

Automotive



Scoring System

The system that realizes precision and uniform quality milling line machining on the surface of a 3D product based on advanced high-speed / precision CNC control technology



- Serve optimal cutting quality (Endmill, Cold knife, Ultra knife)
- Preparation time saving by installing two jigs
- High speed machining with linear motor
- Environment optimization with measurement and calibration functions

Articulated Robot Trimming System

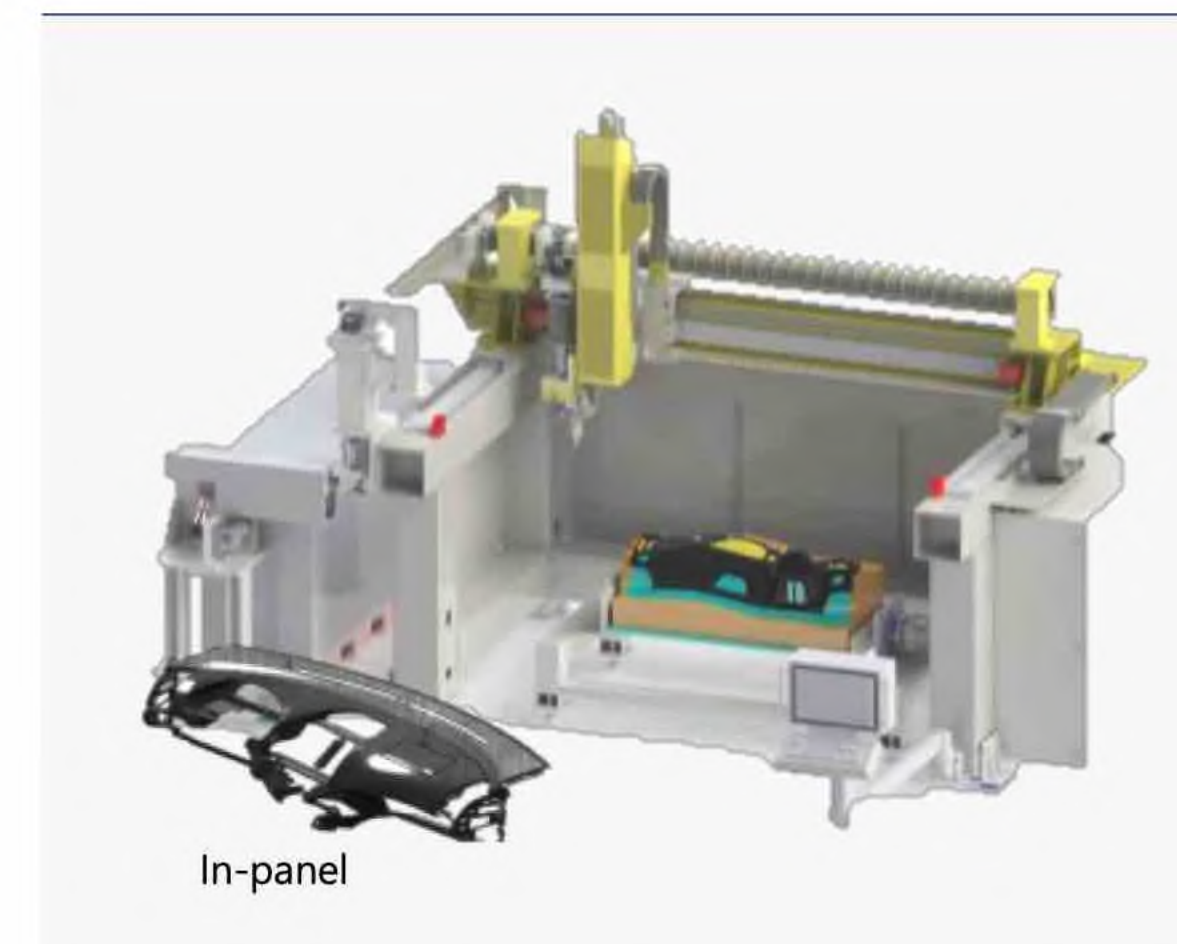
A system that implements 3D machining with a CAD/CAM-based multi axis robot



- Preparation time saving by CAD/CAM, Teaching less
- Rapid machining model change by using Rotation & Turnover jig
- Simultaneous production of same /different model with simultaneous mounting on four jigs
- Work measurement, tool setting probe for environmental impact compensation option
- Easily process the material mounted on the trimming jig for 3D processing into the desired shape

Laser Trimming System

A system that implements precision and uniform quality milling line processing on the surface of a 3D-shaped product through CO₂ laser and high-speed/precise CNC control technology.



- Effective plastic processing by applying CO₂ laser
- 3D processing optimized for product shape based on 5-axis motion control technology
- Improved cutting quality with precise control technology of beam transmission (collimator)
- High speed/high quality machining compared to machine processing

Universal E.O.A.T (End Of Arm Tooling)

It has eight or more product take-out features through a single chuck unit
Flexible smart EOAT that can be implemented.



- Applying a tool changer to use multiple tools
- Improved processing quality by applying a tool suitable for the material (ultrasonic knife, ion plasma, grinding tool, small spindle, heater, brush, etc.)
- Double stage option available for increased productivity

Packaging



FLEX _In Mold Labeling System

IML system that supplies the label to molds for injection molding and then for extraction and inspection through One-step process.

Modular system of major instruments such as side entry robots, film feeder, and loading/conveying systems enable the IML production process to change at any time.



- Simplify processes, reduce labor costs, and improve productivity by eliminating the need for a separate secondary process.
- Improving container rigidity and extending the Expiration date (Dairy products)
- No glue process required (sanitary food container)
- Improving and upgrading quality by designing containers with good image

Y-PAC _In Mold Labeling System

A reasonable IML system that supplies consistent quality and high productivity with a variety of product lineups, superior performance, and proven economy.



- Maximize productivity by reducing cycle time through a simple process that does not process before and after processing.
- Extending the expiration date by strengthening the durability of injection products
- Enhancement of container design and market competitiveness
- Proven process to ensure hygiene and performance of food containers

Home Appliance

Articulated Robot Deburring System

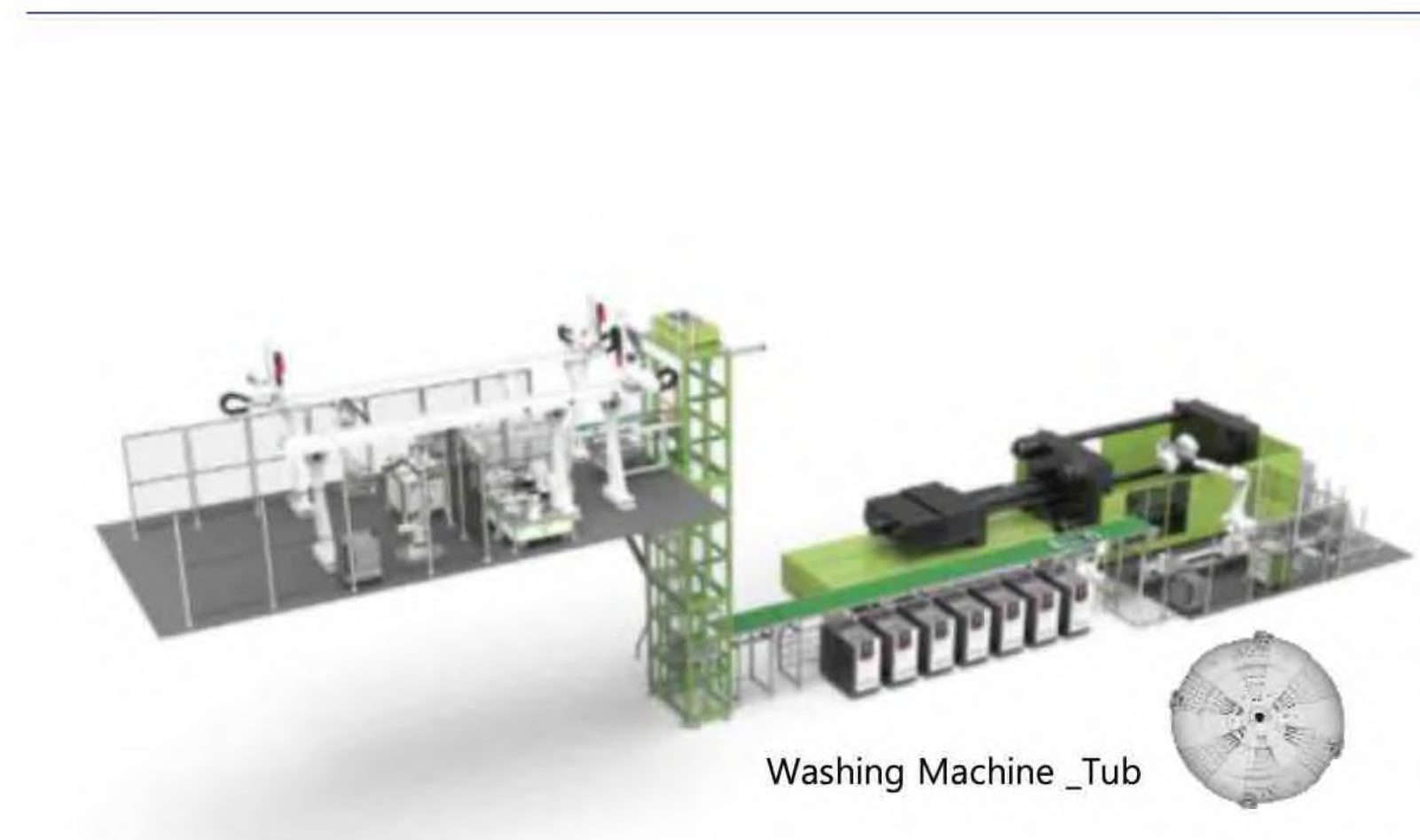
A system that implements three-dimensional processing with multi-joint robots based on CAD/CAM



- Teaching less Motion through CAD/CAM System
- Automatic post processing suitable for multi-joint robot models and applications
- Pre-inspection of interference, singularity, and limitations and reduction of on-site teaching time
- Measurement by contact type device or Non-contact type devices (Vision)

Tub Automation System

A complex automation system that can manage the production and production history of a product in a single process.



- Complex automation solution that handles insert part supply, injection, extraction, inspection and assembly in one continuous process.
- AGV is applied to enable unmanned and automated vehicles.
- Use QR code to manage product production information
- Improved quality and productivity by utilizing the Weight & Vision Inspection System

Mobile



Mini Trimming System

The system that processing the small size of product with high-precision machining system that removing flash, burr or logo marking by various of tools.



- Complex use of various tools through tool changer
- Improved machining quality by applying appropriate tools to the product
(Ultrasonic knife, ion plasma, grinding tool, small spindle, heater, brush etc.)
- Double stage for increased productivity

Machining Automation System



Gantry System

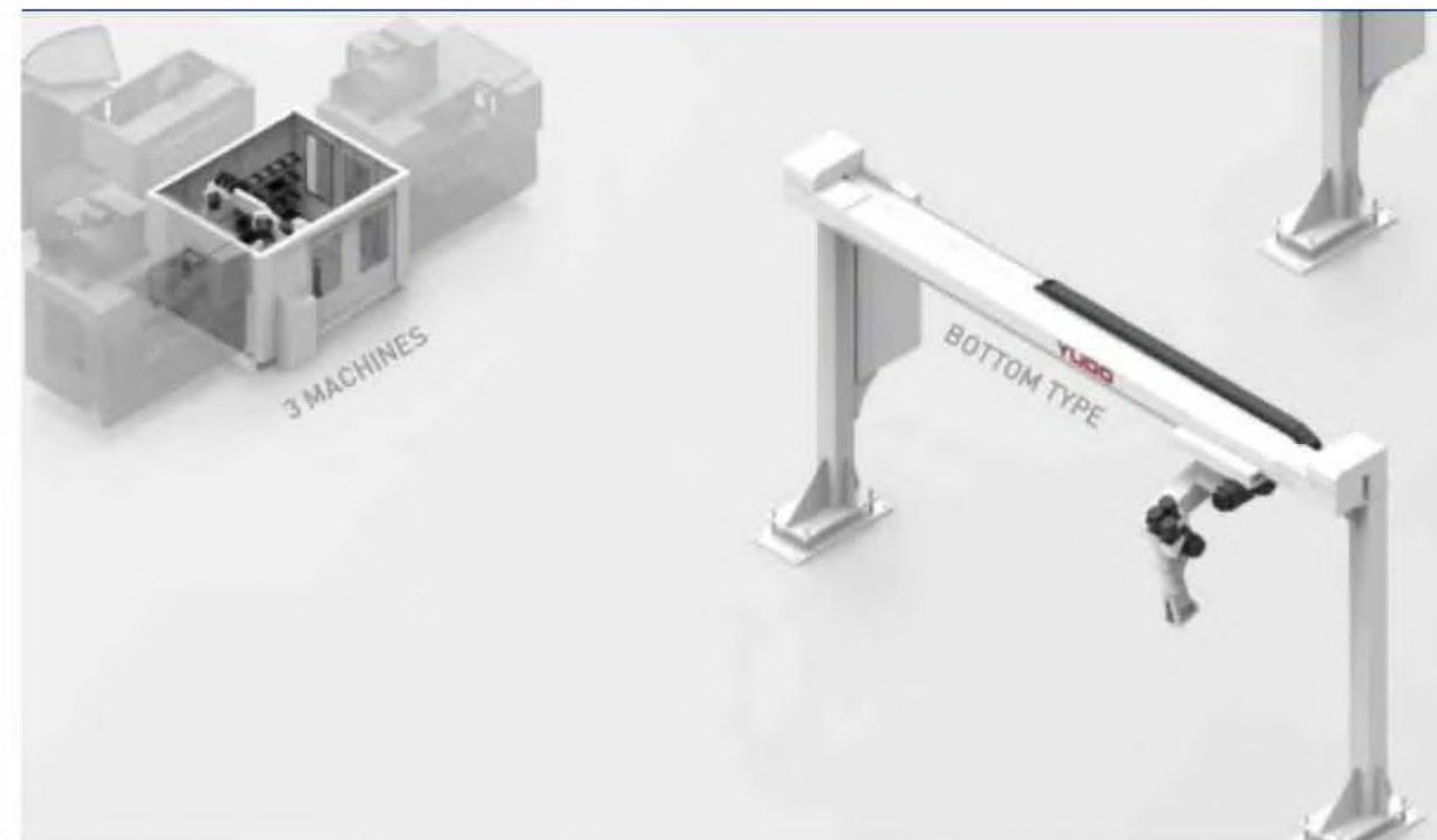
Gantry system completely designed and built for automatic loading and unloading of components. Gantry system increases the productivity and efficiency of lathes, grinding machines, machining centers and other machine tools.



- Automation of machining process line in mass production
- Automation of welding process line in large quantity
- Automation of small quantity batch production line
- Manufacturing line which requires stable quality and hazardous working environment

Robot System

Robots load workpieces into machining centers and transport parts between processes during machining operations. A single robot can tend multiple machines by synchronizing their cycle times.



- Applicable variety workpiece and machine specification
- Apply various gripper module for product properties
- Flexible Fit JIG for manufacturing process and material

FMS System (Flexible Manufacturing System)

Flexible Manufacturing Systems respond to large series and single unit fabrication. Tailored to each individual customer's manufacturing requirements, our FMS systems come in a variety of types and sizes to fit any type of machining application.



- Realization of unmanned machining process line through integrated production planning and management
- Minimizing the initial investment cost by simplifying machining process
- No additional JIG system required

Smart Factory Solution

To Achieve High Productivity with Maximized Space Utilization and Rapid Processing Ability

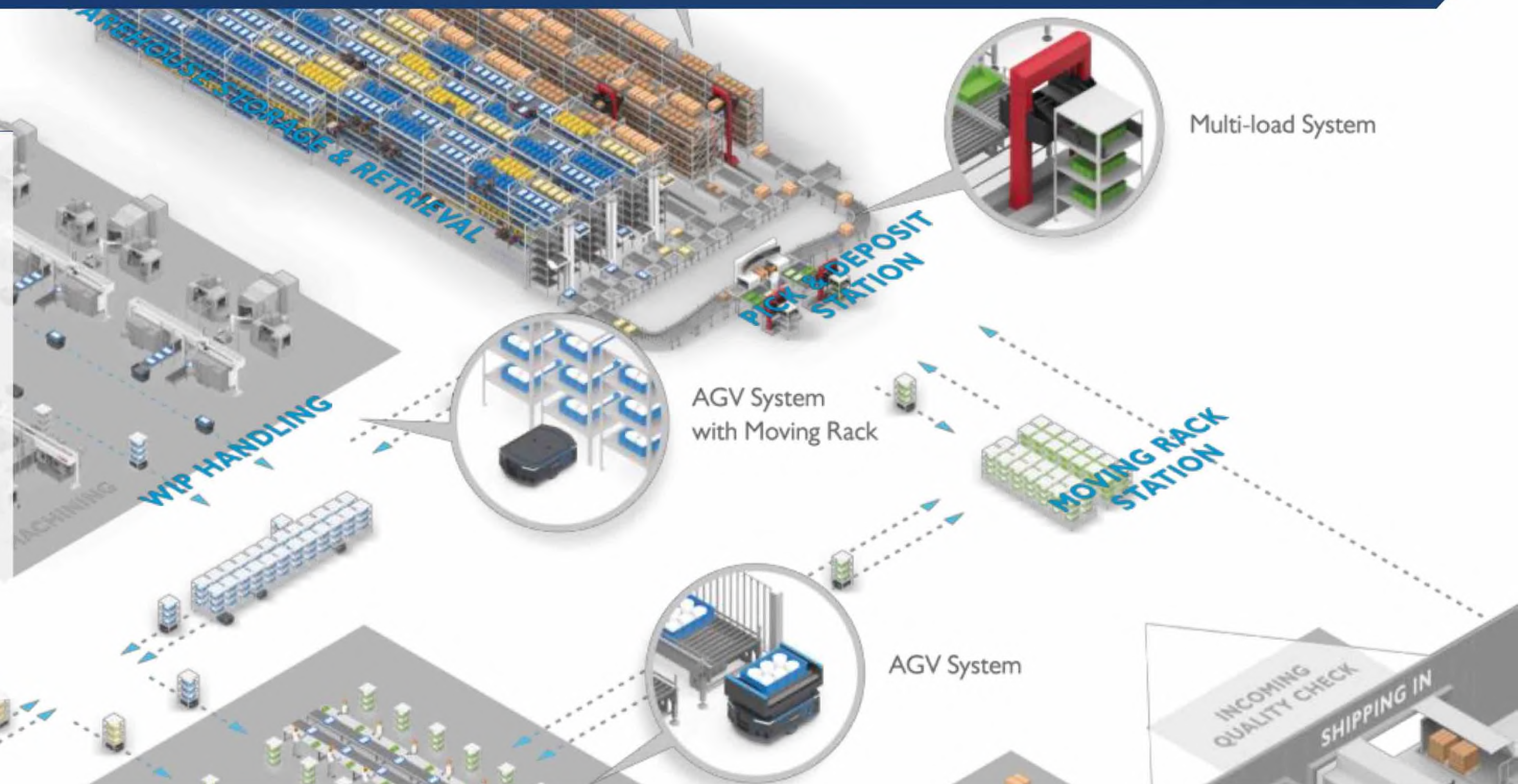
Maximize the Space Utilization and Storage Efficiency of the Warehouse Provide High Turnover Rate by Rapid Processing Logistics Ability

Warehousing (Storage and Retrieval)

Maximized turnover of warehouse & transportation as automatizing those works at warehouse followed by production planning such as warehousing, storage, release, and inventory management.

WIP(Work-In-Process) Handling

It handles work in process between the preceding process and the subsequent process, and supports to supply of materials just in time.



Smart Factory Solution

AGV System

Transportation Robot System for Logistics Efficiency

TAGON AGV

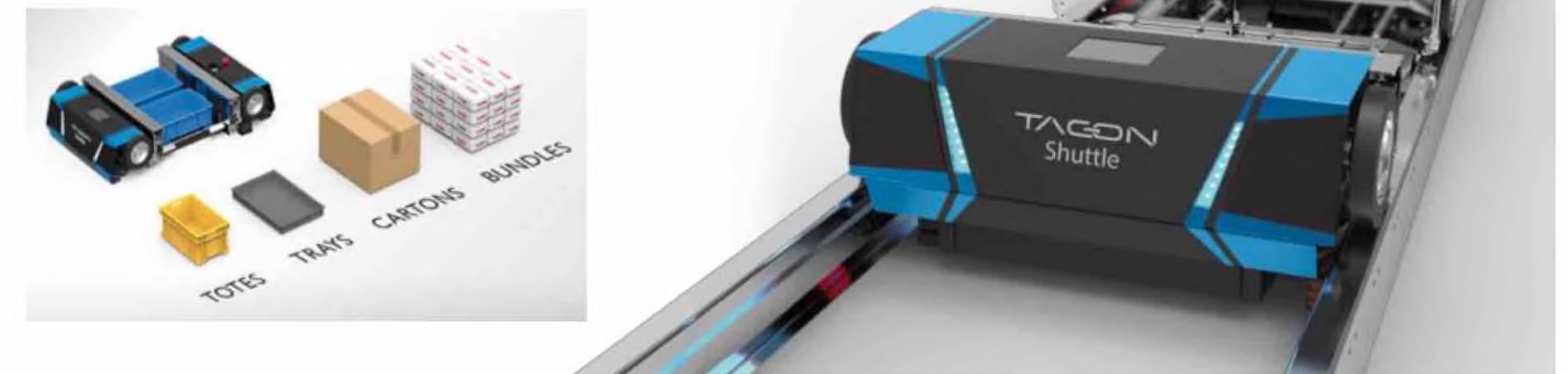


It automatically transfers all forms of logistics units such as container, carton box, cart, rack, pallet, etc. safely and precisely. It makes production without down time and maximizes logistics efficiency.

Shuttle System

warehouse turnover can be maximized.

TAGON Shuttle



TAGON Shuttle is to transport supplies, following rail between racks. Single or double-deep picking/loading is available, and positioning is to be done by reading coordinates of 2D-code at the side of rail. As shuttle system is connected to WMS and automation system such as lifter and shuttle lifter, throughput and warehouse turnover can be maximized.

3

Global network



Domestic affiliates
business offices



America
Europe



Southeast Asia



Northeast Asia



Major customer

Domestic affiliates/business offices

Abiman Engineering Co., Ltd. is committed to rapidly responding to customer needs through its worldwide sales offices.

Affiliates



ABIMAN ENGINEERING
Measurement : 43,207m²
Employees : 198
Items : Take-out Robot,
Auxiliary System,
Factory Automation



YUDO
Measurement : 49,360m²
Employees : 380
Items : Hot Runner System



StackTeck
Measurement : 4,634m²
Employees : 53
Items : PET Preform,
Packaging Solution

Domestic sales office

Headquarter / Factory

Paltan-myeon, Hwaseong-si, Gyeonggi-do
P.+82-31-659-9100, F.+82-31-659-7327



Main office |

Paltan-myeon, Hwaseong-si, Gyeonggi-do
P.+82-31-659-9162, F.+82-31-659-7326

Gyeongin office |

Namdong-gu, Incheon-si
P.+82-31-659-9170, F.+82-32-811-4196

Jungbu office |

Seobuk-gu, Cheonan-si
P.+82-41-552-4711, F.+82-41-552-4713

Deagu office |

Buk-gu, Deagu-si
P.+82-53-383-3734, F.+82-53-383-3736

Gwangju office |

Buk-gu, Gwangji
P.+82-62-953-4711, F.+82-62-954-0846

Busan office |

Dongmyeon, Yangsan-si
P.+82-55-785-5051, F.+82-55-785-5052

Overseas sales team |

Paltan-myeon, Hwaseong-si, Gyeonggi-do
P.+82-31-659-7302, F.+82-31-659-7326

Auxiliary equipment team |

Paltan-myeon, Hwaseong-si, Gyeonggi-do
P.+82-31-659-8983, F.+82-31-659-7326

Customer support team |

Paltan-myeon, Hwaseong-si, Gyeonggi-do
P.+82-31-659-7309, F.+82-31-659-7326

FA Division |

Paltan-myeon, Hwaseong-si, Gyeonggi-do
P.+82-31-659-7340, F.+82-32-659-7324

System Division |

Paltan-myeon, Hwaseong-si, Gyeonggi-do
P.+82-31-659-8910, F.+82-31-659-7321

Scoring Division |

Paltan-myeon, Hwaseong-si, Gyeonggi-do
P.+82-31-659-7341, F.+82-31-659-7324

Global Network

Overseas

Abiman Engineering Co., Ltd. is committed to rapidly responding to customer needs through its worldwide sales offices.



Georgia. U.S.A

Measurement : 550m²
Employees : 4
Items : Take-out Robot,
Auxiliary System,
Factory Automation



Queretaro. Mexico

Measurement : 200m²
Employees : 21
Items : Hot Runner System,
Take-out Robot,
Auxiliary System,
Factory Automation



Poland. E.U

Measurement : 1,933m²
Employees : 5
Items : Hot Runner System,
Take-out Robot,
Auxiliary System,
Factory Automation



Weihai. China

Measurement : 34,528m²
Employees : 127
Items : Take-out Robot,
Auxiliary System,
Factory Automation



Cikarang. Indonesia

Measurement : 3,218m²
Employees : 27
Items : Hot Runner System,
Take-out Robot,
Auxiliary System,
Factory Automation



Vietnam

Measurement : 300m²
Employees : 29
Items : Hot Runner System,
Take-out Robot,
Auxiliary System,
Factory Automation

Agent

U.S.A / POLAND / THAILAND / TURKEY / INDIA / VIETNAM / CZECH

Major Customer

Abiman Engineering Co., Ltd. always have the best value beyond technology with the passion to melt soul near our customers.



Thank you