ETEK
TOTAL AUTOMATION SOLUTIONS

ETEK AUTOMATION SOLUTIONS

PRESENTATION

Update 20/03/2024

About us

ETEK AUTOMATION SOLUTIONS JOINT STOCK COMPANY is a member of **TAN PHAT ETEK cooperation** and has become a pioneer in providing **Total Automation Solutions** in Vietnam.

Name of company	**ETEK AUTOMATION SOLUTIONS (ETEK)**
Founded year	2006
CEO	Nguyen Trong Thuong (Mr)
President & Founder	Nguyen Quoc Dat (Mr)
Parent Company	Tân Phát ETEK

ETEK – GO GLOBAL

Tan Phat Etek Ecosystem

Automotive Solutions

Welding Equipment

Factory General Contractor

Surface Treatment solutions

Total Automation Solutions

TAN PHAT ETEK

WETEK

ETEK

TAN PHAT 686

OUR ECOSYSTEM

ETEK GROUP

Investment

Industrial waste treatment

Hanoi Head office

Haiphong Branch

Middle Branch

Hochiminh Branch

ETEK   TÂN PHÁT ETEK

ETEK History

Start with 6 members

Engaged in Industrial Automation solution business. Canon, Denso, Toyota are our first Japanese customers

Providing total automation solutions, being a strategic partner of many large firms, demonstrating the general contractor's ability in implementing a series of large-scale projects with high difficulty.

Business expansion

Factory Automation Solutions

Education Training Equipment

Education Training Equipment

Life Automation Solutions
Factory Automation Solutions
Education Training Equipment

2006

- Area : 25m2
- Employees : 6

2010

2012

Continue to cooperate with major partners on packaging solutions and Vision

- Area: 250m2
- Employees : 48

2016

2017 - 2021

- Area : 3000 m2
- Employees : 200+
- 2 Branches: Hà Nội, Tp Hồ Chí Minh

2022

- Focusing on training activities, developing specialized applications for each industry

ABB has cooperated with ETEK since 2010 and now ETEK is authorized as a Provider Value by ABB.

Products & Solutions

FAS – FACTORY AUTOMATION SOLUTIONS

1. Assembly
2. Packaging
3. Fabrication
4. Robotic Applications
5. Auxiliary Equipment
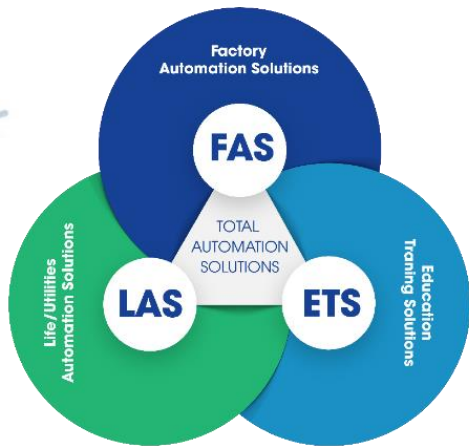6. Smart Factory
7. Intralogistics

ETS – EDUCATION TRAINING EQUIPMENT

1. Training equipment for Universities, Colleges and Vocational schools
2. Training Automation

LAS – LIFE/UTILITY AUTOMATION SOLUTIONS

1. Automated Parking Solutions (Car, Motorbike)
2. EV Charger
3. Vending Machine
4. Lifting equipment

Factory Automation Solutions

FAS

TOTAL AUTOMATION SOLUTIONS

LAS   ETS

Life / Utilities Automation Solutions

Education Training Solutions

- Automotive & Components
- Plastic /Metal /Ceramic
- FMCG / Consumer /Chemical /Pharma /Medical
- Textile /Footwear
- 3C Computer Communication, Consumer Electronics
- General Industries
- Ecommerce
- School
  - University, College
  - Vocational school
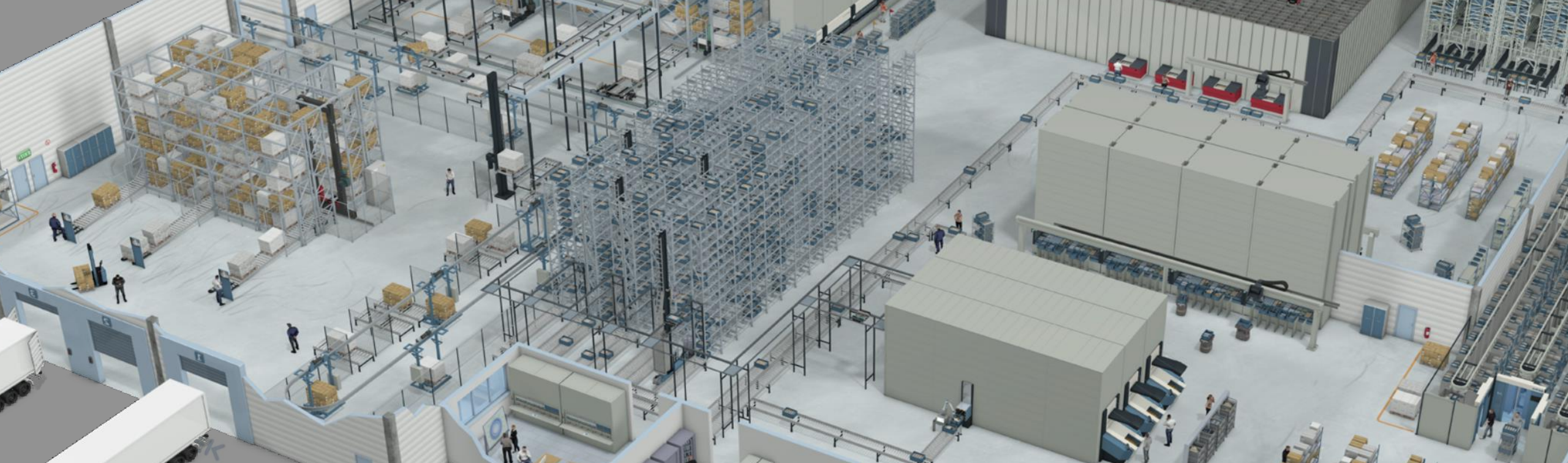 - High school
- Building
- Tourist area
- Home
- Hospital

Total Automation Solutions

VEHICLE PACKING ZONE

FABRICATION LINE

ASSEMBLY LINE

FINISH GOOD WAREHOUSE

TRAINING ROOM

RAW MATERIAL WAREHOUSE

PACKING ZONE

LAS

ETS

FAS

ETEK

TÂN PHÁT ETEK

INTRALOGISTICS SOLUTIONS

Ver: 2.0

ETEK
TOTAL AUTOMATION SOLUTIONS

Intralogistics

Overview

ETEK offers extensive expertise in Material Handling solutions, employing robots, gantries, conveyors(on floor/ overhead) , EMS (Electrified monorail system), RGV, AGV's, high bay warehouses with rack supported buildings in precoated sheets/insulating panels and other solutions to meet the application and our customer's needs. Our turnkey solutions cover the following area

Customer & Partner

Unilever	TH	Hữu Nghị Food
ELOVI	VINFAST	VinES
FLEXLINK a coesia company	casun	kardex
markem·imaje	COGNEX	WIN-WIN PACK

Product	Key Technology	Layout	Key Process

Production Line

- Smart Conveyor.
- AGV: Slam, Qr Code
- AMR

1. Handling
2. Bin-picking
3. Order picking
4. Pick & place
5. Pallet storage
6. Pallet transport

Raw material

- AS/RS
- Vertical
- Stacker Cranes
- Software & Control Solutions
- Totes, Bins & Tray Storage
- Smart Conveyor.
- AGV: Slam, Qr Code
- AMR

1. Bin-picking
2. Container emptying
3. De-stacking
4. Order picking
5. Pick & place
6. Stacking
7. Truck loading & unloading
8. Other handling & picking
9. Pallet storage
10. Pallet transport

Intralogistics Process

ETEK TOTAL AUTOMATION SOLUTIONS

1 Receive

2 Transport

3 Storage

4 Picking

5 Packing

6 Shipping

Industry Targets
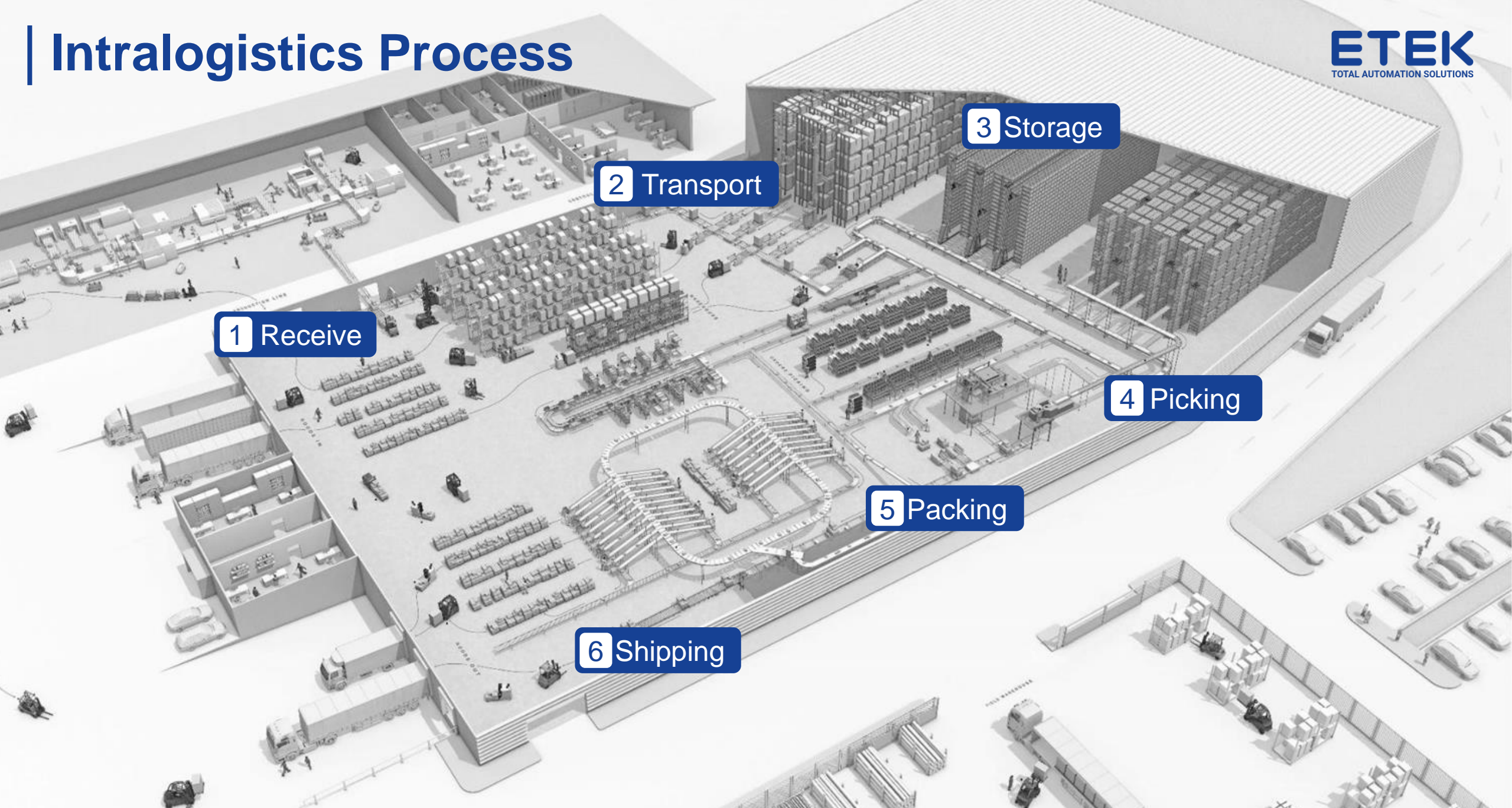
ETEK
TOTAL AUTOMATION SOLUTIONS

Consumer Goods

- Detergent
- Fabric care
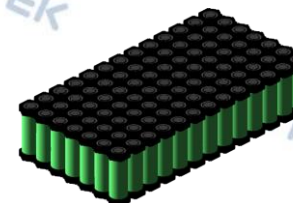- Staple foods
- Snacks,
- Milk

Mechanical

- Engine, motor
- Assembly
- Standard Equipment:
- Bearing, sensor,..

ELECTRONICS AND COMPONENT

- Electronic components
- Home application

BATTERY

- Raw materials
- Cell Pin
- Pack Pin

Automotive

- Body
- Components

PHARMA& MEDICAL

- Pill
- Bottle of Pill
- Needle
- Drug, Disinfectants
- Syringes

E-Commerce

- Shoppee
- Lazada
- Tiki
- Saler

Third Party Logistics

- Viettel Port
- Giaohangtietkiem
- DHL
- 247 Express

GARMENT

- Fabric
- Wool
- Leather

CHEMICAL

- Oil
- Lubricant

Partner

Benefits

ETEK
TOTAL AUTOMATION SOLUTIONS

S P A C E

Space
Solve problems related to area and storage space.

Performance
Increase work, production efficiency Streamline processes

Accuracy
Provides high accuracy, eliminating the risk of human mistakes.

Control
Helps control and collect data and administration more easily.

Efficiency
Save time, and costs, increase flexibility, competitive.

Intralogistics Process

ETEK — TOTAL AUTOMATION SOLUTIONS

1. Receive	2. Transport	3. Storage	4. Picking	5. Packing	6. Shipping
Auto Truck Unloading System	Conveyor Systems	ASRS Stacker Crane	Barcode Scanner	Case Erecter	Barcode Scanner
Barcode Scanner	AGV, RGV, AMR	ASRS Multi Shuttle	Pick To Light Systems	Case Packer	Print and Apply
Print and Apply	Vertical Lift Reciprocating	Vertical Lift	Picking Station	Case Sealer	Conveyor Systems
Measuring	Sortation Systems	Vertical Shuttle	Cart Picking	Palletizer	Sortation Systems
Conveyor Systems		Rack, Shelve	Pick and Place Robotics	Fit to Size Packaging	Vertical Lift Reciprocating
Robotics Systems					Auto Truck Loading System

O. Software

ERP	MES	WMS	OEE

Overview

- Responsible for receiving and validating new goods from suppliers or from the production area.
- Carry out quality checks and inventory checks
- Identify and assign product identifiers

Products

Industry

- Applications for all industry sectors.

Receive → Transport → Storage → Picking → Packing → Shipping → Software
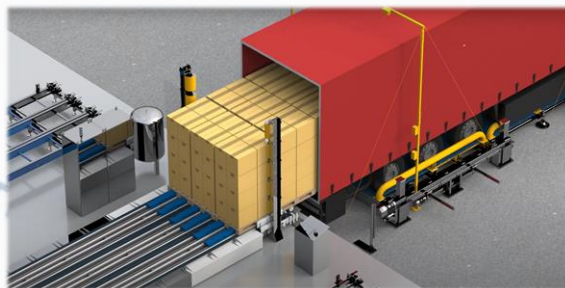
Auto Truck Unloading System

Barcode Scanner

Print and Apply

Measuring and Checking

Conveyor Systems

Robotics

Auto scan barcode by Vision

Overview

DataMan 370 series:
- Resolution: 5MP
- Shooting frequency: 80 Hz
- Lens: liquid lens, C-mount
- Power: 24V

Products

Industry

- Logistics
- Consumer

Detail Equipment

1. Barcode reader
2. Jig
3. Conveyor

WATCH VIDEO ▶
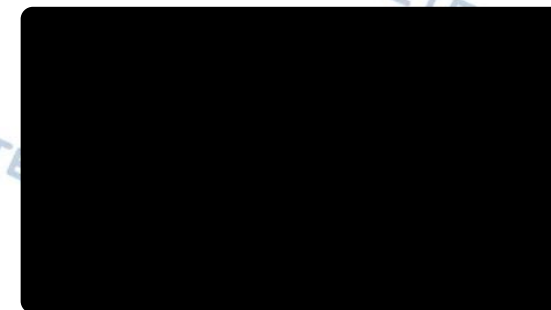
Continuous Inkjet Printer

Overview

- Model: 5940G
- Application: carton box printing or product printing ...
- Speed: 36-182(m/min)
- Print head DPI
  - Vertical DPI: 200
  - Addressable jets: 256
  - Nozzles: 512
- Print area:
  - Height: 65 mm (2.56")
  - Length: 3 m (118.11")

Products

Industry

- Consumer goods
- Pharma, Medical
- Logistics
- Plastic components

Detail Equipment

1. 10" color LCD touchscreen
2. Controller
3. Alarm beacons
4. Inox supporter
5. Choose one, two, three, or up to four print heads.

WATCH VIDEO ▶

Check Package

Overview

- **3D-A1000:**
- ✓ Shooting frequency: 3hz
- ✓ Power: 24V
- ✓ Communication: Ethernet
- **Benefits:**
- ✓ Increase productivity
- ✓ Create customer satisfaction
- ✓ Increase profits

Products

- Logistics
- Consumer Goods
- Aviation

IDENTIFY ISSUES WITH SIDE-BY-SIDE PACKAGES
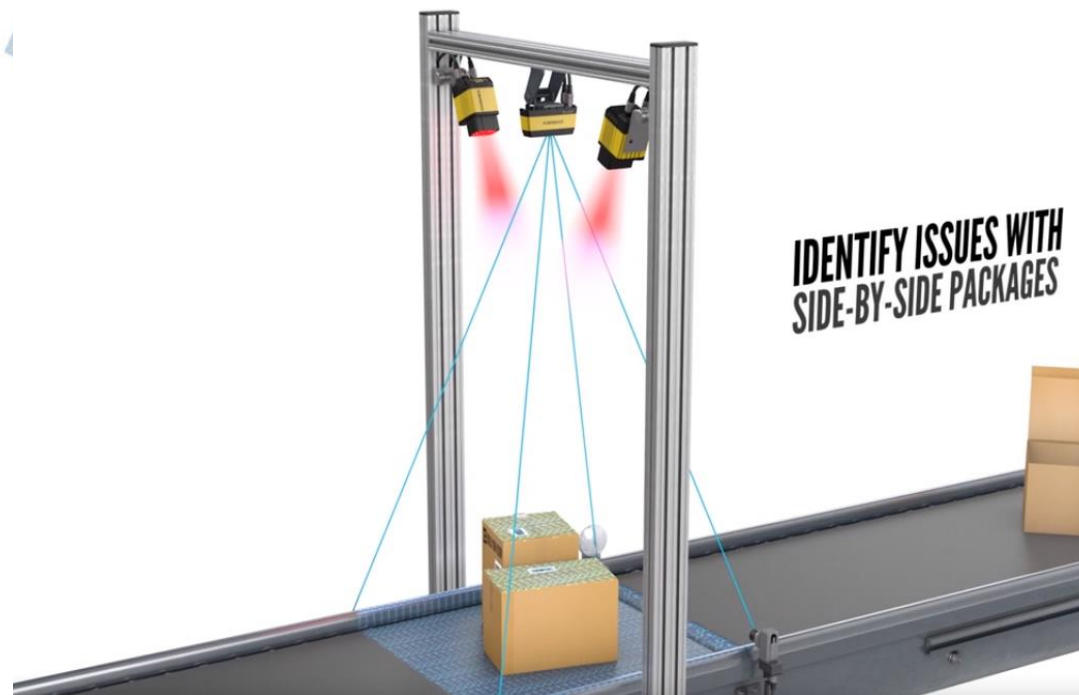
Detail Equipment

1. Camera 3D
2. Jig
3. Sensor trigger
4. Conveyor

WATCH VIDEO ▶

Quality check by Vision

Overview

- Model: AP012F.D0400
- Application: Quantity checking
- Technical: Computer vision
- Speed: 17.3 s/Pcs
- 3 phase voltage, 380V, 50HZ.
- Machine capacity: 0.75KW
- Ari supply: 0.4 ~ 0.6 Mpa.
- Machine size: 800 x 800 x 1500 mm
- Working height: 850 ± 100mm

- Electrical
- Consumer Goods
- Mechanical
- Logistics

Detail Equipment

1. Camera cognex 2D
2. HMI Siemens/Schneider
3. Alarm beacons
4. Rejection conveyor
5. Transferring conveyor

WATCH VIDEO ▶
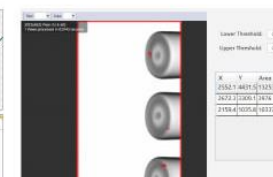
Conveyor Systems

Overview

- Conveyor will make it easier to automate your processes and facilitate a more efficient and cost-effective.

- Applications for all industry sectors.
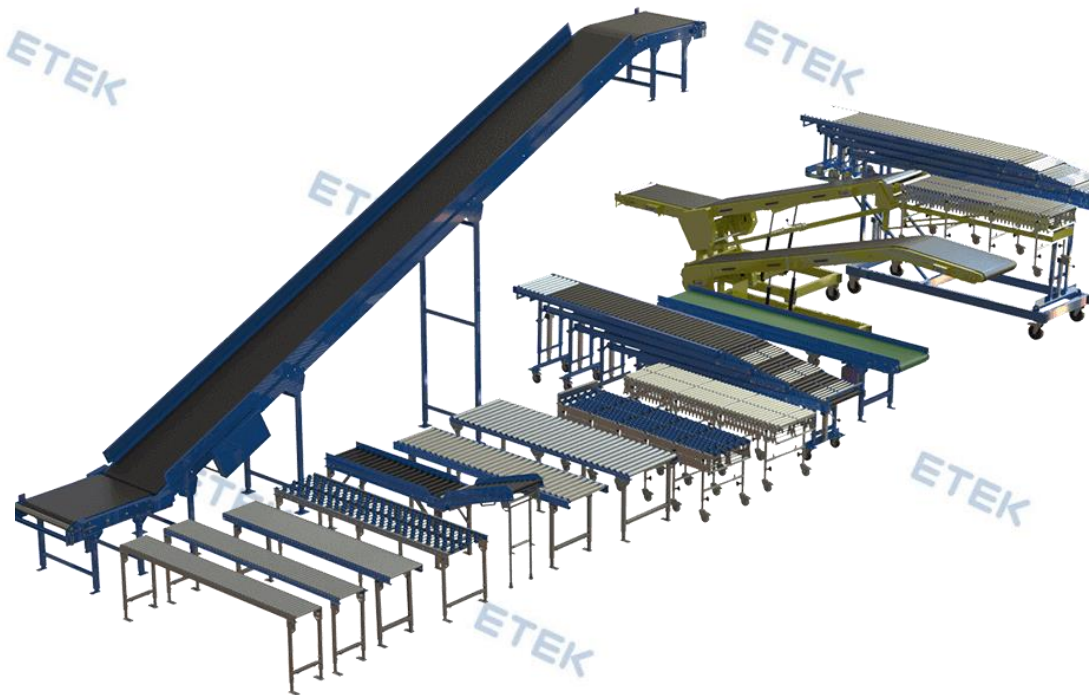
1. Belt conveyor
2. Chain conveyor
3. Roller conveyor
4. Telescopic conveyor
5. Gravity conveyor
6. Transfer conveyor
7. Turning conveyor

WATCH VIDEO ▶

AGV/AMR Collaborating with COBOT

Overview

- Payload: 3 – 20 kg
- Max speed: m/minutes
- Char0ging station : automatic and manual
- Repeatability: ± 10 mm
- Radius turning: 750 mm
- Protective area of AGV: <= 3 m
- Connection: RF/ Wi-Fi
- Navigation method: QR Code ; SLAM; Magnetic guidance

- Electronics
- Consumer goods
- Mechanical
- Logistics

CNC machine as example

Gripper

Robot

UNIVERSAL ROBOTS

AGV Direction

AGV
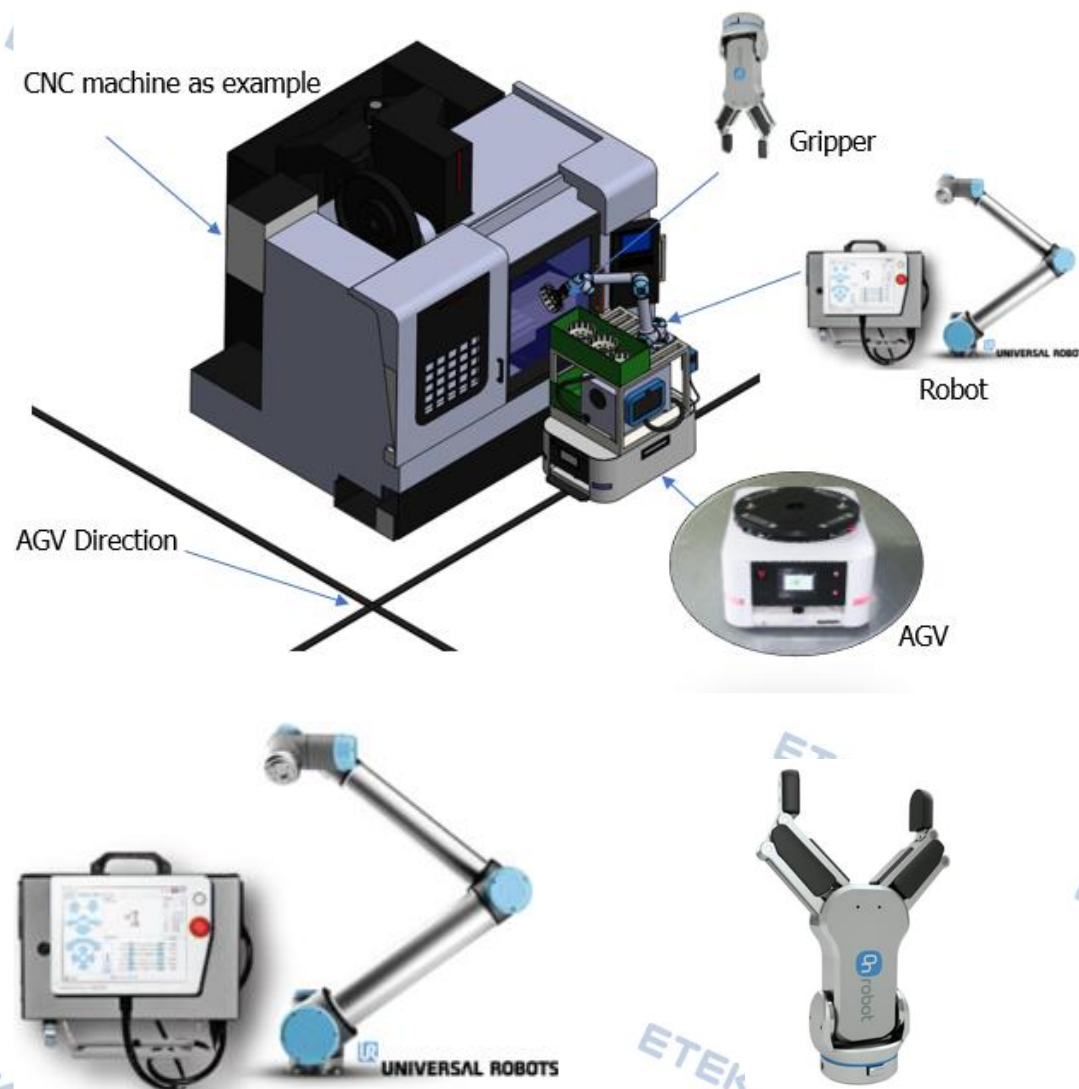
Detail Equipment

1. AGV / AMR
2. COBOT
3. Automatic charging station
4. Installation toolkit
5. Wireless AP
6. IPC / Server
7. Router
8. Calling box
9. Switch
10. Gripper or Vacuum tool

WATCH VIDEO ▶

Process 2 Transport Solutions

ETEK
TOTAL AUTOMATION SOLUTIONS

Overview

- Transportation process, transporting products to the destination address or moving between other areas in the factory
- Make sure goods are in the right place, at the right time.

Products

Industry

- Applications for all industry sectors.

| Receive | Transport | Storage | Picking | Packing | Shipping | Software |
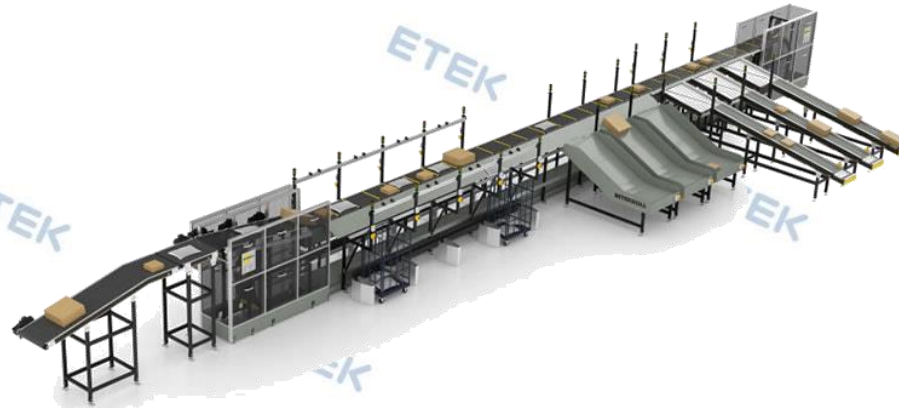
Sortation Systems

Vertical Lift Reciprocating

AGV, RGV, AMR

Conveyor Systems

Vertical Lift

ETEK
TOTAL AUTOMATION SOLUTIONS

Overview

- Makes it possible to have products entering or discharging at any floor level while still just using one vertical movement In this way products e.g. can be elevated and lowered at the same time.

- Applications for all industry sectors.
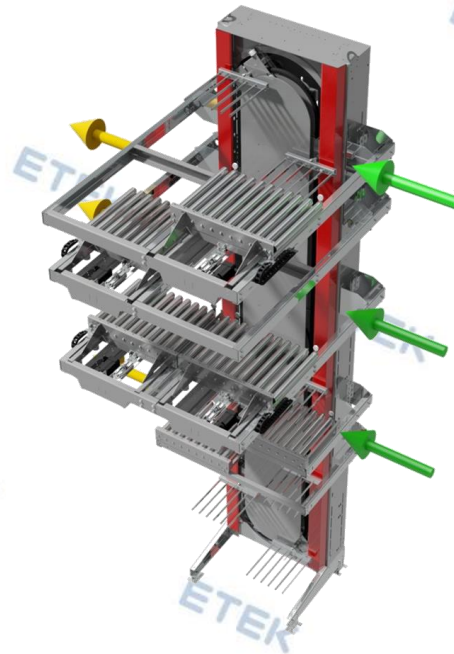
1. Chain Lift
2. Roller conveyor

WATCH VIDEO ▶
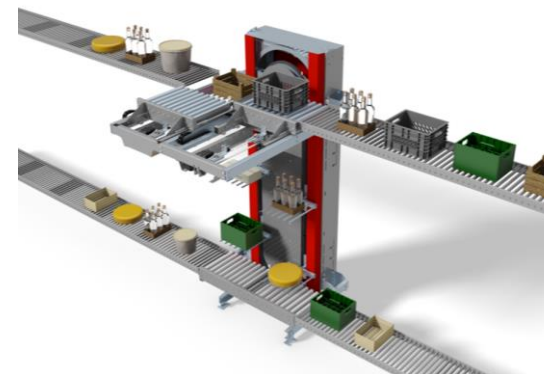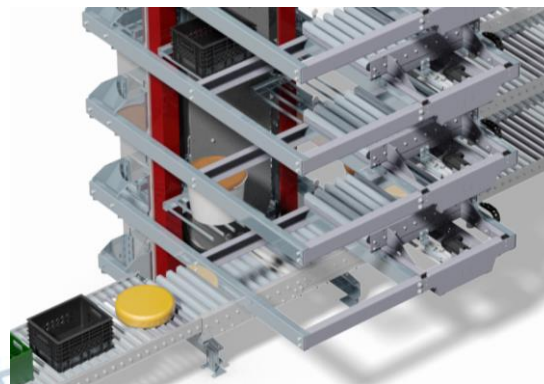
AGV Carton Supply Solution

Overview

Requirement:
- Supply carton on trolley for 4 manufacturing lines
- Number of trolley: 9 unit
- Cycle time 5.5 mins

Solution:
- Using magnetic AGV and QR code AGV
- Customize trolley
- Wifi communication
- Central control system

Benefits:
- Reduce the number of operating workers. Only need 1 worker
- Providing carton boxes at the supermarket.
- Increase the number of cartons stored at the carton erector machine.
- Save space for raw material pallets at the production line
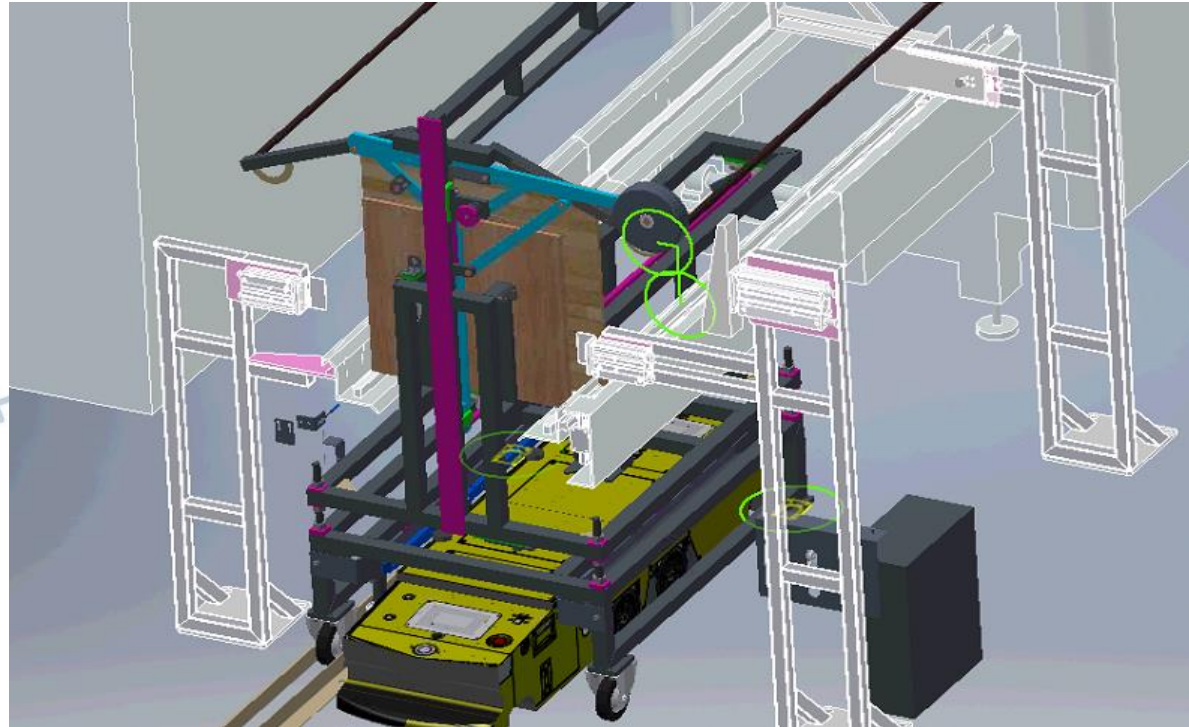
Products

Industry

- Consumer Packed Goods
- Logistic

Specifications

**Magnetic AGV**
- Payload: 500/1000kg
- Speed: 0-45 m/minute
- Navigation: magnetic
- Battery: Lithium (8h)

QR code AGV
- Payload: 500/1000kg
- Speed: 0-60 m/minute
- Navigation: QR code
- Battery: Lithium (8h)
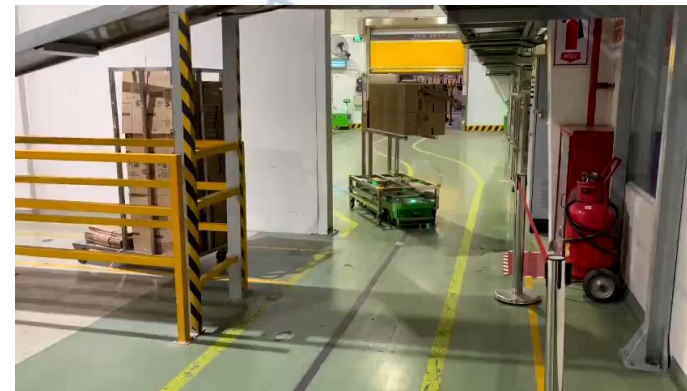
AGV Spare Part Supply Solution

Overview

Requirement:
- Supply spare part on trolley from warehouse to manufacturing line (49 positions)
- Frequency: 346 tray /day
- Connect AGV system to warehouse management system

Solution:
- Using Slam AGV
- Flow trolley with auto load/unload design
- Wifi communication
- Central control system, fleet management software

Benefits:
- Auto supply products follow the warehouse management system
- Increase productivity
- Reduce human error in the process

Specifications

Magnetic AGV
- Payload: 500/1000kg
- Speed: 0-45 m/minute
- Navigation: magnetic
- Battery: Lithium (8h)

Products

Industry
- Consumer Packed Goods
- Logistic

Xe tự hành AGV (Automation Guided Vehicle) là loại xe sử dụng các công nghệ dẫn đường để vận chuyển hàng hóa, nguyên vật liệu đến những địa điểm đã được đánh dấu sẵn mà không cần đến sự can thiệp của con người.

AGV Pallet Tranfer Solution

Overview

Requirement:
- Supply empty pallets to the pallet dispenser and transfer full pallet to the conveyor

Solution:
- Using Laser forklift AGV and Slam AGV
- Palletizing system
- Wifi communication
- Central control system

Benefits:
- Reduce the number of operating workers.
- Transfer heavy pallet to buffer
- Save space for raw material pallets at the production line
- Reduce cycle time
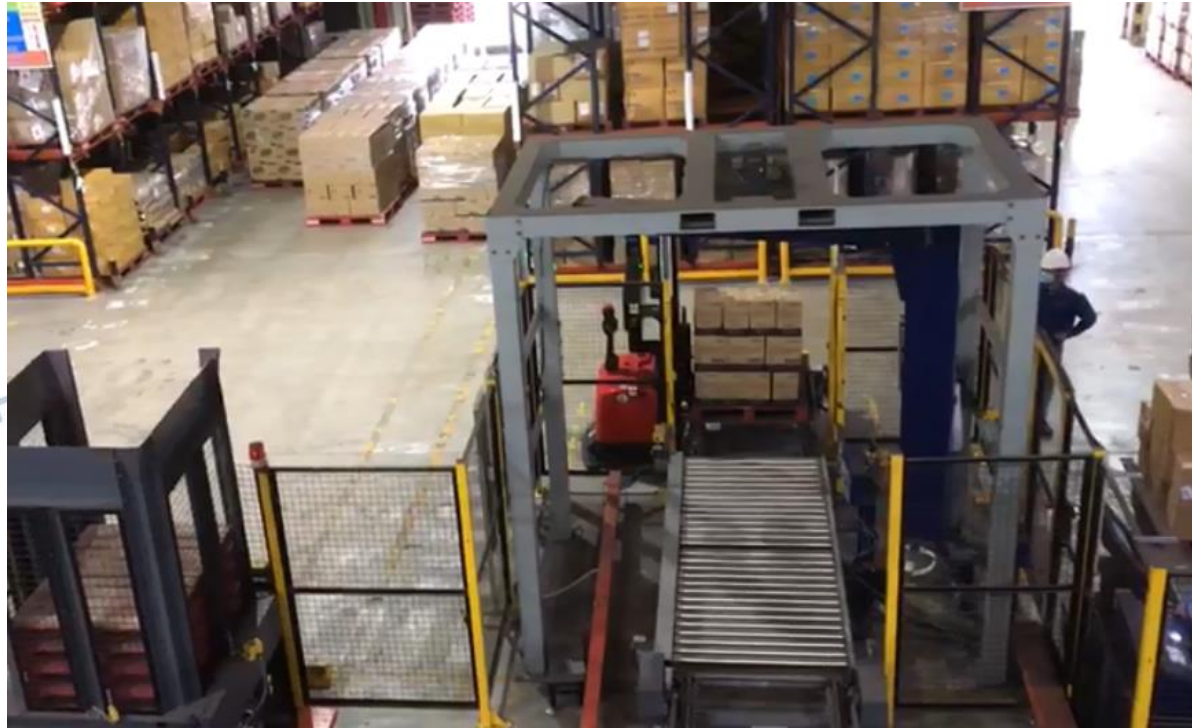
Products

Industry

- Consumer Packed Goods
- Logistic

Specifications

Laser forklift AGV
- Payload: 1600 kg
- Speed: 0-72 m/minute
- Lifting hight: 1200mm
- Navigation: Laser
- Battery: Lithium (8h)

Slam AGV
- Payload: 800 kg
- Speed: 0-45 m/minute
- Navigation: Slam
- Battery: Lithium (8h)
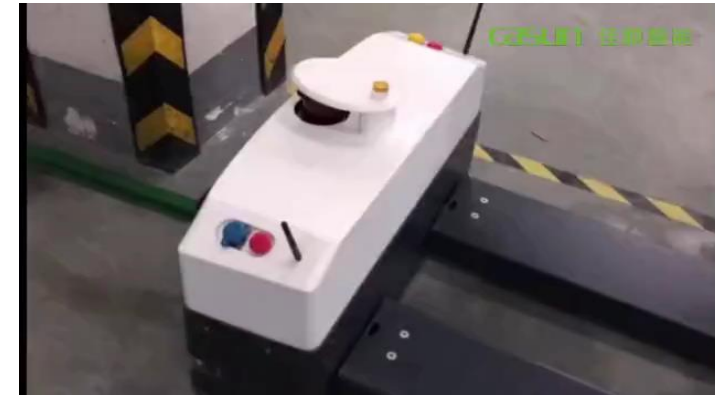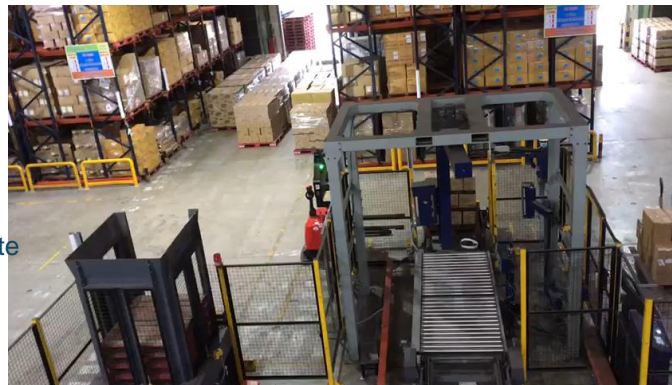
AGV Battery Pack Transfer Solution

Overview

Requirement:
- Transfer battery pack from buffer to charging station
- Product: L2674xW1750 2000 Kg

Solution:
- Using laser forklift truck AGV
- Customize trolley
- Automatic charging station
- Central control system
- ETEK tray for holding batteries

Benefits:
- Transfer heavy products rapidly, stably and safely
- Full fill cycle time requirement
- Save space for the warehouse
- Product data management

Specifications

Magnetic AGV
- Payload: 2000 kg
- Max speed: 72 m/minutes
- Lifting hight: 5700 mm
- Battery: Lithium (8h)

Products

Industry

- Automotive

AGV Battery Housing Transfer Solution

Overview

Requirement:

- Transfer battery pack from buffer to charging station
- Product: L2674xW1750 2000 Kg

Solution:

- Using laser forklift truck AGV
- Customize trolley
- Automatic charging station
- Central control system
- ETEK tray for holding batteries

Benefits:

- Transfer heavy product rapidly, stably and safe
- Full fill cycle time requirement
- Save space for the warehouse
- Product data management

Specifications

Magnetic AGV

- Payload: 500/1000kg
- Speed: 0-45 m/minute
- Navigation: magnetic
- Battery: Lithium (8h)

Products

Industry

- Automotive

AGV Loading/Unloading Solution

Overview

Requirement:
- Transfer product to the production line
- Auto loading/unloading

Solution:
- Using Magnetic conveyor AGV
- Integrate conveyor system on AGV
- Automatic charging station
- Central control system
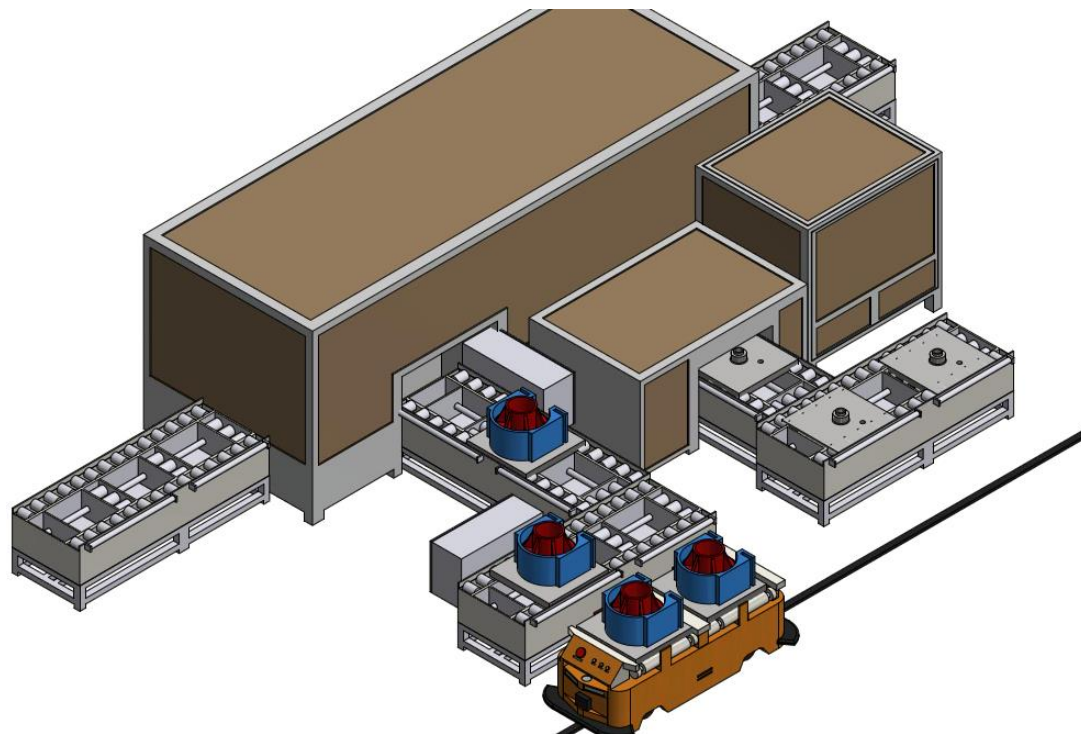
Benefits:
- Transfer heavy product rapidly, stably and safe
- Full fill cycle time requirement
- Save space for the warehouse

Specifications

Magnetic Conveyor AGV
- Payload: 1000kg
- Speed: 0-45 m/minute
- Navigation: magnetic
- Battery: Lithium (8h)

Products

Industry
- Automotive

Central Control System

Smart Conveyor System

Overview

- Speed: can up to 2700 ppm
- Payload: up to 15 kg
- Frame: Aluminum, Stainless steel
- Width: can up to 180mm

1. Plastic chain conveyor
2. Conveyer buffer
3. Lifter

- FMCG
- F&B
- Logistics
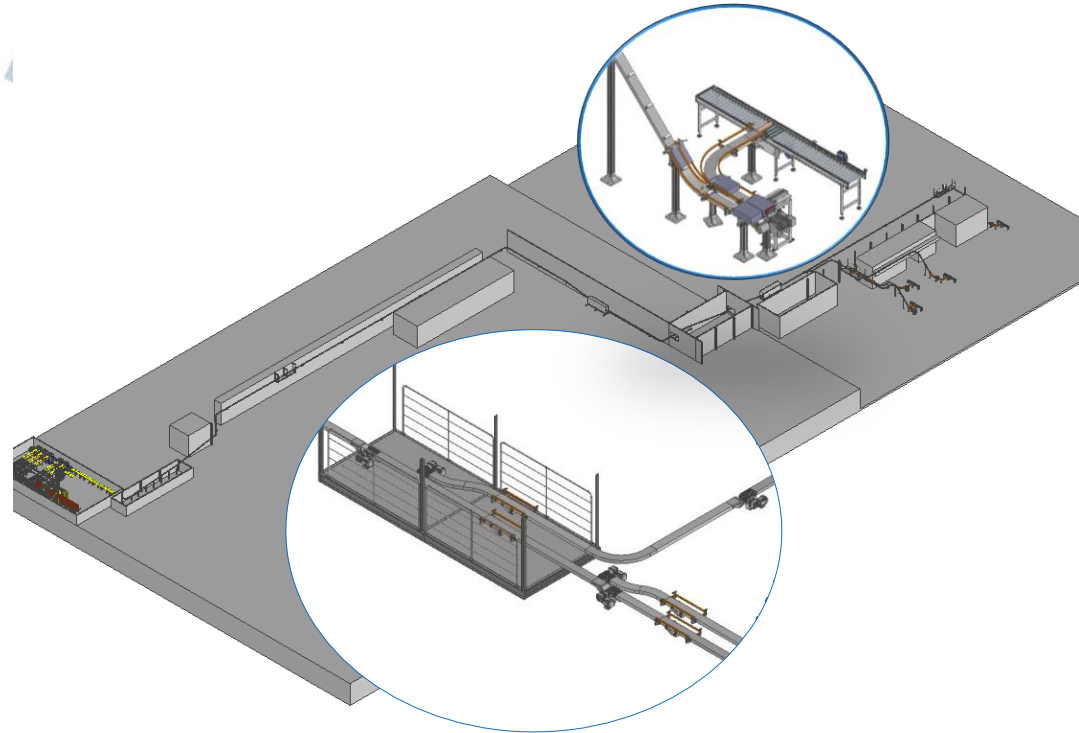
WATCH VIDEO ▶
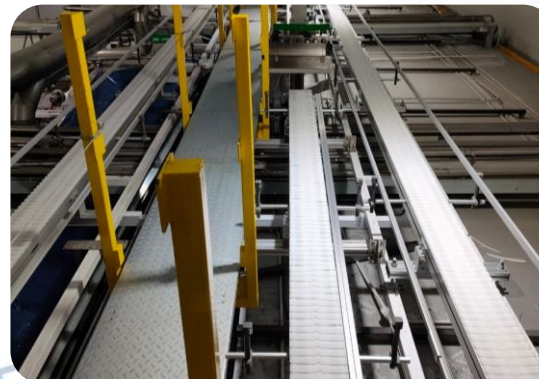
Process 3 Storage Solutions

Overview

Receive → Transport → **Storage** → Picking → Packing → Shipping → Software

- Focus on space optimization, inventory management and stock preparation.
- Take care of internal shipping, order management, and inventory control .
- Automation in this process improves efficiency, reduces costs, and ensures the supply chain operates efficiently.

Products
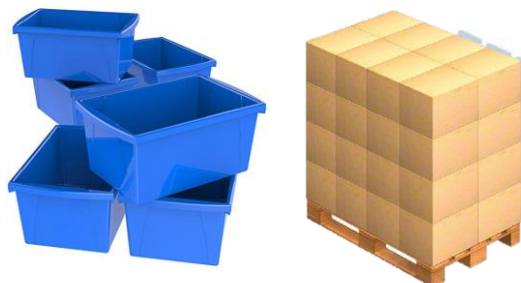
Industry

- Applications for all industry sectors.

Rack, Shelve
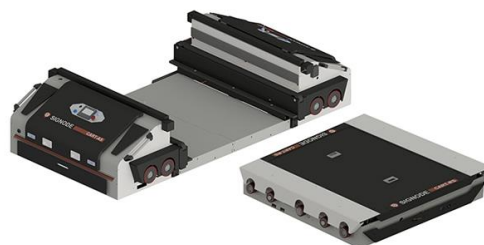
ASRS Multi Shuttle

ASRS Stacker Crane

Vertical Lift Machines

Vertical Shuttle Machines

AS/RS Stacker Crane Warehouse

Overview

- AS/RS Stacker crane warehouse
- Type: Selective double deep
- Capacity: 3,200 lots
- Throughput: up to 150 pallets/hour
- Height: 8m (up to 40m)
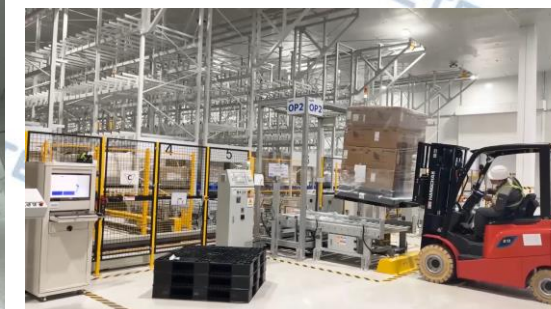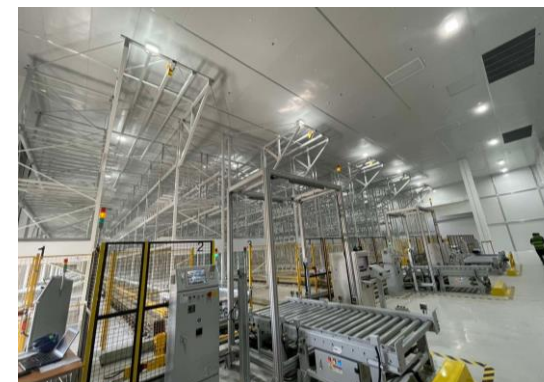- Dimension: (L)35 x (W)10 m
- Payload: 1,200 kg

- FMCG
- Consumer goods
- Logistics
- F&B

1. Stacker crane machine
2. AGV
3. Conveyer buffer
4. Size and weight checking stations

WATCH VIDEO ▶

Kardex Megamat 650

Megamat 650

- **For heavy loads of up to 650 kg per carrier**
- The Kardex Megamat 650 works well in a variety of different areas.
- For instance, it integrates into the production process in several ways.

Specifications

Unit dimensions
- Width : 1,975 to 4,275 mm
- Height : 2,360 to 10,010 mm
- Depth : 1,311 to 1,711 mm

Tray dimensions
- Standard technical data, other sizes possible on request.
- Pay load : 650 kg

Products & Industry

- Order picking
- Spare parts management
- SMD handling
(SMD reels and increases the access accuracy rate)

Detail Equipment

1. Access Opening
2. Multipurpose, customizable carrier system
3. Personal protection light curtain
4. Personal protection light curtain
5. Multi –touch operator panel
6. Software architecture TIC platform

WATCH VIDEO ▶

Kardex Shuttle XPlus

Shuttle XP 1000

- The Kardex Shuttle 1000 is ideal for efficiently storing and retrieving heavy tools, components or spare parts

Specifications

Unit dimensions
- Width : 1,580 to 4,380 mm
- Height :2,550 to 20,050 mm
- Depth : 2,363 to 4,343 mm

Tray dimensions
- Width : 1,250 mm to 4,050 mm
- Depth : 610 mm to 1,778 mm
- Max load : 1000 kg

Products & Industry

- Spare parts
- Maintenance and repairs
- Tools and die
- Fixtures
- Fasteners
- Finished goods
- Buffer storage

Detail Equipment

1. Extractor
2. Lift door
3. Shelf rail modules
4. Safety light grid

Options
1. Barcode Scanners
2. Conveyor technology
3. Lifting equipment
4. Robot connection

WATCH VIDEO ▶

ETEK   TẤN PHÁT ETEK

Process 4 — Picking Solutions

Overview

- Optimize selection of goods from the warehouse to prepare for packaging or shipping.
- Robot applications or automatic systems support process optimization to minimize errors and save time.

Products

Industry

- Applications for all industry sectors.
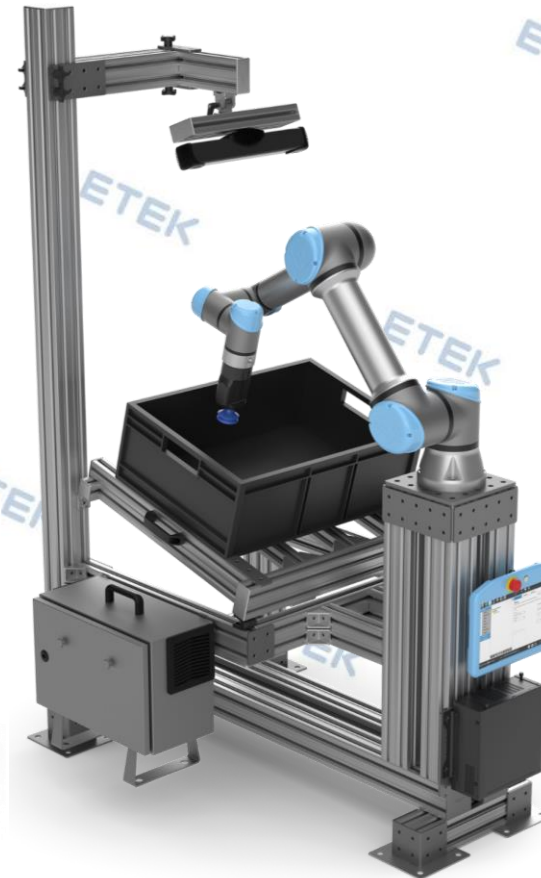
| Receive | Transport | Storage | **Picking** | Packing | Shipping | Software |

Barcode Scanner

Pick To Light Systems

Pick and Place Robotics

Picking Station

Vertical Shuttle

Pick and Place by Delta Robot

Overview

- Speed: 140 bpm
- Power: 3 phase, 380V, 50HZ.
- Pneumatic pressure 0.5 ~ 0.6 Mpa.
- Robot: 4/5 axis
- Maximum bottle dimension: 1400 ml
- Minimum bottle dimension: 200 ml
- Filling rate to filling machine: 100%

- FMCG
- Logistics

Detail Equipment's

1. Delta Robot
2. Hopper
3. Conveyor tracking
4. Vision tracking
5. Gripper
6. Puck conveyor
7. Screw control puck
8. Electrical controller

WATCH VIDEO ▶

Process 5 — Packing Solutions

Receive › Transport › Storage › Picking › **Packing** › Shipping › Software

- Packaging processes help optimize transportation, reduce costs, increase accuracy, enhance branding, and increase flexibility.
- Supports inventory management and storage more easily.

- Applications for all industry sectors.
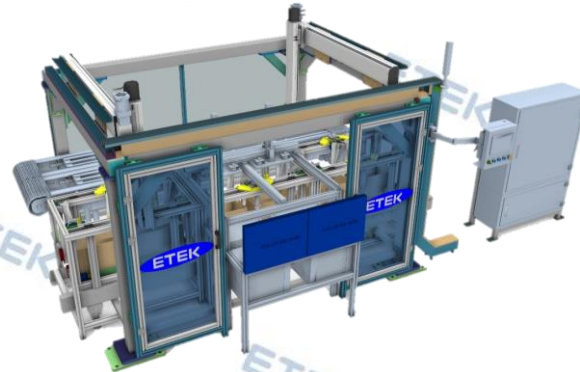
Case Packer

Palletizer

Case Erector

Fit to Size Packaging

Case Sealer

Case Erector

Overview

- Model: AP012F.D0350
- Process: Secondary packing
- Application: Carton eretor
- Technical: Machine vision
- Speed: 20 cpm
- Power 3 phase, 380V, 50HZ.
- Pneumatic pressure 0.5 ~ 0.6 Mpa.
- Cycle time: 17.3 s/Pc
- Table height: 850 ± 100mm
- Noise level: < 80 dB
- Data bag size : L33- 75 x W17- 30 mm

- FMCG
- Consumer
- Logistics

1. Alarm beacons
2. HMI Siemens/Schneider
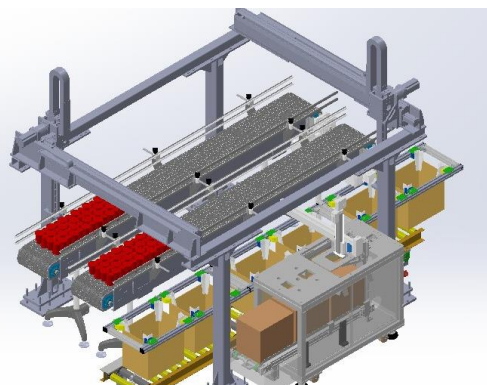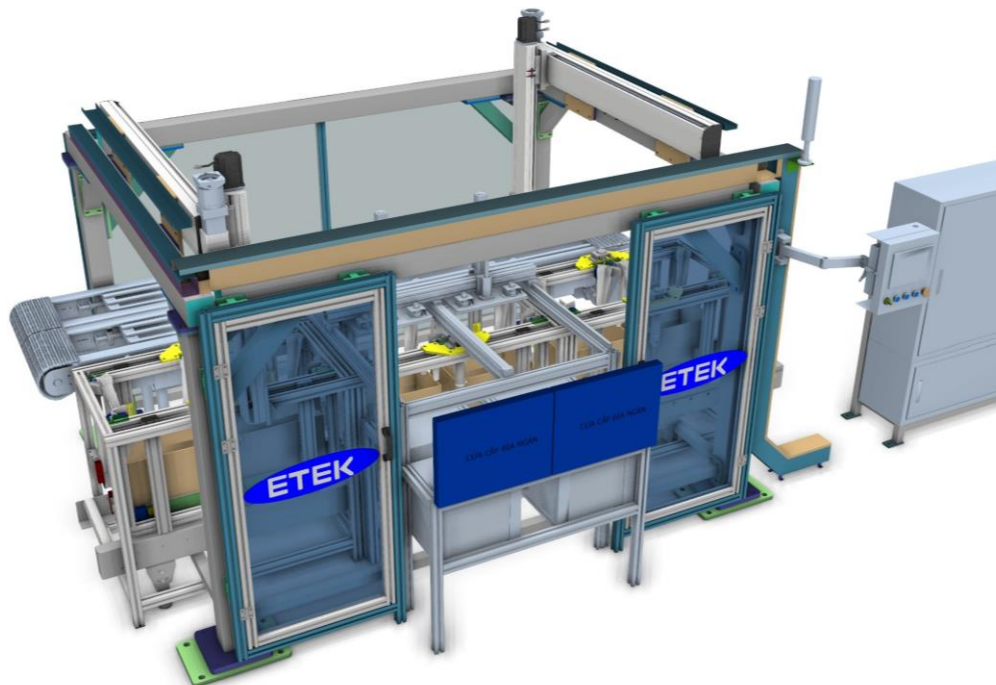3. Low lever warning
4. Conveyor roller
5. Photocells

WATCH VIDEO ▶

Case Packer

Overview

- Application: Packaging –Case packer
- Technical: Servo robot
- Speed: 140 bpm
- Power 3 phase, 380V, 50HZ.
- Pneumatic pressure 0.5 ~ 0.6 Mpa.
- Robot: 4 axes
- Maximum bottle dimension: 1400 ml
- Minimum bottle dimension: 200 ml

1. Alarm beacons
2. HMI Siemens/Schneider
3. Gantry servo Robot / SCARA Robot

WATCH VIDEO ▶

- FMCG
- Consumer
- Logistics

Case Packer

Overview

- Application: Case packer
- Production capacity : 200 cell per min
- Product: Cylindrical Battery
- Scope: ETEK provide
  - Design, Assembly, Installation and commissioning
- Technology:
  - Clutch conveyor
  - Computer vision checking
  - Data connection and printing
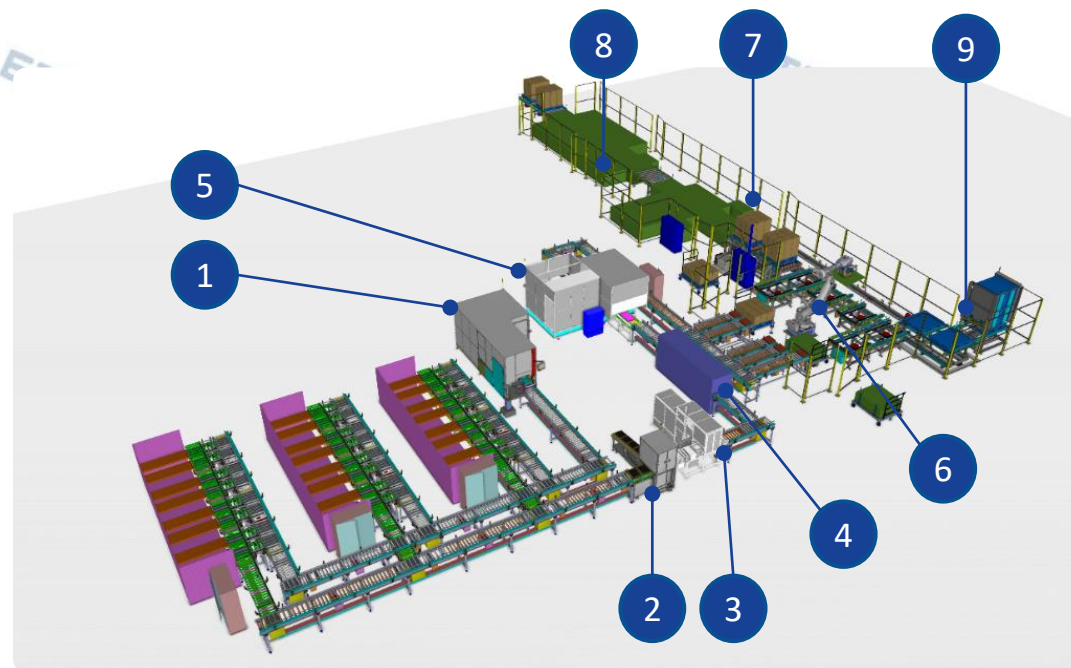 - Industrial robot palletizer

Product
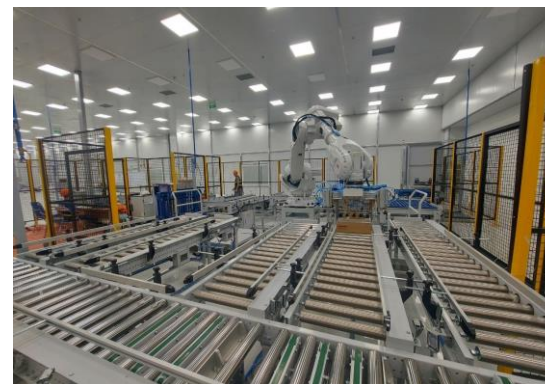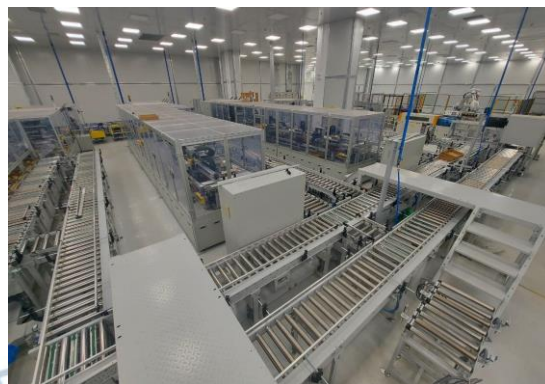

Industry

- Electronics component
- Battery manufacturing
- Logistics
- FMCG

Process

1. Corrugated tray forming
2. Plastic tray inserter
3. Quantity check
4. Shrink wrapping machine
5. Outer box wrapping
6. Robot Palletizer
7. Strapping and corner applicator
8. Stretch wrapping machine
9. Pallet dispenser

WATCH VIDEO ▶
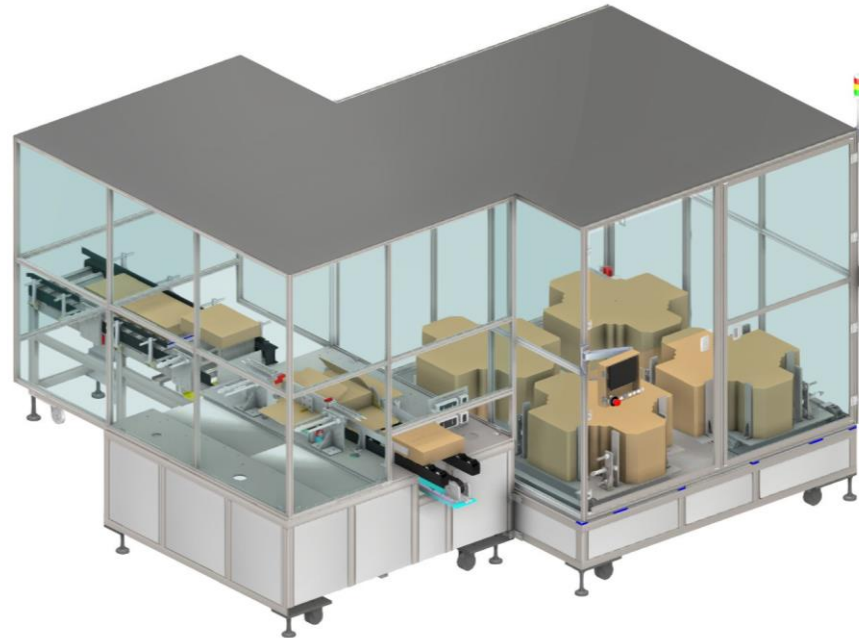
Outer box wrapping machine

Overview

- Model: AP012F.D0350
- Application: wrapping box
- Technical: Servo driver
- Speed: 17.3 s/Pcs
- Voltage 3 phase, 380V, 50HZ.
- Machine capacity: 3KW
- Air supply: 0.5 - 0.6 Mpa.
- Cover capacity: ≥ 210 covers, 105 covers/side.
- Model size: 2800 x 3400 x 2000 mm
- Working height: 850 ± 100mm

- Electronics component
- Battery manufacturing
- Logistics
- FMCG

1. Conveyor belt
2. HMI Siemens/Schneider
3. Alarm beacons

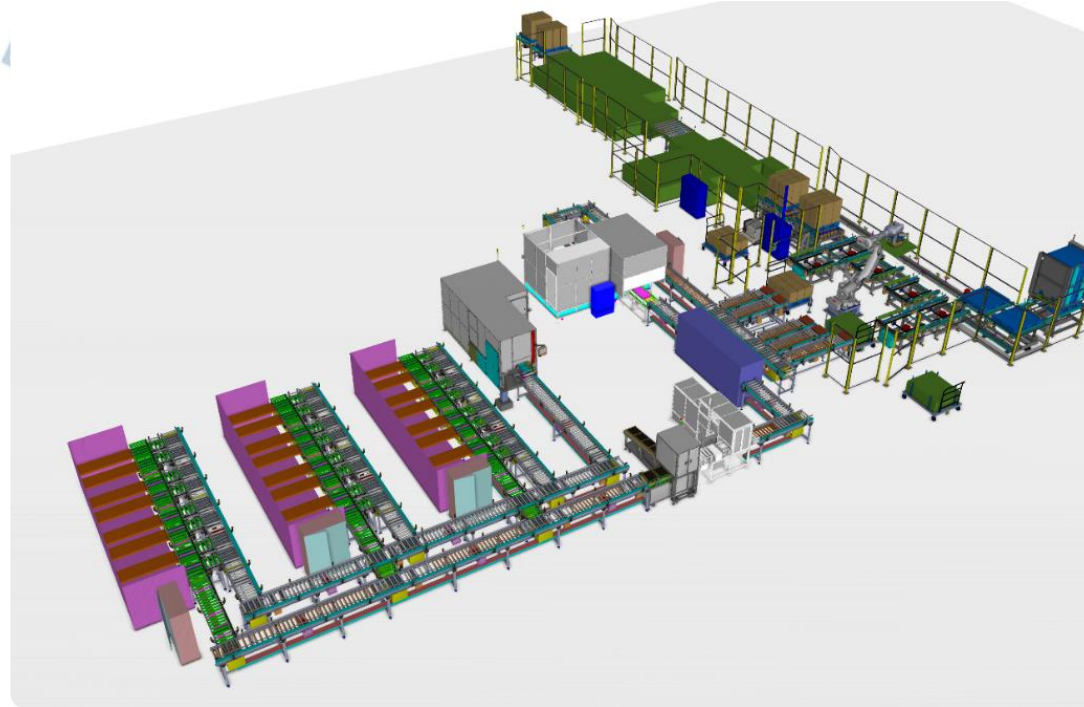**WATCH VIDEO** ▶

Palletizer

Overview

- Application: **Robot palletizer 4 In 4 Out**
- Production Details : 40 bpm
- Product: Carton package
- Scope: ETEK provide
  - Design, Assembly, Installation and commissioning
- Technology:
  - Robot palletizer
  - Automatic adjustable tool

- FMCG
- Consumer
- Logistics

1. Pallet dispenser
2. Robot Palletizer
3. Strapping and corner applicator
4. Stretch wrapping machine

WATCH VIDEO ▶

ETEK
TOTAL AUTOMATION SOLUTIONS

Overview

Receive → Transport → Storage → Picking → Packing → **Shipping** → Software

- The main activities in delivery are sorting and loading.
- In the process, an information processing system, identifying and assigning a new identifier to the product, is indispensable, ready to deliver the product to customers.

Products

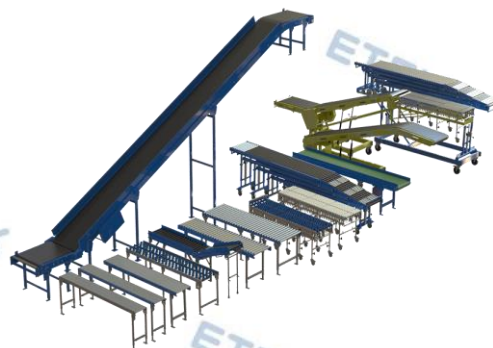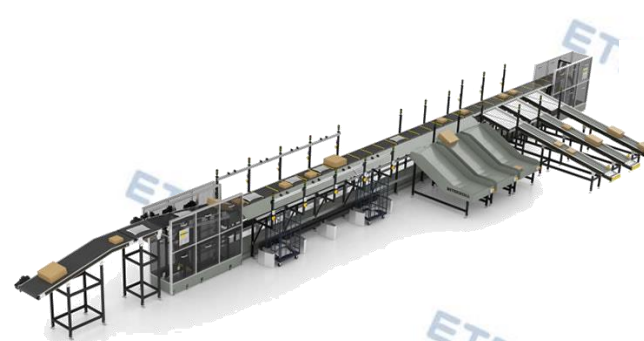## Industry

- Applications for all industry sectors.

Conveyor Systems

Sortation Systems

Print and Apply

Barcode Scanner

Vertical Lift Reciprocating

Auto Truck Loading System
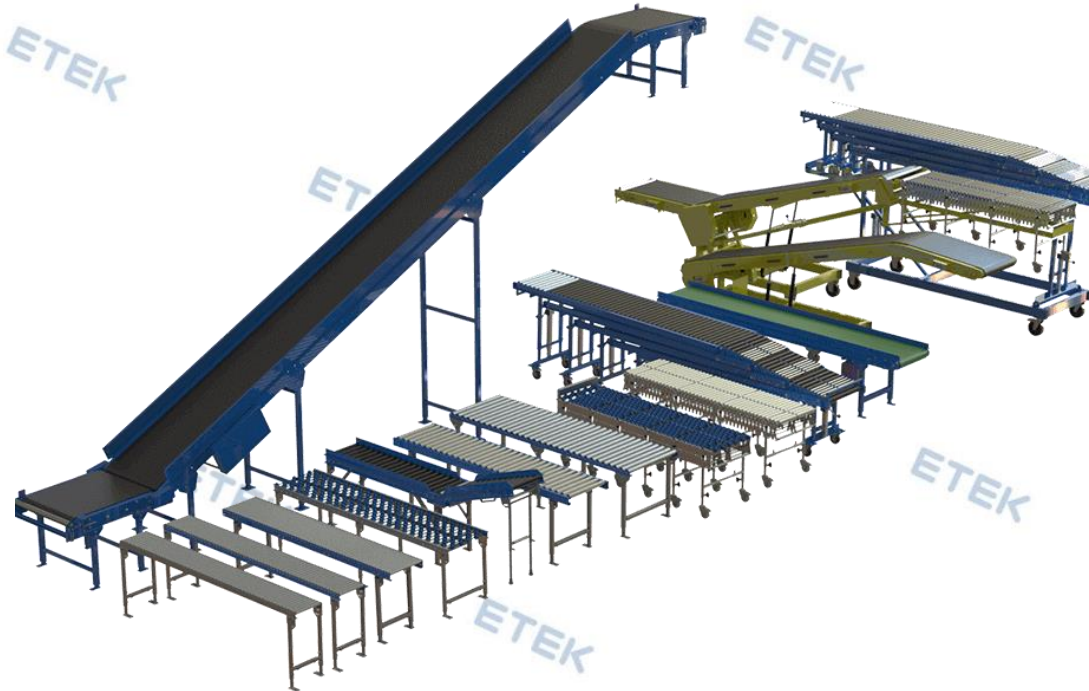
Conveyor Systems

Overview

- Conveyor will make it easier to automate your processes and facilitate a more efficient and cost-effective.

- Applications for all industry sectors.

1. Belt conveyor
2. Chain conveyor
3. Roller conveyor
4. Telescopic conveyor
5. Gravity conveyor
6. Transfer conveyor
7. Turning conveyor

WATCH VIDEO ▶

PRINT AND APPLY LABELING MACHINES

Print and Apply Labeling

- Model: 2200 Series
- Application: Print and Apply labeling to pallets / boxes

- Printing resolution: 200 dpi
- Print speed: 300mm/s
- Label dimension: W178x R350 mm
- Ribbon length: 660 mm
- wattsDust/humidity protection rating: IP 54

- Consumer goods
- Pharma, Medical
- Logistics
- Plastic components

1. HMI controller
2. Print head
3. Auto apply labeling
4. CoLOS software
5. Printer supports

WATCH VIDEO ▶

2200 SERIES

ETEK   TẤN PHÁT ETEK
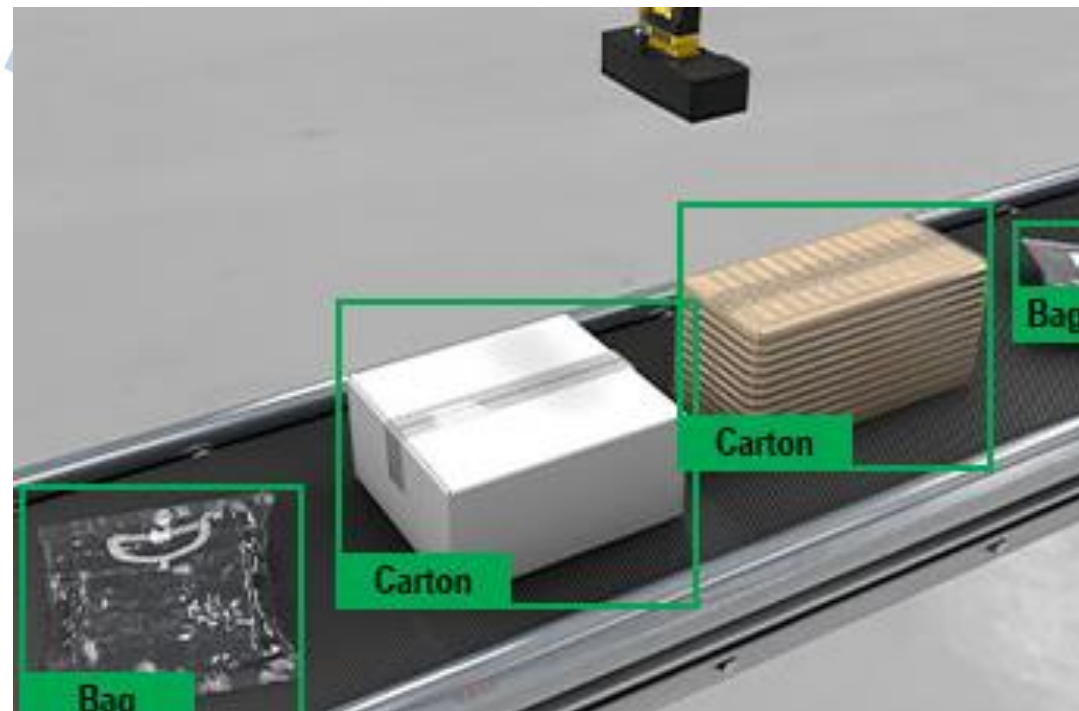
Identify products by Vision

Overview

In-sight 2800 detector:
- Resolution: 1.6MP
- Shooting frequency: 45Hz
- Power: 24V
- Communications: Ethernet

- Logistics
- Aviation

1. Conveyor
2. Camera
3. Jig

WATCH VIDEO ▶

Operator Software

Overview

- Device management and control.
- Location identifier.
- Manage and identify products and raw materials.
- Interact with users
- Logic about classification, selection, implementation process flow, implementation plan,...
- Collect data, and report or transfer necessary signals and information to SAP or available management systems
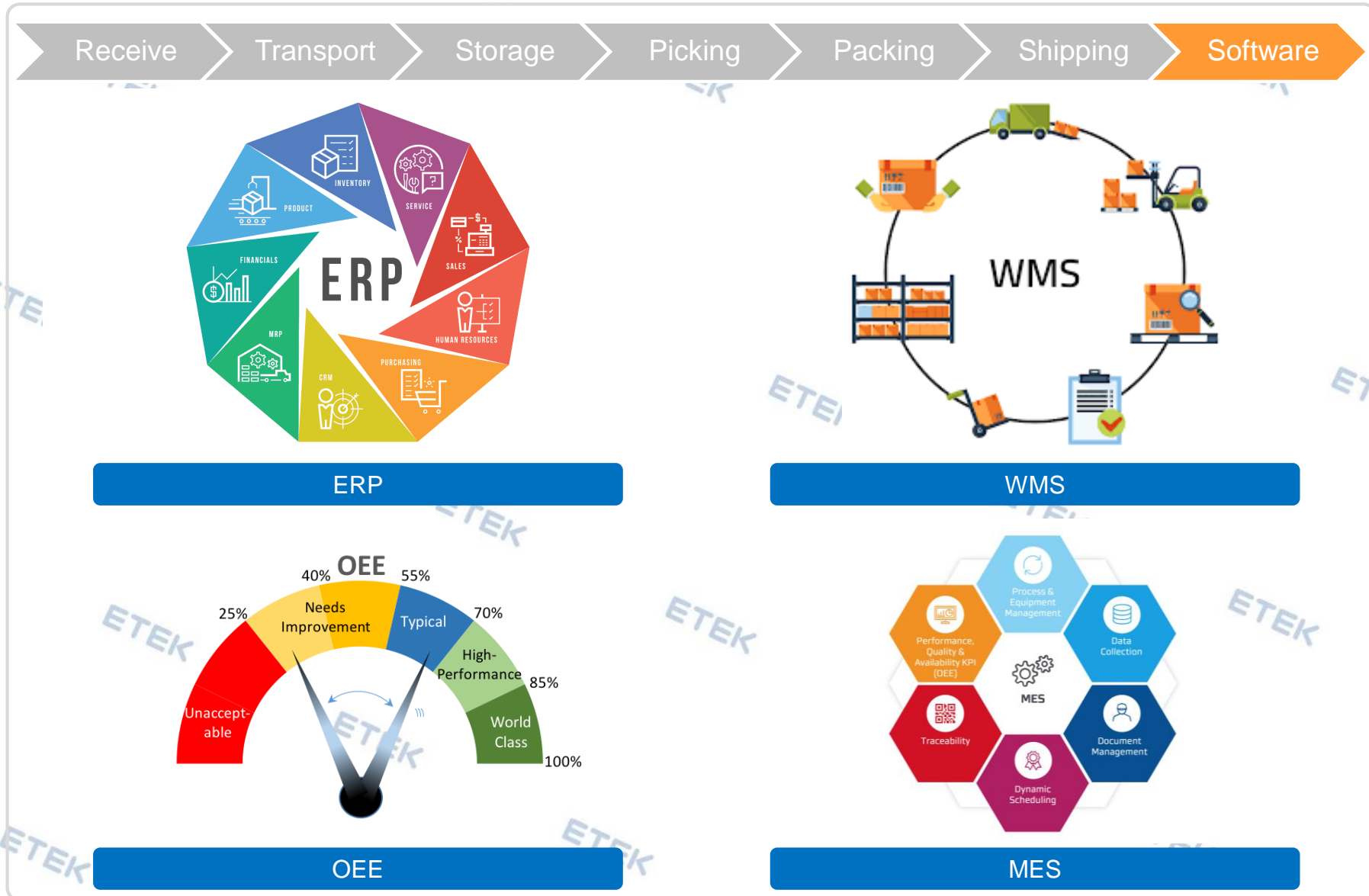
Products

Industry

- Applications for all industry sectors.

Receive → Transport → Storage → Picking → Packing → Shipping → **Software**

ERP

WMS

OEE

MES

MES - MANUFACTURING EXECUTION SYSTEM

ETEK
TOTAL AUTOMATION SOLUTIONS

MES/MoM overview

- MES is a core solution that help to operate factory in total. The production will be handled from input to output with co-operation of all productions team in real-time

Functionalities

- Production model management (Machine, manual labor, production layout)
- Production method management (BoM, Recipe)
- Material management
- Work-order management
- Quality control (IQC, OQC, PQC, FQC, SQC)
- Production visualization with real-time data
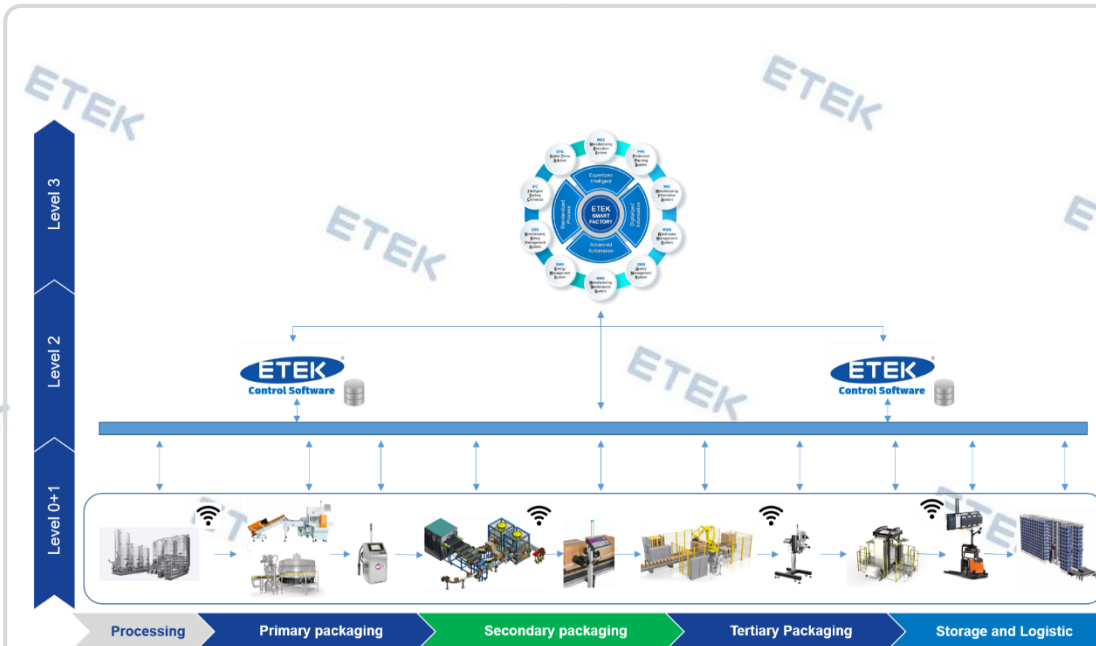- Report & dashboard

Partners & Industry

Schneider Electric   SIEMENS
Rockwell Automation   EPICOR
adstec Industrial IT   ADVANTECH

- All industries

System Components

1. Core MES software module
2. IT infrastructure
3. Manufacturing control system integration platform
4. Peripheral devices
5. API or specific interface

MIS – MANUFACTURING INFORMATION SYSTEM

MIS overview

- The solution provide managers of factory all the necessary information of production in real-time

Functionalities

- Production model management
- Data integration with production system or shop-floor
- Data analytics model implementation: OEE, KPI calculation
- Production real-time visualization
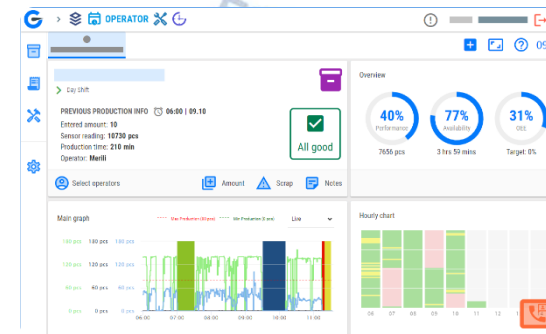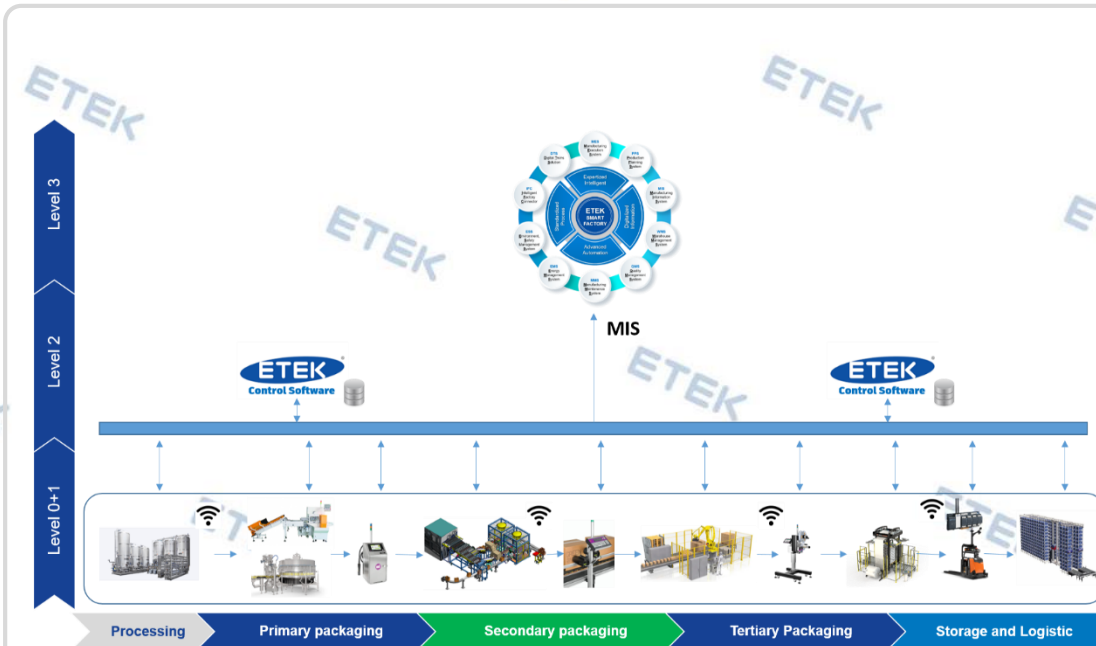- Reports & dashboard

Partners & Industry

- All industries

System Components

1. MIS software module
2. IT and connectivity infrastructure
3. Data acquisition and analytics software
4. Predictive equipment
5. Manufacturing control system integration platform
6. Peripheral devices
7. API or specific interface

MMS – MACHINE MANAGEMENT SYSTEM

MMS/EAM overview

- The system provide the capability to handle the maintenance and assets management with best performance
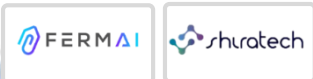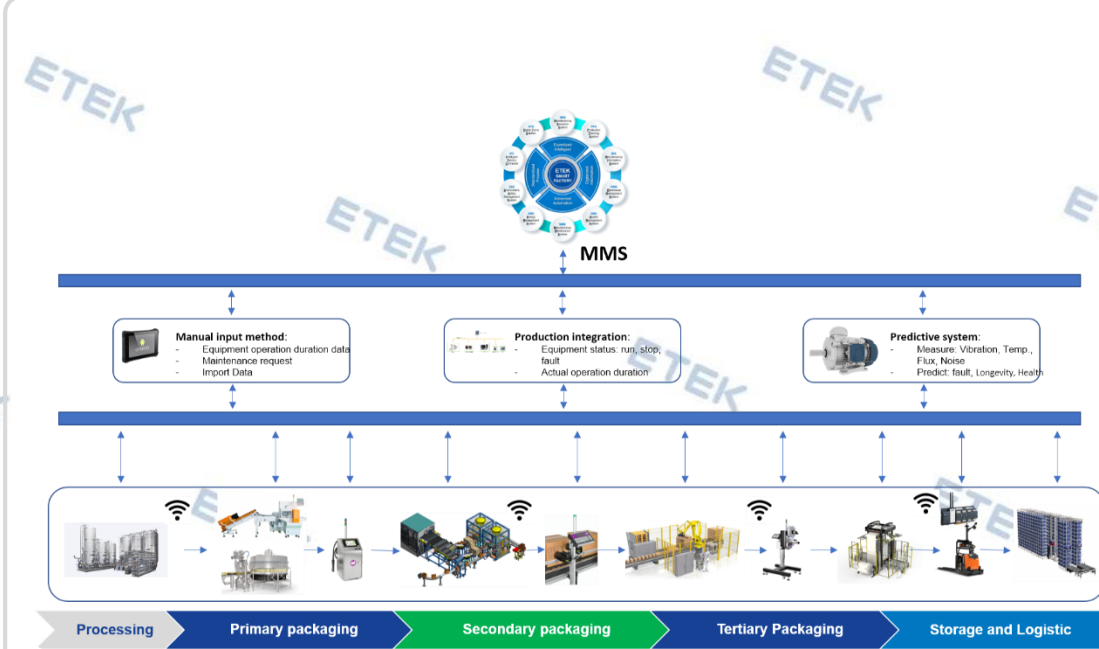
Functionalities

- Plan/job management
- Maintenance procedures management
- Equipment/Assets' maintenance profile management
- Maintenance teams management
- Execute the advance maintenance strategy

System Components

1. MMS software module
2. IT and connectivity infrastructure
3. Data acquisition and analytics software
4. Predictive equipment
5. Manufacturing control system integration platform
6. Peripheral devices
7. API or specific interface

MMS

Manual input method:
- Equipment operation duration data
- Maintenance request
- Import Data

Production integration:
- Equipment status: run, stop, fault
- Actual operation duration

Predictive system:
- Measure: Vibration, Temp., Flux, Noise
- Predict: fault, Longevity, Health

Processing | Primary packaging | Secondary packaging | Tertiary Packaging | Storage and Logistic

Partners & Industry

EPICOR | odoo
ADVANTECH | Microsoft Azure
FERMAI | shiratech

- Heavy industries: steel. cement, mining,…
- 3C
- FMCG
- Oil &Gas
- Pulp & Paper, Textile
- Automotive

WMS – WAREHOUSE MANAGEMENT SYSTEM

WMS overview

- The system provide the capability to handle the all the storage process of the materials and all the operation activities in the warehouse.

Functionalities

- Place/location management with 2D/3D visualization
- Material/product management
- Transport means/equipment management with fully control ability
- Work order/plan management with automatic logic
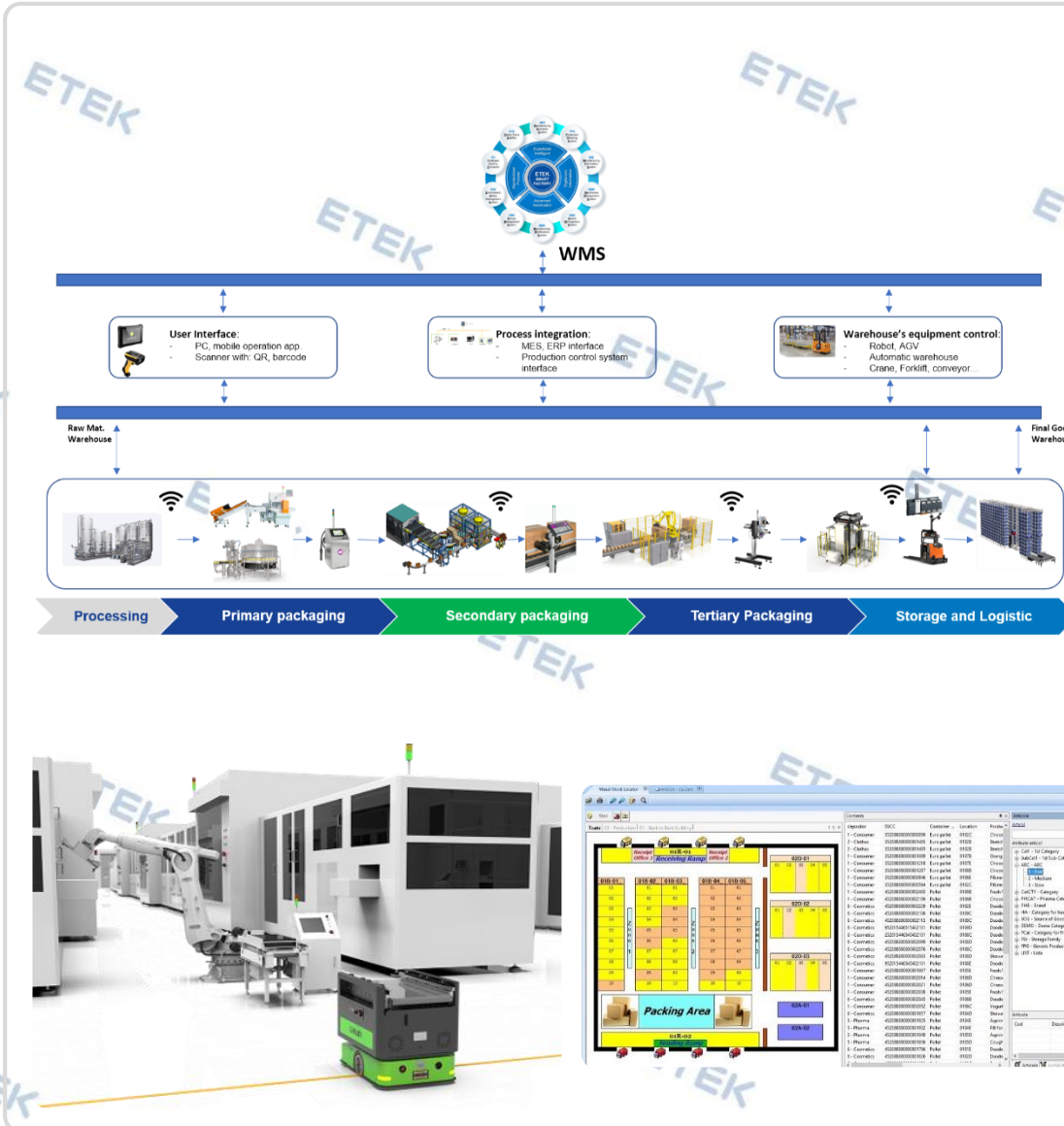- User management
- Reporting

Partners & Industry

EPICOR
odoo
casun
FLEXLINK
a coesia company
adstec
Industrial IT
kardex

- 3C
- FMCG
- Food & Beverage
- Pharma & Life science
- Steel

System Components

1. Warehouse management software module
2. Specific Operation software for Vehicle
3. IT and connectivity infrastructure
4. Automatic warehouse module
5. Transport means/ equipment integration platform
6. Peripheral devices
7. API or specific interface

QMS – QUALITY MANAGEMENT SYSTEM

QMS overview

- The system help factory to manage the whole process from QP → QA → QC → QI to ensure quality standards and compliance regulations, such as: ISO 9001 or TQM

Functionalities

- Quality management process: QP → QA → QC → QI
- Test/sample management
- QM team management
- Product quality profile management
- Integrate production system & automation QC machine: robot, vision system, ..
- Reatime quality mornitoring and analyzing with 7 QC tools
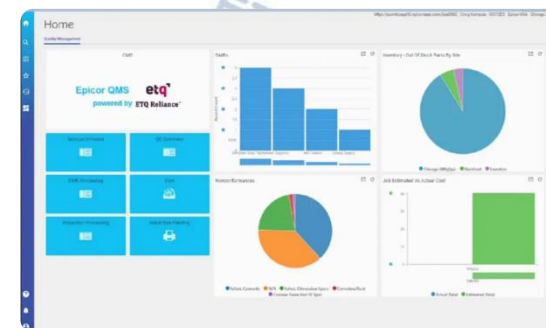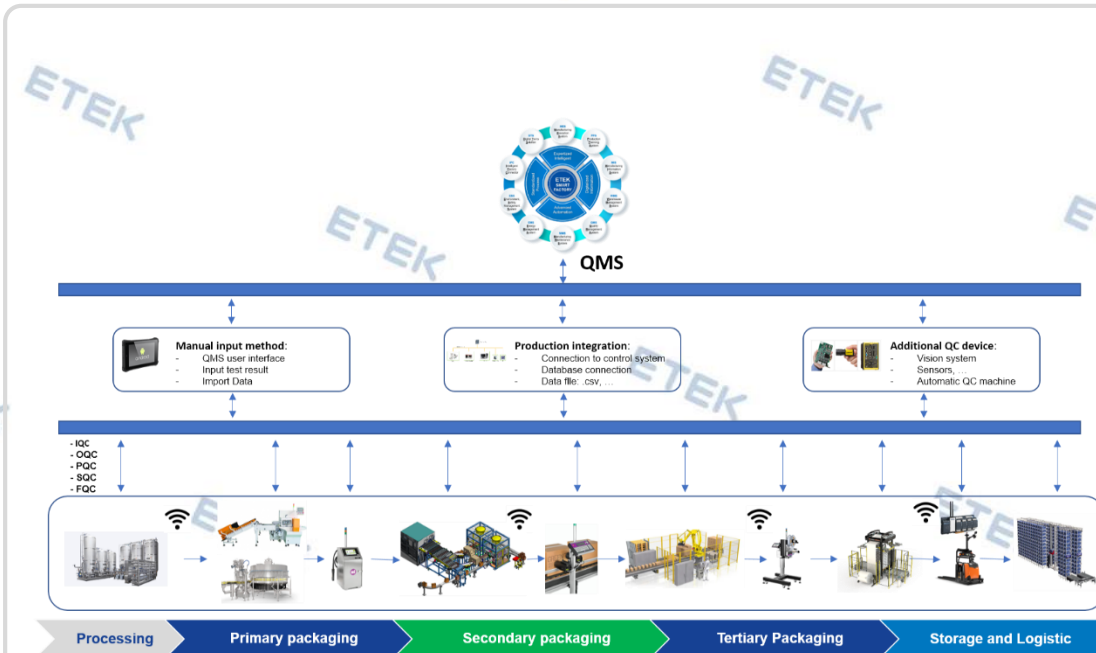- Report

Partners & Industry

EPICOR | odoo
SIEMENS | RA Rockwell Automation
COGNEX | ABB

- Food & Beverage
- Pharma & Life science
- Cement
- 3C
- Steel

System Components

1. QM software module
2. IT and connectivity infrastructure
3. Data acquisition and analytics software
4. Manufacturing control system integration platform
5. Automatic QC equipment
6. Peripheral devices
7. API or specific interface

QMS

Manual input method:
- QMS user interface
- Input test result
- Import Data

Production integration:
- Connection to control system
- Database connection
- Data file: .csv, ...

Additional QC device:
- Vision system
- Sensors, ..
- Automatic QC machine

- IQC
- OQC
- PQC
- SQC
- FQC

| Processing | Primary packaging | Secondary packaging | Tertiary Packaging | Storage and Logistic |

EMS - ENERGY MANAGEMENT SYSTEM

EMS overview

- The system provides an overview of energy sources in the factory, help factory to improve the effectiveness of energy consuming and ensure the Regulatory Compliance

Functionalities

- Energy flow visualization
- Consumption monitoring
- Analyzing according to ISO 500001
- Optimization strategy with PDCA
- Energy saving rate, waste energy, KPI
- Energy baselines and energy efficiency indicators
- Abnormal detect & alarm
- Reports & dashboard

Partners & Industry

Schneider Electric
SIEMENS
ADVANTECH
Microsoft Azure
EPICOR
odoo

- Cement
- Steel
- Pulp & Paper
- Chemicals
- Net-Zero Concerned Industry

EMS

IOT GATEWAY   IOT GATEWAY

Production integration Platform:
- PLC, DCS communication
- Machine interface
- Data: voltage (V), current (A), power (W)

Wired Smart Meter
Power Distribution Station

Sensor Device
Utilities System

Power supply cabinet with smart meter
Production Line Level

Inverter, Soft-starter
Equipment Level

System Components

1. EMS software module
2. IT and connectivity infrastructure
3. Data acquisition and edge analytics software and devices
4. Control system integration platform
5. Smart Measurement devices: gas, liquid, power meter, …
6. API or specific interface
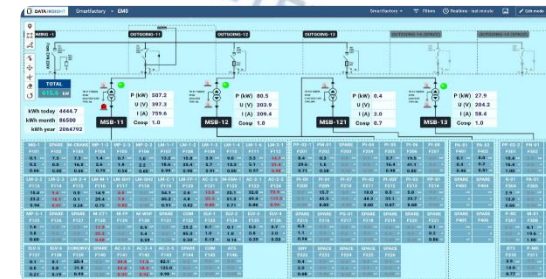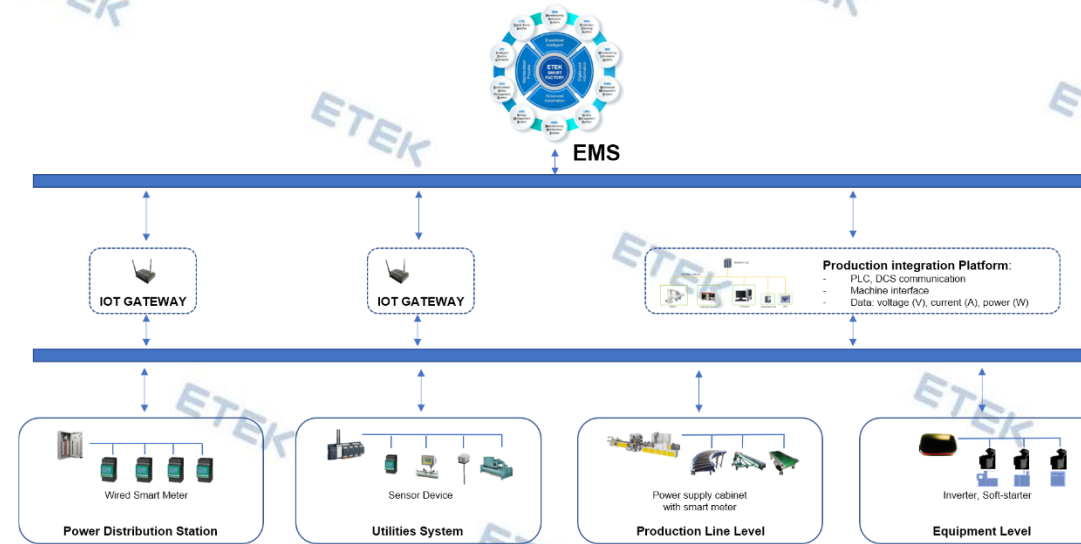
ESS - ENVIRONMENT, SAFETY MANAGEMENT SYSTEM

ETEK
TOTAL AUTOMATION SOLUTIONS

ESS overview

- In industrial environment, safety and Environment commitment is compulsory
- With large production, there are more critical standards need to be followed
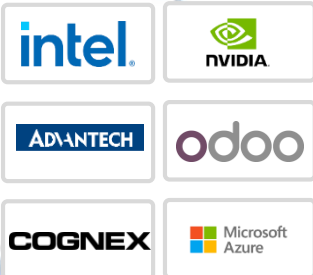
Functionalities

- Data real-time monitoring from Data logger and CCTV
- CCTV with AI based monitoring
- Remote control or automatic sampling process
- Interaction between users with mobile app
- Abnormal detect & alarm
- Reports & dashboard

Partners & Industry

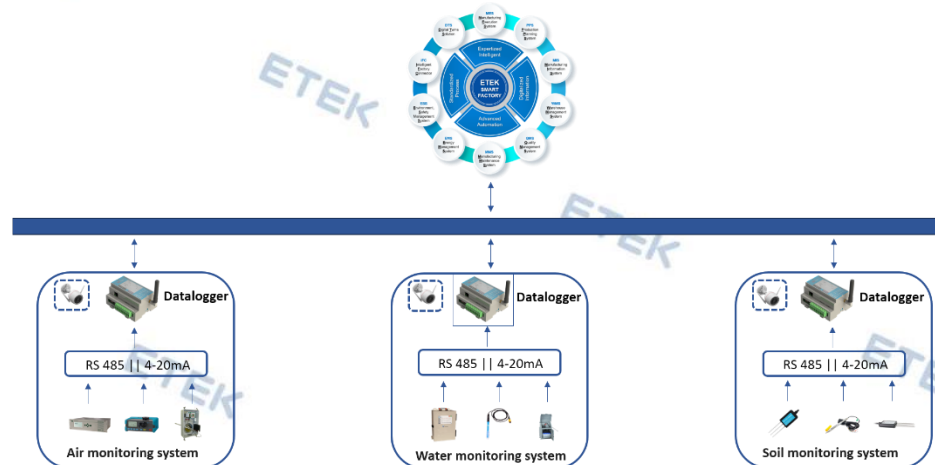intel.
NVIDIA
ADVANTECH
odoo
COGNEX
Microsoft Azure

- Various Industry

System Components

1. ESS software module
2. IT and connectivity infrastructure
3. Edge device for data pre-processing and control
4. Smart station with sensor and actuator: gas, liquid, solid emission, …
5. CCTV with smart supervising for safety
6. Other type of safety supervising technology

Datalogger — RS 485 || 4-20mA — Air monitoring system

Datalogger — RS 485 || 4-20mA — Water monitoring system

Datalogger — RS 485 || 4-20mA — Soil monitoring system

IFC – INTELLIGENT FACTORY CONNECTOR

ETEK
TOTAL AUTOMATION SOLUTIONS

iFC overview

- The solution provide the strong capability of bi-directional integration between production systems, shop-floor and factory management level or higher

Functionalities

- Bi-directional integration with production system or shop-floor
- Communication with 3rd management application
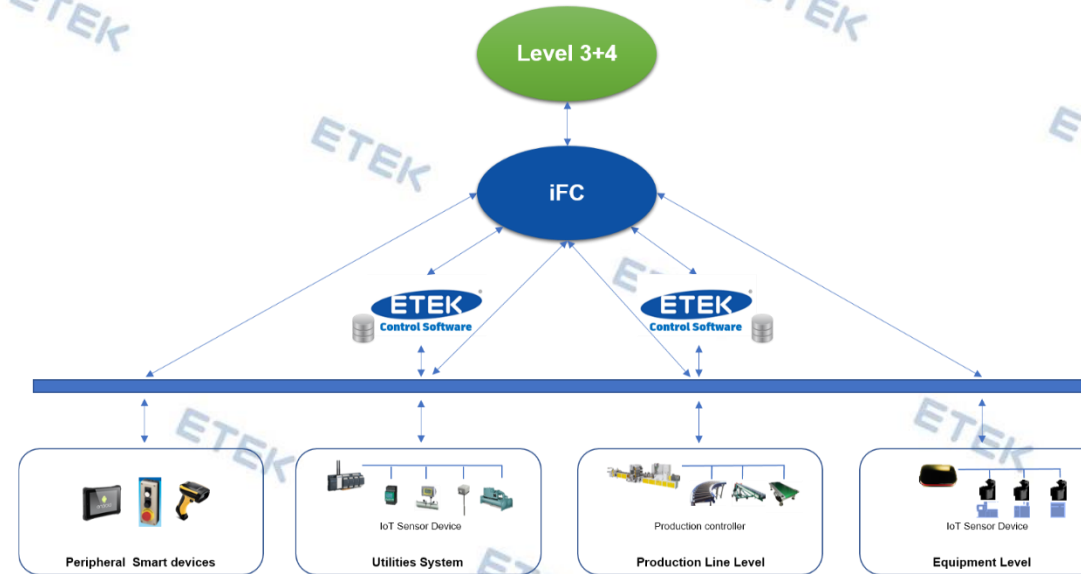- Raw data processing algorithm

Partners & Industry

Schneider Electric
SIEMENS
Rockwell Automation
ADVANTECH
Microsoft Azure

- Various industry

System Components

1. iFC software platform
2. IT and connectivity infrastructure
3. Manufacturing control system integration platform
4. Peripheral devices
5. API or specific interface

Level 3+4

iFC

ETEK Control Software — ETEK Control Software

Peripheral Smart devices | IoT Sensor Device — Utilities System | Production controller — Production Line Level | IoT Sensor Device — Equipment Level

AIOT – AIOT APPLICATION FOR FACTORY

AIoT overview

- The AIoT solution help factory to strengthen machine - machine - human connection to get optimal performance and a deeper view to the manufacturing system through data

Typical application

- Predictive maintenance
- OEE calculation
- ANDON application
- SHOPFLOOR FEEDBACK
- Electronic Manual
- AI based Quality analyzing
- AI based Monitoring in energy, safety, environment management
- …

Partners & Industry

intel. | NVIDIA
SIEMENS | RA Rockwell Automation
ADVANTECH | Microsoft Azure

- Various industry

AIoT

IOT GATEWAY

Peripheral Smart devices	Utilities System	Production Line Level	Equipment Level
	IoT Sensor Device	Production controller	IoT Sensor Device

System Components

1. Data acquisition and analytics software
2. IT and connectivity infrastructure
3. IoT device
4. Peripheral devices
5. API or specific interface
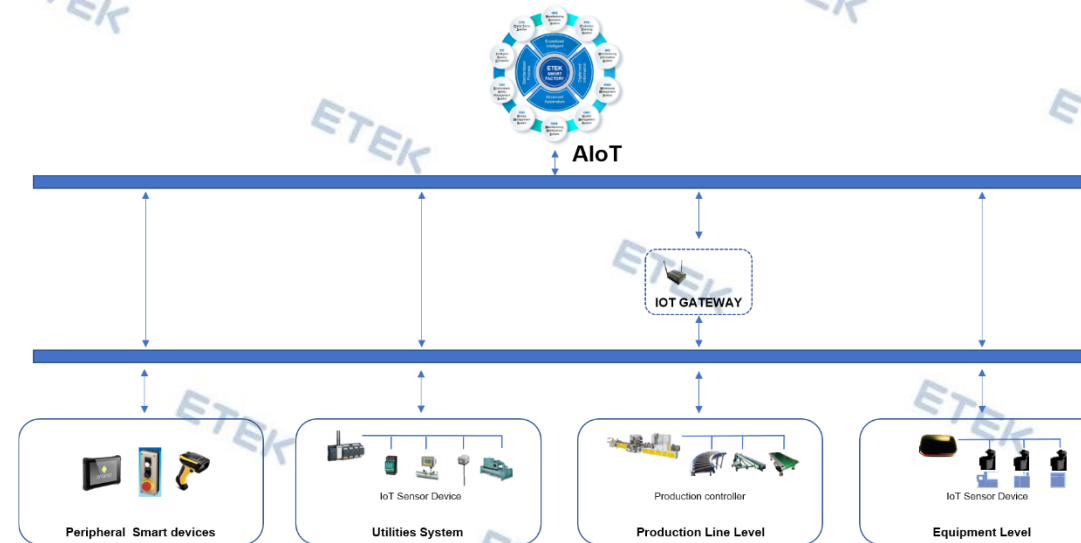
DTS – DIGITAL TWINS SOLUTION

ETEK
TOTAL AUTOMATION SOLUTIONS

DTS overview

- A solution which provide virtual model of real system that can work in parallel with the same parameter and condition. Thus, factory can get many benefits

Functionalities & benefits

- Visualization of machines and processes to assist in designing and presenting or training.
- Virtual commission of machines and processes in different scenarios in order to evaluate and detect errors in operation
- A shared platform for parallel workflow between design teams (mechanical, electrical, automation, …)

Partners & Industry

SIEMENS

RA Rockwell Automation

- Heavy industries: steel. cement, mining, marine…
- 3C
- Petroleum, Oil & Gas
- Automotive
- Machine & Line builder

Real World	Virtual World
HMI	Virtual HMI
Controller	Virtual Controller
Sensors & Actuators	Virtual Sensors & Actuators
Machine Cell Plant	Virtual Machine Cell Plant
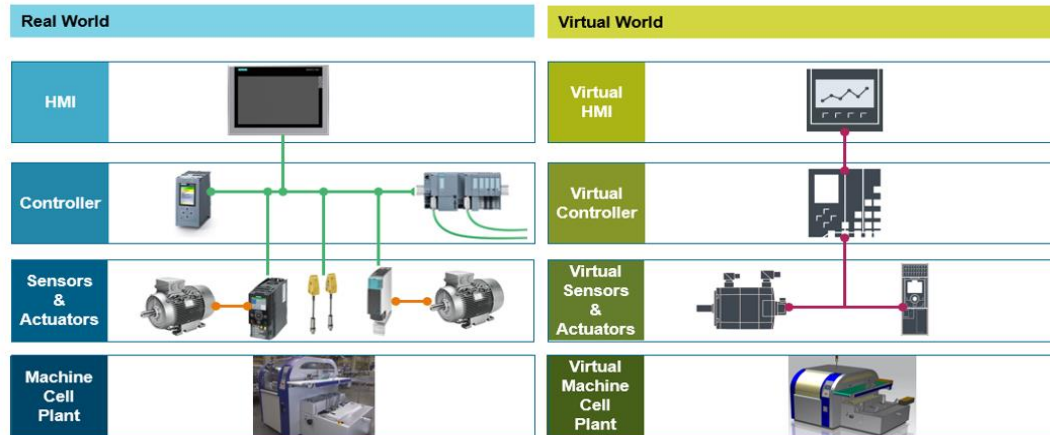
System Components

1. Modelling, designing software,
2. Simulation software for each level (factory, processes, machines)
3. Integration platform
4. Peripheral devices or sensors
5. API or specific interface
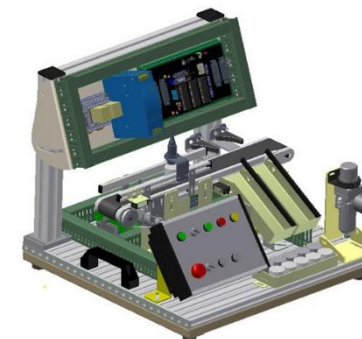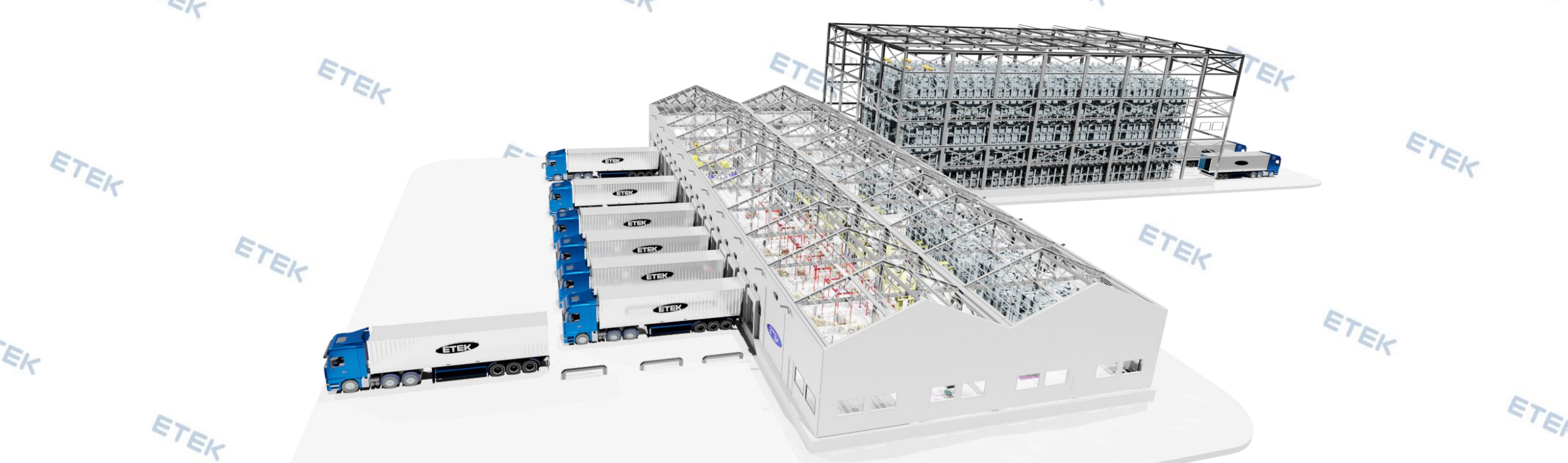
Reference Intralogistics Solutions

Language: Vietnamese

Reference Intralogistics Projects

Automated storage and retrieval systems

Smart Conveyor System

Automation Guided Vehicle
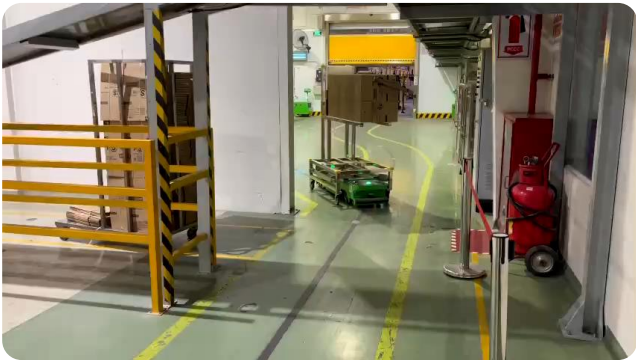

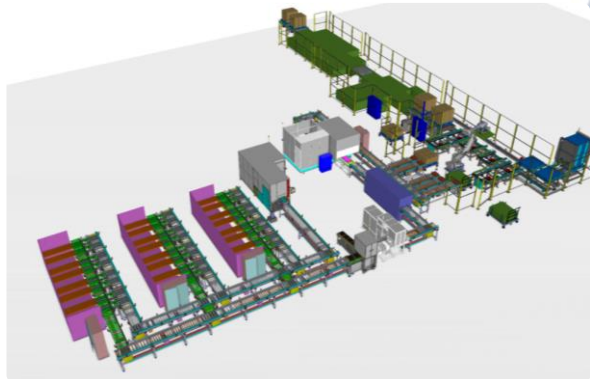Automation Guided Vehicle

Automation Guided Vehicle

Full Packing Line

Automotive & Components

VINFAST   VinES

FMCG

And more

Unilever   ELOVI

TH   Hữu Nghị Food

Reference – Hệ thống kho phân phối hàng hóa 3PL

Overview

- Trạng thái: Đề xuất giải pháp
- Hệ thống kho hàng tự động 10.000 m2. Lĩnh vực hoạt động của kho: 3PL, fulfilment warehouse.
- Tổng lưu trữ 30.000 hộp carton (600x400x300) Đáp ứng 46.000 pick/ ngày.
- Đáp ứng lưu trữ 5000 pallets. Tốc độ nhập xuất 25 pallet/giờ, 600 pallet/ ngày
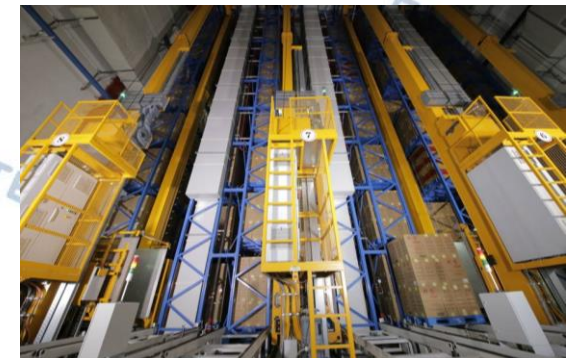

- 3 PL
- E-commerce
- Logistics
- Distribution Center

Khu vực ASRS Stacker Crane 150mx42mx25m

Inbound

Văn phòng

Depalletizer Area

Packing Area

Khu vực hàng chờ xuất

Outbound
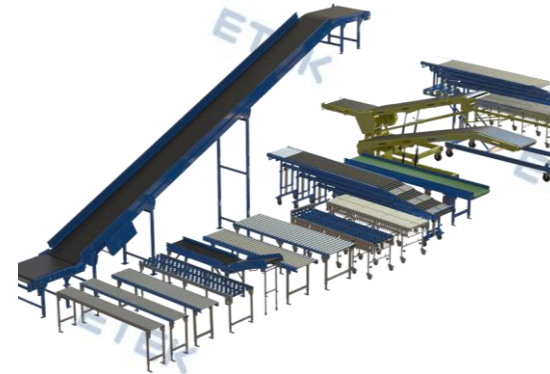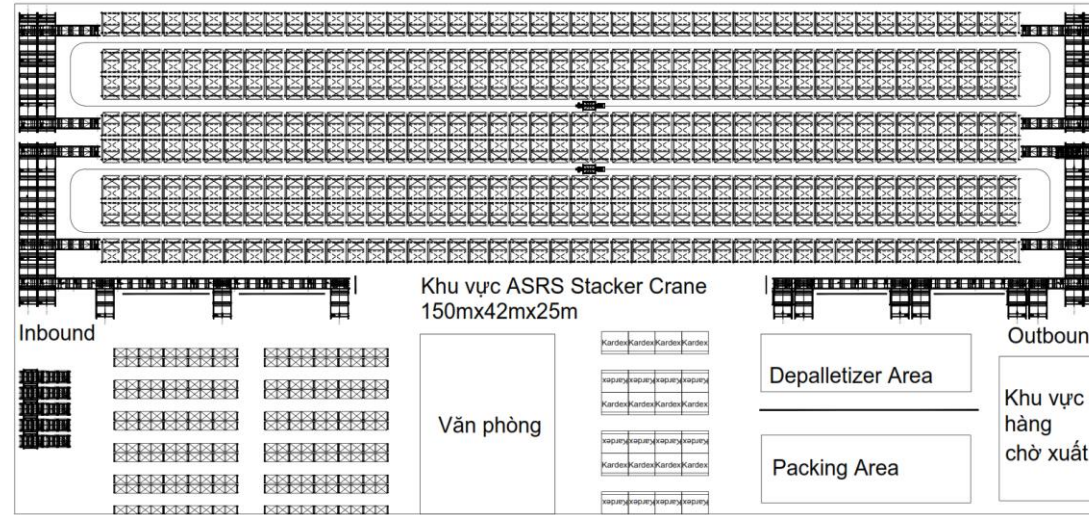
1. Kardex Shuttle XP
2. Hệ băng tải roller và cụm chuyển làn, chuyển hướng và nâng hạ.
3. ASRS Stacker Crane
4. Phần mềm quản lý kho và điều khiển hệ thống.

WATCH VIDEO ▶

Reference - Kho lưu trữ nguyên vật liệu/ thành phẩm

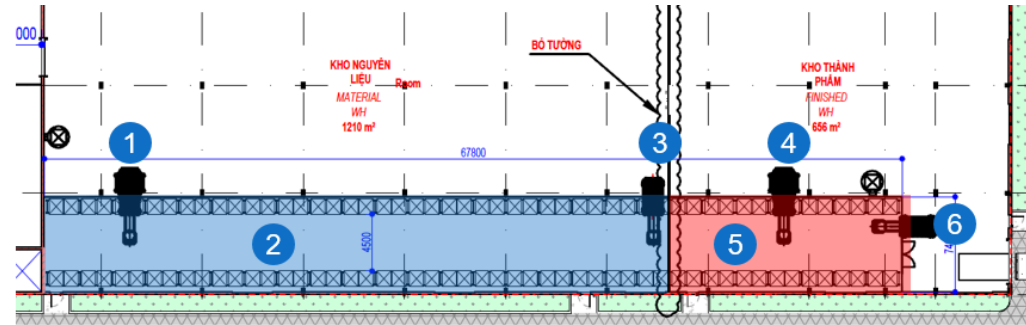**ETEK** TOTAL AUTOMATION SOLUTIONS

Overview

- Trạng thái: Đề xuất giải pháp
- Sản phẩm: Dây đồng, lõi ferrit, khay nhựa, cuộn cảm
- Diện tích: Dài x Rộng x Cao: 77x25x7.5 (m)
- AGV Forklift để lấy hàng hóa. Có 2 chế độ: Tự động và điều khiển thủ công
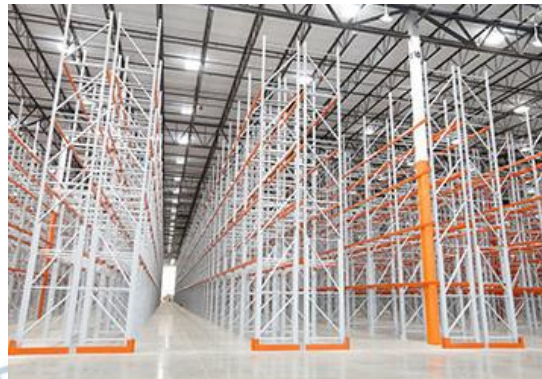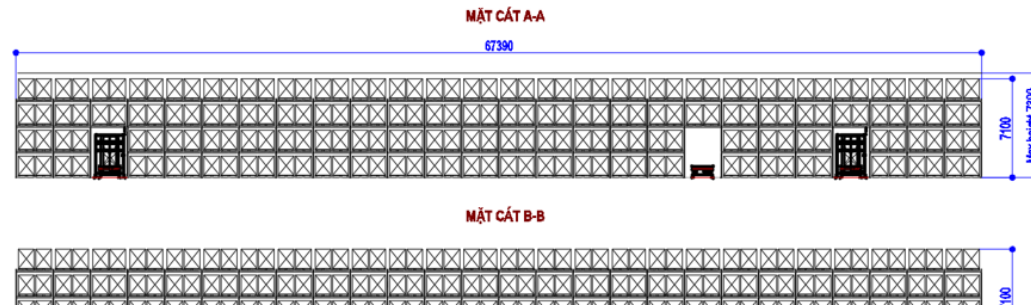- Số lượng pallet để trong kho 410.

- Điện tử
- Hàng tiêu dùng
- Sản xuất oto, phụ kiện

Khu vực lưu trữ nguyên vật liệu   Khu vực lưu trữ thành phẩm

MẶT CẮT A-A

MẶT CẮT B-B

1. Rack
2. AGV Forklift
3. Băng tải

WATCH VIDEO ▶

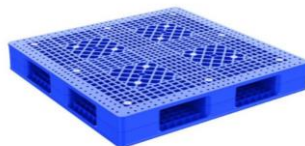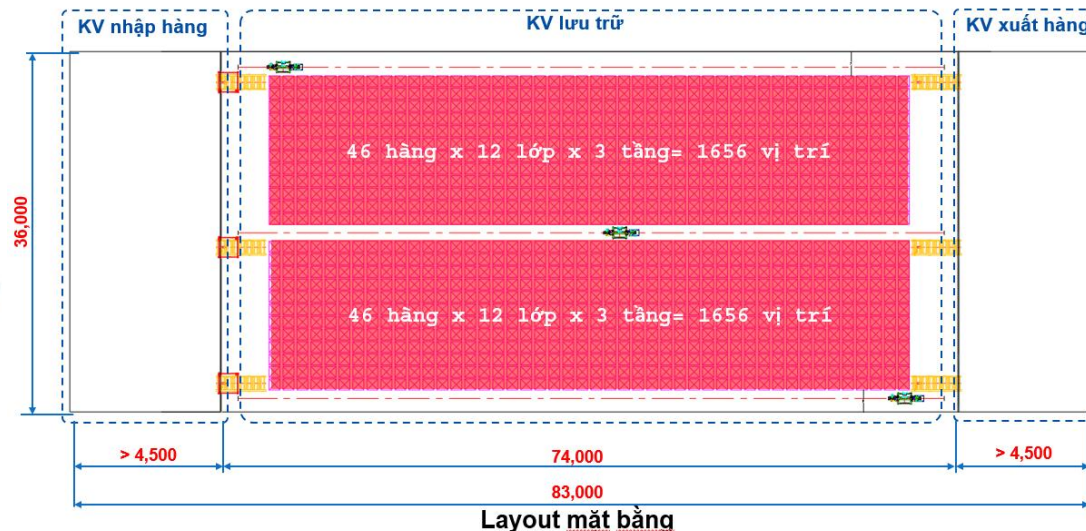# Reference - Kho tự động lưu trữ thành phẩm

Overview

- Trạng thái: Đề xuất giải pháp
- Diện tích: Dài x Rộng x Cao: 83x36x10 (m)
- Sản phẩm bánh kẹo
- Khối lượng lưu trữ: 4000 pallets.
- Công nghệ: Stacker crane với radio shuttle

- Điện tử
- Hàng tiêu dùng
- Sản xuất oto, phụ kiện

Layout mặt bằng

- KV nhập hàng
- KV lưu trữ
- KV xuất hàng

46 hàng x 12 lớp x 3 tầng= 1656 vị trí

46 hàng x 12 lớp x 3 tầng= 1656 vị trí

36,000
> 4,500
74,000
> 4,500
83,000

1. Rack
2. Multi Shuttle
3. Stacker Crane
4. Băng tải
5. Trạm kiểm tra cân nặng và kích thước.
6. Hệ thống phần mềm điều khiển và quản lý kho.

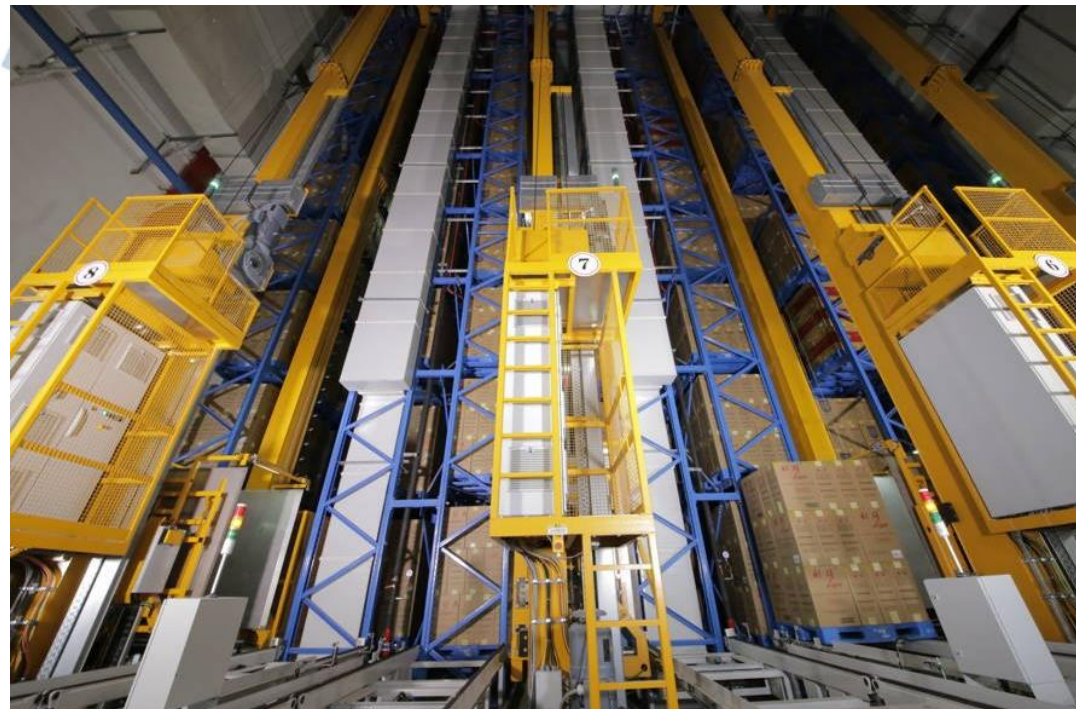**WATCH VIDEO** ▶

Reference - Material Warehouse

Overview

- Trạng thái: Đã bàn giao và sử dụng.
- AS/RS Stacker crane warehouse
- Type: Selective double deep
- Capacity: 3,200 lots
- Throughput: up to 150 pallets/hour
- Height: 8m (up to 40m)
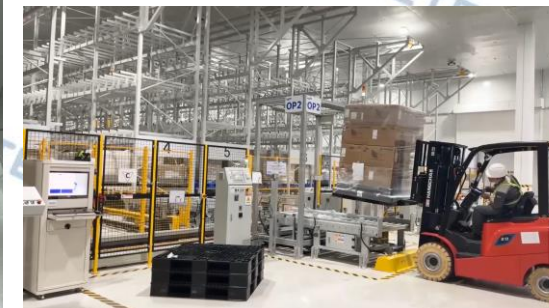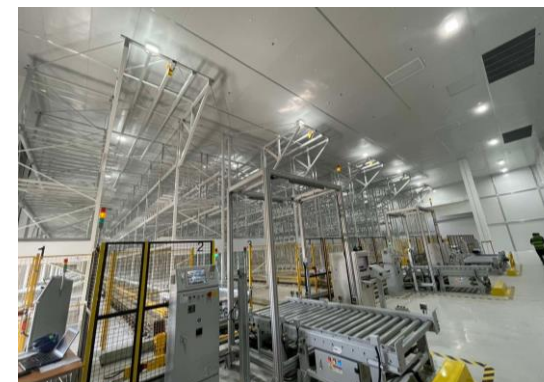- Dimension: (L)35 x (W)10 m
- Payload: 1,200 kg

- FMCG
- Consumer goods
- Logistics
- F&B

1. Stacker crane machine
2. AGV
3. Conveyer buffer
4. Size and weight checking stations

WATCH VIDEO ▶

Thank you!

ETEK AUTOMATION SOLUTIONS JSC

Headquarters
     189 Phan Trong Tue Road, Thanh Liet Ward, Thanh Tri Dist, Hanoi, Vietnam
Ho Chi Minh Branch
     No 1 Le Duc Tho Road, Tan Thoi Hiep Ward, 12 District, Ho Chi Minh, Vietnam
info@etek.com.vn   www.etek.com.vn