OPTIMAK STU
SİSTEM & TEKNOLOJİ UZMANI

ABOUT US

We operate in the fields of project, engineering and high technology production. Our company has a structure that maintains R&D and innovation-oriented activities. We are an engineering company that can offer solutions to domestic and foreign manufacturers in the fields of turnkey project, turnkey factory with our innovative approaches, accumulated unprecedented experience and original solutions.

With our experience in "Turnkey Factory" installation and our partner network, we offer customised solutions to your factory. We solve the automation needs of customers with high capacity production lines with smart, environmentally friendly and economical projects. We are signing big projects with different product groups in different sectors in the industry.

As Optimak STU, we do not discriminate between sectors. We analyse the needs of the developing sectors in our country and in the world and offer special solutions to our customers. Our Product Groups can be listed as follows.

- Robotic Automation and Packaging
- High Speed Counting and Sorting
- Intelligent Palletising
- High Speed Production Line Feeding
- Fully Autonomous Intralogistics Systems
- Digital Applications
- Environmental Technology Compatible Solutions

10+ YIL EXPERIENCE

200+ PERSONNEL

12000+ m² ENCLOSED AREA

350+ HAPPY CUSTOMERS

Bediltahirbey Mah. D Blok No:102D
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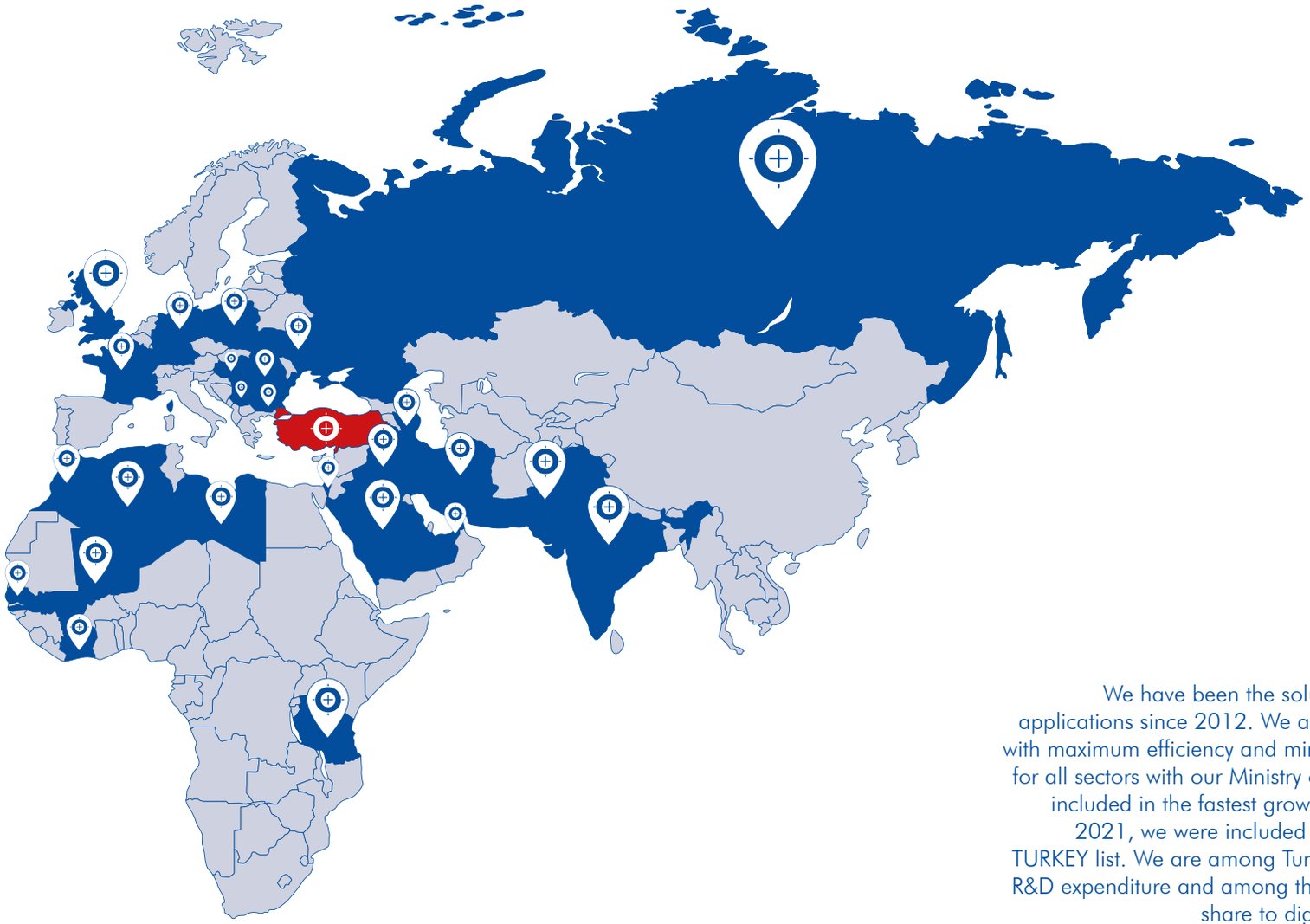


STU
SERVİS VE TEKNOLOJİ UYGULAMA A.Ş.

Optimum STU
AR-GE Merkezi

OPTIMAK ENERGY
YOUR ENERGY FROM OPTIMAK

OPTIMAKAGV

+5
COMPANY

We have been the solution partner of companies in end-of-line applications since 2012. We are at every stage of secondary packaging with maximum efficiency and minimum cost. We develop high technology for all sectors with our Ministry of Industry R&D centre. In 2021, we were included in the fastest growing TOBB 100 list in Turkey. In 2020 and 2021, we were included in The Deloitte Technology Fast 50 2021 TURKEY list. We are among Turkey's top 500 companies with the highest R&D expenditure and among the 50 companies that allocate the highest share to digitalisation in Organised Industrial Zones.

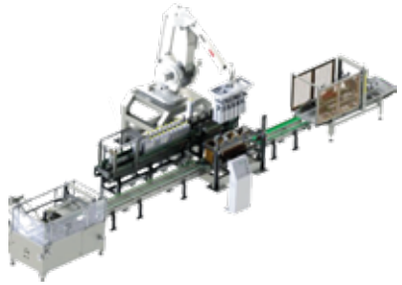
TOBB TÜRKİYE 100

OSB YILDIZLARI ARAŞTIRMASI 2020
DİJİTALLEŞMEYE HARCAMA YAPAN İLK 50 FİRMA
41. Optimak STU

Turkishtime AR-GE 250 2020

50 Technology Fast 50 2021 TURKEY WINNER
Deloitte.

OUR SYSTEMS

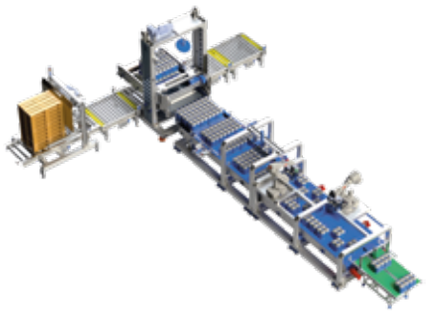


ROBOTIC PACKING

In the system, which stands out with its high collation performance and application flexibility, the products are collated with a robot arm. Thus, it is possible to fill more than one parcel at the same time.

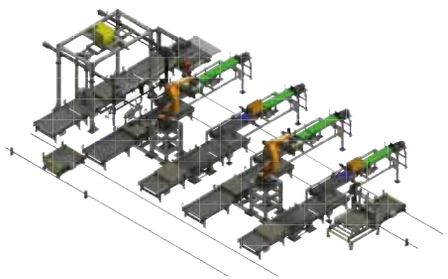
WRAP-AROUND

It is integrated at the end of the production line or packaging line. With this system, the products are wrapped around a box and the packing process is carried out. This ensures the safety and undamaged transport of the products.



PALLETIZING SYSTEM

The Palletising System is to ensure efficient filling of pallets and neat stacking of loads. With the Palletising System, palletising of shrink-wrapped, boxed, sacked and bagged products can be done easily.



ROBOTIC PALLETIZING SYSTEM

We offer robotic palletising solutions with high quality and capacity for your different types of products. They are robots where production capacity increases and efficiency draws attention.

Şirket Bilgileri ve Katalog

STRETCH WRAPPING SYSTEM

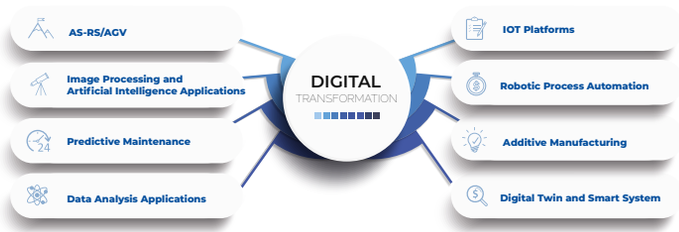
It allows products or loads to be tightly wrapped with stretch film. Stretch wrapping is used for transporting, storing and protecting products. Stretch wrapping machine speeds up work processes, ensures labour efficiency and safety of products. Therefore, it is an important packaging and logistics solution for businesses.

AGV/AMR

Thanks to its modular design, many functions such as transport, palletising and packaging can be added to our AGV/AMR AGVs and AMRs. It works with a single and fleet management logic to be integrated into your production lines.

DIGITAL TRANSFORMATION

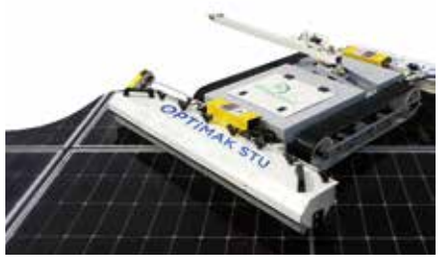
As Optimak STU, we accelerate companies with our digital transformation applications. By integrating our systems into the customer's existing software, we contribute to data collection, analysis and decision-making mechanisms.



Şirket Bilgileri ve Katalog

SOLAR PANEL CLEANING ROBOT

The Solar Panel Cleaning Robot, which aims to increase the efficiency of solar energy production by cleaning the surfaces of the panels, facilitates solar panel maintenance without the need for manual cleaning.



CONTENTS

the *art* **of**

solution-oriented

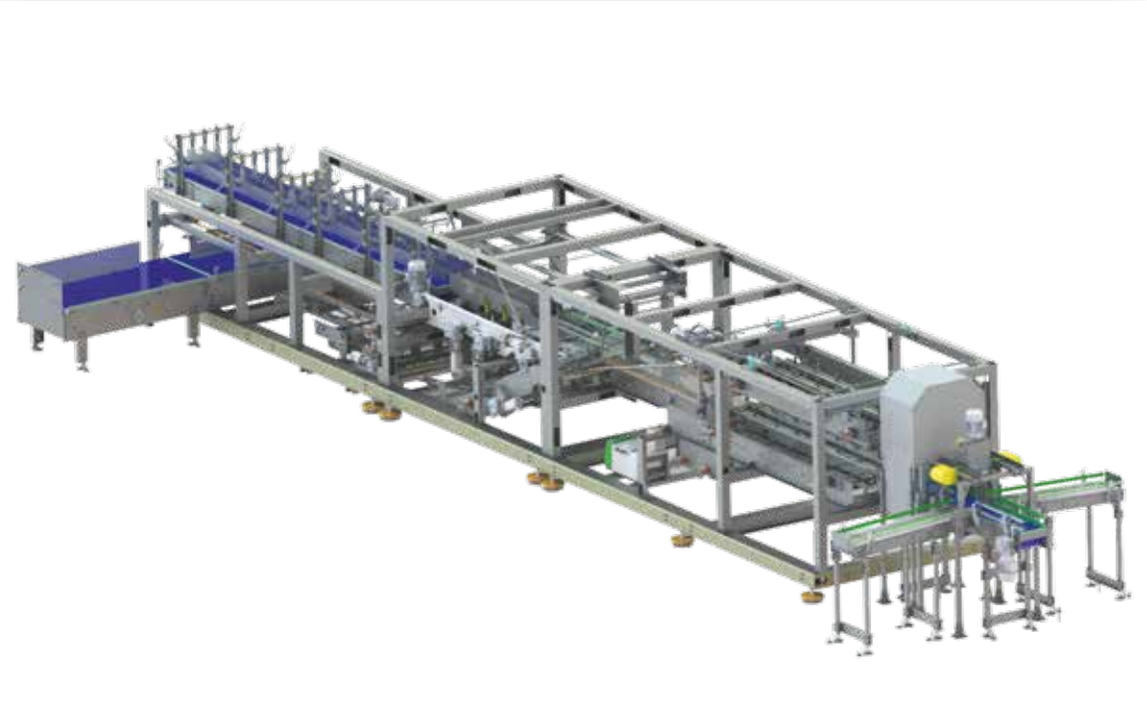
thinking

AGED FOOD CARBOYS FRUIT JUICE

FRUIT JUICE DETERGENT COSMETICS

TIC GLASS DRUMS KRAFT BOTTLES

WRAP AROUND



- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

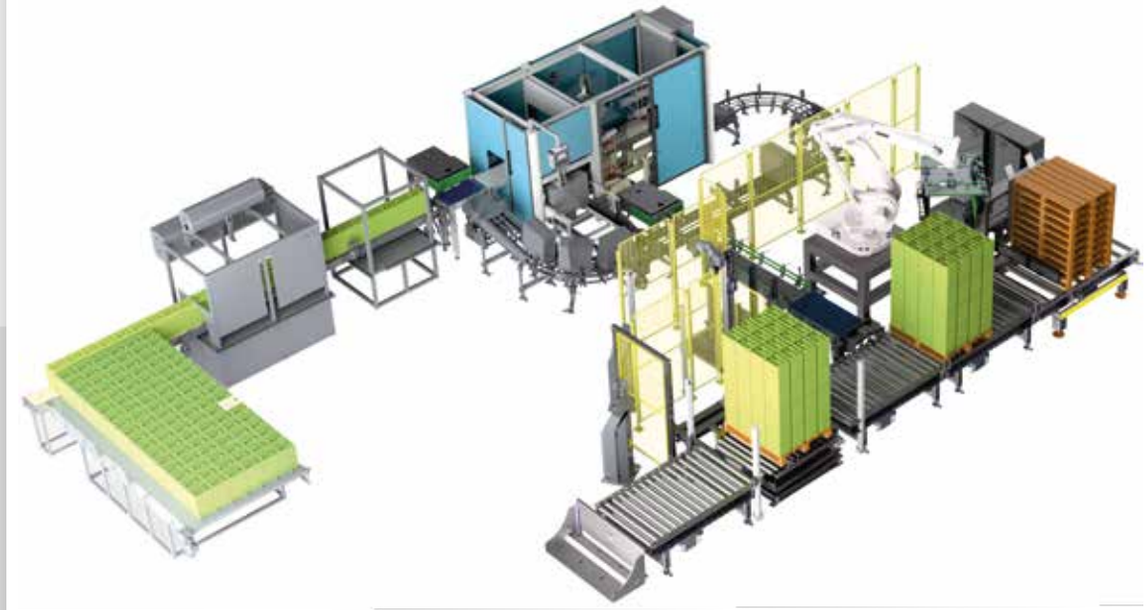
Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

It is integrated at the end of the production line or packaging line. With this system, the products are wrapped around a box and the packing process is carried out. This ensures the safety and undamaged transport of the products. Wrap arround machine is a type of industrial machine that performs the wrapping process around the products or packages. It is especially used to provide more protection during transport or storage of boxes or packages. Wraparound machines take a flat paper or cardboard sheet and wrap it around the product or packaging. Usually this process is done to form a complete box around the product or packaging. The machine can adjust the size and shape of the sheet, then wraps the product tightly.

FILLING, PACKING, PALLETIZING STRETCH WRAPPING SYSTEMS

- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

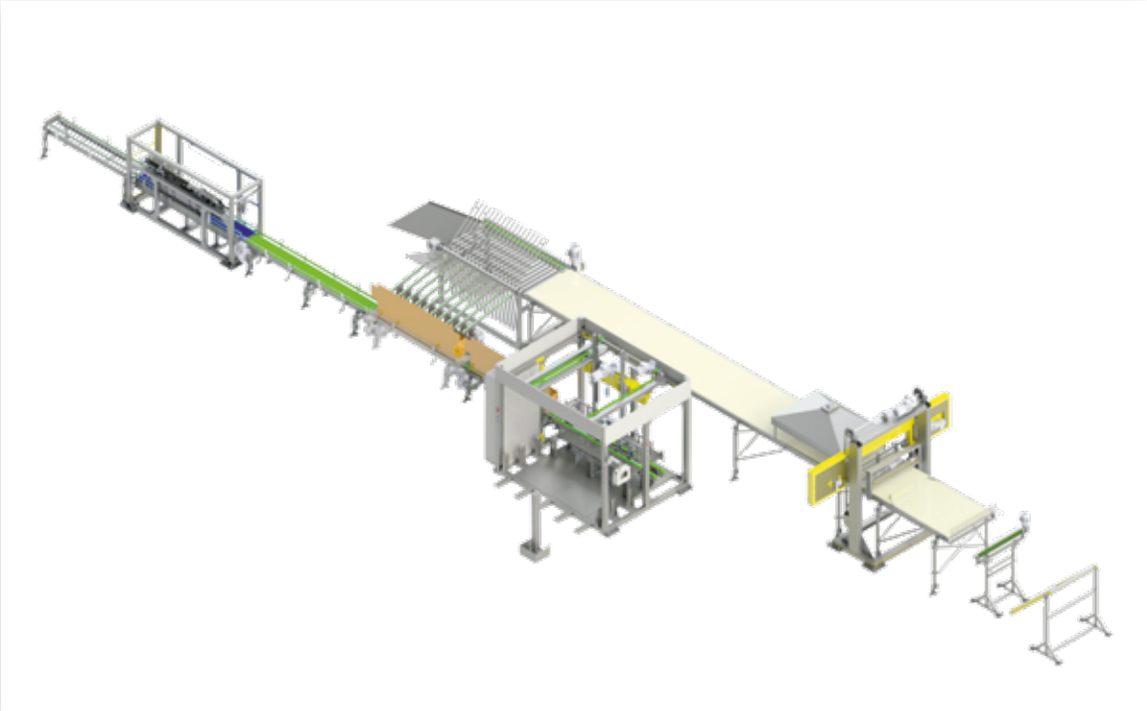


Products are sent to the filling machine from the product inlet conveyor. The products coming to the filling machine are filled in here. Seperator magazine puts cardboard on each product layer of the pallet. The shifting mechanism pushes the products to the pallet and the products going to the palletizer are stacked on the pallet with the elevator palletiser. The stacked products are sent to the stretch wrapping system via roller conveyor. After the products coming to the stretch wrapping system are stretched, they are ready to go to the warehouse.

Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

PIPE SLITTING AND BUNDLING SYSTEMS



- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

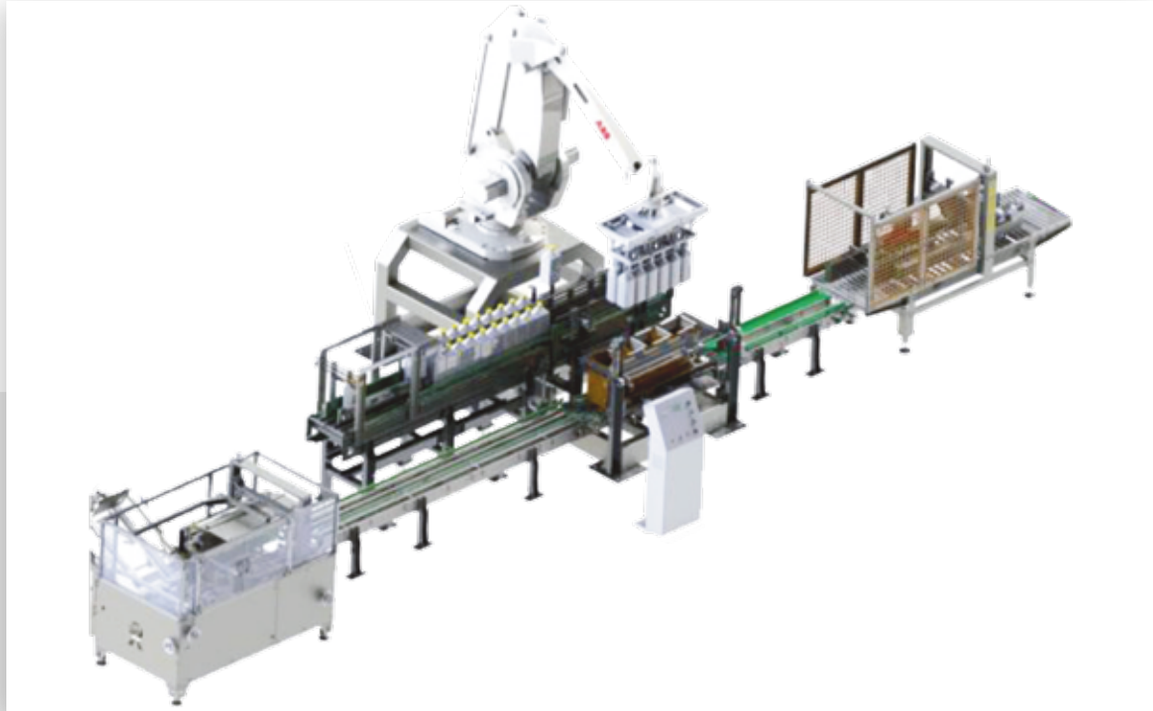
Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

Pipes come from the heat insulation pipe sizing unit to the parcel filling section via conveyor. Pipes are filled into the parcels prepared in the parcel opening machine via helicopter.

ROBOTIC PACKING SYSTEMS

- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

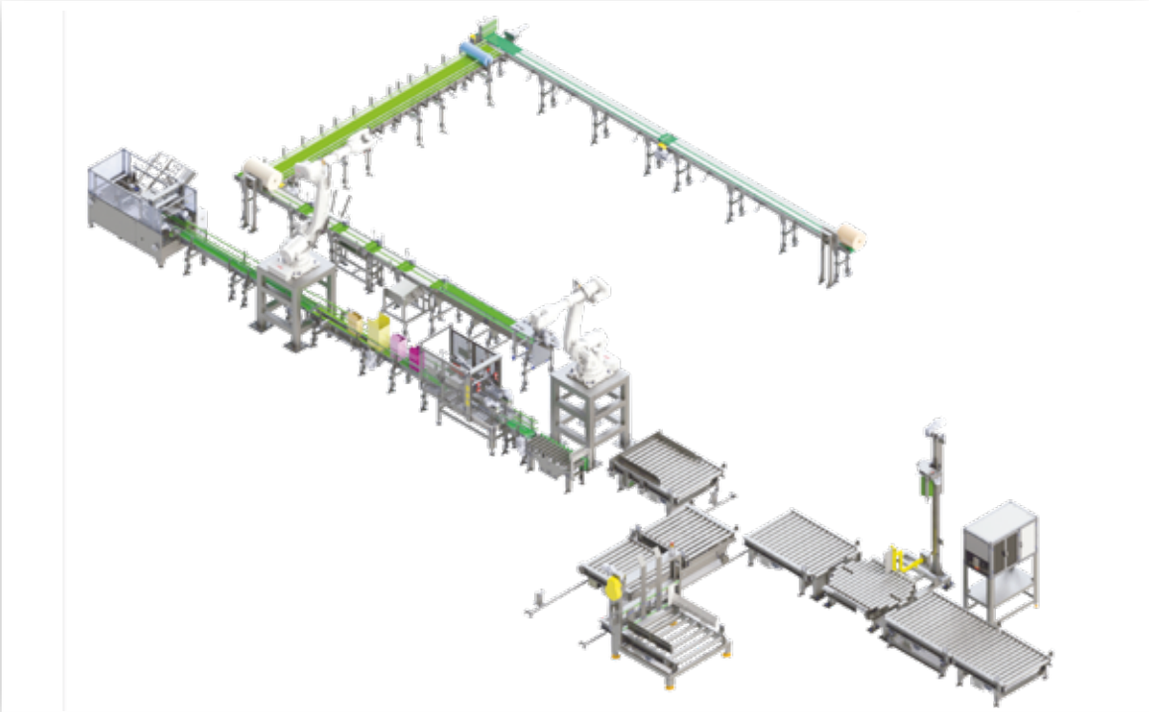


The system, which stands out with its high packing performance and application flexibility, enables products or materials to be automatically placed or packed in a box. Thus, it is possible to fill more than one box at the same time. It is generally used in production lines or distribution centres in factories. Robotic systems perform this process in a fast, precise and repeatable manner.

Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

ROBOTIC PALLETIZING SYSTEMS



- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

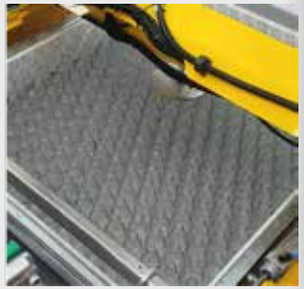
Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

The products come to the robotic packaging via the product transport conveyor. Simultaneously, the ready-opened parcels from the parcel opening machine come to the robotic packaging via conveyors. The products are filled into the opened parcels by means of a robot arm. As Optimak, we are the integrator of different robot manufacturers. After the parcel closing process of the filled parcels, the parcels are arranged on the pallet with robotic palletizing. Then the pallet is taken by Shuttle conveyor and taken to the stretch wrapping machine and the pallet is stretched.

DEPALLETIZER SYSTEM

- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

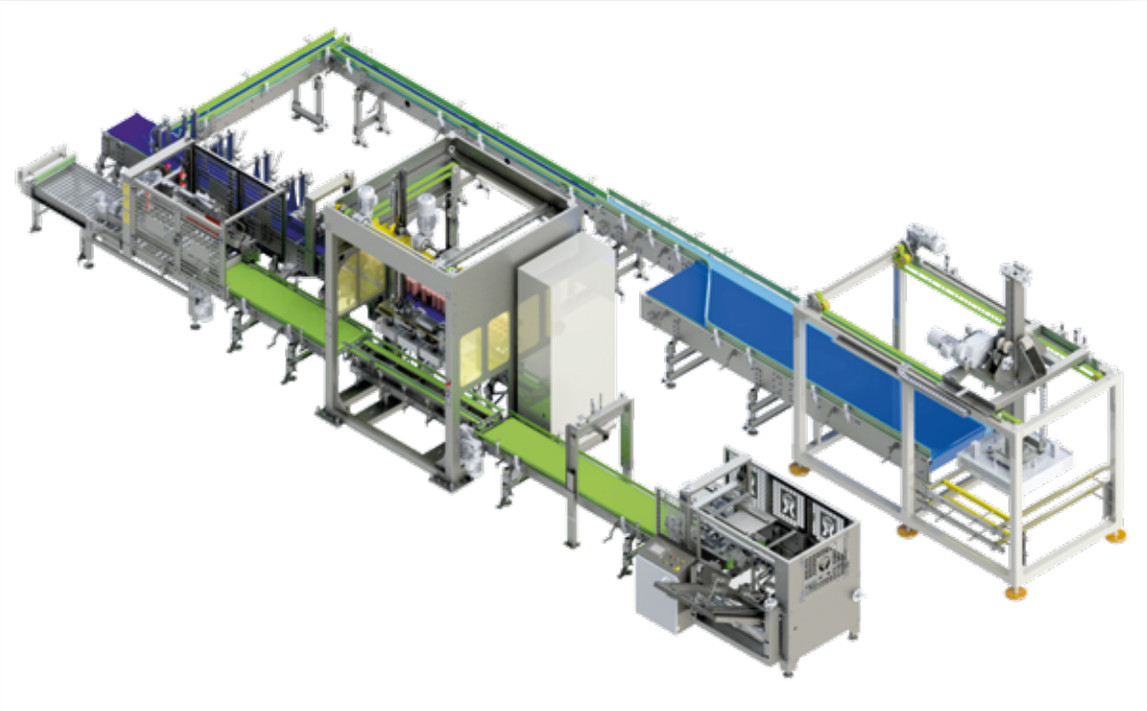


The pallet of glass bottles to be unloaded is loaded into the pallet magazine. The intermediate cardboard is automatically separated by the separator with vacuum holder. The products are loaded to the intermediate panel with the clamped four corner holding system. The bottles are loaded from the intermediate panel to the unloading system. Products are separated one by one from the unloading system and fed to the line.

Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

BASKET BREAKING AND CARTESIAN PACKING SYSTEM



- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

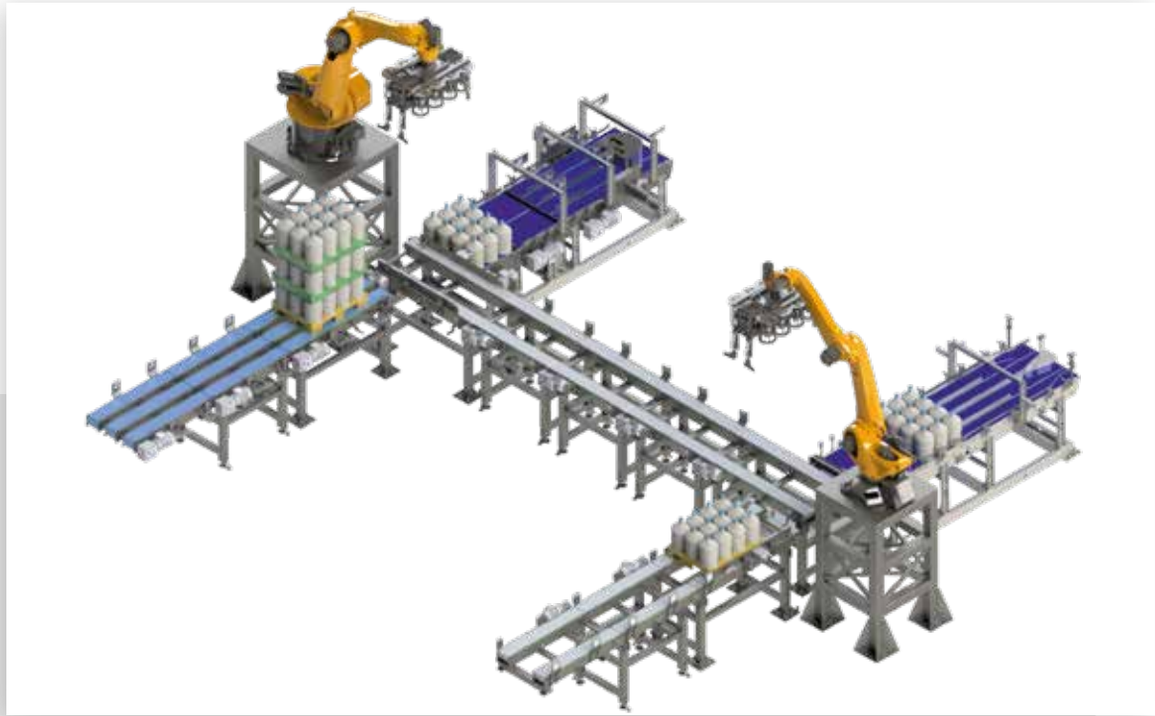
Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

While the products come from the palletiser to the cartesian unit via conveyor, the parcels opened from the parcel opening machine come to the cartesian packing unit. In the cartesian packing unit, the parcels are filled with magnetic attachment and sent to the parcel closing machine. The parcels closed in the parcel closing machine are taped and ready to go to the warehouse.

ROBOTIC PALLETIZING AND DEPALLETIZING SYSTEMS

- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

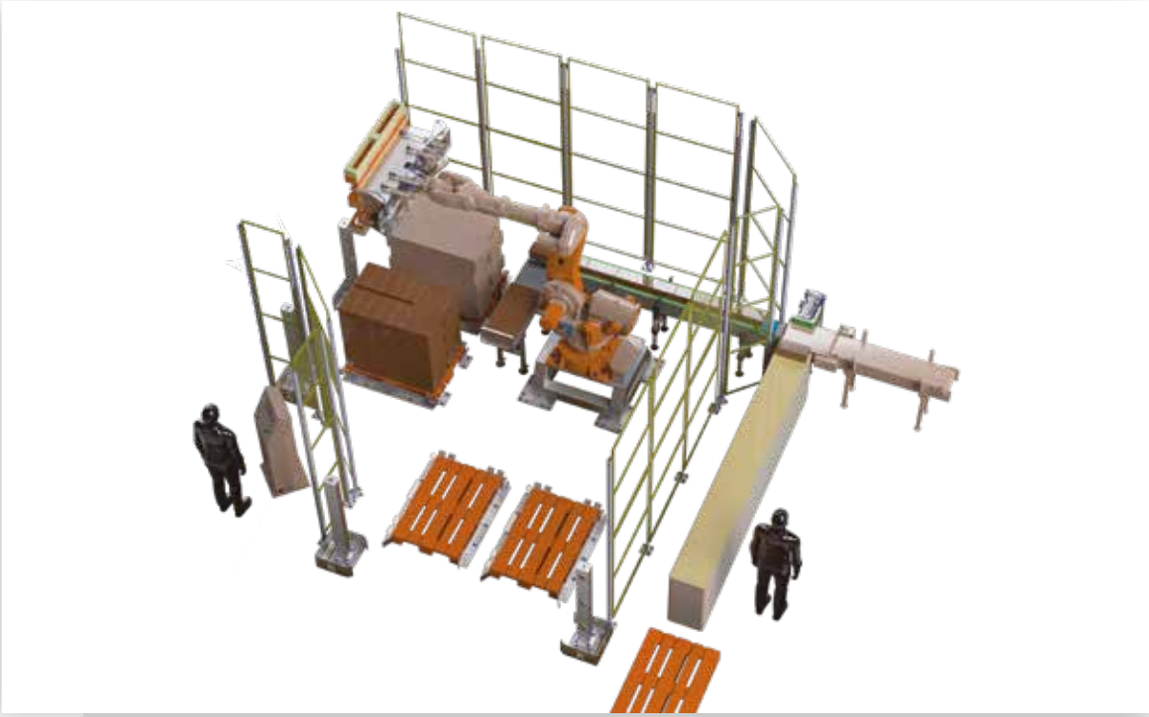


Empty carboy pallets are sent to robotic palletizing via empty carboy feeding conveyor. While robotic palletising transfers the carboys to the layer preparation unit, the empty pallets are stacked on the pallet transport conveyor. The pallets sent from the empty pallet transport conveyor to robotic palletising are transferred to the full carboy transport conveyor. Filled carboys coming from the layer preparation unit are placed on the pallets and made ready for storage.

Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

ROBOTIC PALLETIZING SYSTEMS



- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

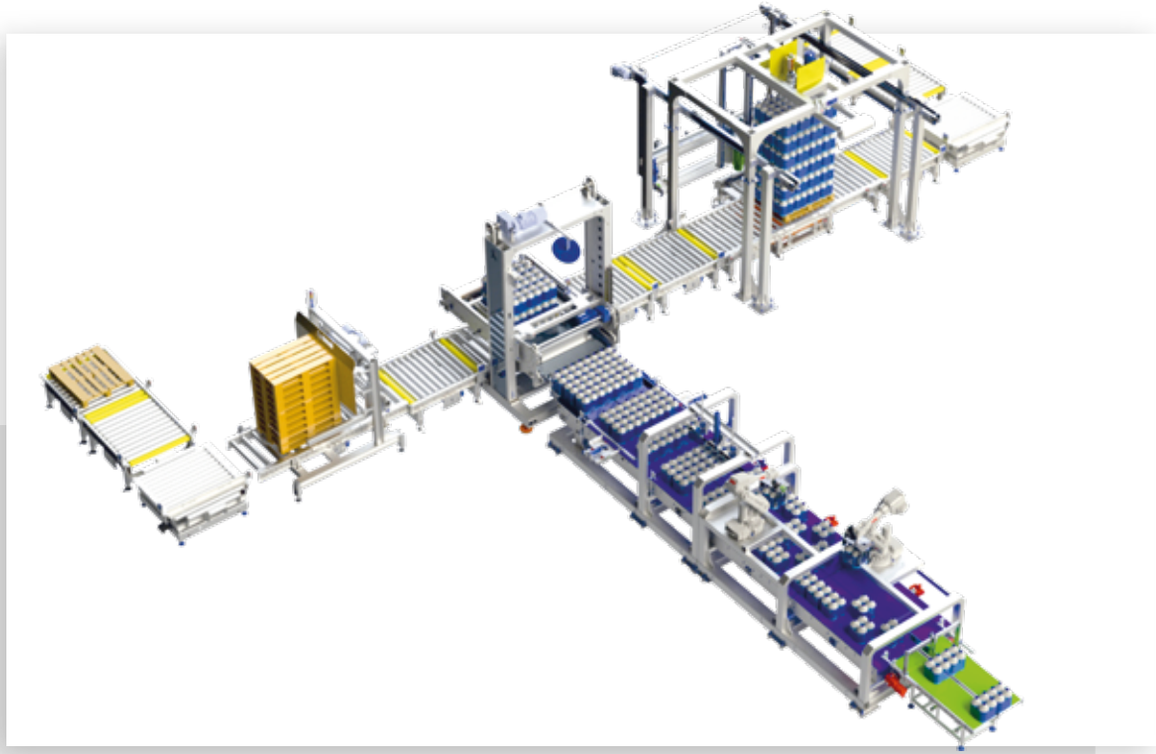
Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

Equal distribution of the filled bags is ensured by applying vibration. The bags coming from the line are sent to the front of the robot by conveyors in accordance with the form that the robot can take. The bags in front of the robot are taken by robotic automation and placed on the pallet. The robotic palletising process continues with this robotic sequence. After the layer formation is completed, an intermediate cardboard is optionally placed in between. New bags are placed on the intermediate cardboard or on the bag layer whose order is completed and the cycle continues until the desired layer level is reached.

PALLETIZING SYSTEMS

- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

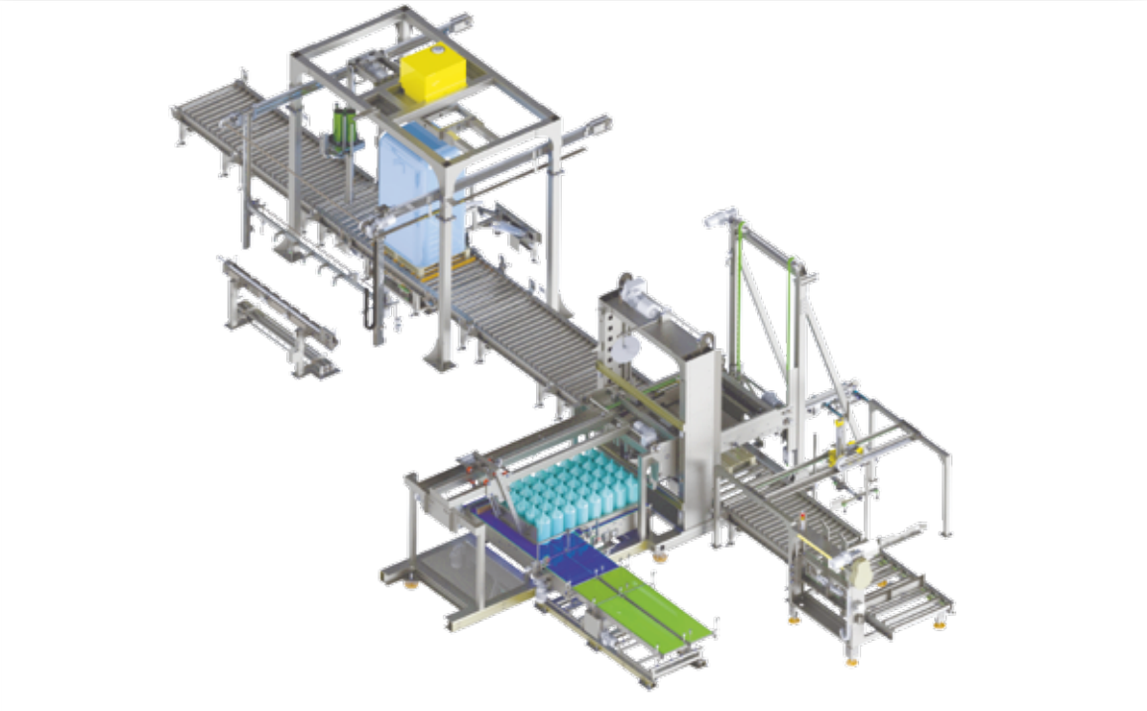


The products coming from the line are taken to the sorting station after being rotated and translated in accordance with the sequences. The products taken to the sorting station are transferred to the layer transfer station. The products that are ready as layer at the layer preparation station are taken to the layer transfer station. The products in the layer transfer station are placed on the pallet by lift or cartesian systems. After the layer formation is completed, an intermediate cardboard is placed between the products with the separator robot. The products are placed on the intermediate cardboard again and the cycle continues until the desired layer level is reached. Filled pallet after reaching the desired floor is taken out of the line. After the pallet is removed, the new pallet in the pallet magazine the halta is fed automatically.

Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

PALLETIZING AND STRETCH WRAPPING SYSTEMS



- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

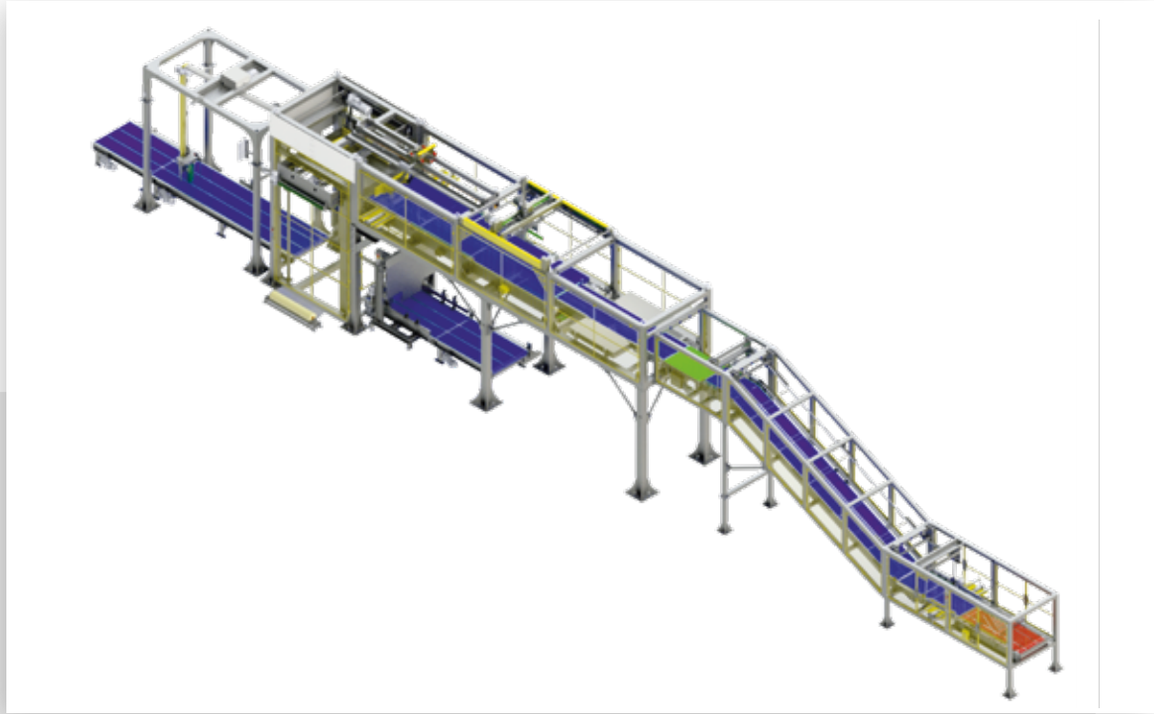
Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

From the product inlet conveyor, the products come to the layer conveyor.From the pallet magazine, the pallet goes to the pallet separator magazine via roller conveyors.The separator magazine places separator cardboard on each layer of the pallet where the product will be placed.Thanks to the translation mechanism, the products are sent to the elevator palletizer for palletising.The products palletised in the elevator palletizer are sent to the stretch wrapping system via the roller conveyor.After the stretch wrapping process is finished, the products are ready to go to the warehouse.

PALLETIZING AND STRETCH WRAPPING SYSTEMS

- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

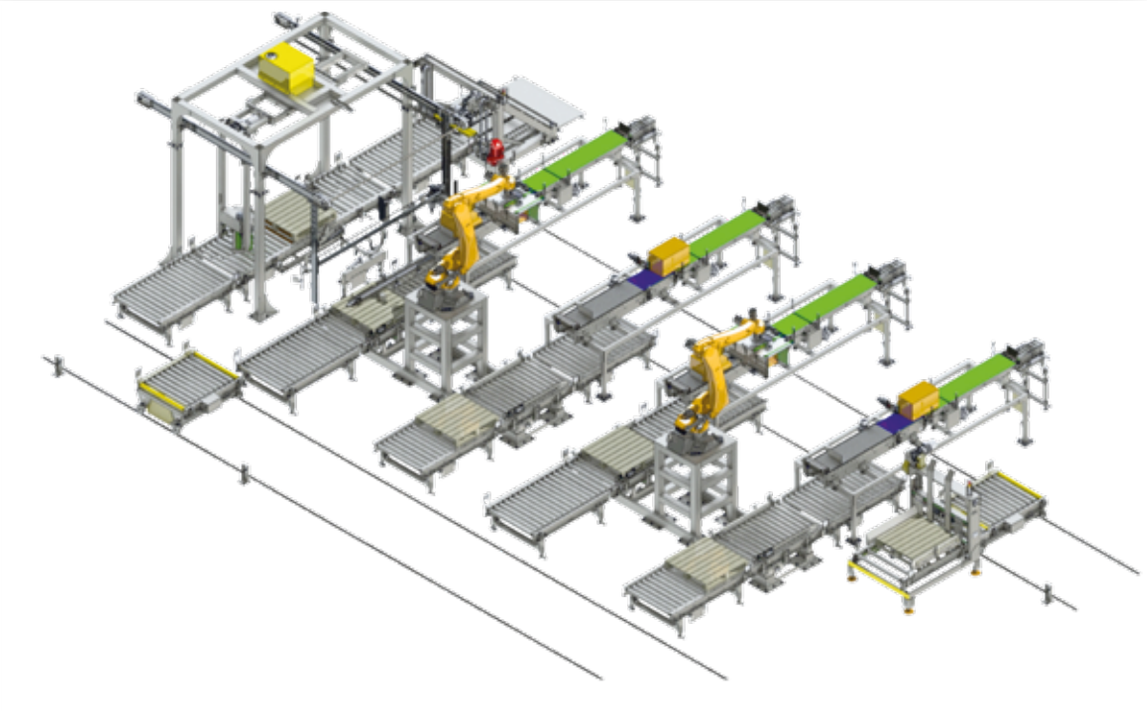


Products come to the product transport conveyor in groups. Thanks to the product rotation system, the products are rotated without deformation. Packages arriving without bundle (outer packaging) are transported as a group to the layer receiving conveyor. The products are aligned and centred before being placed on the pallet. All product groups are palletised with high level palettizer and product sweeper. The palletised products are stretched with a rotary arm stretch machine. With the data coming from the ERP system, the stretch wrapping machine and label applicator work together to label the products.

Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

ROBOTIC PALLETIZING AND STRETCH WRAPPING SYSTEMS



- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

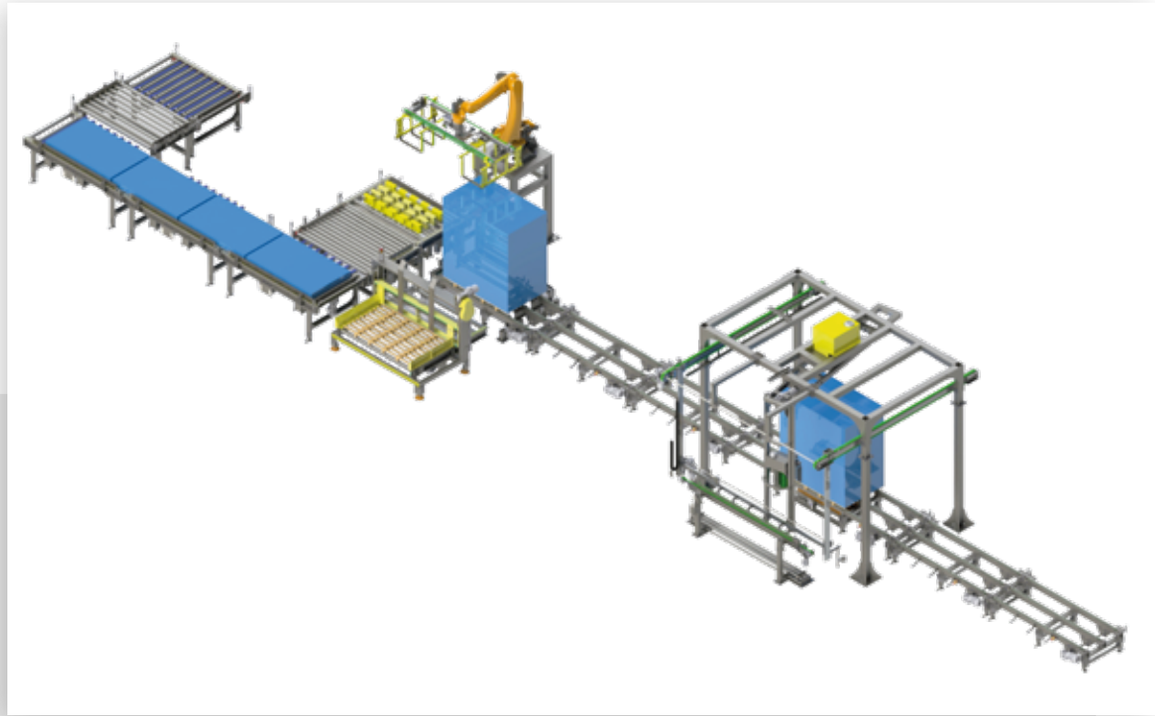
Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

The products transported by the product conveyor are divided into 4 channels by means of pushers. In these channels, they continue to be transported by beaded conveyor. Before palletising, the products enter the turning/straightening unit for customer-specific arrangement and are made suitable for the layer preparation section. Products from 4 channels are transferred to the Robotic Palletising system via shuttle. In the Layer Preparation section, the products are made suitable for palletising. Shuttle sends the empty pallets received from the Pallet Magazine unit to the Robotic Palletising lines. The robot picks up the ready layouts in Layer Preparation by means of the robot attachment and places them on the pallet. The robot puts a separator between each layer with a specially designed attachment. When the pallet is ready, it is transferred to the shuttle with roller conveyors. Shuttle transfers the pallets to the Stretch Wrapping Unit where the stretch is wrapped. The pallet, which has finished all the processes, is discharged from the system with the palletizer exit conveyor.

ROBOTIC PALLETIZING AND STRETCH WRAPPING SYSTEMS

- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

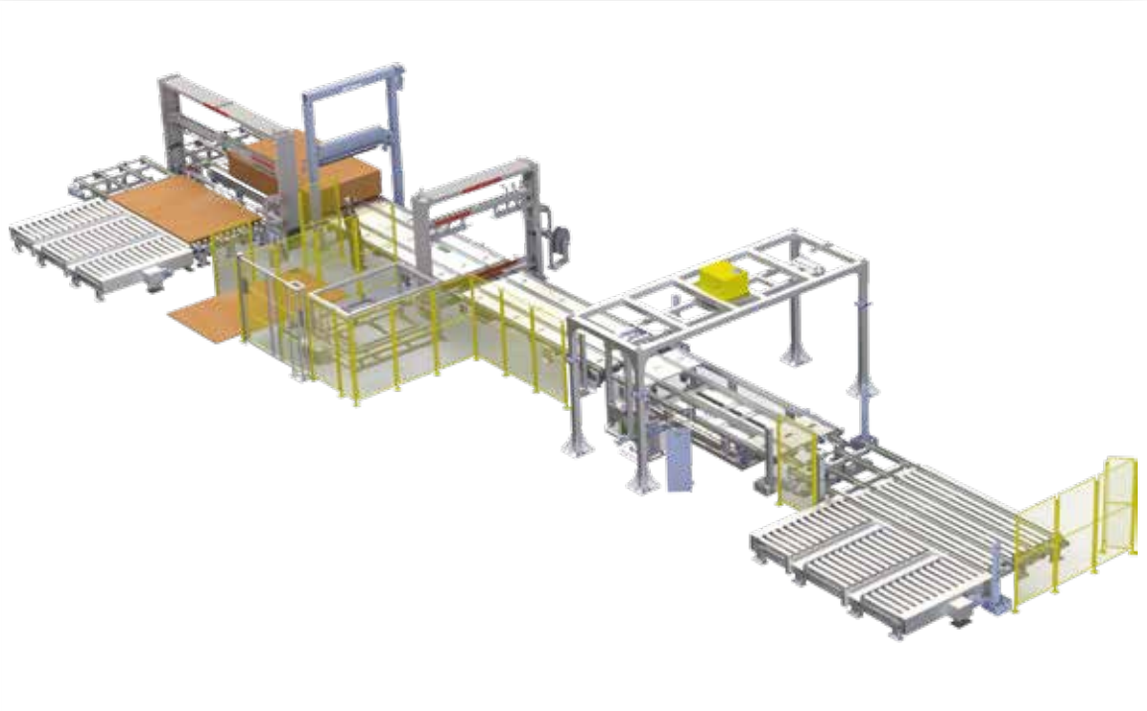


The products arriving via conveyors are sent to robotic palletizing. The products stacked on top of each other in robotic palletising are sent to the stretch wrapping system via conveyor again. Robotic palletizing is an important automation tool to increase efficiency and ensure worker safety in industrial production, storage and logistics operations. These devices are indispensable for many industries where large quantities of materials need to be transported and organised.

Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

STRAPPING & CORNER CARDBOARD AND STRETCH WRAPPING SYSTEM



- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

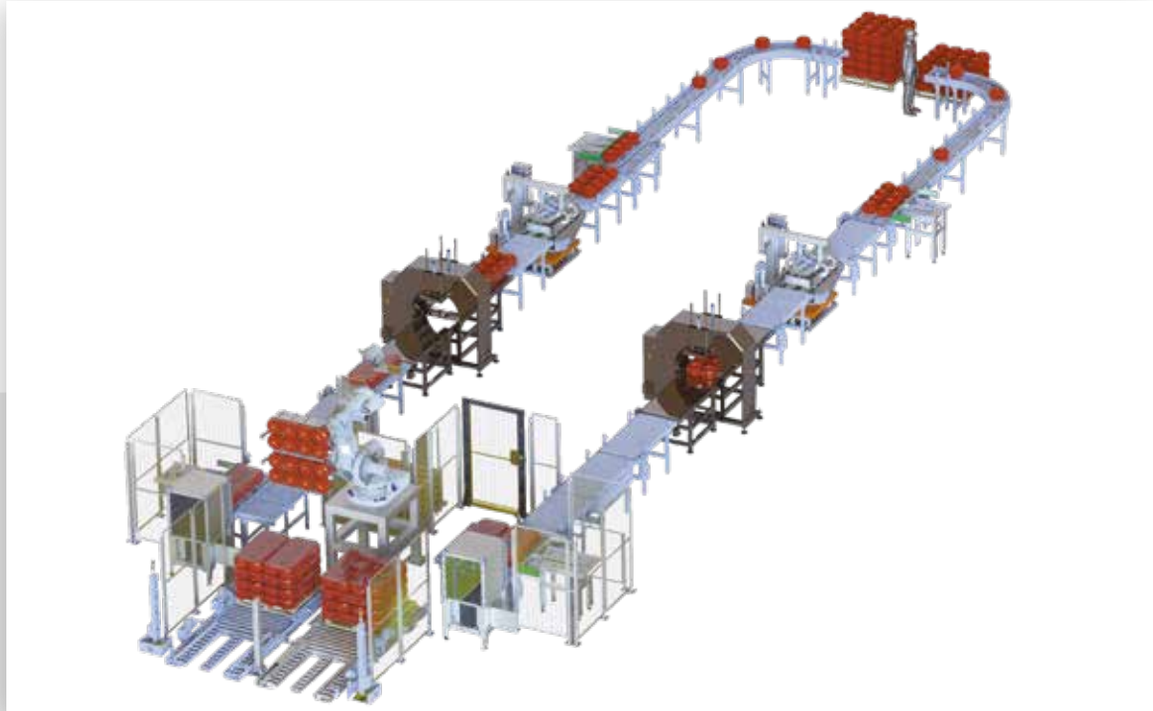
With the help of shuttle conveyor, the wooden planks are fed to the line. The operator manually places a protection cardboard on the top layer of the planks. The strapping process takes place with Cartesian transfer conveyors. During the strapping process, a horizontal corner protection cardboard is automatically placed to protect the corners of the wooden plates. Then the wooden planks are sent to the short edge strapping system by conveyor system. Before the boards enter the short edge strapping machine, nylon film is placed on the top of the boards with the top sheet system for dust and rain protection. Afterwards, corner cardboard protection is automatically placed in the short edge strapping system. Apart from this process, wedges are fed to the bottom of the plates. These wedges are placed in order to facilitate the transportation of the plates during transportation and to prevent damage. Top protection cartons are placed, straps are thrown from the long and short sides, the upper film closure nylon film against rain and dust is thrown and protection - transport wedges are thrown to the lower parts of the plates; It is sent to the special production OWRAP ARM 30 K2 stretch wrapping system. This system is designed to wrap the smallest size 1.200 mm x 2.400 mm x 400 mm and the largest size 2.100 mm x 3.660 mm x 900 mm plates with a capacity of 25 pallets per hour.

Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

HORIZONTAL AND VERTICAL STRETCH WRAPPING AND ROBOTIC PALLETIZING SYSTEMS

- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

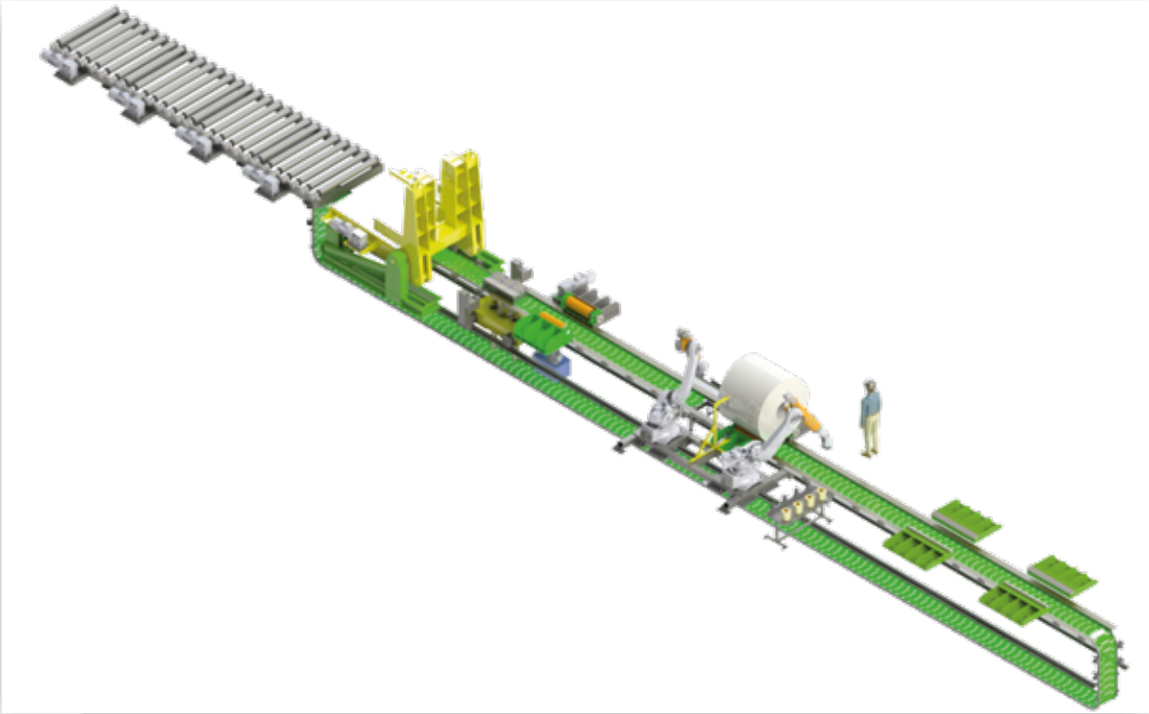


The conveyor carries the bobbins on it and brings them to the layer preparation station and the bobbins are prepared here with the translation system and transferred to the stretch winding machine inlet conveyor. The stretch winding machine takes the products in the inlet conveyor and lifts them with the lift mechanism and then winding is done parallel to the ground. The group of 8 bobbins that have been stretch wrapped is removed from the stretch machine and sent to the horizontal stretch machine inlet conveyor, where the bobbins are stretched perpendicular to the ground and removed from the line. After the bobbins coming out of the line are weighed in the weight measurement system, the barcode label is affixed depending on the data in the MRP system.The packages taken from the layer station by the robot are arranged on the pallets. The pallets kept in the pallet conveyor are taken from the line by the operator and the line is ensured to continue uninterruptedly.

Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

ROBOTIC STRETCH WRAPPING SYSTEM



- Capacity Increase
- High Earnings
- Enhanced Security
- Flexibility in Production
- Min. Space Requirement
- Resource Efficiency

Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Weight control with weight measurement

The product comes to the robotic stretch wrapping system by the product transport conveyor. The product is first wrapped with green protection tarpaulin and then the attachment changing robots stretch the product. The product moving on the product transport conveyor is rotated by the pallet tilting unit coming from the roller conveyor and the product is placed on the pallet. The product placed on the pallet is ready to go to the warehouse again by the roller conveyor.

AUTONOMOUS VEHICLES

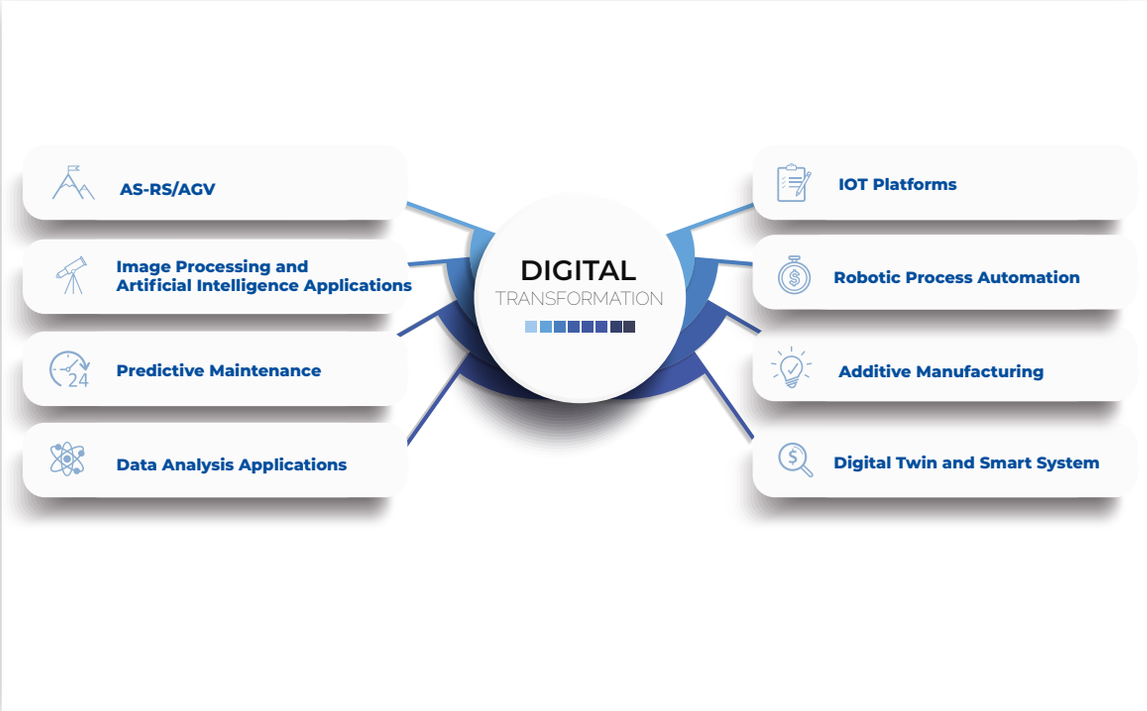
- Continuity
- High Efficiency
- Uninterrupted Operation
- High Level Security
- Resource Efficiency

As Optimak STU, we aim for operational excellence by offering our customers customised, fully integrated and easy-to-use AGV and AMR systems. In each project, our expert team designs and implements the most suitable intralogistics solution, taking into account customer needs. It works with a single and fleet management logic to be integrated into your production lines. Thanks to the modular design of our AGV and AMRs, many functions such as transport, palletising and packaging can be added.

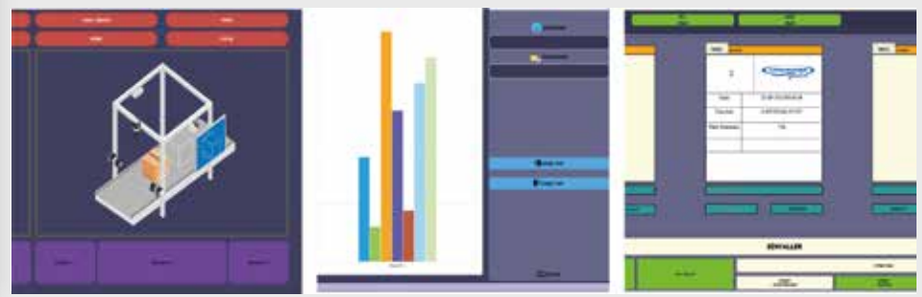
Options:

- Barcode / QR Code
- Remote monitoring and reporting
- Full integration with the production system in use
- Quality control with image processing technology
- Integration with Arm robot

DIGITAL TRANSFORMATION APPLICATIONS



- ☑ Continuity
- ☑ High Efficiency
- ☑ Uninterrupted Operation
- ☑ High Level Security
- ☑ Efficient Use of Resources



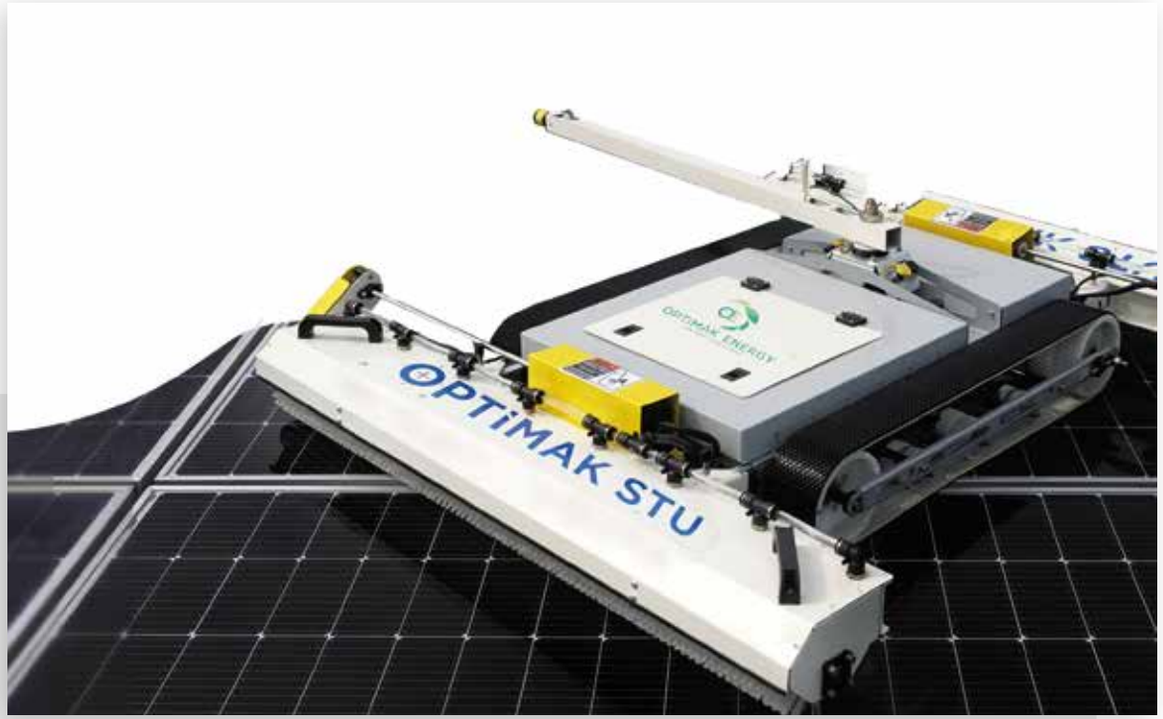
Options:

- ☑ Barcode-Qr Code Applications
- ☑ Weight and Dimension Measurement Applications
- ☑ Image Processing and Artificial Intelligence applications
- ☑ RFID-Beacon Applications
- ☑ Data Analysis Applications
- ☑ PLC-PC Integration

Digital transformation applications accelerate companies. Standardisation in production is provided in smart factories. Providing flexibility in production to digitalised factories offers the opportunity to produce different products according to customer needs. In addition, it provides manufacturers with the opportunity to produce different and high quality products in a short time. Data-centred decision-making and digitalisation of processes facilitate customer-specific production as it provides agility in production. We offer more efficient, more collaborative projects.

SOLAR PANEL CLEANING ROBOT

- Fast Cleaning
- Increased Productivity
- Remote Control
- Long Term Investment
- Labour Efficiency
- Enhanced Security

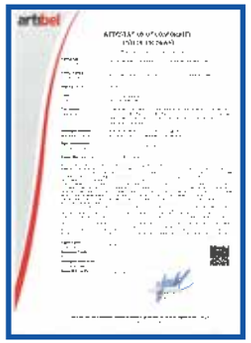
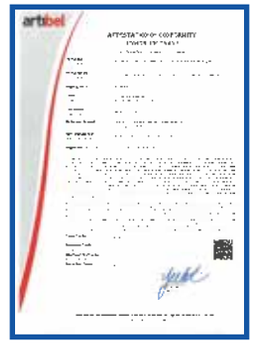
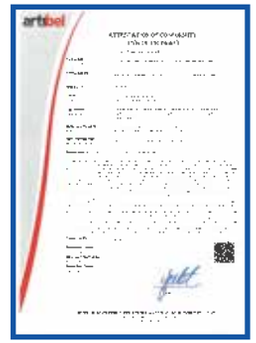


Companies that want to get full efficiency from their panels try different methods to clean their panels from dirt. However, the methods used pose serious risks in terms of occupational safety and also cause problems in reaching the desired level of cleaning. With the panel cleaning robot specially developed by OPTİMAK STU R&D centre in order to solve these problems, the risks experienced during cleaning are minimised. It performs panel cleaning with portable fully automatic panel cleaning robot for panels installed in places such as roof, car park, greenhouse, porch. For panel cleaning, specially produced brushes and pure water suitable for the protective surface are used. In this way, the layer on the glass on the panel surface is protected during the cleaning process.
The panel cleaning robot automatically scans the solar panel arrays and detects dirty areas and uses special brushes, water spray systems or similar cleaning methods to clean the panels.

Options:

- Spare Battery
- Replacement Brush

CERTIFICATES AND DOCUMENTS


MEMBER ORGANISATIONS

SAHA ISTANBUL

MİB MAKİNA İMALATÇILARI BİRLİĞİ

MÜSIAD

ABİGEM

ASD

samib

AMD

ROBODER

enosad INDUSTRIAL AUTOMATION MANUFACTURERS' ASSOCIATION

TÜDAM

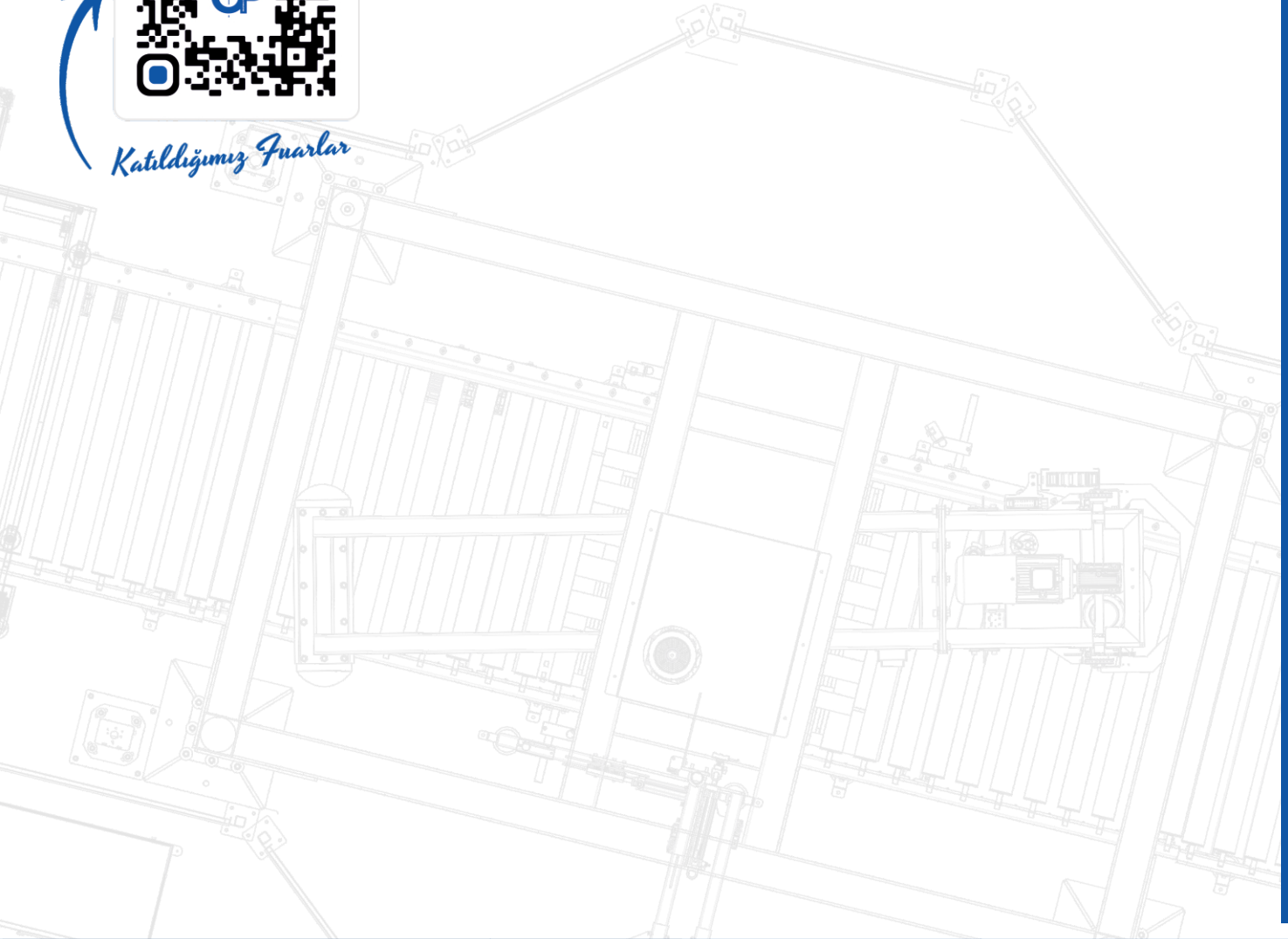
OAİB ORTA ANADOLU İHRACATÇI BİRLİKLERİ

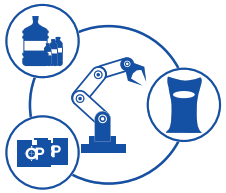
OUR REFERENCES

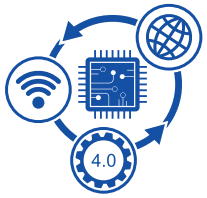
NOTES

NOTES

Katıldığımız Fuarlar







İntrolojistik Çözümler	Sektörel Çözümler	Dijital Dönüşüm	Güneş Enerjisi Sistemleri