



Robotic systems
for palletising products

Experience, knowledge, competence

Over
10 years

of experience
in robotisation
and automation
of production
plants

Over
50 

implemented
projects



Production
of machinery
of a value
of PLN 50,000,000

100%

commitment
to projects



A team of creative
engineers specialized
in mechanical
engineering
and innovative
technological lines



Full
technical
advice
and support
in business
calculation



Highest
standards
and technical
advice

Professional approach

Our team of engineers is able to design **optimal solutions** based on the most up-to-date circuits and components available and used worldwide by industry leaders.

Together with the client, we analyse various solutions and select the most beneficial ones for the investor. We rely on an open model of cooperation with our client's team of specialists to ensure that every significant stage of the project is business-optimised.

The quality of our solutions guarantees safe, effective and long-term operation without unnecessary interruptions and unplanned downtimes. We are ready for further challenges.



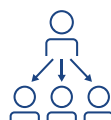
Our team



Runs and tests the
implemented solution.



Install the line at the client's
premises and integrate it
with existing solutions.



Train the client's team
in the operation and help
integrate the process into
production.



Take care of the
maintenance of the
delivered line.

Palletising systems MODULENE

The MODULENE robotic palletising systems are designed for stacking boxes, crates, sacks, cartons, shrink-wrapped packs or any other product in an orderly and reproducible manner on a transport item (pallet, etc.). The use of a robot makes it possible to move products quickly, precisely and safely, with the possibility of creating any movement trajectory and stacking patterns. Our solutions and systems are characterised by speed, stability and high reliability, regardless of whether palletising is done for individual items or entire layers. The compact, modular, solid palletising system with user-friendly interface is suitable for any industry. Our solutions are based on customer needs analysis and are designed with development plans in mind.



Cartons



Sacks



Packets



Boxes



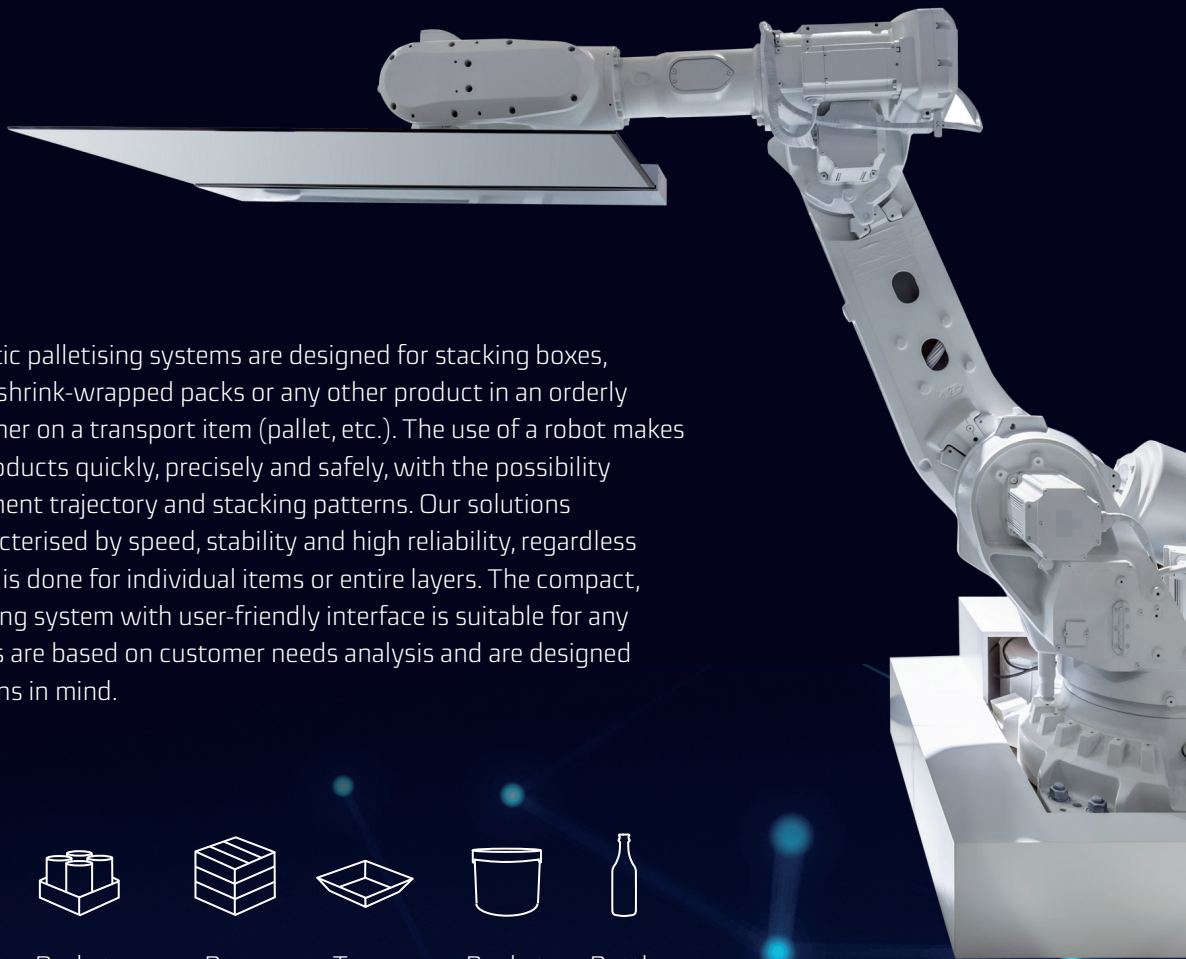
Trays



Buckets



Bottles



Examples of MODULENE system applications



Food industry



Confectionery industry



Meat industry



Dairy industry



Wood industry



Beverage industry



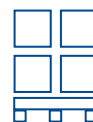
Automotive industry



Plastics



Chemical industry



< ABOUT US

Do you know that...

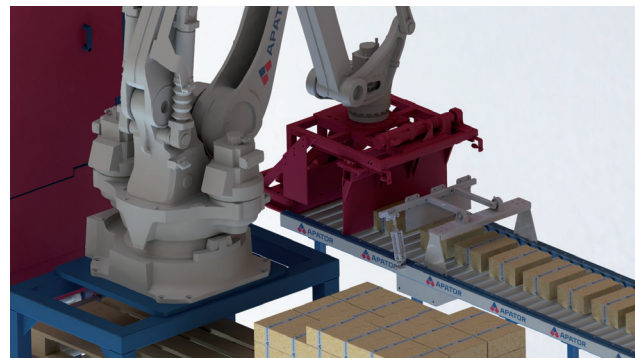
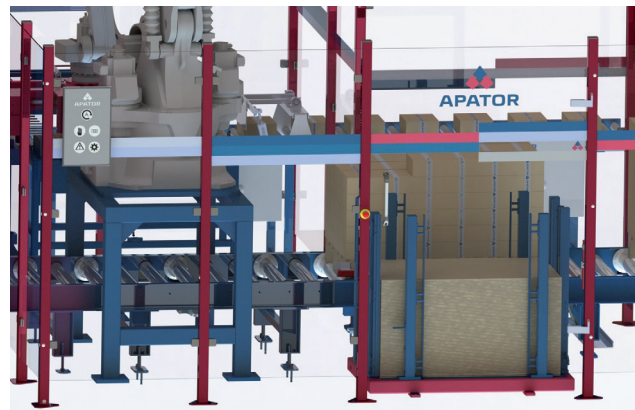
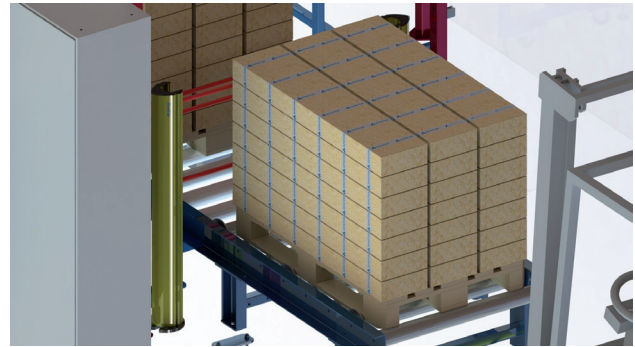
MODULENE systems achieve a throughput of up to **65 packets** per minute, that's one packet in less than a second!



Systems **MODULINE** pro

Functionality of MODULINE pro systems

- Guaranteed high system throughput, up to 65 ppm (packs per minute)
- Ability to palletise products of different sizes and destination
- Stacking of products in a stable manner thanks to inter-layer spacers
- Minimised downtime and high process repeatability
- Handling of 1000x1200 mm and 800x1200 mm pallets, 800x600 mm half pallets as well as non-standard pallets
- Modular design, allowing the device to be configured and expanded according to customer needs
- Possibility to configure the process and extend it with additional functions: marking, wrapping, binding, product labelling, vision controls, turntables, top covering, hooding and others
- Constant verification of the individual stages of the process through the implementation of weight and quantity control systems
- Robotic systems based on robots operating even several lines at the same time
- Infeed buffer, thanks to the use of a dedicated automatic pallet magazine to increase work autonomy (optional)
- Numerous safety systems that comply with the latest standards and regulations
- Light and sound signaling informing about the line status
- Possibility to change the height of the load layers
- User-friendly interface
- High precision thanks to programmable, repeatable sequence
- Reduction of time losses through multi-shift operation



Automatic palletiser MODULINE pro

Table 1. Automatic lines MODULINE pro

Line name	Package efficiency per minute* [ppm]	Dividers	Divider storage	Divider manipulator	Laying system
MODULINE pro 30	30	✓	✓	–	–
MODULINE pro 40	40	✓	✓	✓	–
MODULINE pro 45	45	✓	✓	–	✓
MODULINE pro 65	65	✓	✓	✓	✓

* Reference capacity for packages dimension of 200x250 mm.
For other parcel sizes - variable performance.

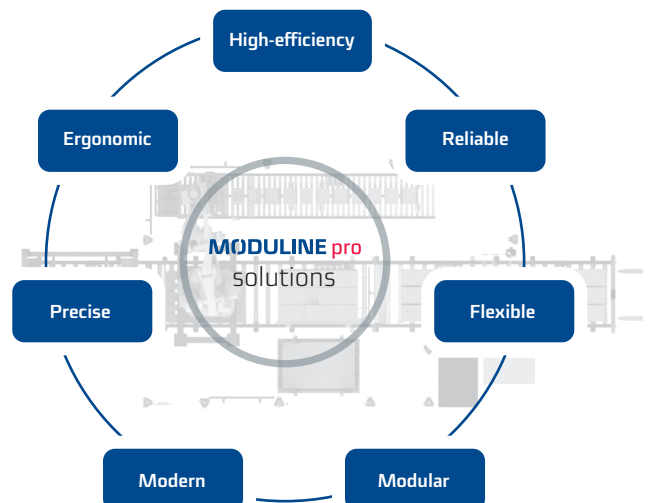


Table 2. Functionality of MODULINE pro systems

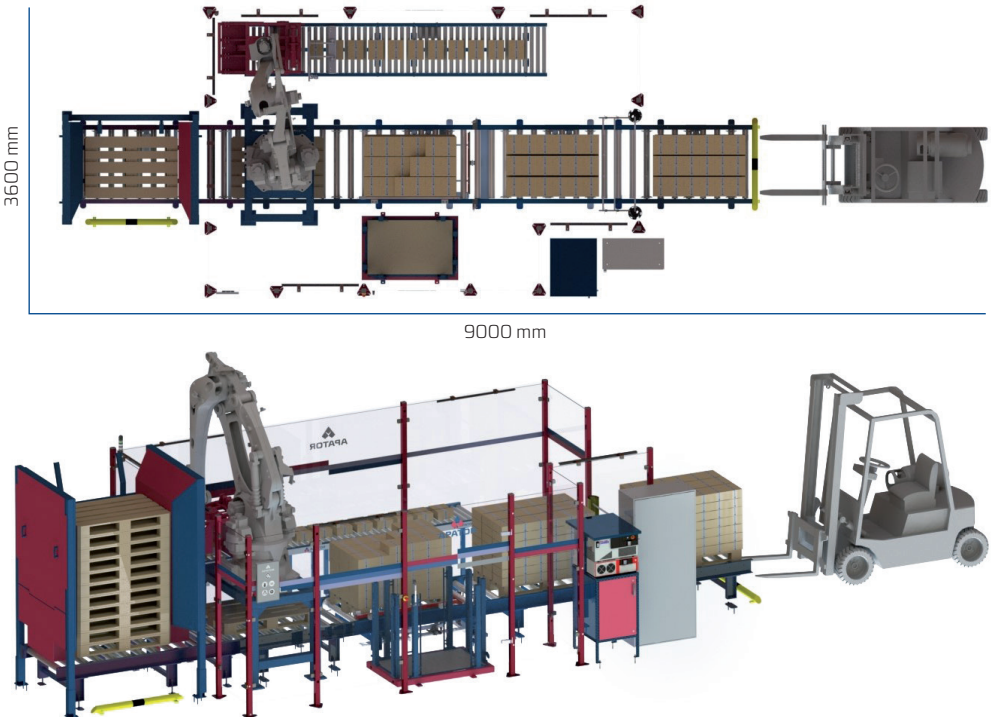
	EQUIPMENT	MODULINE pro 30	MODULINE pro 40	MODULINE pro 45	MODULINE pro 65
STANDARD	4-axis robot or Cartesian manipulator	✓	✓	✓	✓
	Pallet transfer conveyor system	✓	✓	✓	✓
	Single conveyor system transferring products from the production line	✓	✓	✓	–
	Double conveyor system transferring products from the production line	–	–	–	✓
	Dedicated gripper with function for gripping single or rows of goods	✓	✓	–	–
	Full layer gripper	–	–	✓	✓
	Pallet positioning system at the product drop-off point	✓	✓	✓	✓
	Stop systems for pallets and products	✓	✓	✓	✓
	Dedicated automatic systems for pushing and positioning products	–	–	✓	✓
	Divider manipulator	–	✓	–	✓
	Laser protection barrier	✓	✓	✓	✓
	Intuitive HMI panel	✓	✓	✓	✓
	Tempered glass safety fence	✓	✓	✓	✓
	Light and sound signals	✓	✓	✓	✓
	Anti-reflective lighting	✓	✓	✓	✓
OPTIONAL	Trolley bumper	✓	✓	✓	✓
	Dedicated divider storage	✓	✓	✓	✓
	Automated pallet storage	✓	✓	✓	✓
	Vision systems for checking correct product position and possible damage (option)	OPTION	OPTION	OPTION	OPTION
	Wrapping machine / Binder / Label applicator / Marking machine / Hooding machine / Top covering	OPTION	OPTION	OPTION	OPTION

✓available – not available

Automatic palletiser MODULINE pro

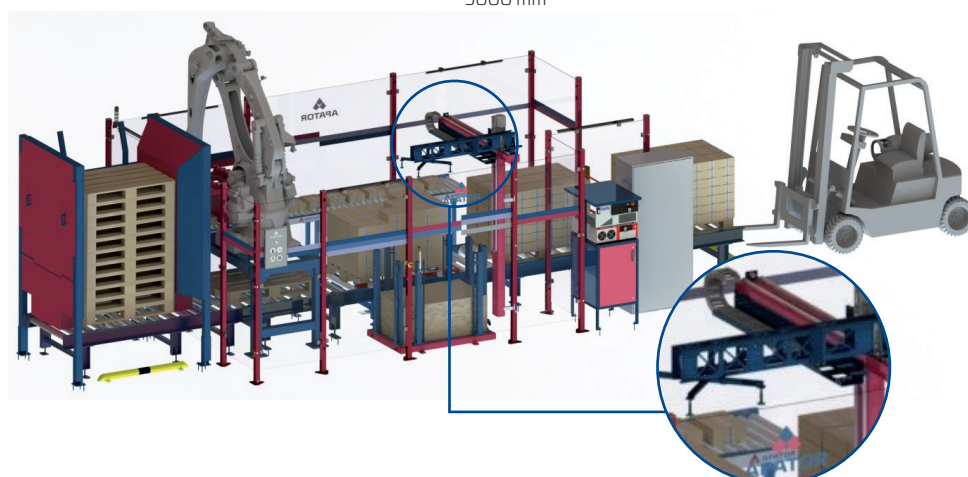
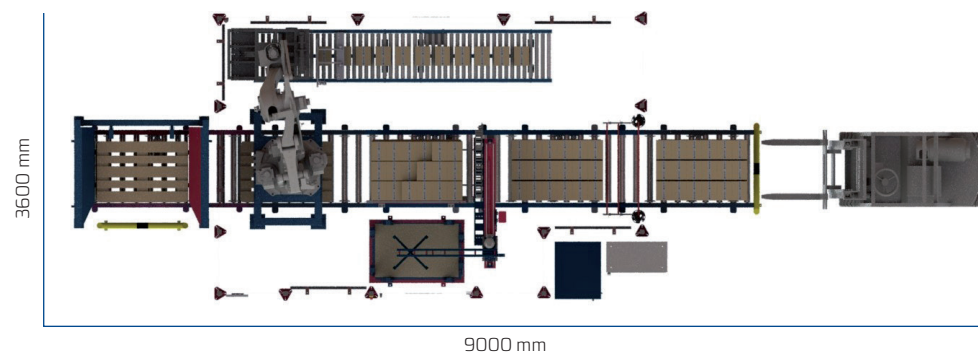
MODULINE pro 30

The 4-axis robot deposits the products onto the transport element and places the cardboard dividers.



MODULINE pro 40

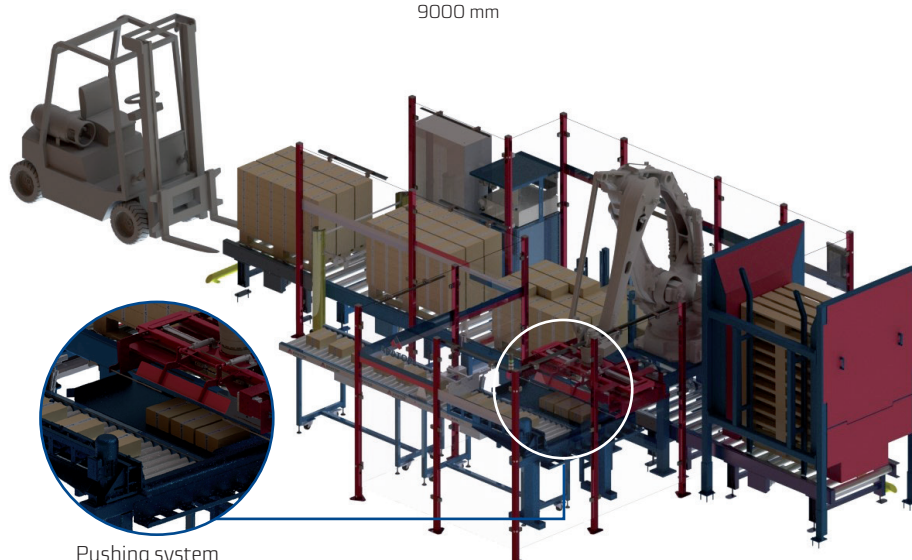
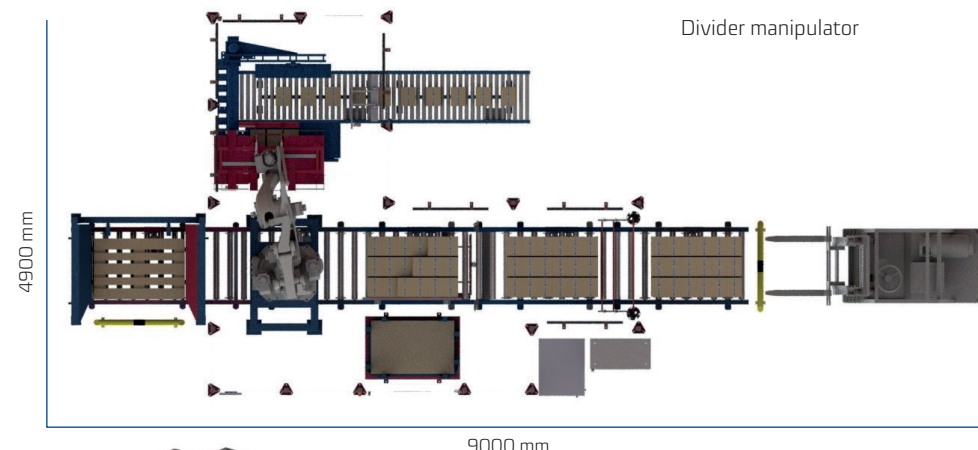
The 4-axis robot places the products on the transport element, the cardboard dividers are placed by means of a manipulator.



Divider manipulator

MODULINE pro 45

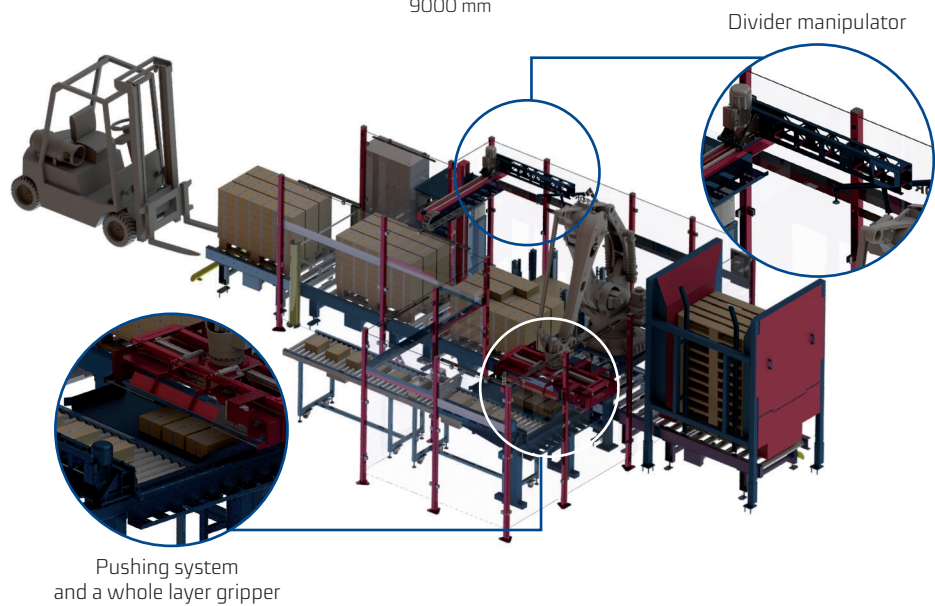
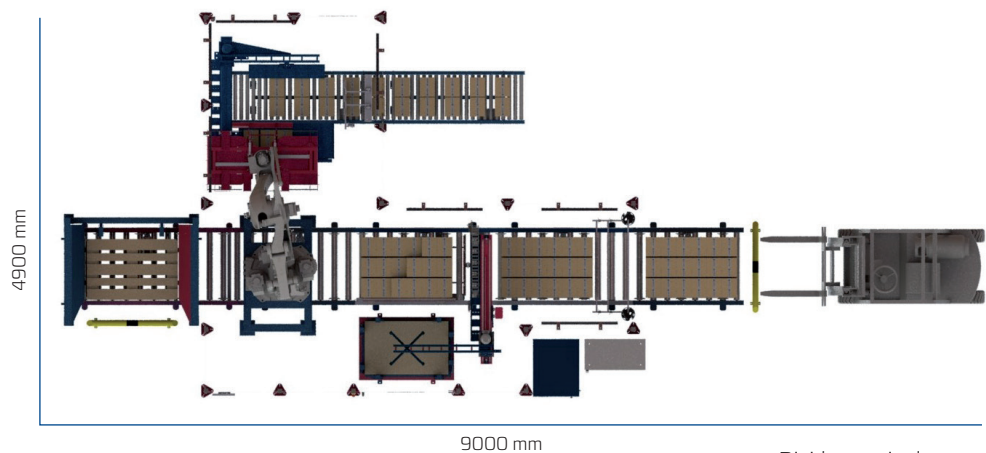
A 4-axis robot puts the products on a transport element and places the cardboard dividers, the system is equipped with a whole layer gripper and a pushing system.



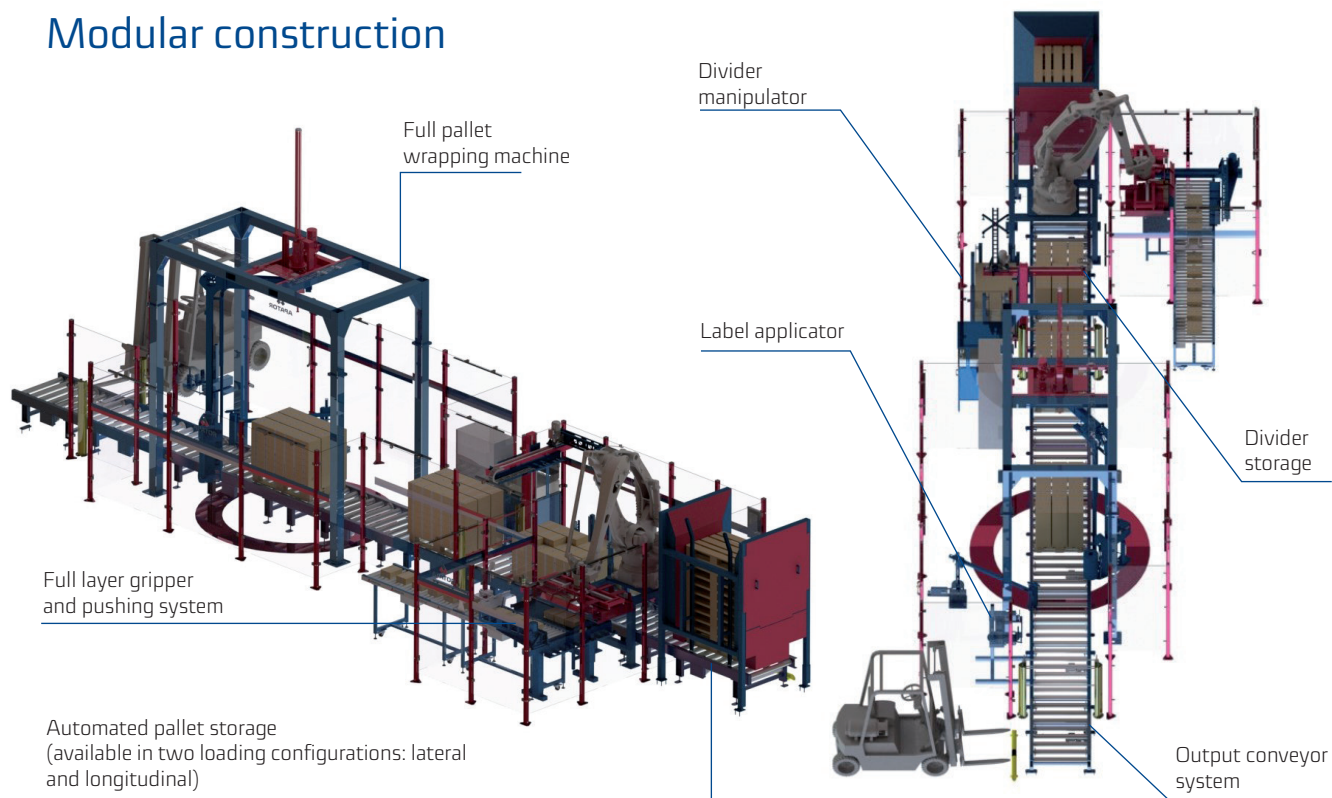
Pushing system
and a whole layer gripper

MODULINE pro 65

A 4-axis robot deposits the products onto the transport element, the system is equipped with a whole layer gripper, a pushing system and a divider manipulator.



Modular construction



MODULINE pro 65 with wrapper and label applicator

Example of system sequence

The solution is based on a 4-axis robot whose main task is to pick up products from conveyors and then stack them on Euro pallets.



The operator loads a stack of empty pallets into the automatic pallet magazine.



Empty pallets are destacked and then individually moved by a conveyor system to the goods loading area.



At the loading point, the empty pallet is positioned to maintain the repeatability of the process.



The robot picks up finished products from the production line conveyors using a gripper dedicated to the type of goods.



The robot places layers of finished products on the pallet.



The stacked products leave the loading area on a pallet.



Operators retrieve the palletised goods with forklifts from the unloading area.



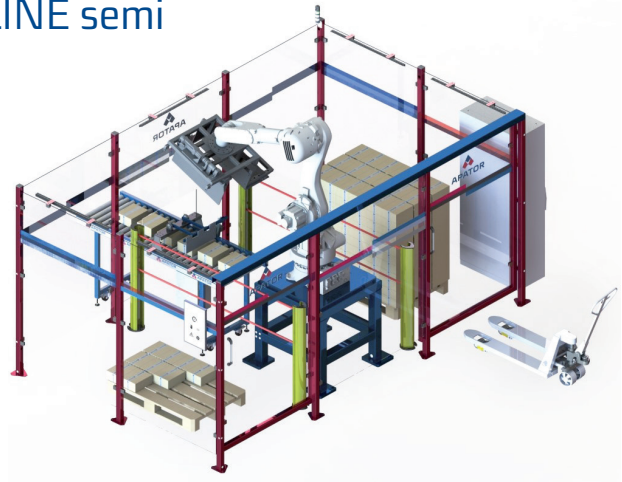
Systems **MODULINE** semi

Semi-automatic palletising MODULINE semi

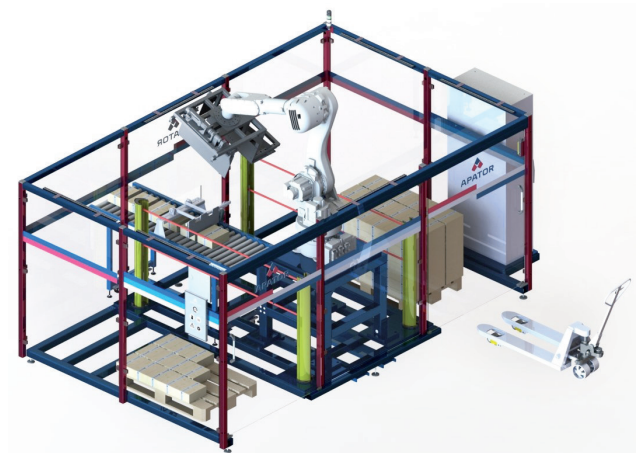
MODULINE semi is a compact semi-automatic palletiser equipped with laser barriers, allowing the operator to pick up full pallets without having to stop the robot. This innovative approach enables the productivity of our customers' production lines to be maintained at the required level, with continuous operation 24 hours a day. MODULINE semi is available in the following version:

- stationary - fixed to the ground,
- mobile - with the possibility of moving between production lines.

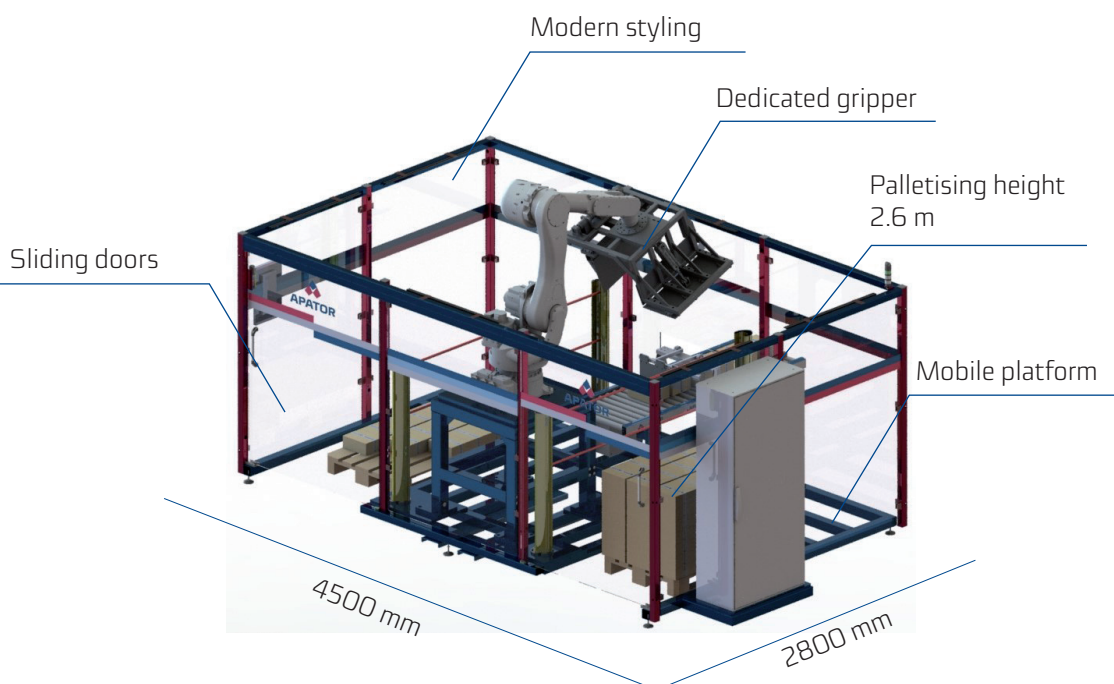
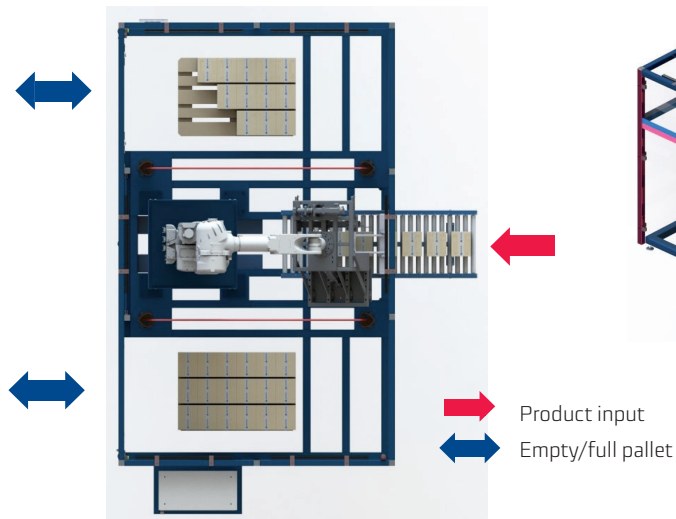
The distinguishing feature of our product is its rapid integration, assembly and installation. The MODULINE semi interface is very clear and intuitive. The use of our cost-effective semi-automatic palletising system ensures safe coexistence between robot and operator.



MODULINE semi stationary



MODULINE semi mobile





Palletising **MODULINE** semi cobot

Easy palletising with a collaborative robot – MODULINE semi cobot

MODULINE semi cobot is a modern, universal palletising station built on a mobile, compact carrier platform that can be re-located to any location. The safety of operators is guaranteed by a cooperating robot - cobot - located in the central part of the machine. This solution is ideal where there is a need to palletise products with a relatively low throughput. Thanks to its clever gripper design, the station is designed to handle a wide range of products weighing up to 10 kg. MODULINE semi cobot was developed to improve production lines and facilitate the daily work of operators while maintaining all safety standards.



MODULINE semi cobot – basic technical data

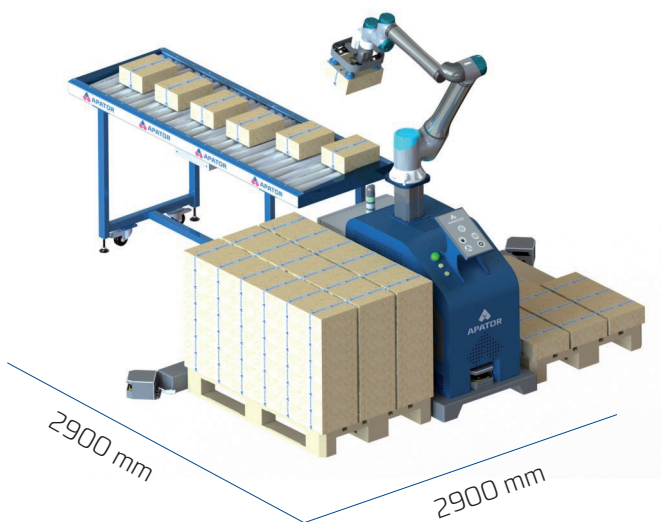
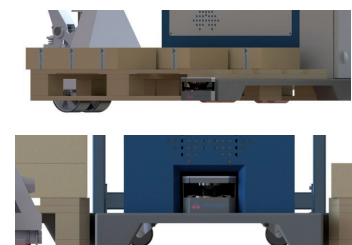
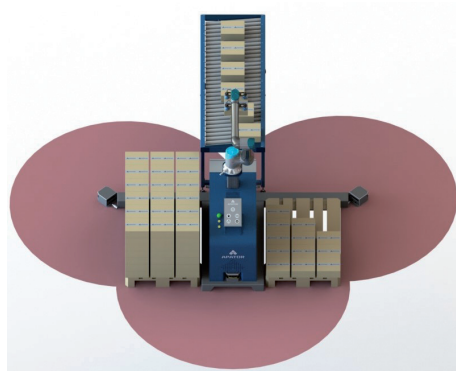


Table 3. Technical data of MODULINE semi cobot

Functional parameter	Value
Maximum station capacity	8 packs per minute
Maximum weight of a carton	10 kg
Maximum height of EUR palletization	2200 mm
Control voltage	24 VDC
Power supply	Electric

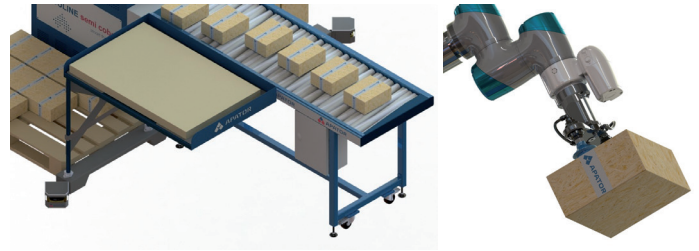
Safety guarantee

- Our grippers are free of sharp edges, so there is no risk of injury to the operator
- Safety scanners - detection of operator presence limits cobot movement to an acceptable safe speed



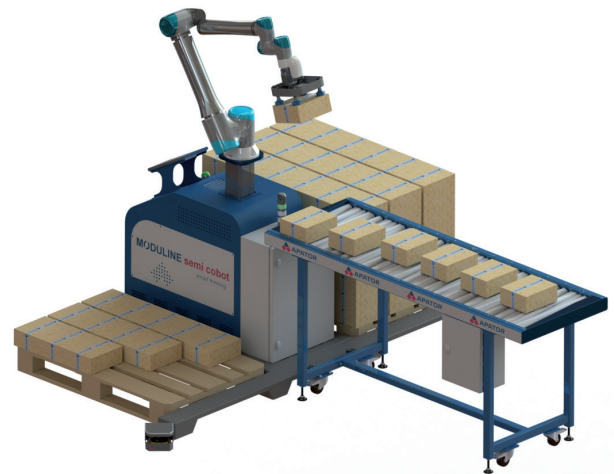
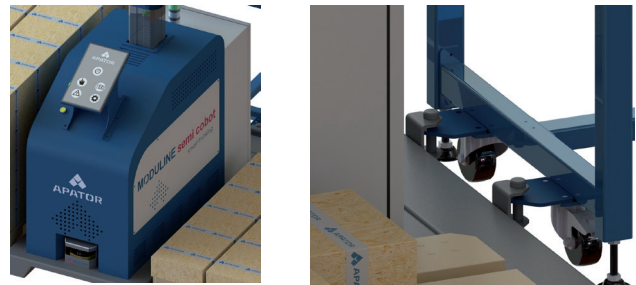
Additional options

- Optionally, our palletising station can be equipped with a carton divider storage
- Supports 600x400mm half pallets as well as non-standard pallets
- Vision system for reading the current position of the products

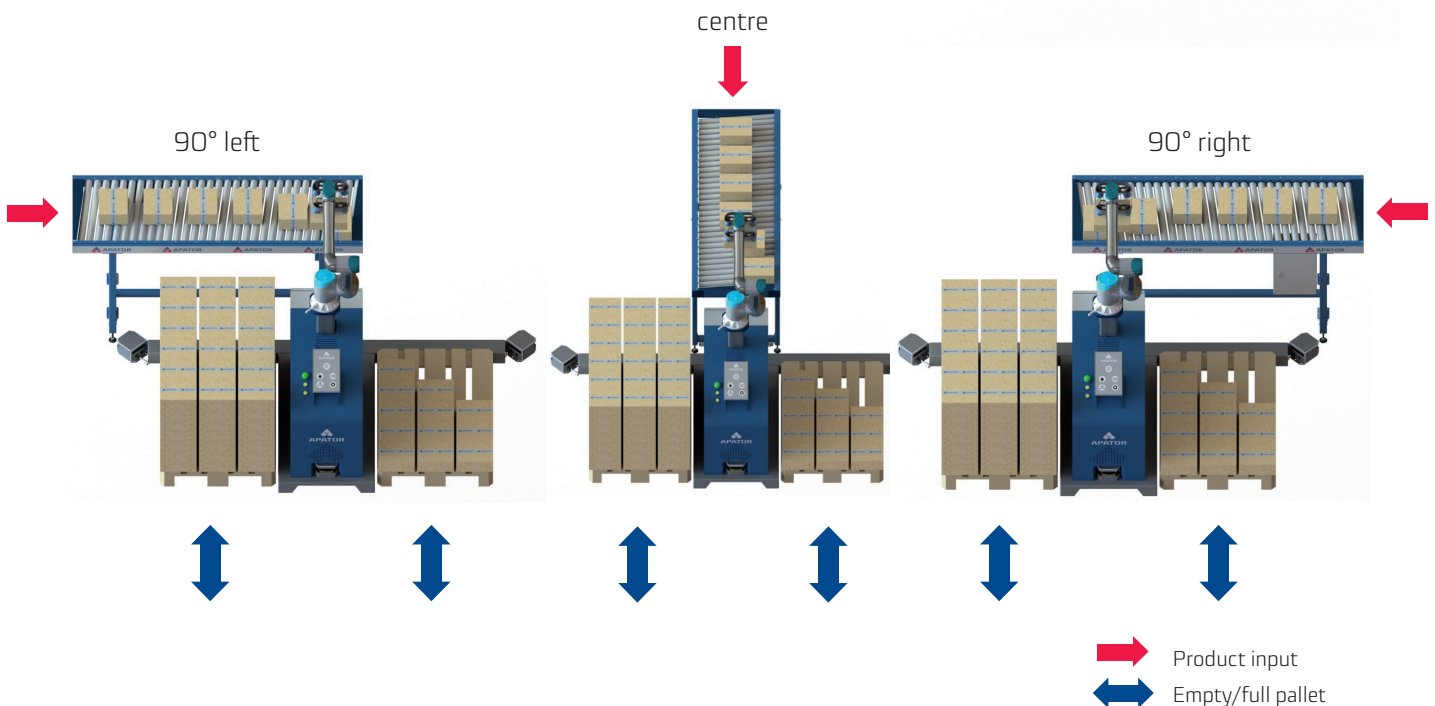


Features and benefits

- Mobile cobot pedestal for stacking products over 2 metres high
- Continuous high quality operation with the ability to pick up a full pallet without having to stop the cobot
- Reduced floor space due to elimination of security fence
- Quick and easy assembly and installation
- Can be moved anywhere with a pallet truck or forklift
- Intuitive, easy-to-use operator panel
- Gripping head for various product sizes
- The station is equipped with an infeed conveyor with a locking system, customised to the customer's needs
- Light and sound signaling informing about the line status



MODULINE semi cobot configurations

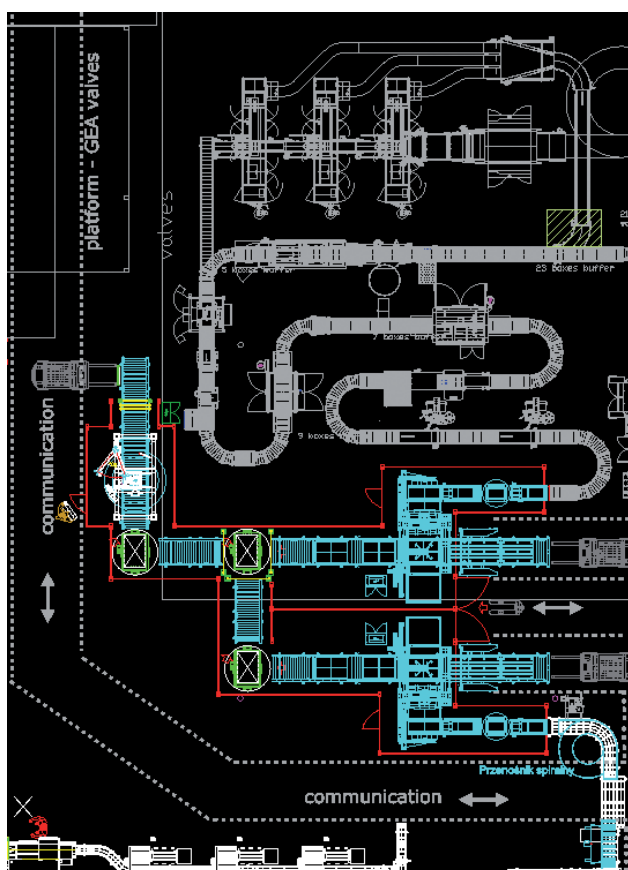


We adapt to clients' needs

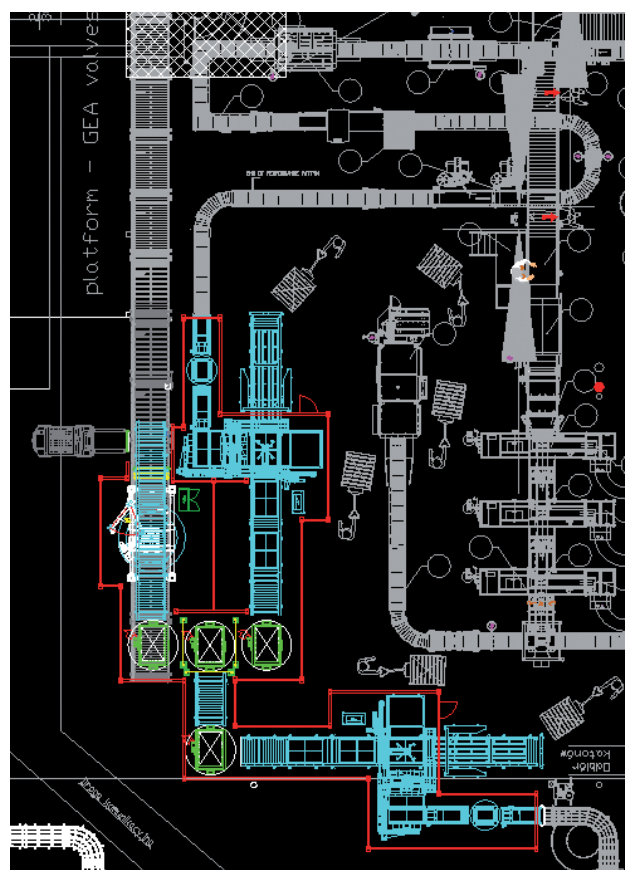
We implement new palletising solutions as well as modify and integrate those currently used by our customers. We aim to provide solutions that are stable, compatible and modular - with the possibility of further expansion.

It all starts with a visit to the client's premises, during which we discuss the details of the process to be auto-

mated, but not only - we also closely analyse the processes around the main issue. A broader view of what takes place before, after and beside us in the production plant positively influences the concept of the automation and robotisation system to be implemented, so that the whole becomes an optimal and efficient solution.



Initial layout



Final layout

The data presented in the card are valid as of the date of its issue.

The manufacturer reserves the right to make changes and improvements to the products without prior notice.

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