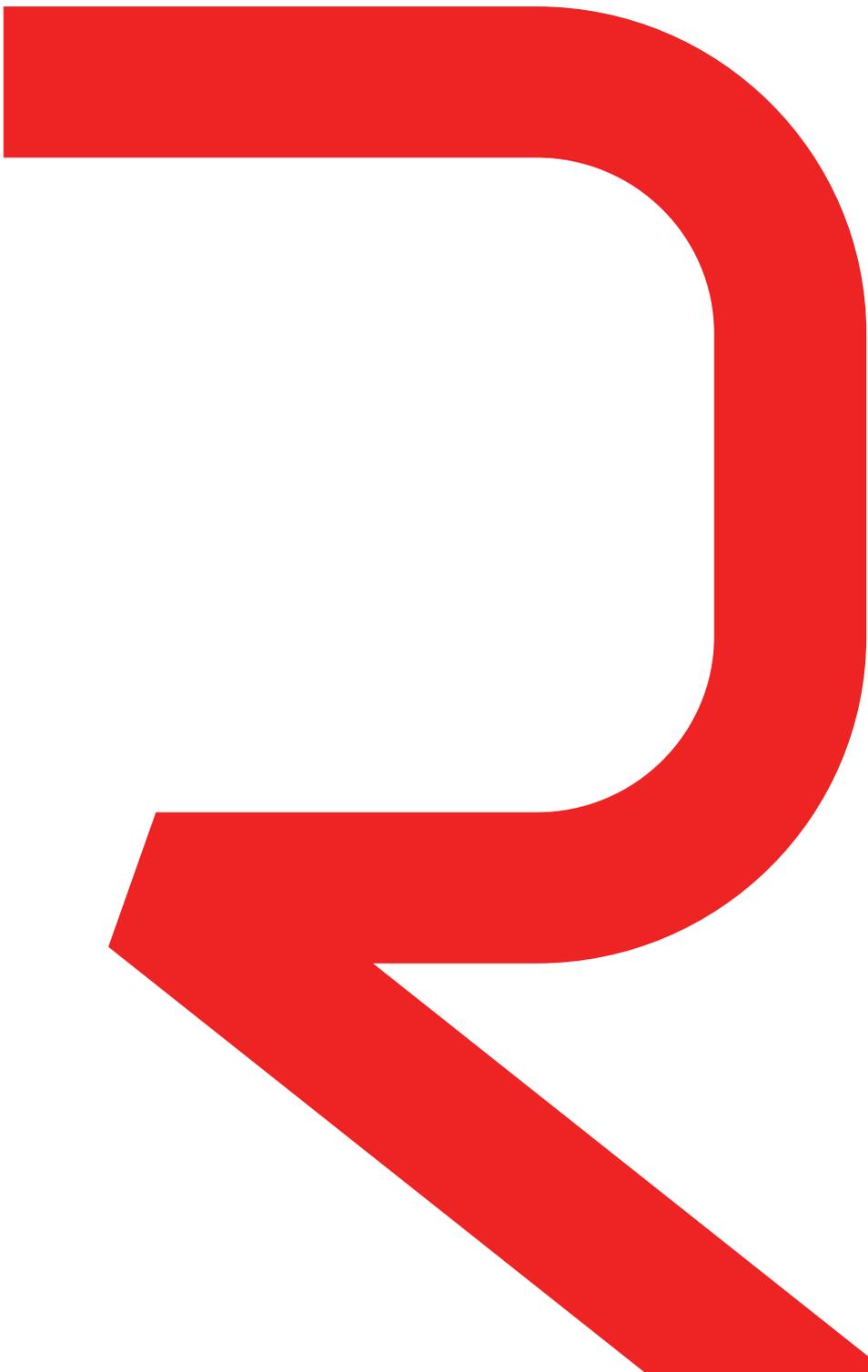


REKEN

Quality built through processes



Spis treści

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We transform the production process into a competitive advantage



For over 10 years, we have been delivering comprehensive automation solutions for the vegetable processing industry. Our technological lines are based on engineering experience, precise craftsmanship, and an understanding of production plant realities. From a single machine manufacturer, we have become a strategic partner in turnkey projects, integrating all stages of the process – from raw material intake to palletizing.



Increased efficiency



Independence from staff shortages



Individual approach to the client

OUR MISSION

We support the development of the Polish food industry by providing modern and reliable technological lines. We combine engineering knowledge with system integration experience to create solutions tailored to the processes of each plant – from agriculture to processing. Our goal is maximum efficiency, hygiene, and safety at every stage of production.

1. Raw material intake

– unloading bins



REKEN intake bins enable fast and safe unloading of goods from trailers or pallet boxes. They ensure even dosing of raw materials and stable product flow right from the first stage of the process.



Elimination of bottlenecks

Bins with smooth regulation of belt speed and unloading angle improve the efficiency of raw material feeding.



Flow optimization

Even, controlled dosing prevents downtime and excessive load on subsequent process sections.



Process continuity

Buffer systems and filling sensors maintain a steady production rhythm without interruptions or overflows.



Versatile applications

Devices can handle various types of vegetables – potatoes, carrots, onions, beets, and leafy vegetables such as celery.

- **Mobile intake bins (KPM / KP)** – designed for unloading from trailers, with smooth belt speed and angle control.
- **Hopper bins (KPW)** – allow raw material intake with the option to adapt to tipper systems for pallet boxes or direct trailer unloading.
- **Box tipplers (WS-1600)** – automate the unloading of boxes and containers with raw materials, eliminating the risk of damage.
- **Control systems and filling sensors** – ensure safe operation and synchronization with other line modules.

Case study

Modernization of the intake system in a potato processing plant.

Replacing manual unloading with an automated system using hydraulic bins allowed for:



+40%

increase in
efficiency



-60%

reduction in unloading
time



100%

elimination of
damage

Raw material intake

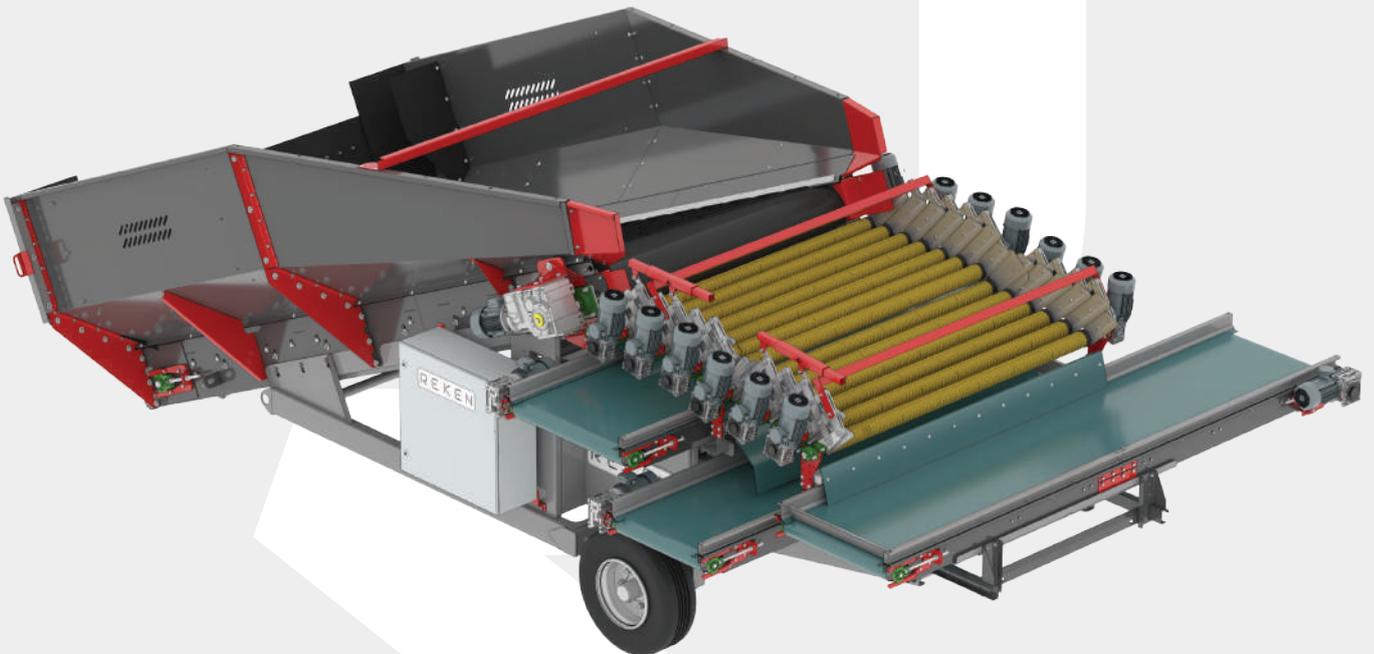
Buffering

Sorting

Washing

Packaging

Paletyzacja



2. Buffering – stabilizing product flow and line rhythm



REKEN buffers ensure smooth and even dosing of raw materials, eliminating downtime and variations in product feeding. They are a key element in maintaining continuity throughout the technological process.



Production continuity

Buffers maintain a steady product stream between sections, regardless of interruptions in raw material supply.



Flow optimization

Even dosing minimizes the risk of equipment overload and increases process stability.



Configuration flexibility

The modular design allows different buffer types to be combined depending on the line layout and product type.



Operational safety

Filling sensors, rotation control systems, and safety mechanisms protect operators and products from damage.

- **Dosing buffers BD-1 / BD-4 / BD-6** – ensure smooth raw material dosing, equipped with rollers and adjustable belt speed.
- **Buffer with pallet box tipper KD** – combines buffer and automatic box unloading functions, saving floor space.
- **EVENTFLOW system** – an advanced buffer for uniform product feeding throughout the process, maintaining constant flow and working rhythm.

Case study

Flow stabilization in a carrot processing plant.

The use of BD-6 buffers and the EVENTFLOW system allowed for maintaining a steady production rhythm across three parallel sorting lines.



+35%

overall line efficiency increase



-40%

downtime reduction due to synchronization issues



100%

controlled raw material flow between sections

Raw material intake

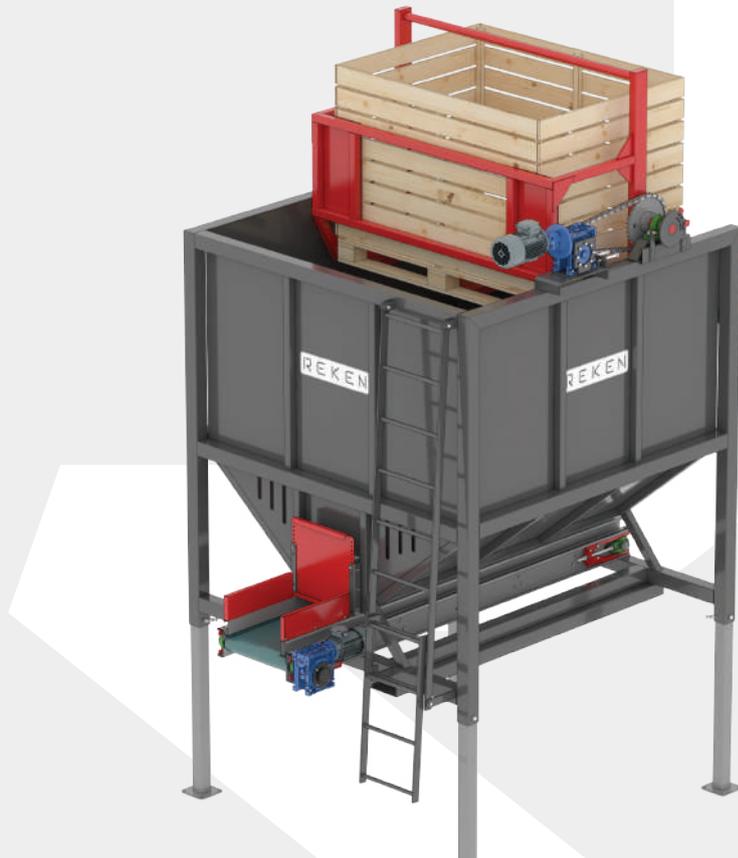
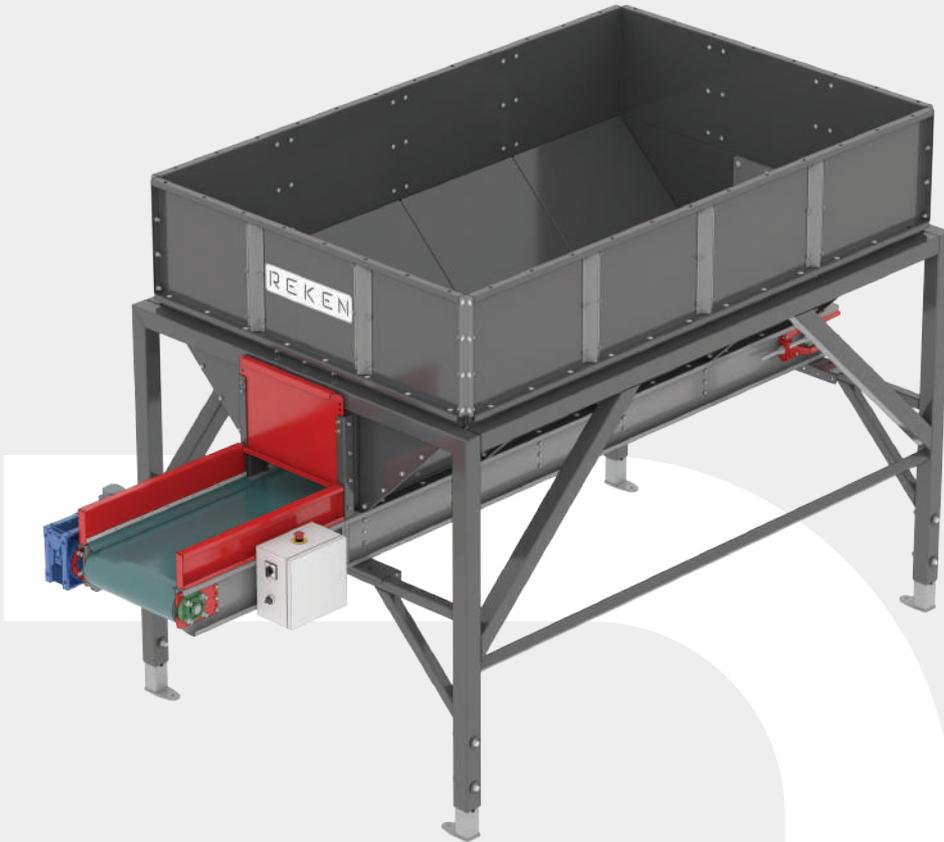
Buffering

Sorting

Washing

Packaging

Paletyzacja



3. Sorting, selection, and calibration – precision in every detail



Modern REKEN graders enable accurate sorting of vegetables and fruits by size and quality, increasing the efficiency of subsequent processing stages.



Product quality improvement

Calibration ensures a uniform appearance of each batch, which is crucial for both retail and industrial distribution.



Flow optimization

Precise separation systems minimize waste and maximize yield utilization.



Process flexibility

Various roller and belt configurations allow the line to be adapted to different vegetable types – from potatoes to onions and beets.



Integration with other stages

Sorting systems work seamlessly with buffers, washers, and packaging lines, creating one smooth production process.

- **Grader KA-780** – adjustable roller grader for sorting round and elongated vegetables (adjustment range 10–70 mm).
- **Stone separator SK7010** – removes heavier contaminants from the line before the main sorting process.
- **Roller and drum sorters SR and SO 900.2500** – divide raw material into fractions in continuous motion, ensuring high efficiency.
- **Roller sorting tables SSR Eco / SSR 250×80 and belt tables SST 400×120 REKEN** – enable manual inspection and hand sorting of leafy vegetables and similar products.
- **Leaf cutter OM-2 / OM-3** – dedicated to onions, trimming dried leaves and cleaning the surface from loose husks.

Case study

Improving onion sorting efficiency in a fresh vegetable processing plant.

The implementation of an automated sorting line with the KA-780 grader, OM-3 leaf cutter, and SST 400×120 REKEN selection table reduced manual sorting by over 60%.



+45%

increase in
sorting efficiency



-30%

reduction in raw material
loss during calibration



100%

improved batch uniformity
and product appearance

Raw material intake

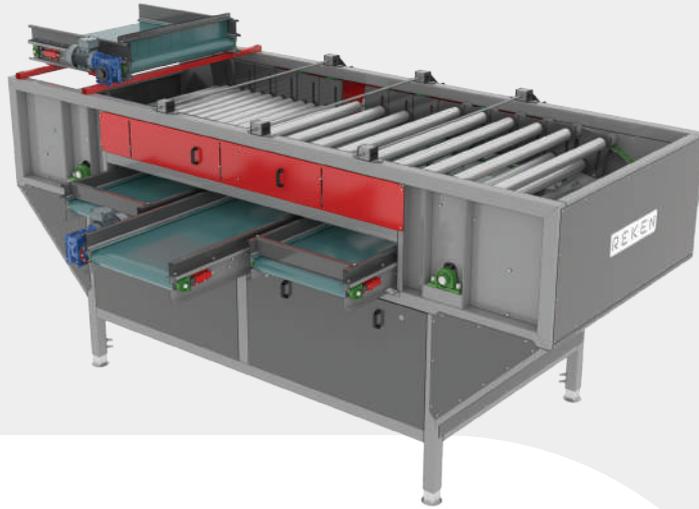
Buffering

Sorting

Washing

Packaging

Paletyzacja



4. Washing and polishing – perfect cleanliness and product appearance



REKEN washers and polishers remove impurities and give products an attractive shine. The stainless-steel construction ensures hygiene, durability, and easy maintenance.



Highest product quality

Clean, polished vegetables with a natural shine – without mechanical damage.



Process efficiency

Automatic water flow and brush speed control ensure optimal cleaning conditions.



Resource savings

Closed-loop washing systems significantly reduce water and energy consumption.



Safety and hygiene

Acid-resistant stainless-steel construction and food-grade components guarantee compliance with HACCP sanitary standard.

- **Brush cleaners CS-55 / CS-110 / CS20110** – dry cleaning of vegetables before wet washing; adjustable pressure and brush speed.
- **Semi-automatic washers MDW-300 / MDW-400** – drum washing with manual water level control.
- **Automatic washer MB500** – fully automated drum filling, emptying, and cleaning.
- **Polishers PD8200 / PD9200 / PD9300** – final stage equipment providing vegetables with a glossy finish and ideal commercial appearance.

Case study

Increasing carrot washing efficiency in a fresh vegetable processing plant.

Modernizing the washing line with the MB500 washer and PD9300 polisher reduced the cleaning time per batch from 12 to 7 minutes, while lowering water consumption by 30%.



+40%

increase in washing section efficiency



-30%

reduction in water usage



100%

improved product visual quality with lower energy consumption

Raw material intake

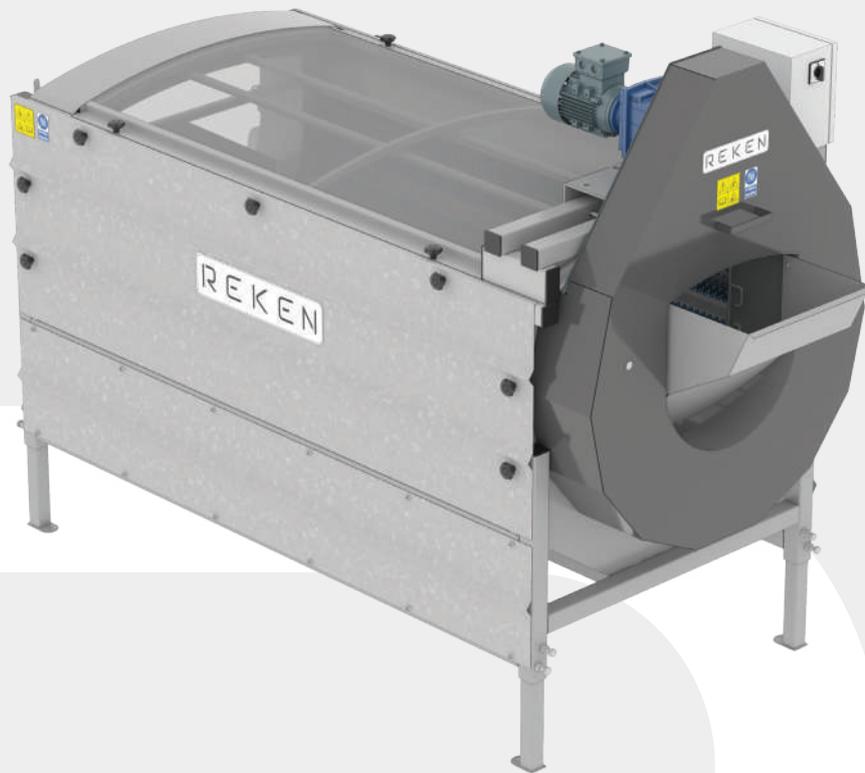
Buffering

Sorting

Washing

Packaging

Paletyzacja



5. Weighing and packaging – precision that drives profit



REKEN automatic packaging systems ensure accurate dosing and fast packing into bags, cartons, or pallet boxes. Integration with weighing and labeling systems boosts the overall efficiency of the production line.



Precision and repeatability

Weighing systems guarantee high accuracy even at high production speeds.



Packaging versatility

Compatible with various packaging types – from small bags to Big-Bags and pallet boxes.



Integration with previous stages

Automatic product feeding from buffers and conveyors ensures process continuity without downtime.



Quality control

Mass monitoring and seal-tightness systems eliminate packaging errors.

- **Packaging machine RA-1** – automatic packaging of hard vegetables (potatoes, onions, carrots, beets) into mesh bags from rolls, with Fischbein head and label applicator.
- **Box and carton filler** – automatic station for filling cartons or boxes with products, including buffer management of empty packages.
- **Pallet box filler NSP** – fills pallet boxes using sensors for position and fill level, ensuring process continuity.
- **Combination weighers R12L / R09L** – fast portioning systems for retail and bulk packaging.
- **Big-Bag scales BBW-2 / BBS-2** – designed for packing loose vegetables into Big-Bag type containers.
- **Belt weighers WE-15 / WE-30 PLUS** – for portion weighing and product feeding into bags or packing machines.

Case study

Automation of onion and potato packaging into 15 kg mesh bags.

Implementation of an integrated REKEN system with the RA-1 packaging machine, R12L weigher, and NSP filler enabled full automation of the final production stage.



+40%

increase in packaging efficiency



-60%

reduction in weighing errors



100%

uniformity in package weight and product quality

Raw material intake

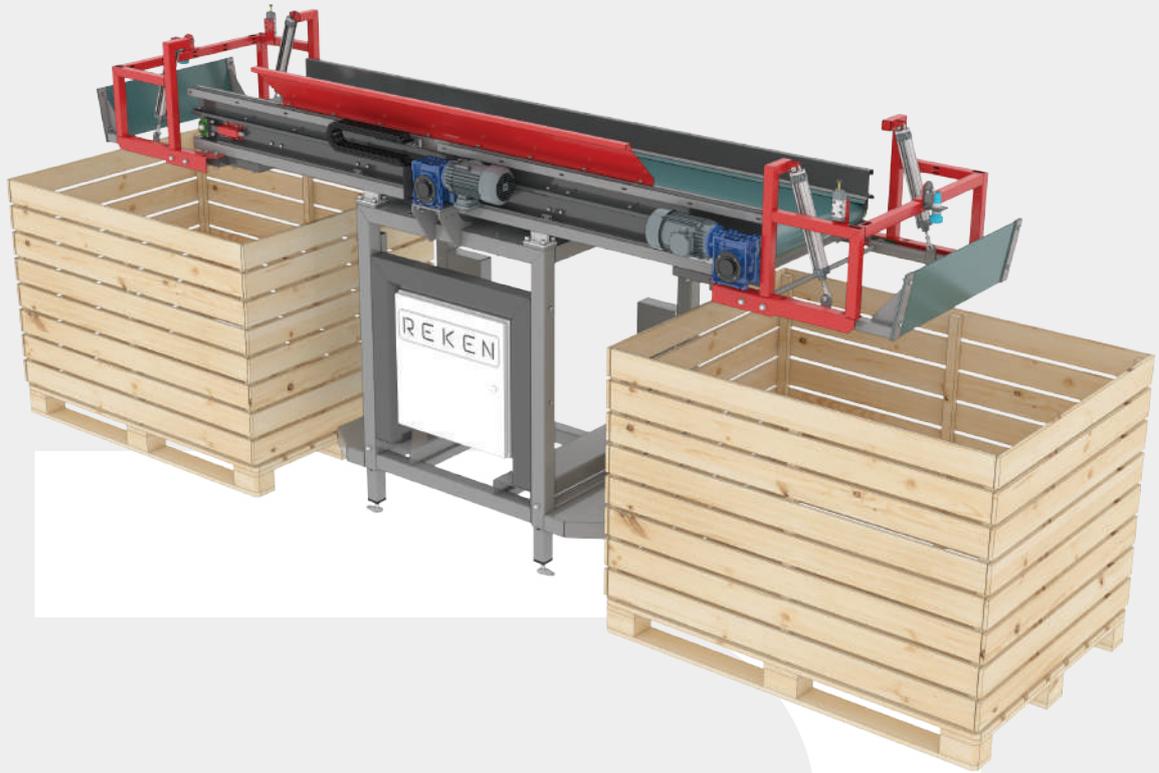
Buffering

Sorting

Washing

Packaging

Paletyzacja



6. Palletizing and depalletizing – end-of-line automation



REKEN palletizing robots and systems enable fast and safe stacking and unloading of pallets. This solution accelerates logistics and minimizes labor costs.



High efficiency

Robotic palletizers can handle multiple lines simultaneously, reducing cycle time.



Safety and ergonomics

Eliminating manual stacking increases workplace safety and reduces the risk of injuries.



Precision and repeatability

Each layer is formed identically – essential for logistics and product aesthetics.



Integration with the production line

Palletizing and wrapping systems work in sync with REKEN packaging equipment, creating a fully automated end-of-line process.

- **Depalletizing** – automatic removal of empty packaging (e.g., boxes, cartons, containers) from pallets and transferring them to the packing line.
- **Palletizing** – collection of finished packages from the packing section, layer formation, and pallet stacking.
- **Stabilization** – wrapping with stretch film, strapping, or placing interlayers between carton layers.
- The system may include: **industrial robot palletizer, automatic pallet feeder, roller and belt conveyors, automatic depalletizer, wrappers, and strapping systems.**

Case study

Automation of the final packaging stage in a vegetable processing plant.

The implementation of a robotic REKEN palletizing system with a wrapper and automatic pallet feeder enabled full automation of the post-weighing process up to shipment preparation.



+60%

increase in end-of-line efficiency



-80%

reduction in manual labor



100%

repeatability and palletizing safety

Raw material intake

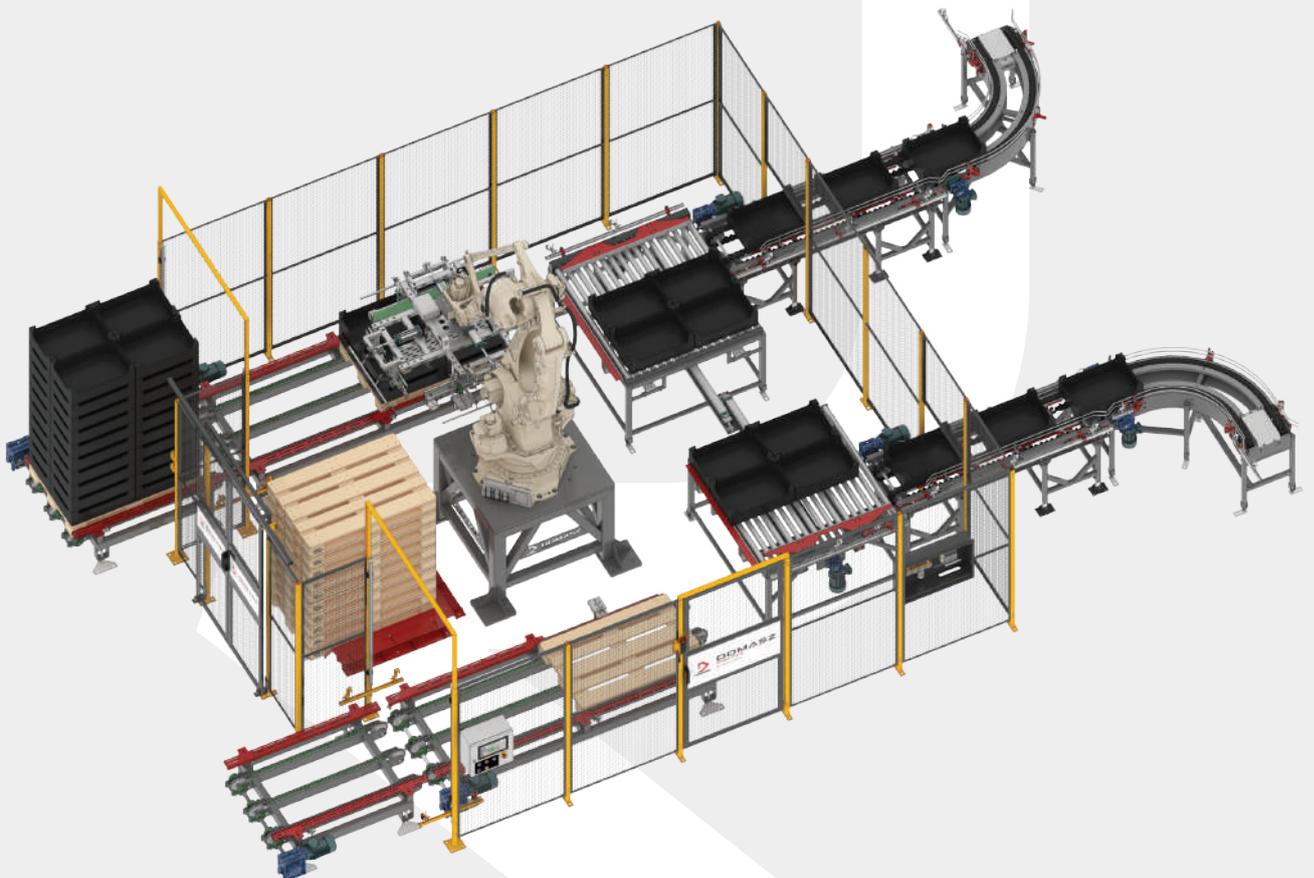
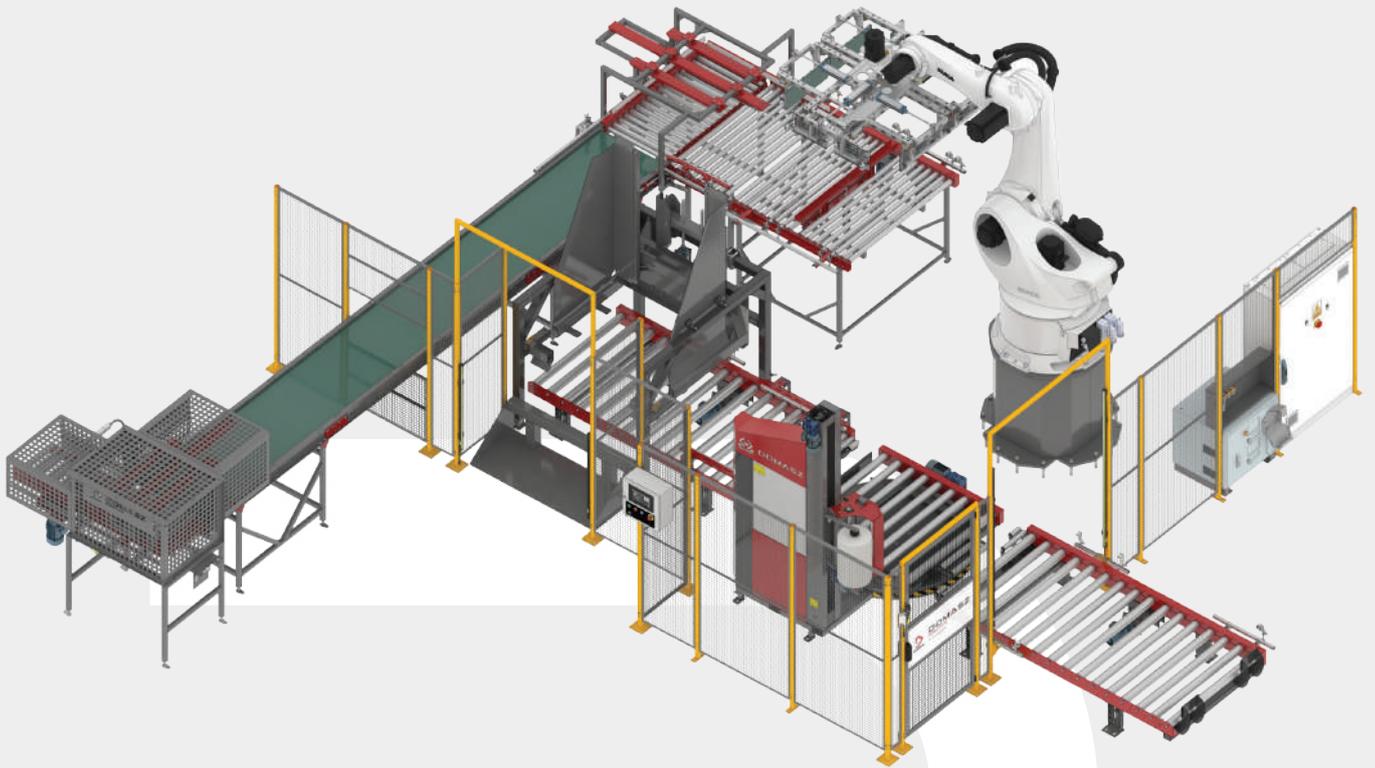
Buffering

Sorting

Washing

Packaging

Paletyzacja



7. Vegetable peeling lines – efficiency and hygiene in one process



Comprehensive REKEN lines for onion and vegetable peeling combine speed, precision, and safety. The stainless-steel construction meets HACCP standards and guarantees high product quality.



Precision and delicacy

Advanced cutting and rotating systems ensure efficient peeling without excessive raw material loss.



Versatile applications

Variable configurations allow the processing of different vegetable types – from onions to celery or parsley.



Hygiene and safety

Stainless-steel construction and full compliance with HACCP sanitary standards.



Integration with other stages

Peeling lines cooperate with washing, sorting, and packaging sections, creating a cohesive technological process.

- **Mechanical trimming** – cutting ends, stalks, or husk residues (e.g., onions, leeks, beets).
- **Pneumatic blowing** – removing loose husks and debris with air.
- **Wet or steam peeling** – for carrots and potatoes (as part of integrated washing and polishing systems).
- A typical onion peeling line includes: **OM-2 / OM-3 stalk cutter, OBC-2 onion cutter, C-Line machine set, and CS-55 / CS-110 brush cleaners.**

Case study

Automated onion peeling line – Kuyavian-Pomeranian region, Poland.

A REKEN line composed of OM-3 and OBC-2 cutters along with the C-Line system replaced manual onion peeling in a large vegetable processing plant.

 **+70%**

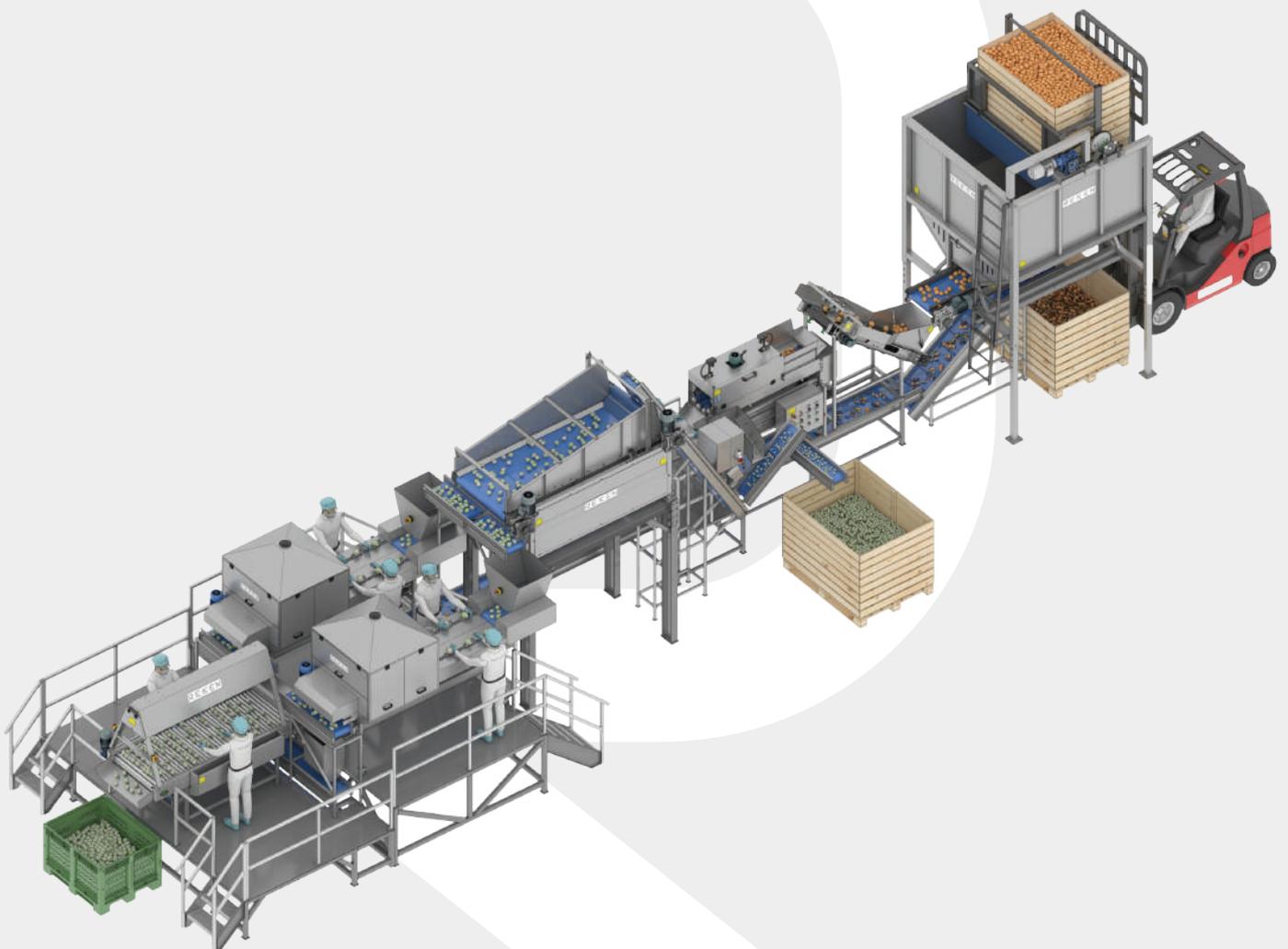
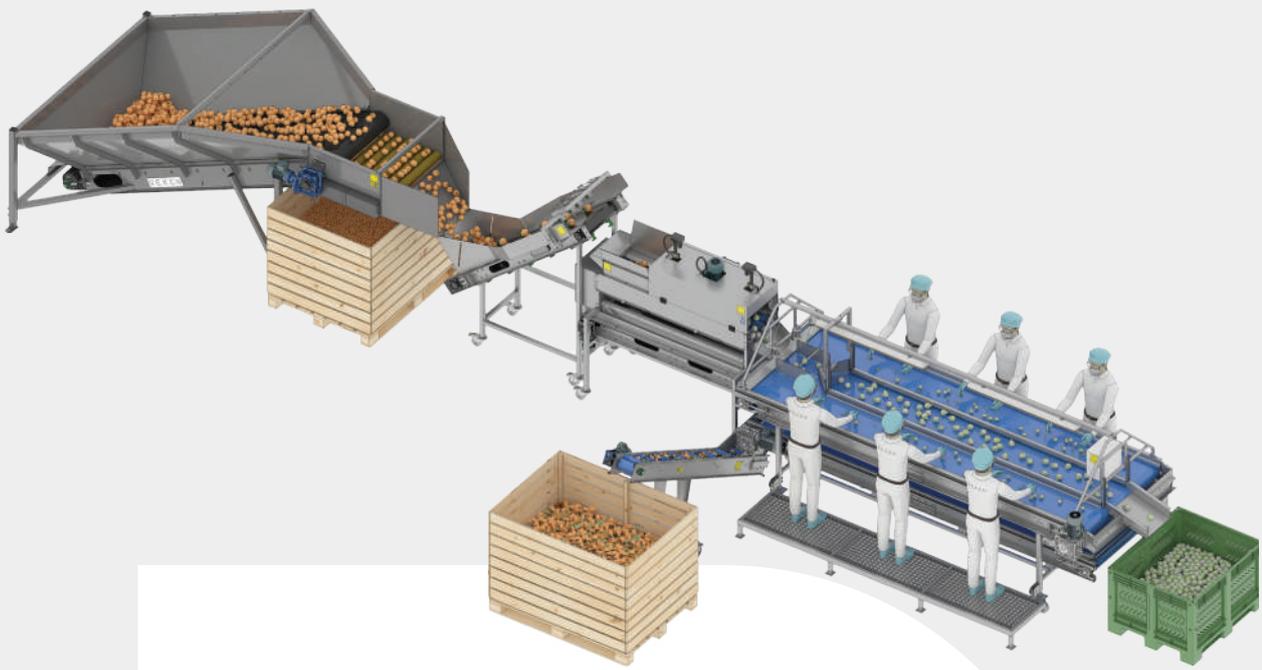
increase in peeling section efficiency

 **-50%**

reduction in raw material loss

 **100%**

consistent product quality and compliance with export standards



8. Internal transport – smooth crate and pallet logistics



REKEN conveyors, tippers, and transport systems ensure efficient flow of crates and pallets between different production stages. They optimize workspace and reduce cycle times.



Process continuity and efficiency

Conveyor and roller track systems maintain a consistent flow of products and packaging between line zones.



Safety and ergonomics

Crate and pallet transport operates without manual handling, increasing workplace safety.



Configuration flexibility

Different types of conveyors and tippers can be combined depending on the product type and machine layout.



Integration with superior automation

The entire transport system can be controlled via PLC, fully synchronized with other line modules.

- **Belt conveyors TAWERE** – enable the transport of raw materials or packaging between sections (e.g., from buffers to sorting or from packing to palletizing).
- **Conveyor PT-1** – transports bags after weighing and packing, with optional integration of sewing or sealing machines.
- **Transport and waste conveyors** – move semi-finished products and process waste (leaves, residues, rejects).
- **Roller and chain conveyors and crossings** – used for transferring crate pallets between line levels or to buffer zones.

Case study

Integrated crate and pallet logistics system – vegetable packing plant (Wielkopolskie Voivodeship).

The implementation of the REKEN internal transport system based on TAWERE conveyors, roller tracks, and KD tippers enabled full automation of material flow between packing and palletizing sections.

 **+70%**

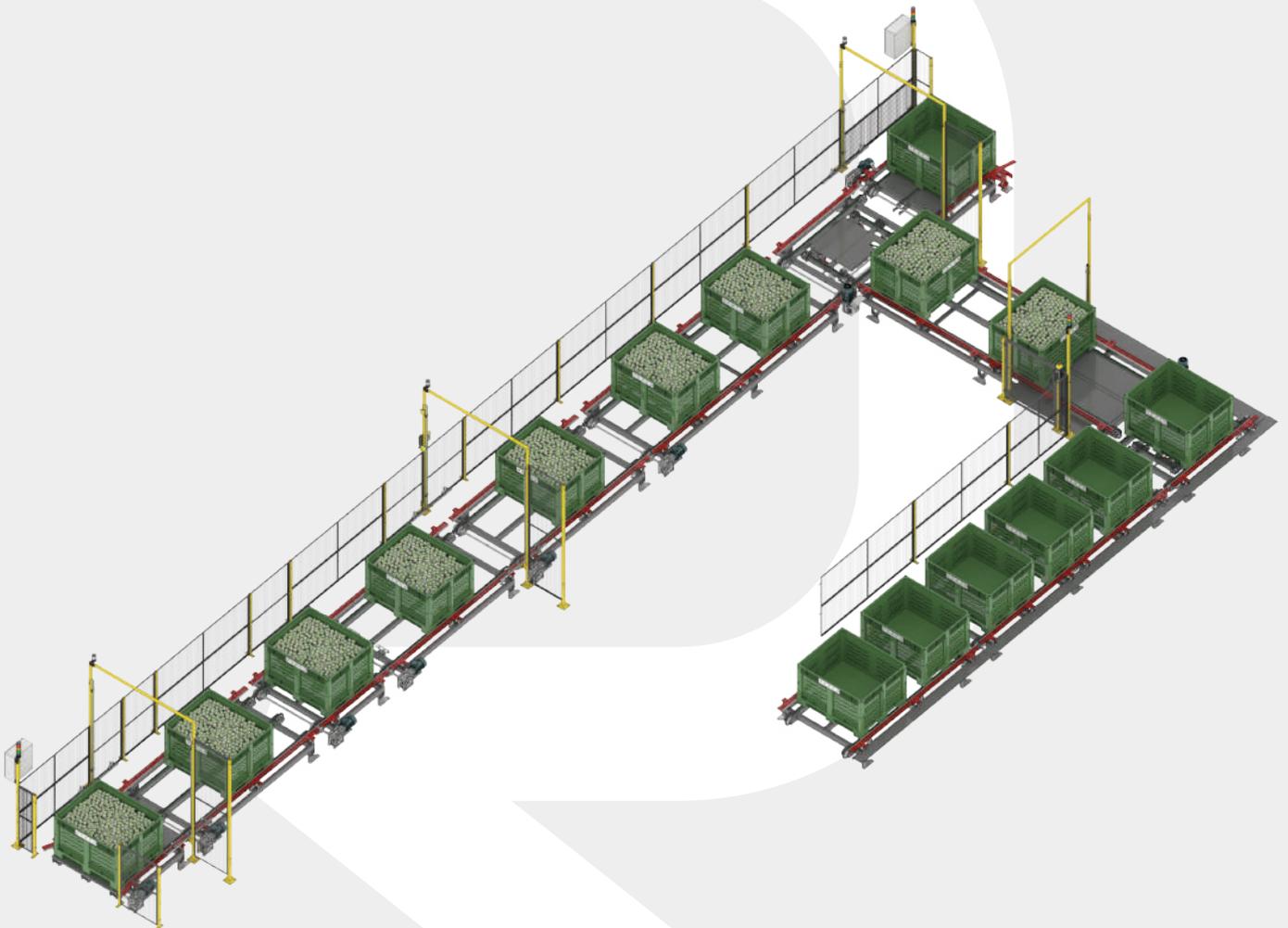
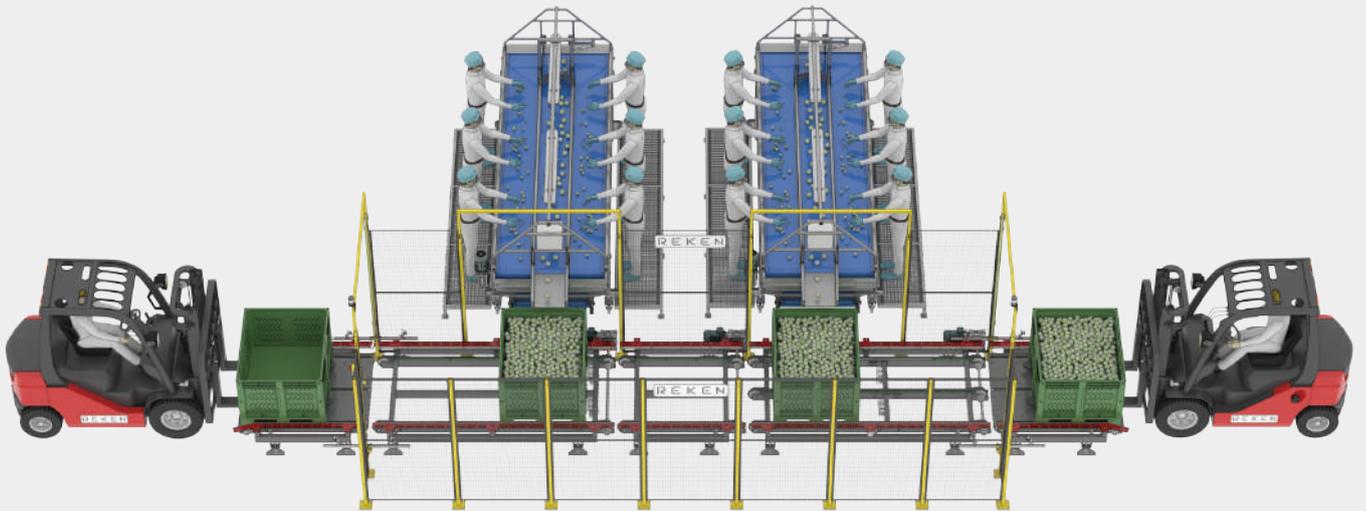
reduction in internal pallet transport time

 **-50%**

reduction in manual handling during loading and unloading

 **100%**

synchronization of all modules within a single PLC-controlled system



9. Control and integration systems – the intelligent center of your line



REKEN PLC controllers and operator panels provide complete control over the line – from buffering to palletizing. Integration of all modules into a single system ensures safety and maximum efficiency.



Full process control

Operation of all modules from a central HMI operator panel.



Safety and reliability

Integrated sensor systems, interlocks, and protective covers safeguard operators and machines.



Efficiency and optimization

Data from sensors and frequency inverters allow real-time monitoring of speed, load, and energy consumption.



Flexible integration

The system can cooperate with client solutions – ERP, SCADA, or MES – enabling production control directly from the office.

- **PLC controllers** – used in RA-1 packing machines, KD buffers, NSP fillers, and MB500 washers for automatic work sequencing.
- **Frequency inverters** – smooth control of motor speed in PD polishers, CS cleaners, KPW buffers, and PT-1 conveyors.
- **HMI operator panels** – e.g., 3.8" touch panel in RA-1 for parameter settings, operation modes, and alarm readings.
- **Sensors and measuring elements** – water level sensors (MB500), position sensors (KD), limit switches (KPM/KPW), belt speed sensors (TAWERE).
- **Safety systems** – covers with interlocks in OM-2/OM-3 cutters, safety locks, and emergency stops on transport lines.

Case study

Integrated washing and packing line control system – vegetable processing plant, Kuyavian-Pomeranian Voivodeship.

Implementation of a PLC system with an HMI panel and integrated control of buffers, MB500 washers, and RA-1 packing machines enabled automatic adjustment of the entire line's speed to the packing section's performance.

 **+35%**

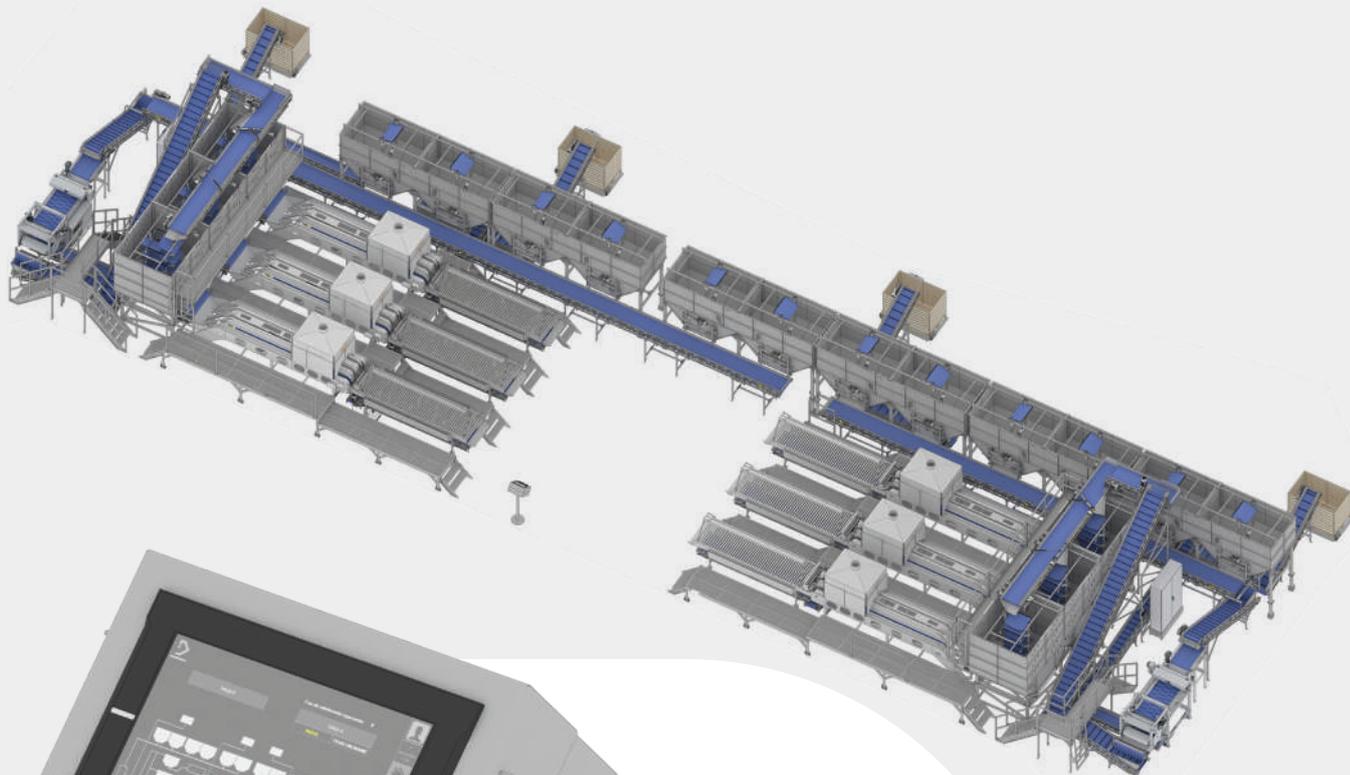
increase in line efficiency through micro-downtime elimination

 **100%**

real-time parameter monitoring (speed, water use, motor load)

 **100%**

remote status viewing and diagnostics from the HMI panel



10. REKEN spare parts – ensuring continuous operation of your line



We offer genuine spare parts and consumables for all REKEN machines. Fast component availability minimizes downtime and ensures long equipment lifespan.



Reliability and safety

Original components guarantee stable machine operation and operator safety.



Minimized downtime

Quick access to parts and short delivery times reduce service response time.



Compatibility and durability

Each part is precisely matched in design and materials to REKEN machines.



Cost efficiency and predictability

Longer component lifespan helps reduce operating costs and plan preventive maintenance.

- **Cleaning and polishing brushes** – for CS/PD cleaners and polishers.
- **Conveyor belts and drive belts** – for PT-1 and TAWERE conveyors and sorting lines.
- **Bearings, gearboxes, motors, and drives** – for washers, buffers, and feeders.
- **Hydraulic and pneumatic components** – for tippers, fillers, and palletizers.
- **Electrical components and sensors** – for control systems and master automation.

Case study

Maintenance optimization in a carrot processing plant (Łódzkie Voivodeship).

Implementation of a preventive replacement program for REKEN brushes and conveyor belts ensured consistent line performance throughout the entire production season.



+20%

increase in component lifespan



-40%

reduction in unplanned downtime



100%

compatibility of applied parts with REKEN lines



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