

EVOFLEX®

# UNIVERSAL HIGH-SPEED SINGLE COLUMN PALLETIZING SOLUTION



*Performance  
through  
Understanding*

 **Sidel**

# UNIVERSAL HIGH-SPEED SINGLE COLUMN PALLETIZING SOLUTION

## A FULL RANGE OF APPLICATIONS (STANDARD SOLUTIONS)

	Packs, Cases			Crates	
<b>Infeed level</b>	High	Low		Low	
<b>Speed</b>	High	Medium	High	Medium	High
<b>Pallet</b>	<b>Size</b>	1,050x1,250	1,050x1,250	1,050x1,250	1,050x1,250
	<b>Height</b>	2,200 mm	2,200 mm	2,200 mm	2,200 mm
	<b>Weight</b>	2,000 kg	2,000 kg	2,000 kg	2,000 kg
<b>Layer</b>	<b>Size</b>	1200x1200 mm	1200x1200 mm	1200x1200 mm	1200x1200 mm
	<b>Weight</b>	Up to 300 kg	Up to 300kg	Up to 300 kg	Up to 300 kg
<b>Max. speed (layer/minute)</b>	8	7	12	7	9

The end-of-line packaging market is complex, and becoming more so by the day. Consumer good manufacturers often need to package a wide range of products with a maximum of reliability and a minimum of operational costs. EvoFlex® is a comprehensive range of palletizers offering unparalleled flexibility, modularity and all-round performance.

Based on a low level product infeed and a single column concept, EvoFlex® is the fastest palletizing solution on the market, with speeds up to 12 layers/min. EvoFlex® combines the expected high performances of a best-in-class End of Line equipment, with a unique accessibility thanks to the floor level operation. Handling all types of secondary packaging, crates, pallets and interlayers, EvoFlex® includes improved safety and easy operability by one single operator

Its clean and sturdy single-column design with double or single lifting unit, enabling floor or high level infeed, sets it apart from alternatives with the best Total Cost of Ownership of the market. The simplicity of the system enables automatic changeovers in under a minute with no manual adjustment.

And of course the quality and integrity of the packaging remain impeccable, even for the very lightest containers. TCO and flexibility oriented, this comprehensive modular platform is used to cover all palletizing and depalletizing needs.

## APPLICATIONS



American cases (RSC)



Wrap around blanks and lidded trays



Trays



Shrink-wrapped packs



Shrink-wrapped trays



Plastic crates



Pallets with plastic crates



Pallets with cases



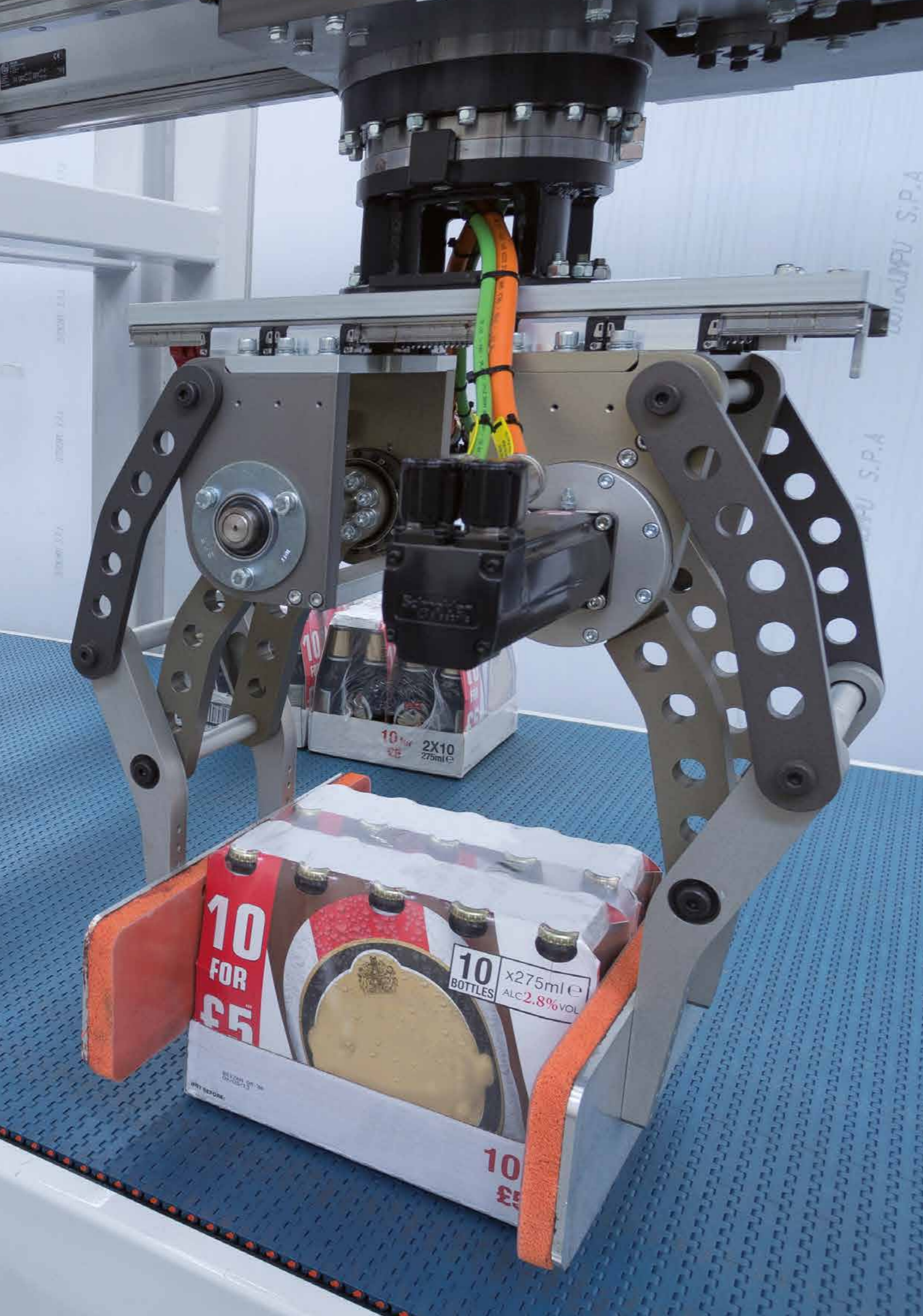
Pallets with interlayer pad



Half/quarter pallets

### YOUR CHALLENGES AND NEEDS

- Increase your high-speed line **performance & operability**
- Optimize your **Total Cost of Ownership**
- Keep **quality & integrity** of your products
- Package a **wide range of products** with a minimum of operational costs
- Look for **easy-to-use** advanced technologies
- Improve **maintenance & safety**



## TRADITIONAL IN-LINE INFEEED WITH DIVIDER

- Distribution of products between outfeed lanes of upstream machine and infeed lanes of the palletizing machine
- Suitable for all secondary packaging: corrugated cases, trays, packs, corrugated + film mix
- Shifting packs/cases to right or left side according to pallet pattern
- Inverter control speed adjustment for different formats
- Speeds up to 200-250 packs/min
- Quick and easy format changeovers
- Easy dismantling of slats for optimal access to the mechanism



## AXOSMART® MODULAR LAYER PREPARATION SYSTEM

- Packs moved and turned by multiple modules according to the need
- Servo-driven gripping head, moving along 2 Cartesian axes
- High-speed solution
- High repeatability and precise movements
- Full access and easy maintenance operations
- Option: automatic layer pattern changeovers
- Gantry system (home made solution)
- Packs stability (no divider, flat chain instead of rollers), pack position always under control and gently handled



## ROBOSMART® LAYER PREPARATION MODULE

- High repeatability and precise movements
- Aluminium gripping heads
- 6-axis anthropomorphic robot with payload of 50 to 70 kg at wrist, or 5-axis robot with payload of 80kg
- Full access and easy maintenance operations
- Adapted to any type of bottle (pet, glass, can, etc...) and packaging (carton, shrink wrapped pack, plastic crate, etc...)
- Possibility to handle more packs at the same time
- Modular solution 1, 2 or more robots depending on layout and line speed
- Automatic layer pattern changeover



EvoFLEX®

**HIGH OPERABILITY AND SPEED**

# HIGH OPERABILITY AND SPEED



## INNOVATIVE LOW-LEVEL INFEEED SYSTEMS

- High accessibility and better visibility
- Effectively eliminates the health and safety risks
- No pack elevator, stairs, gantries, elevated platforms required compared to high level infeed
- CAPEX diminution thanks to less conveyors needed
- Simplified maintenance with easy access to machine parts, for a reduced OPEX
- Risks of accidents are reduced due to the absence of stairs and platforms removal
- Improved operation and access due to complete floor level visibility
- Greater palletizer availability due to higher performance and reduced downtime



## SMOOTH AND RELIABLE LAYER HANDLING

- Layer preparation with belt conveyor for accurate handling of unstable packaging
- No pusher: layer transfer simply based on inertia
- High-friction belt to allow smooth layer transfers, suitable for any type of product surfaces
- Additional layer accumulating table for high-speed applications
- Vertical moving belt conveyor taking the already formed layer and transferring it to the roller head



## ULTRA SMOOTH OPERATIONS

Packaging integrity and stability are guaranteed with:

- No diver, no pusher: layer are transferred to the 2nd carriage base on inertia
- Flat chain instead of rollers
- Belt conveyor for accurate and stable packs handling
- No shocks and damages on the product thanks to a motorized stop bar with adjustable speed according to packaging features



## HIGH PERFORMANCE SINGLE COLUMN CONCEPT

### Central column

- Single or double lifting unit on a single column
- Servo-driven self-braking motors equipped with an encoder for the vertical movement
- Simple motion technology

### Roller head

- Composed with motorized roller table and 4 servo-driven lateral compacting guides
- Transfer into roller head based on layer inertia (no additional motorization and pusher needed)
- Head opening in 2 halves to release the layer onto the pallet/previous layer

### Gripping head

- Gripping of the case layer on all sides for product pick-up and movement
- Pick-up by pushers fitted with horizontal tubes driven by a pneumatic system
- Guide position maintained by a mechanical effects (knee position)
- Contact with cases ensured by independent plastic pads adjustable to the actual layer size

### Central pallet conveyor

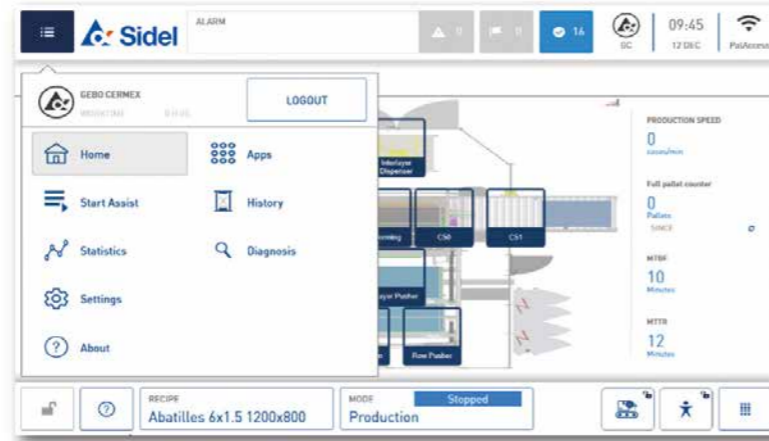
- Empty pallet stopped by pneumatically-driven mechanical retainer
- Presence and correct positioning of the pallet controlled by 2 sensors

FATEST LOW-LEVEL PALLETIZER ON THE MARKET: UP TO **12 LAYERS PER MIN**  
 STREAMLINED TECHNOLOGY BASED ON A **DOUBLE LIFTING UNIT ON A SINGLE CENTRAL COLUMN** FOR A GREATER MACHINE ACCESSIBILITY

## USER-FRIENDLY EXPERIENCE

### Tablet navigation based on a multi-touch panel PC:

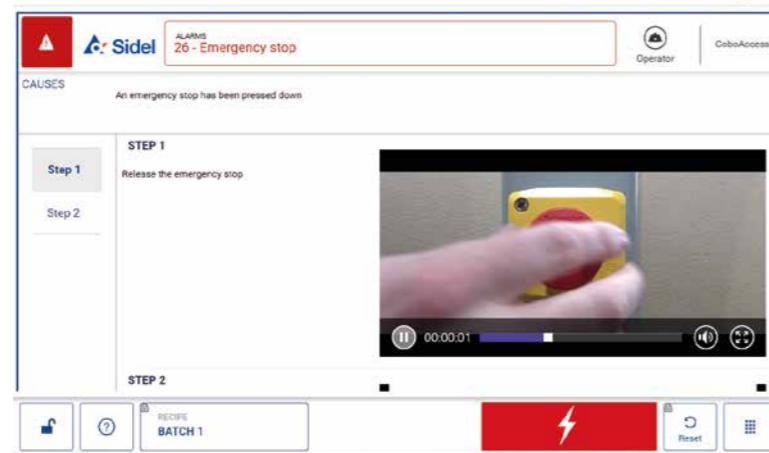
- 15" touchscreen main control panel
- Two-handed operation to manage the main buttons (e.g. start and stop): protection against incorrect use with one hand only
- Swiping: page or buttons bar sliding with one finger
- Zooming: possibility to enlarge or reduce photos/texts



## ADVANCED DIAGNOSTIC

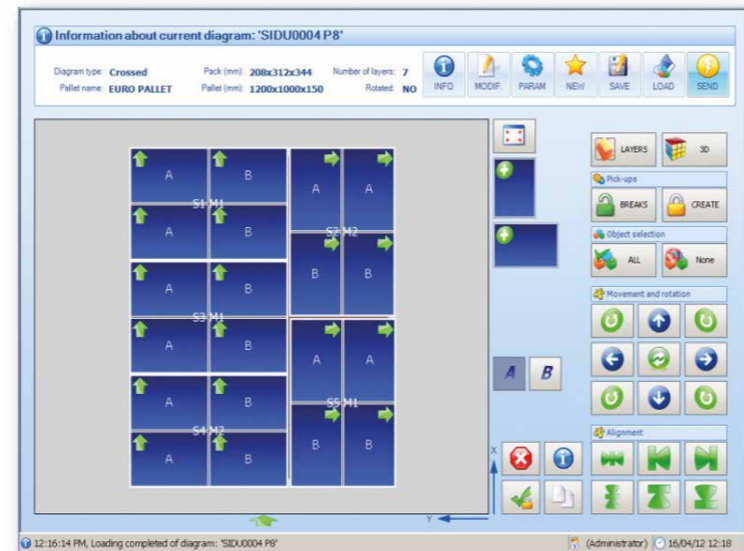
### Reduce, facilitate & improve maintainability:

- Machine One Point Lesson (OPL): Helping to solve issues and potential breakdowns thanks to additional information available directly from the HMI (pdf procedure or videos)
- Runtime archives available from HMI: Operator alerted in advance of potential actions to be done during production time (archives can be exported)
- Standard Operating Procedures (SOP) for maintenance and cleaning: Maintenance supports via advanced diagnostics displayed on the HMI



## PLACE SOFTWARE

- Full and easy access/control of all machine parameters
- Place programming and pallet pattern management software, giving full autonomy to the user:
  - Full pallet management with the possibility to modify, simulate and create pallet patterns autonomously
  - Pattern creation in less than 2 minutes
  - Automatic pattern verification before launching into production
- Possibility to integrate EIT (Efficiency Improvement Tool) and ESM (Equipment Smart Monitoring) for machine and line supervision



EvoFLEX®

# ADVANCED AND USER-FRIENDLY EXPERIENCE

# COMPREHENSIVE TCO-ORIENTED SOLUTION

## OPTIMIZED TOTAL COST OF OWNERSHIP

### Optimized consumptions:

- High efficiency drives, based on brushless technology
- Limited air and power consumption and spare parts costs
- Reduced space occupation

### Economical low level infeed solution:

- No pack or case elevator, no platforms
- One single operator for the whole end-of-line

### Very low maintenance:

- Sturdy and reliable single column technology without column rotation
- Reinforced driving belts, no chains



## ADAPTABLE TO SITE CONSTRAINTS

- Easy to integrate in a new or existing line
- Flexible and compact layout offering an optimized footprint
- Double or single lifting unit
- Floor or high level infeed



## COMPREHENSIVE MODULAR PLATFORM

### EvoFlex® offers a range of pallet handling devices:

- Pallet magazine
- Pallet inspection system
- Rotating table
- Pallet elevator and shuttle
- Various conveying modules
- Fully comply with production flow and factory constraints



## RELIABLE PAD DISPENSER

- Capability to handle various pad materials, dimensions and thicknesses
- Rotating arm equipped with suction cups
- Precise positioning of the pad onto the pallet and/or previous layer
- Servo-motorization for high-speed version
- Manual or automatic pad magazine loading



## A COMPLETE END-OF-LINE APPROACH

### Collaboration with various partners to integrate:

- Automatic or Laser Guided Vehicles (AGV/LGV) with BA Systems
- Pallet stretch-wrappers
- Pallet labelers
- Automated warehouse systems

Item	Specifications
Controlled axis	From 8 to 22
Working space	Packs infeed height 800/1,100 mm - pallet conveyors height 550 mm
Weight	5,000 kg (machine column and head only)
Drive technology	Servo-motors
Electrical data	380-480 V, 3-phase, 48-62 Hz
Energy consumption	available on request due to configuration and layout variations
Air pressure	6 bars
Motor and electric protection	IP 54

Sidel is a leading provider of equipment and services solutions for packaging beverage, food, home and personal care products in PET, can, glass and other materials.

With over 40,000 machines installed in more than 190 countries, we have nearly 170 years of proven experience, with a strong focus on the factory of tomorrow with advanced systems, line engineering and innovation. Our 5,500+ employees worldwide are passionate about providing solutions that fulfil customer needs and boost the **performance** of their lines, products and businesses.

Delivering this level of performance requires that we stay flexible. We continuously ensure we **understand** our customers' changing challenges and commit to meeting their unique performance and sustainability goals. We do this through dialogue and by understanding the needs of their markets, production and value chains. In turn, we apply our solid technical knowledge and smart data analytics to ensure lifetime productivity reaches its full potential.

We call it **Performance through Understanding**.

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