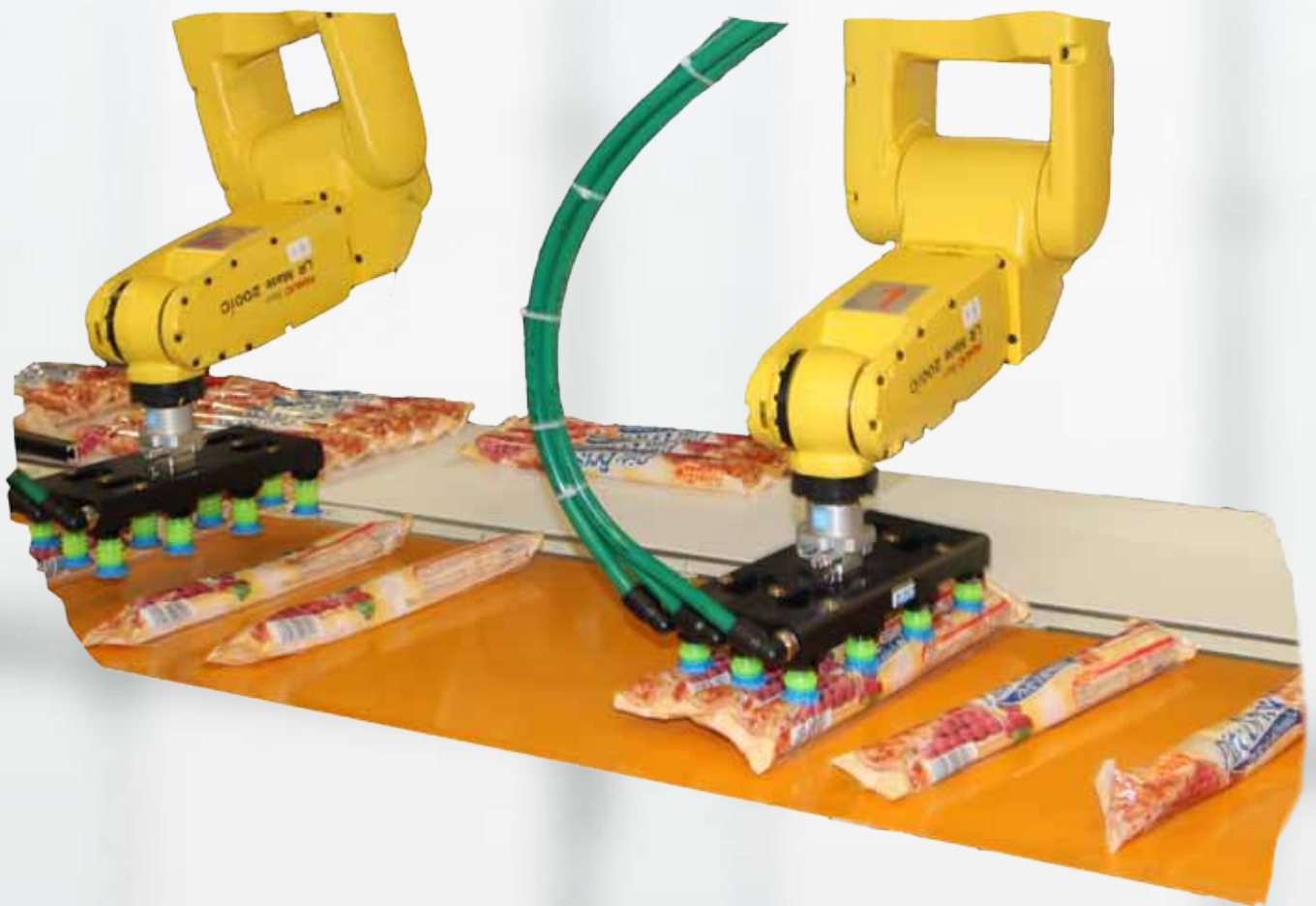


# Robotics

## Product Handling and Case Packing

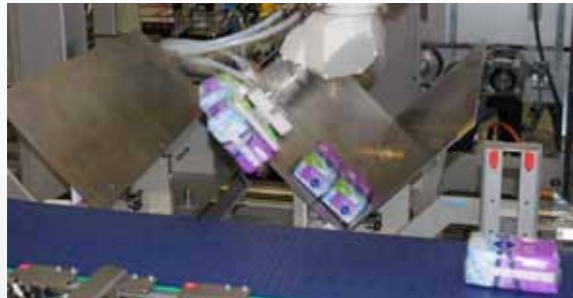
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- Complete range of robot loading arms to meet all speed/payload/layout requirements
- Simplification of product collation for improved access as well as greater speed/ease in format changeovers
- Customized, lightweight gripping tooling
- Flexibility and versatility of the robot concept

# Product handling

## Pre-collation / batch forming



- Batch preparation prior to case packing /shrink-wrapping
- Unstable but stackable products collated in a forming frame
- Products oriented according to configuration and display requirements
- Handling of individual or multiple products

## Product flow management



- Continuous flow distribution between several gripping arms (from one to x number of connected plug & play robots) with no accumulation
- Machine operation by standard software controlling a wide variety of algorithms to permanently optimize flow management
  - Machine start-up, run-out...
  - Batch collation, case loading, assortment
  - Degraded modes for production continuity if an incident occurs
- Interfacing with detection systems (sensor, 2D vision, 3D scanner, etc.)

## Lightweight tooling



- 30% reduction on average in relation to traditional gripping heads
  - Association of composite materials (carbon, aluminum in a honeycomb structure)
  - Agglomerated polymers by 3D printing
- Various types of gripping tooling to preserve products: membranes, suction cups, grippers
- Optimization of the choice of loading arms, saving in energy
- Protection of tooling by "intelligent" head safety mechanism, depending on the application

## Product assortment



- Forming of mixed product batches
  - Directly in the robot tooling
  - Robotic preparation upstream from the case packer depending on the speed and number of lanes/product references
- Flexible solution for format changeovers
- All configurations can be parameterized on the Human Machine Interface (HMI)

# Case packing

## Complete range of loading arms



- Loading arms from 2 to 6 axes
- Optimization of the choice of arm depending on speed, payload and layout criteria
- Compliance with manufacturer guidelines for increased life span
- Smooth and accurate movements with optimum product protection
- Controlled presentation of products in the transit packaging

## Flexible products



- Perfectly adapted to bags, stand-up pouches (Doypacks®), flowpacks, etc.
- Handling of products upright or lying flat
- Precise movements to protect products whatever their contents (liquid, solid, pasty, viscous) and features (cap, straw, etc.)
- Modular design allowing unit to be scaled in accordance with the required speed and product contents/weight

## Automatic format changeovers



- Easy-to-dismantle gripping tooling (as a whole or grippers only)
- Robot capable of changing automatically
  - its gripping tooling
  - other tooling on the machine (loading funnel, comb, etc.)
  - certain adjustments

## HMI and additional operations



- Advanced PC-based Human Machine Interface allowing natural interaction between the operator, the robots and other peripheral elements, without expertise in robotics
- Trajectory configuration, step by step modes, help views centralized on the HMI
- Optional management of layer card and product wedge insertion
- Product quality control by 2D or 3D vision system and Track & Trace function for serialization



## First in line

In a complex industry where know-how is everything, Gebo Cermex is formed from the union of two strong brands: Gebo & Cermex, gathering packaging line engineering experience across a range of market segments from beverages and food to pharmaceuticals, via home and personal care.

For over half a century, our experts have improved the performance of production and packaging lines in some of the most demanding industries.

Today **more than 37,000 equipment & systems installations bear our signature**. We add value to our customers' business in four dimensions, from equipment design and manufacturing to line engineering, services and asset performance.

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