



## VISION

Our goal is to deliver the best possible system to achieve the highest OEE for our customers.

## OUR CONCEPT PUSHES THE MACHINE TO THE LIMIT, DELIVERING:

- Maximum OEE.
- Maximised automation.
- Highest ever throughput.
- Lowest footprint.
- New concept of flexibility for high-speed lines.
- Packaging flexibility.
- All the benefits of the TRAVE.

## TRAVE SINFONIA

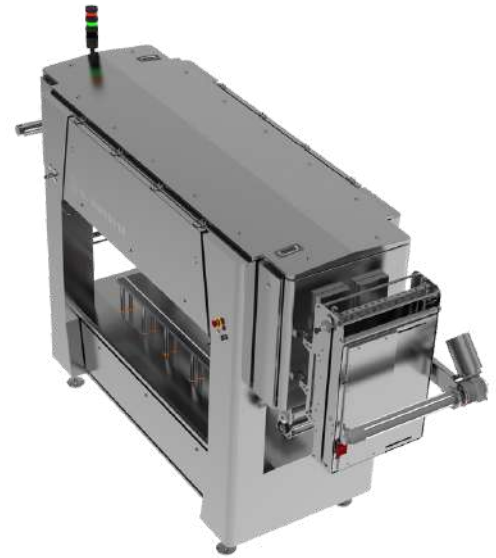
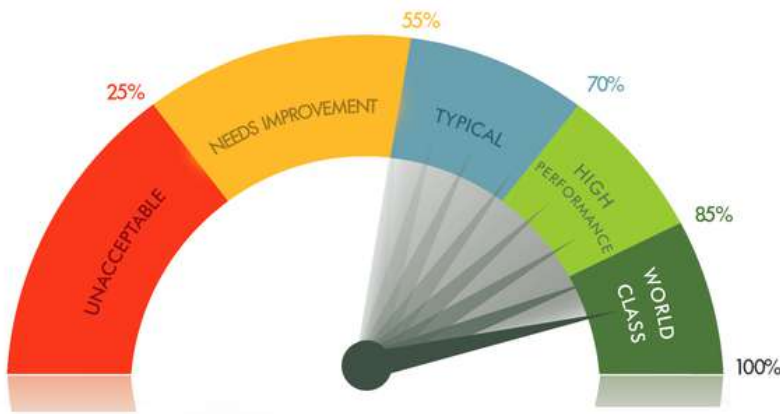
Introducing game-changing technology from G.Mondini: the TRAVE SINFONIA<sup>[1]</sup>. This cutting-edge system provides unparalleled control over the production line - the result of years of research and development aimed at improving the speed and precision of manufacturing processes. With TRAVE SINFONIA<sup>[1]</sup>, each tray is precisely controlled in position, velocity and acceleration - allowing the most accurate handling of the product. The benefits of this breakthrough technology include a significant increase in productivity and the unmatched flexibility to accommodate a wide range of products. Whether you're looking to streamline your operations or achieve greater control over your production line, TRAVE SINFONIA<sup>[1]</sup> is the answer.

[1] Patent pending



FORMING					TRAY HANDLING		PRODUCT HANDLING			PRIMARY PACK		SECONDARY PACK	INTEGRATION				
Platformer	Paperseal	Lining	Kirigami	Stacker	Denesting	Handling	Dosing	Integration	Loader	Tray sealer	Snap On Lid	Crate Loader	Neural	Valves	Detector	Labeling	Weight

## CLASS OF ITS OWN OEE



**KEY BENEFITS DELIVERED BY NO TRANSITIONS, NO GUIDES, NO PACERS, NO FRICTION-BASED TRANSFER.**



### AVAILABILITY

Increased **availability** thanks to smooth and uninterrupted flow. Downtimes caused by inefficiencies linked to tray transitions and transfer points are reduced (no pusherarms and no belts). Lean maintenance procedures and changeover.



### PERFORMANCE

**Enhanced performance** delivered by increased automation and minimised transfer points.



### QUALITY

**Best in class quality** thanks to the most advanced sealing technology paired with extreme repeatability and precision.



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## MAXIMISE YOUR AUTOMATION

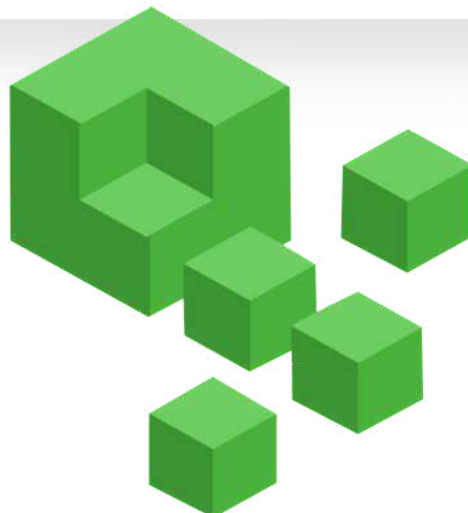
A SOLUTION THAT MATCHES YOUR CURRENT AND FUTURE NEEDS, DRIVES SUCCESS AND GROWS WITH YOUR BUSINESS



### MODULARITY

The modular design brings **complete customisation** and **flexibility to new lines**, and allows the scaling of existing plants with minimal effort.

The **opportunities for automation will be maximised**, through the perfect integration between the line and robots, featuring our patent pending gripping tools.



### DECOUPLING

Every different station of the line can **work independently from the other**, maximising the performance of each one without compromise.



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## A DYNAMIC SOLUTION

### FLEXIBILITY IN TECHNOLOGY



#### JUST SEALED



This is the process of sealing one thermoplastic to another similar one using heat and pressure. The direct contact method of heat sealing utilises a constantly heated sealing bar to apply heat to a specific contact area or path to seal or weld the thermoplastics together. Heat sealed packs produced with Mondini tray sealer equipment ensure hermetic seal and pack integrity to preserve product hygiene from external factors.



#### MAP



##### eMAP GAS FLUSH

Our eMAP Gas Flush technology is designed specifically to optimise and improve the Modified Atmosphere Packaging (MAP) process. During the process, the TRAVE eMAP uses the standard MAP gases. Thanks to the accurate gas flush provided by our unique pipe circuit, the oxygen within the pack is forced out effectively and efficiently achieving O2 residual levels below 1%.



##### VACUUM GAS

The process involves removing the air inside the package and replacing it with a gas mixture to extend the shelf life of fresh, perishable foods. Vacuum gas technology is ideal for more sensitive foods where oxygen values close to zero are required.



#### VACUUM SKIN



The vacuum skin sealing process removes air from the product within the sealed pack to prevent microbial growth and oxidation, making it ideal for a variety of perishable food products and ideal for freezing application. The plastic film adhesion to food forms a second skin around the product itself, controlling drip release and enabling superior product definition and visibility. The product presentation remains optimal, and the pack content is held firmly in place during the whole distribution process, from packer to consumer.



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# FOR EVERY NEED

## FLEXIBILITY IN PACKAGING

**Flexibility means adapting to a change in packaging technology or material as fast as possible, maximising the machine availability and therefore increasing the overall OEE.**



**PAPER & FIBER**

Paper and fiber-based trays are fluently handled, promoting the use of renewable materials and the replacement of plastic.



**PLASTIC**

Full compatibility with plastic is guaranteed, encouraging the use of recycle-ready solutions and PCR contents to achieve a reduction in carbon footprint and overall pack cost.



**ALU & OTHER**

Fully recyclable aluminum, glass and ceramic solutions are managed with ease, delivering a reliable alternative to plastic.

**TRAVE SINFONIA<sup>[1]</sup> DELIVERS QUICK CHANGEOVER ACROSS PACKAGING SUPPORTS, INCLUDING PLASTIC, ALUMINUM, FLAT BOARDS AND ALL KINDS OF FIBER-BASED TRAYS.**

The ingenious design resulting from G.Mondini's experience allows the technology to work with several packaging materials and technologies. The changeover between materials is engineered to be lean and fast, maximising the available time for the production.

**Thanks to its high flexibility<sup>[1]</sup>**, the TRAVE SINFONIA<sup>[1]</sup> is ready to meet the retail market needs and satisfy any consumer trend.

[1] Patent pending

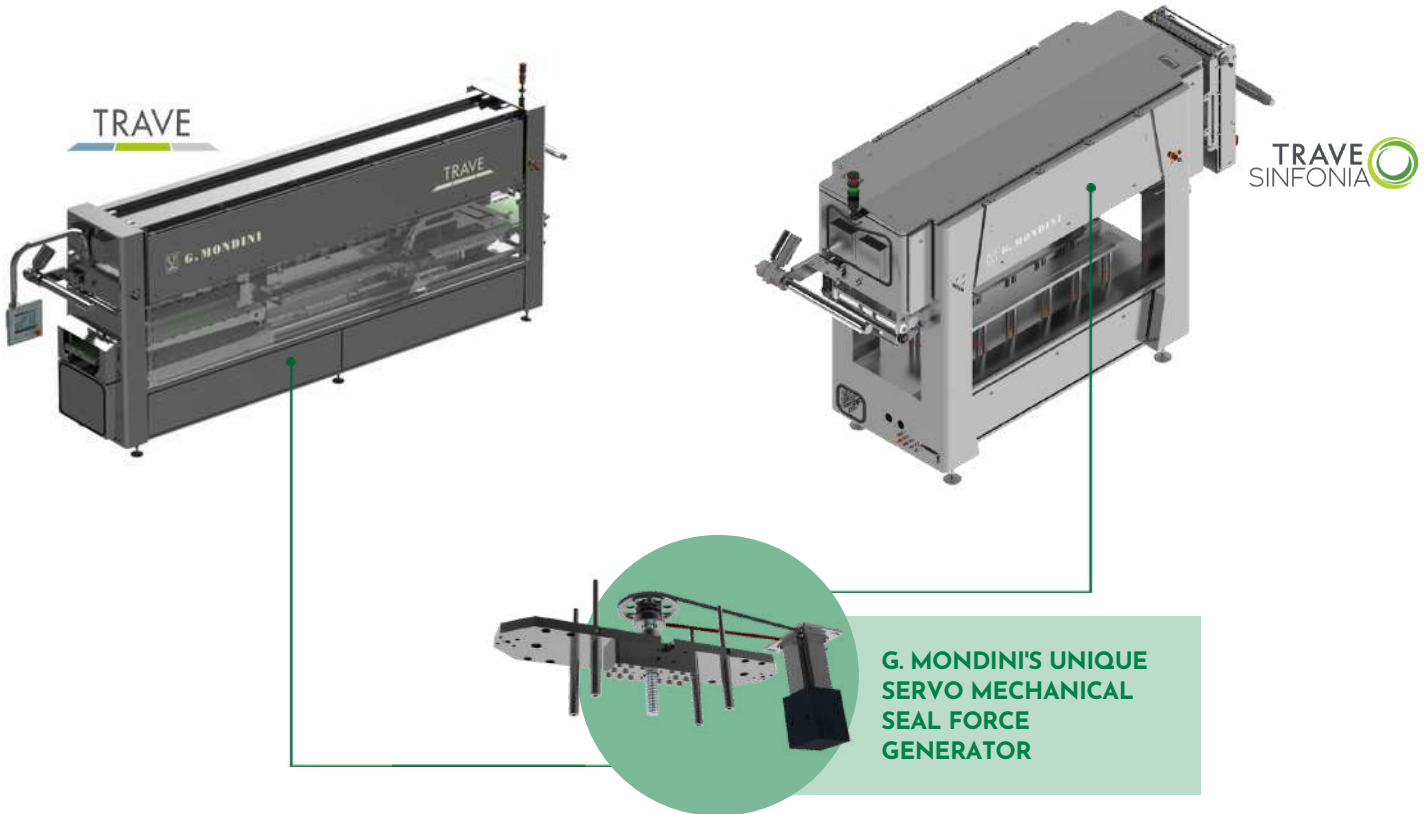


# G.MONDINI PACKAGING LINE SOLUTION

FORMING					TRAY HANDLING		PRODUCT HANDLING			PRIMARY PACK		SECONDARY PACK	INTEGRATION				
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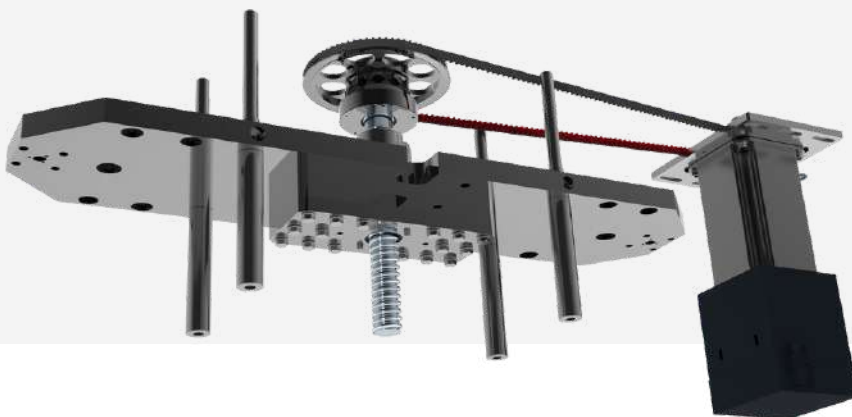
## LIVING ON THE LEGACY OF PLATFORM TECHNOLOGY

DISRUPTING THE TRAY SEALER EXPERIENCE, BUILDING ON THE LEGACY AND KEY PRINCIPLES OF PLATFORM TECHNOLOGY



### SERVO MECHANICAL SEAL FORCE GENERATOR IS THE BEATING HEART OF TRAVE

- ✓ Ensuring **consistent performance** year after year.
- ✓ Securing **maximum and reliable speed/cycle time**.
- ✓ Guaranteeing **consistent, controlled and unrivalled sealing pressure**.



SECURITY

EXPERIENCE

PERFORMANCE

FLEXIBILITY

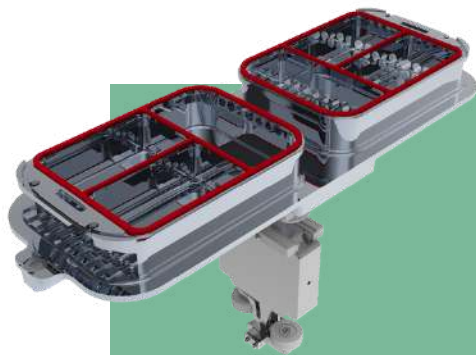
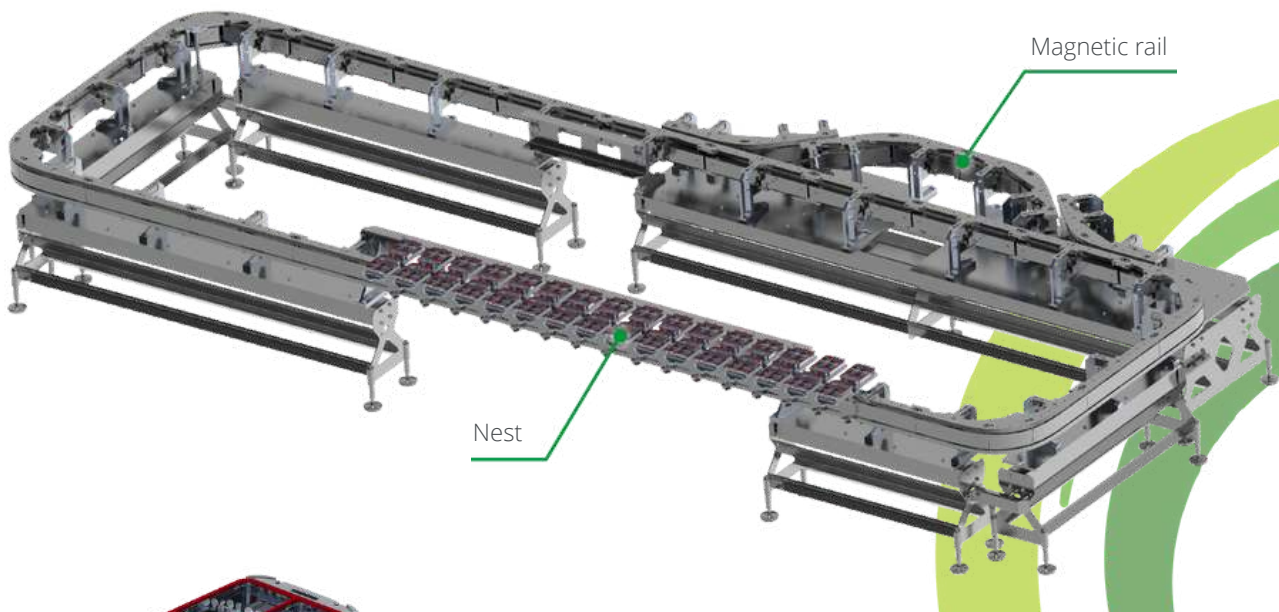


FORMING					TRAY HANDLING		PRODUCT HANDLING			PRIMARY PACK		SECONDARY PACK	INTEGRATION				
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## REDEFINING THE PACKAGING INDUSTRY

The TRAVE SINFONIA<sup>[1]</sup> uses a magnetic rail to carry around independent trolleys - the **Nests** - which can be controlled with pinpoint accuracy via software. In order to achieve our goals of flexibility, speed, precision and control, we have incorporated the magnetic transport system into our machine. With this cutting-edge technology, our manufacturing processes are optimised for maximum efficiency and adaptability. The magnetic rail allows complete control and customisation of the tray movement, ensuring that each tray is delivered to its destination with unparalleled accuracy and speed. This innovative technology has enabled us to meet the demands of even the most complex production lines, providing our customers with a reliable and efficient solution for their manufacturing needs.



### THE NEST

In the TRAVE SINFONIA<sup>[1]</sup> it is possible to have adaptive, flexible and customised production thanks to the perfect integration with the Nests. The flawless position control ensures high speed transport and quick reconfigurations. The Nest has a dual function - acting both as a carrier for the tray and becoming the complementary part of the tool during the sealing phase.

[1] Patent pending



# G.MONDINI PACKAGING LINE SOLUTION

## FORMING

Platformer | Paperseal | Lining | Kirigami | Stacker

## TRAY HANDLING

Denesting | Handling

## PRODUCT HANDLING

Dosing | Integration | Loader

## PRIMARY PACK

Tray sealer | Snap On Lid

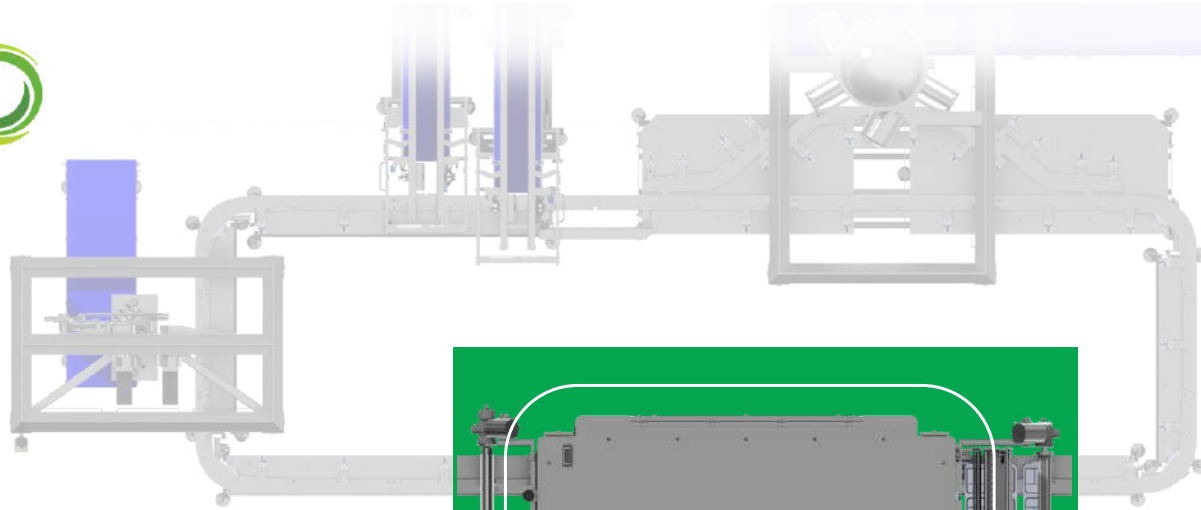
## SECONDARY PACK

Crate Loader

## INTEGRATION

Neural | Valves | Detector | Labeling | Weight

## TRAVE SINFONIA



The **TRAVE SINFONIA<sup>[1]</sup>** works in harmony with the magnetic rail, with the Nest being the central processing unit of the entire system; this improves the typical performance of the standard tray sealers, reducing the transition points and increasing the control on each single tray.

Innovative, lightning quick and modular, the **TRAVE SINFONIA<sup>[1]</sup>** delivers the same high-quality G.Mondini sealing in a significantly **reduced space**. At G.Mondini, we have always aimed to simplify the human-machine interaction striving for a smart and intuitive design: the machine allows simplified **maintenance procedures, reducing labour times** and providing easy access for 360° cleaning. With the TRAVE SINFONIA<sup>[1]</sup>, we have achieved a highly efficient and user-friendly system that delivers outstanding results with minimal effort.

### THE HEART

The TRAVE SINFONIA<sup>[1]</sup> guarantees enhanced production with **reduced machine complexity and footprint:**

- No belts
- No pusherarms
- Simplified bottom tool
- Perfect tray control



### JUST EXCEPTIONAL

- ✓ Flexible
- ✓ Modular bottom tool
- ✓ Fast tooling changeover

SECURITY

EXPERIENCE

PERFORMANCE

FLEXIBILITY





## FORMING

Platformer | Paperseal | Lining | Kirigami | Stacker

## TRAY HANDLING

Denesting | Handling

## PRODUCT HANDLING

Dosing | Integration | Loader

## PRIMARY PACK

Tray sealer | Snap On Lid

## SECONDARY PACK

Crate Loader

## INTEGRATION

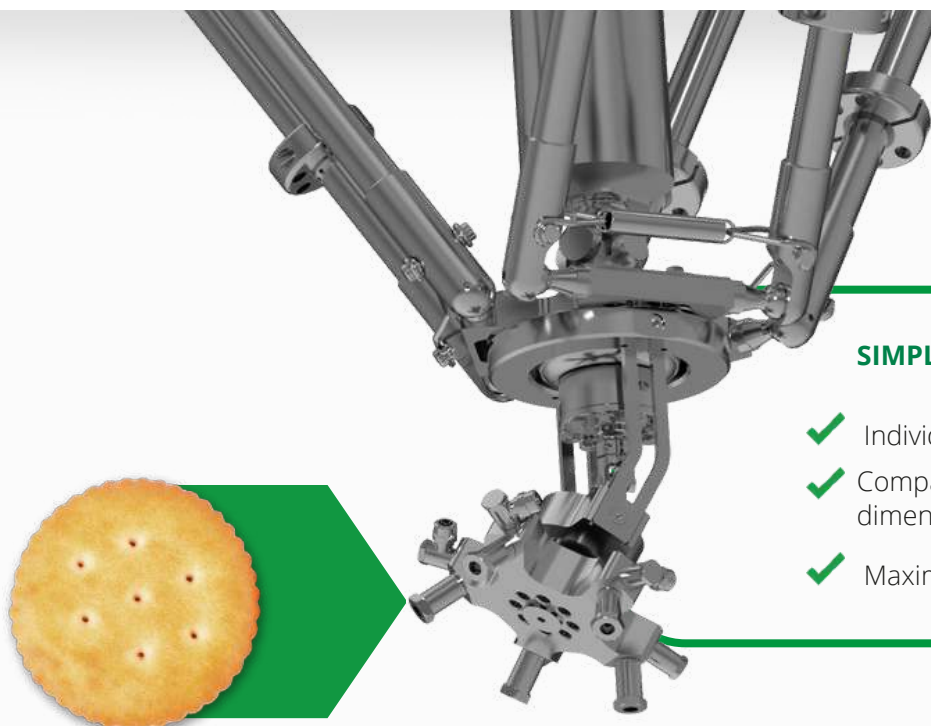
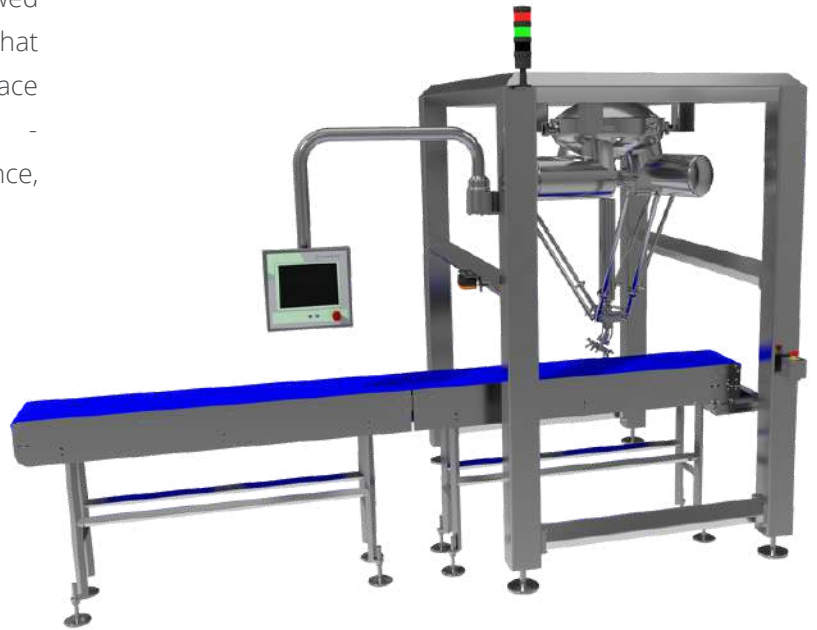
Neural | Valves | Detector | Labeling | Weight

### INNOVATION WITH AUTOMATION

At G.Mondini we strongly believe that the path towards the future in the packaging industry will require a wide employment of automated systems. Our extensive experience in the industry has allowed us to develop and deliver complete solutions that combine the use of multiple axes delta pick and place robots, with custom-designed gripping tools - providing maximum functionality and performance, tailored to our customer needs.

The patent pending G.Mondini cracker picker allows the selection of multiple crackers at once, minimising the back-and-forth motions and improving the efficiency of the system.

The crackers are selected and dropped individually in the tray, reducing the chances of mispositioning and the occasions for product damage.



#### SIMPLIFYING COMPLEXITY

- ✓ Individual cracker handling
- ✓ Compatible with variable dimension crackers
- ✓ Maximised productivity

[1] Patent pending



## FORMING

Platformer Paperseal Lining Kirigami Stacker

## TRAY HANDLING

Denesting Handling

## PRODUCT HANDLING

Dosing Integration Loader

## PRIMARY PACK

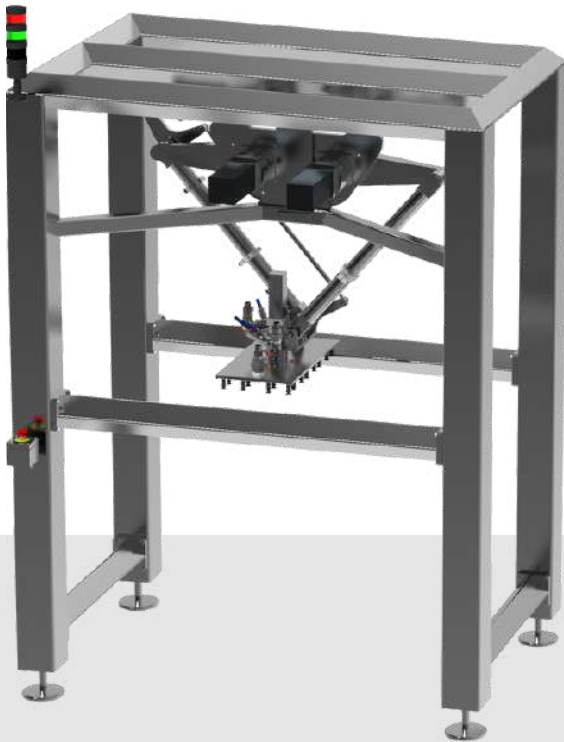
Tray sealer Snap On Lid

## SECONDARY PACK

Crate Loader

## INTEGRATION

Neural Valves Detector Labeling Weight



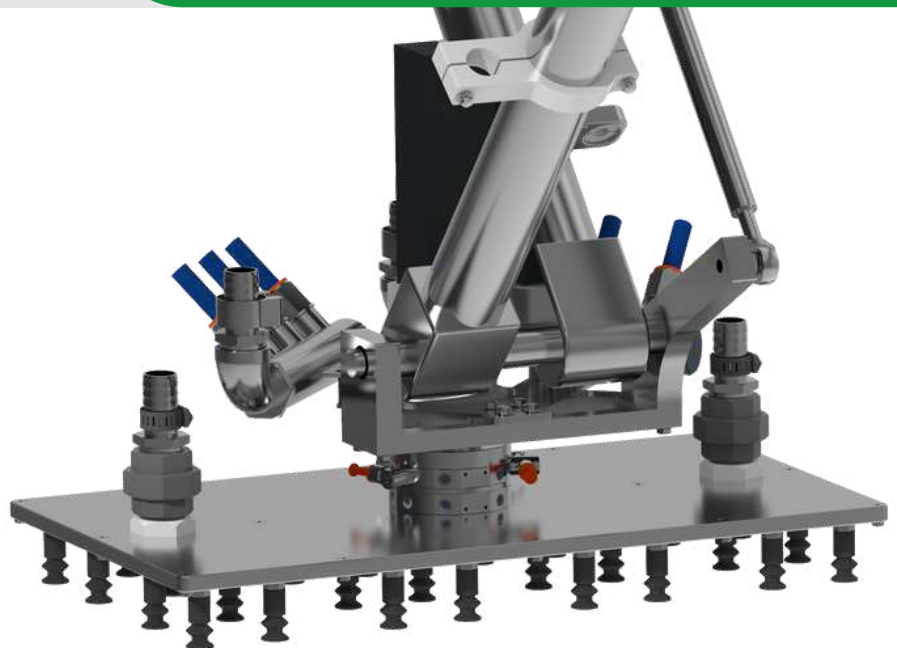
## FREEING THE NEST

After supporting the tray during the loading and sealing procedures, the nest will need to be emptied in order to perform the next cycle. In order to perform this delicate but essential procedure, we have designed a gripping tool that ensures the release of the nests, utilising our experience with the MCL Crate Loader. The carefully extracted products can either be brought into the next station of the line or directly loaded into their secondary package.

The delta pick and place robot delivers performance where other technologies have failed, as well as a superior precision and care in the handling of the products.

## A SMOOTH DELIVERY

- ✓ Single/dual lane delivery
- ✓ Fast unlocking mechanism
- ✓ Untouched final tray quality

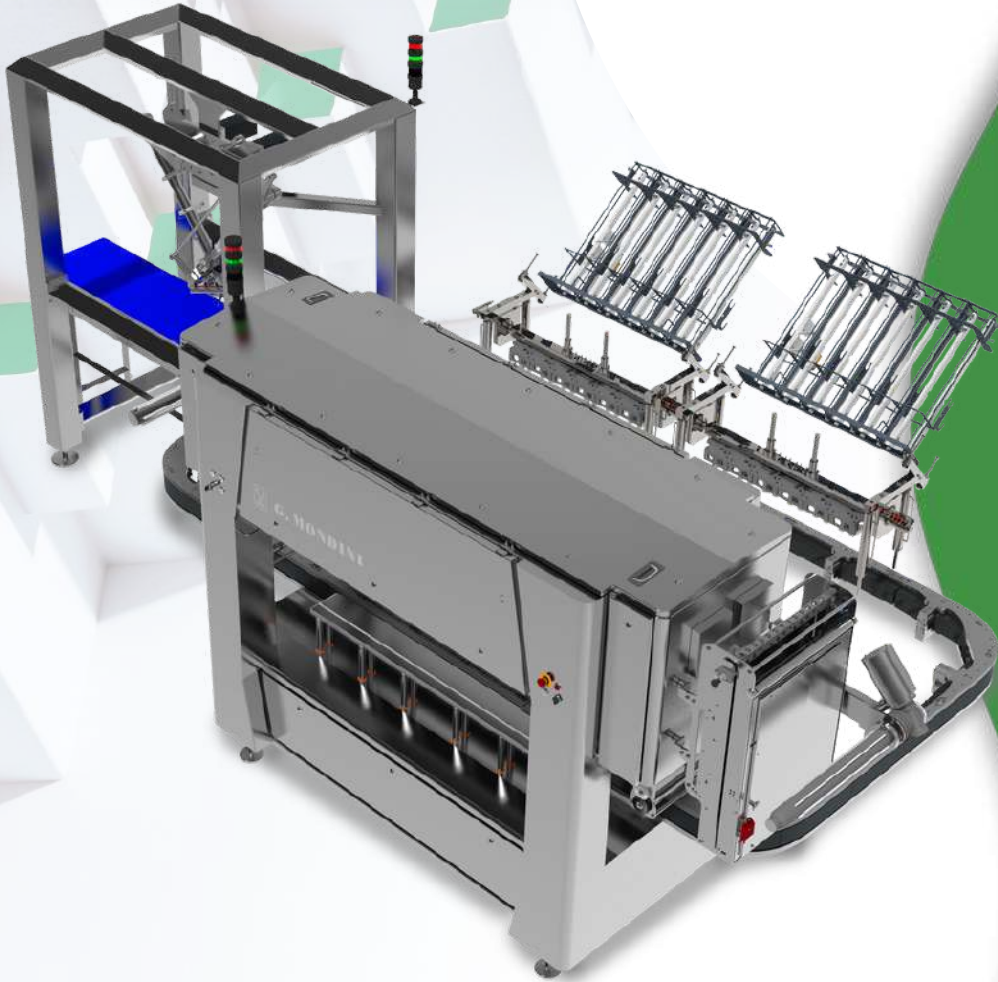


SECURITY

EXPERIENCE

PERFORMANCE

FLEXIBILITY



### **TRAVE SINFONIA<sup>[1]</sup> FOR KIRIGAMI®**

The Kirigami® tray provides brands and retailers with an eco-friendly alternative to traditional thermoformed plastic trays. Made from locally sourced renewable fibers and lined with a barrier, Kirigami® offers exceptional rigidity without the need for glue, making it a sustainable choice for packaging.

**The TRAVE SINFONIA<sup>[1]</sup> technology offers significant benefits for the Kirigami® tray forming and lining procedures,** enabling an improved performance in a reduced footprint compared to the standard technology machine.



[1] Patent pending



# G.MONDINI PACKAGING LINE SOLUTION

FORMING					TRAY HANDLING		PRODUCT HANDLING			PRIMARY PACK		SECONDARY PACK	INTEGRATION				
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## TRAVE SINFONIA FOR TRAY FORMING AND LINING

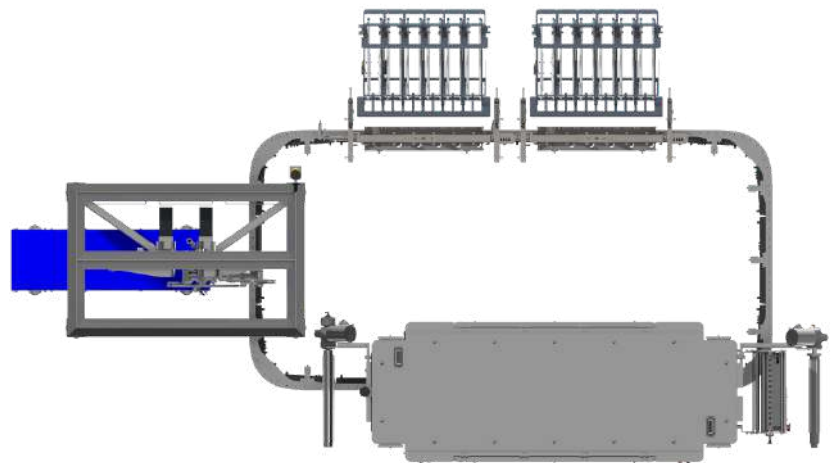
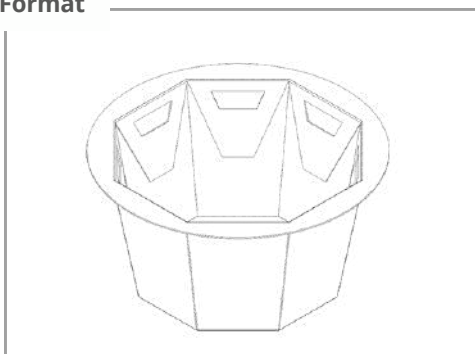


We decided to use the magnetic transport technology to bring our packaging solutions to the next level, achieving maximum efficiency during production. With this concept we can push the machine to the limit, delivering:

- Maximum production
- Minimum footprint
- Best efficiency
- Increased automation flexibility
- Maximum machine use
- Simplified machinery and procedures
- Machine data recording and analysis for enhanced line insight & control

<b>Example tray dimensions [mm]</b>	Ø110, H60
<b>Potential productivity [ppm]</b>	260

### Format



SECURITY

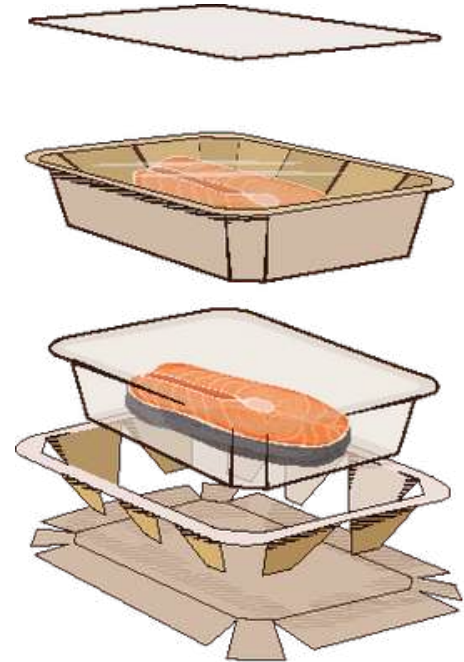
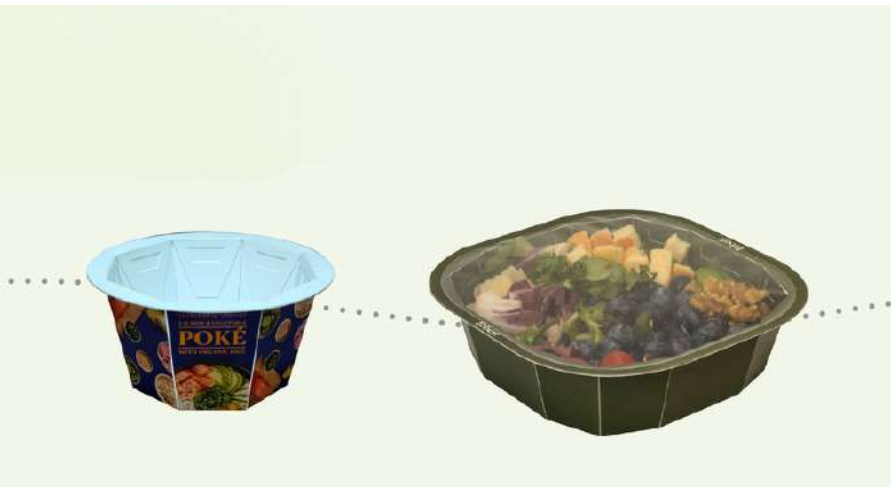
EXPERIENCE

PERFORMANCE

FLEXIBILITY



FORMING					TRAY HANDLING		PRODUCT HANDLING			PRIMARY PACK		SECONDARY PACK	INTEGRATION				
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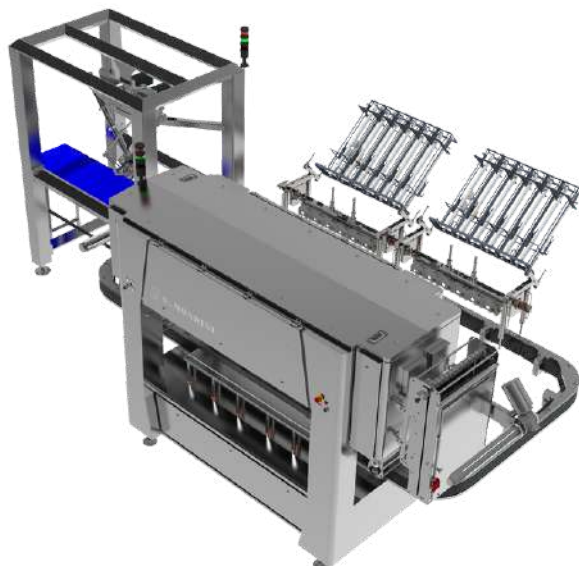
G.Mondini's Kirigami® is fully integrated into the TRAVE SINFONIA<sup>[1]</sup> concept, delivering the most accurate control of each part of the tray during assembly. This allows you to maximise the space in your plant, delivering a machine capable of improving the amount of trays per square meter compared to the standard Kirigami® machine.

Kirigami® allows for the creation of trays in various shapes and sizes, providing enhanced differentiation on the market and customised tray solutions.

After forming the two pieces of board together and applying the liner, the trays can either be removed from the line with a delta pick and place stacker or directly brought into the filling and sealing areas using the magnetic rail.

### The ultimate Kirigami® machine

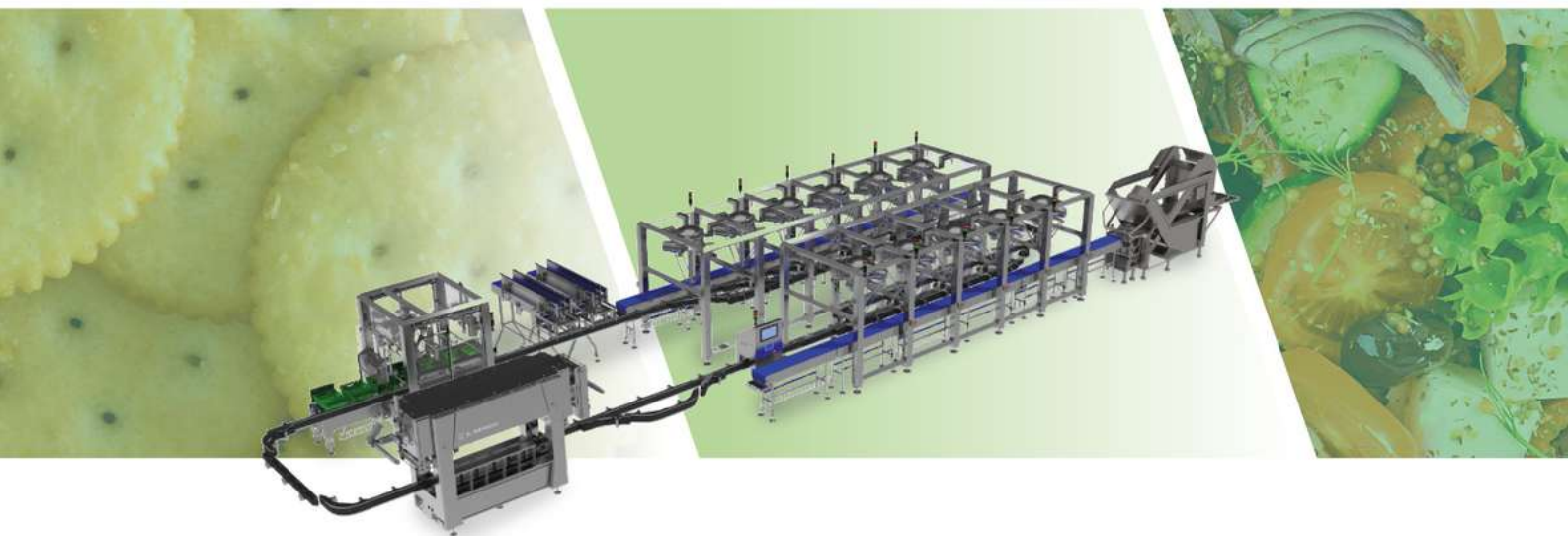
- ✓ Improved efficiency
- ✓ Compact design
- ✓ Increased output
- ✓ Simplified bottom tool



[1] Patent pending



# EXAMPLE LINES





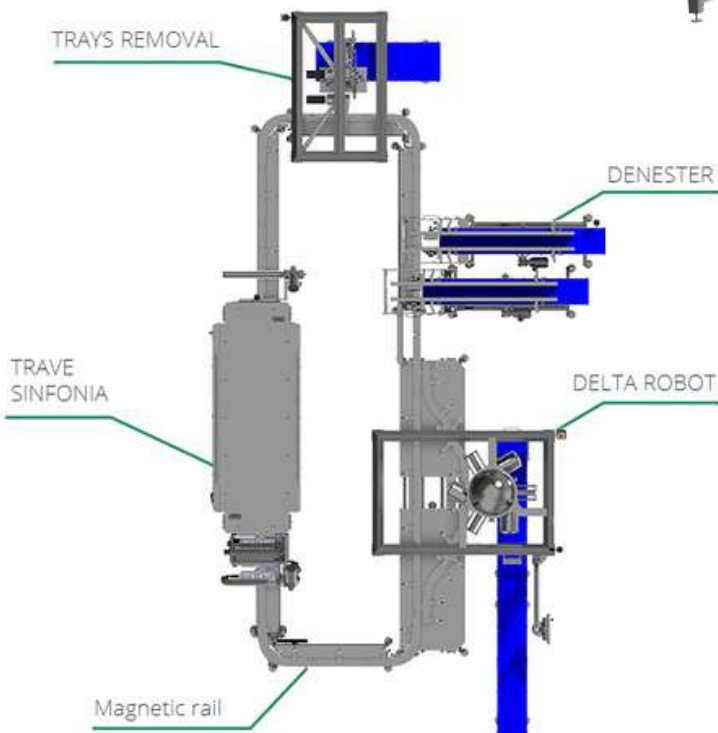
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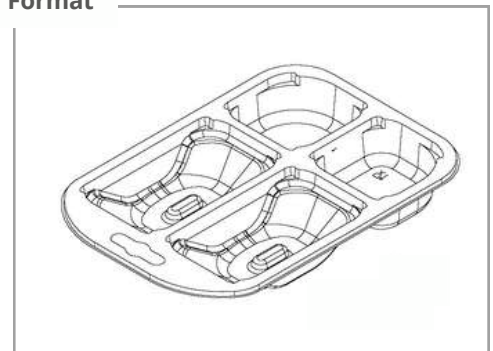
E. 01

## EXHIBITION LINE

<b>Trays</b>	4 cavities snack pack
<b>Productivity [ppm]</b>	200
<b>Loading</b>	Robotic loading for crackers
<b>Format [mm]</b>	185x128, H23



Format

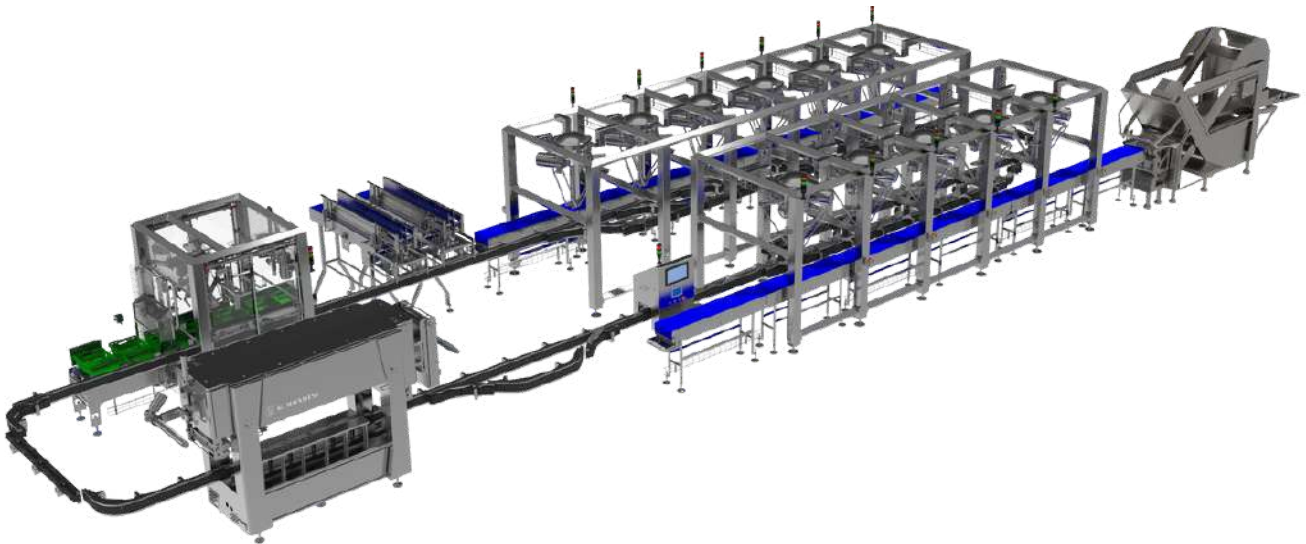




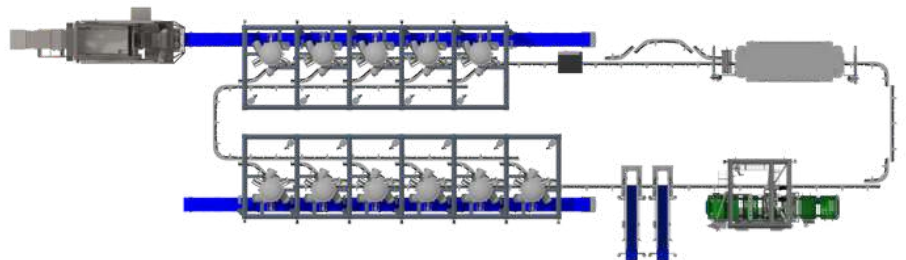
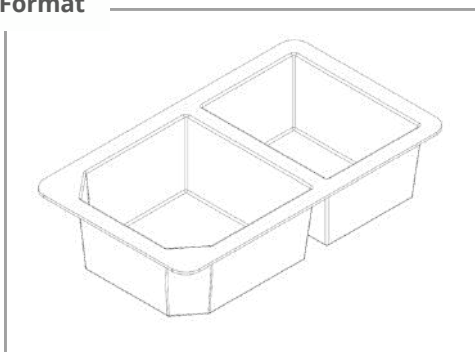
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<b>Trays</b>		2 cavities snack pack
<b>Productivity [ppm]</b>		240
<b>Configuration</b>	<b>Loading</b>	Robotic loading for crackers and cheese stacks
	<b>Secondary Pack</b>	Integrated crate loader for extreme compactness
<b>Format [mm]</b>		120x70, H30



Format







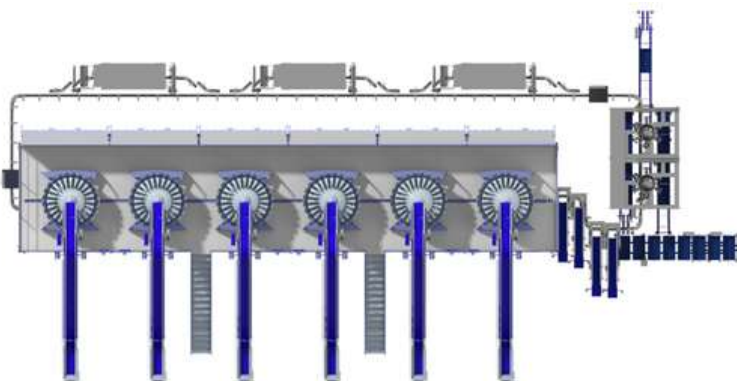
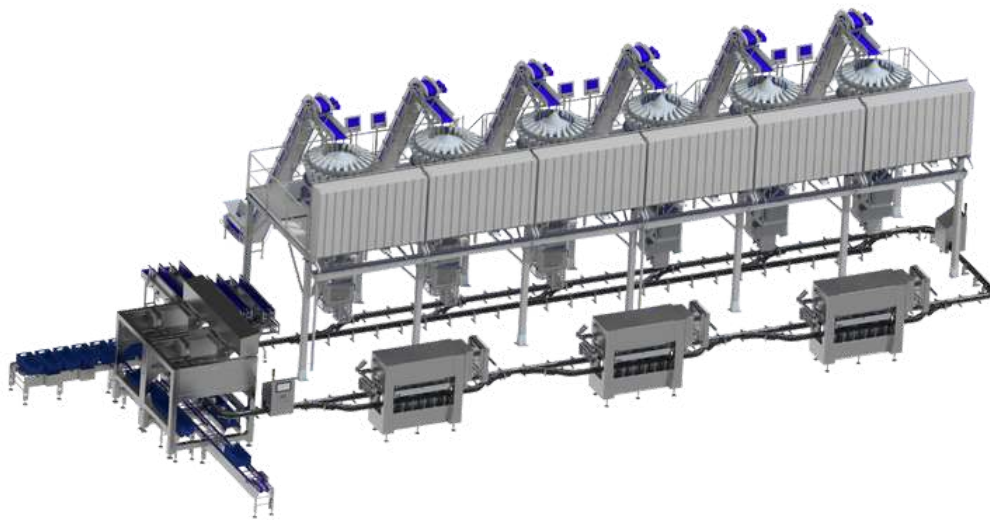
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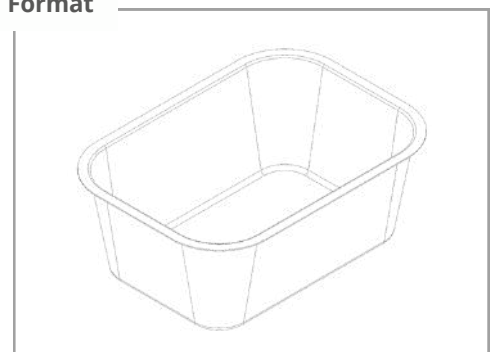
E. 03

## MULTIPLE SKU<sub>s</sub> SEALING LINE

<b>Trays</b>		Same preformed tray for every packed product
<b>Productivity [ppm]</b>		300
<b>Configuration</b>	<b>Weighers</b>	Independent multi-head weighers are used to load the different products into the trays
	<b>Tray sealing</b>	3 TRAVE SINFONIA <sup>[1]</sup> in parallel for maximised productivity
<b>Format [mm]</b>		260x185, H100



Format



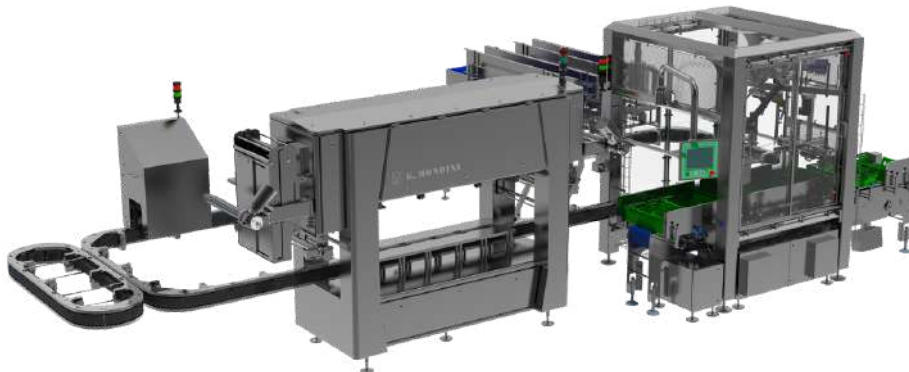
[1] Patent pending



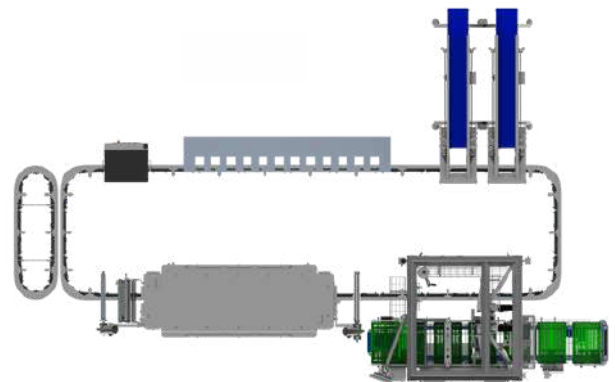
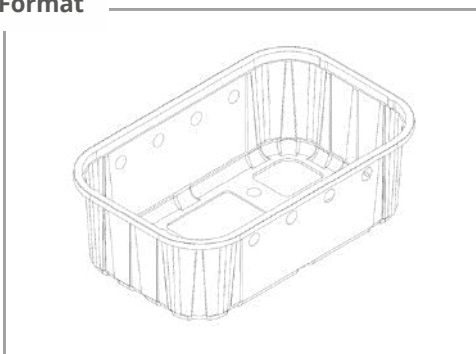
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## E. 04 BERRIES LINE

<b>Productivity [ppm]</b>		300
<b>Configuration</b>	<b>Loading</b>	Berries loading and sealing line
	<b>Weigher</b>	Multi-head weighers for berries loading
	<b>Secondary pack</b>	Integrated crate loader for extreme compactness
<b>Format [mm]</b>		184x117, H60



Format



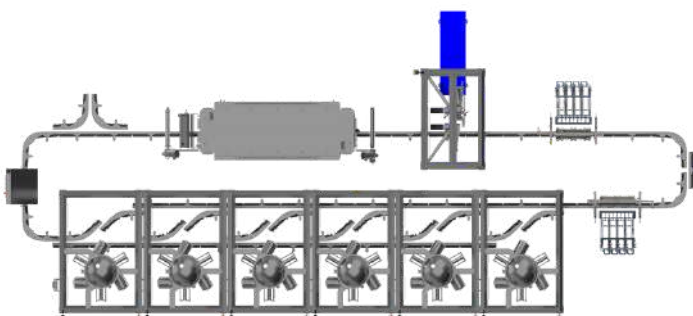
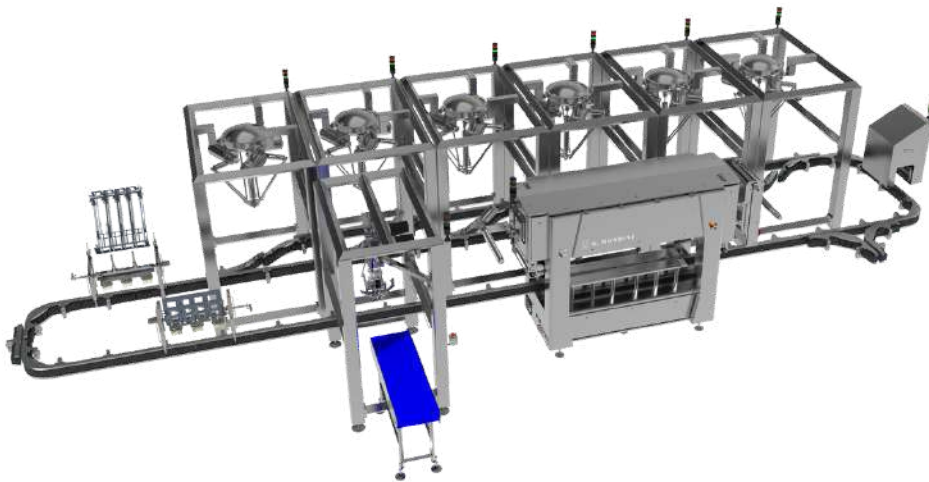


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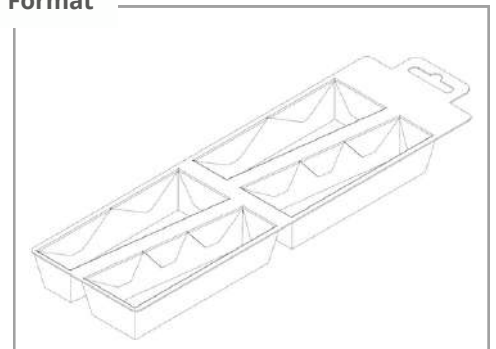
E. 05

## CONSUMER INDUSTRY

<b>Trays</b>		Paper tray formed in line with inserts for the products
<b>Productivity [ppm]</b>		120
<b>Configuration</b>	<b>Loading</b>	Parallel robotic loading for personal care products
	<b>Quality Control</b>	Vision System to verify correct loading
<b>Format [mm]</b>		138x105, H27



Format





**G. MONDINI**



**G.Mondini S.p.A**

Via Brescia, 5-7 - 25033 Cologne (BS) Italy  
Tel. +39 030 705600 | Fax +39 030 7056250

[www.gmondini.com](http://www.gmondini.com) - [info@gmondini.com](mailto:info@gmondini.com)

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SECURITY

EXPERIENCE

PERFORMANCE

FLEXIBILITY