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beverage & packaging

PROCESS AND PACKAGING



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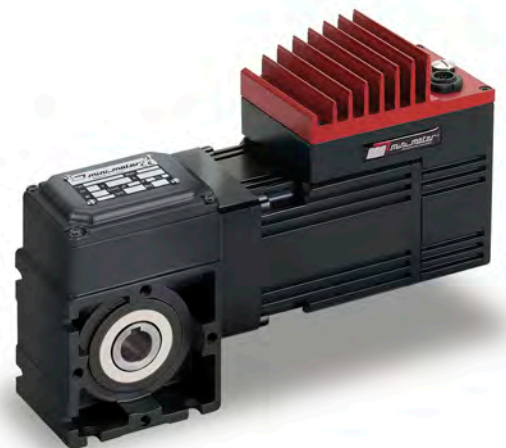


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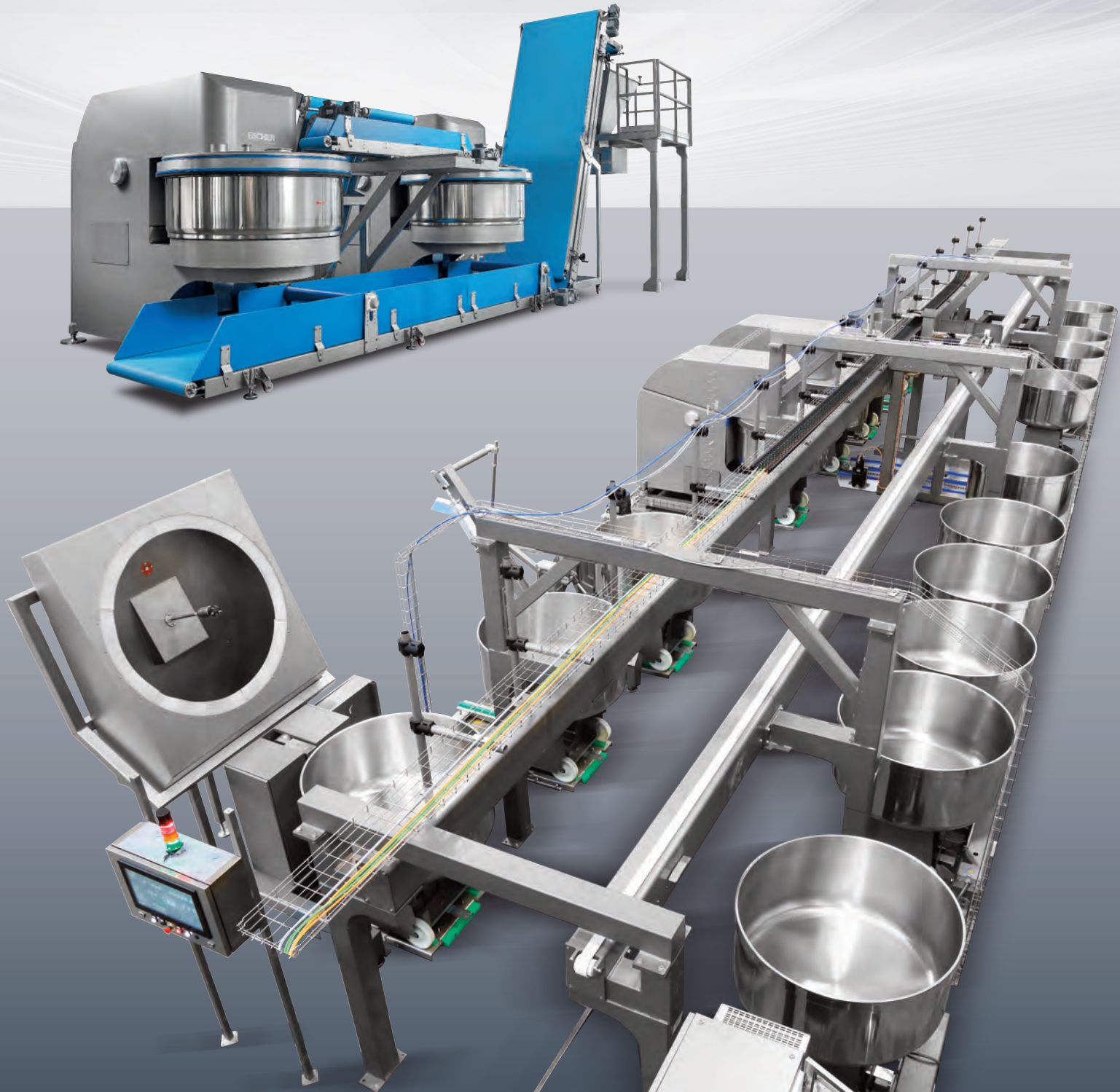


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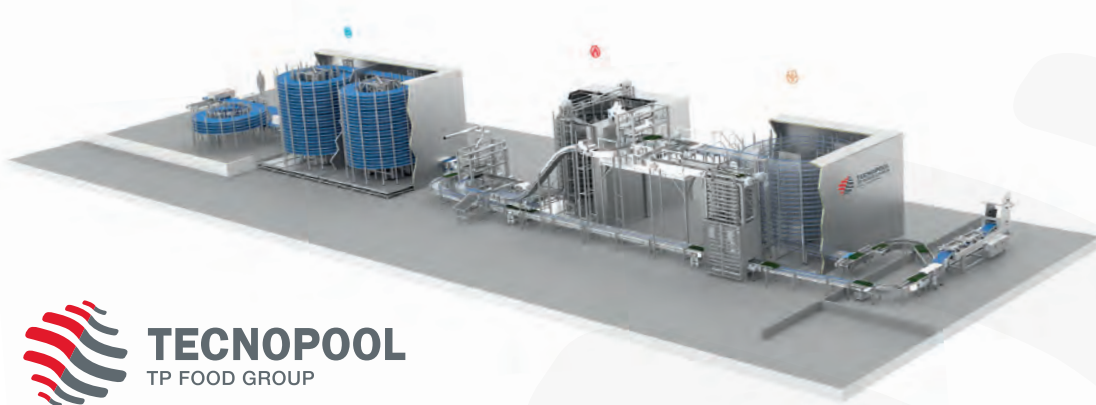
P — PIONEER
R — RESPONSIBILITY
O — OUTSTANDING
T — TECHNOLOGIES
E — EXPERT
C — CUTTING-EDGE

CUTTING-EDGE SORTING TECHNOLOGY

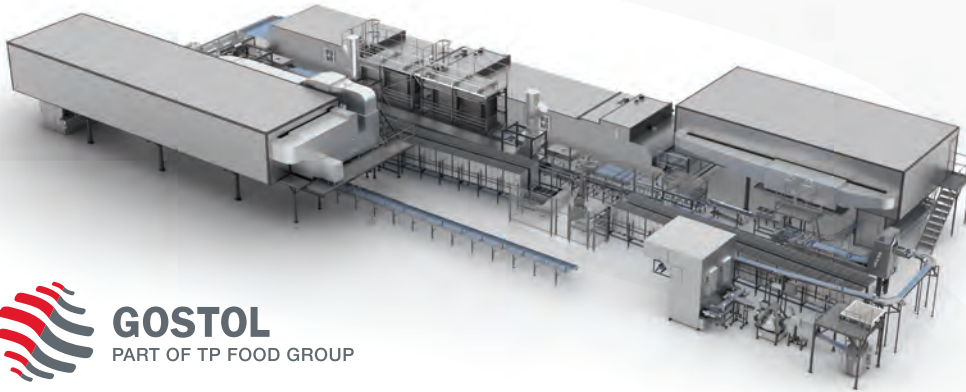




TECNOPOOL
TP FOOD GROUP
TOTAL PROCESSING



TECNOPOOL
TP FOOD GROUP



GOSTOL
PART OF TP FOOD GROUP



TECNOFRYER
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**THE ONLY LIMIT
IS OUR CUSTOMER'S
IMAGINATION**

Our Customers have unique needs and our drive is providing them Tailor Made Solutions.

That's why, for every Customer we develop a Customized System Designed,
Engineered, Produced and Installed around their needs.

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NAVATTA GROUP FOOD PROCESSING SRL

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DRINK TECHNOLOGY MAGAZINE

Digital magazine in English focusing on lines, plants and equipment for bottling and beverage industries. Four issues a year, delivered to more than 20.000 beverage industries and to more than 3.000 suppliers, worldwide. The magazine has an extra launch before all the main international exhibitions about beverage technology.



www.drinktechnologymag.com



MINI MOTOR SPA

FAST CHANGE, DBS AND CLEAN, MINI MOTOR TECHNOLOGY BRINGING INNOVATION TO THE FOOD SECTOR. **pg. 73/75**



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editorial management
and registered office:
Via Cesare Cantù, 16
20831 SEREGNO (MB) - ITALY
Tel. +39 0362 244182
+39 0362 244186
web site: www.editricezeus.com
e-mail: redazione@editricezeus.com
portal: www.ifoodonline.com
e-mail: marketing@ifoodonline.com
skype™: editricezeus

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for food and beverage industry**

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managing editor

Enrico Maffizzoni
direzione@editricezeus.com

editorial manager

S.V. Maffizzoni
redazione@editricezeus.com

editorial production

Sonia Bennati
bennati@editricezeus.com

account dep. manager

Elena Costanzo
amministrazione@editricezeus.com

project and layout design

ZEUS Agency
grafica@editricezeus.com

creative dep.

ZEUS Agency
grafica@editricezeus.com

translations

Leomilla Translation

printing

ZEUS Agency

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CREATIVE
MINDS AND
EXPERTISE



PROTEC, TECHNOLOGICAL HISTORY IN CONSTANT EVOLUTION

PROTEC is an industry leader, specialized in the design and production of sorting machines for companies that work and process agri-food products. The PROTEC factories located in Collecchio, Parma, have for almost thirty years designed, developed and manufactured electronic inspection and selection systems that use optical sensor technology applicable in the processing of a wide range of food products in various industries.

The founder and president of the company, Luigi Sandei, is a visionary in his field.

His first futuristic idea came about in 1968, when he designed the first machine for mechanized harvesting of tomatoes: a machine destined to change the way this vegetable was harvested in Italy and in Europe forever. Twenty years later, the entrepreneur from Parma came up with another production problem in need of a solution, that was the application of optical sorting machines during produce collection, there was a need for machines that were able to carry out quality control and discard unsuitable produce, before delivering the product to the next stage of processing down the line.

With this idea in mind, in 1990 Sandei founded PROTEC-Sorting Equipment, the first Italian manufacturer of optical selectors that was 100% Made in Italy. These machines are able to detect defects in products and foreign bodies on the selection lines, discarding them with extreme precision. Thanks to the color selection and infrared illumination, only regular and uniform produce is selected based on the item's degree of ripeness, skin



ASPIRIX PF50: SUCTION EJECTION SORTER WITH 1 TO 4 CAMERAS FOR FRUIT PULPS, DICED, COMPOTES AND EXTRUDED

and pulp integrity. The defects that need to be expelled can be preset by the user via simple touch-screen technology.

From that moment on, the development of PROTEC technology has only moved quicker, and the company now has a new mission: to offer its customers safe, accurate and efficient products that solve all types of production requirements. PROTEC, which was established to facilitate Sandei self-propelled harvesting machines to collect tomatoes, has over time has been able to utilize the same technological expertise for other products such as olives, vegetables, corn, legumes, seafood, salads, potatoes,

nuts, chestnuts and grapes selected for winemaking.

The present range of optical sorting models offers users a wide range of functions, which both assist with and apply to the food, wine, fish and agricultural sectors.

The history of Protec is as important as its future. The company is continually expanding, thanks to its powerful Research and Development Department, which supplies the innovative technology to create sorting machines that are not only efficient and reliable but also precise and capable of increasing the production and technological prowess of companies

Optical sorting Machines that are made in Italy for the vegetable, fruit, seafood, wine and agricultural industries

in the agrifood sector, even those with specialized projects. Among the many accolades that PROTEC is most proud of are those that have transpired in the wine industry.

These distinctions prompted Sandei and the team to create a dedicated wine division. In recent years, the company has installed more than sixty different grape selectors tailor made for winemaking. These are not only found in Europe (Italy, France, Spain, Germany, Austria) but also in Japan, the Napa Valley, California, South Africa, Chile and Argentina. The company name has become a reference point for the wine sector, thanks to x-tri technology.

PROTEC'S commitment to research and innovation is also demonstrated through the rewarding collaboration the company has developed with the University of Parma, with whom there is a mutually beneficial exchange of resources. As PROTEC uses state-of-the-art equipment to carry out its experiments, the company can offer real-life opportunities for young and deserving engineers to work and study inside a modern and stimulating business reality.

The PROTEC optical sorting machine collection is designed for agriculture and the industrial processing of food products. The current range of products is the result of many years design and management experience and the development of a highly competent and motivated professional team who are continuously developing ideas and processes that can adapt to the most varied project requirements and production lines. 🏛️



X-Tri
Black & White

Air ejection sorter for winemaking grapes.

PROTEC
SORTING EQUIPMENT

For quality lovers only.

ELECTRONIC INSPECTION SYSTEMS AND MACHINES FOR THE FOOD INDUSTRY.



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FOOD
processing

2021 INTERNATIONAL YEAR OF FRUIT AND VEGETABLES: A UNIQUE OPPORTUNITY TO CREATE INNOVATIVE AND SUSTAINABLE PROJECTS TOGETHER

The ongoing health emergency worldwide has seen, as an effect on food consumption, a strengthening of awareness of the link between nutrition and health, with a surge in the consumption of foods of plant origin, in particular bio, and super foods, which, combined, are able to strengthen the defenses of the immune system to keep our body strong and in shape.

This explains the boom in appetizing new “plant-based” products (snacks, ready meals, “burgers”, etc.), the result of a successful investment in food technological innovation by the major brands on the market.

The UN General Assembly has declared 2021 the International Year of Fruit and Vegetables (AIFV) to raise public awareness on the importance of fruit and vegetables for human nutrition, food safety and health, as

well as to achieve the urgent sustainable development goals.

It was underlined also by international experts and agro-industry leaders convened by the Inter-American Institute for Cooperation on Agriculture (IICA) in San Jose on 23rd August 2021 that today in light of the pandemic, we have seen a shift—an increase in awareness and education—toward a healthy consumption and lifestyle. Consumers are moving toward a more balanced diet; they are concerned with the origin of their foods, where they come from and how they are produced. They emphasized as well as the need for the fruit and vegetable sectors to continue moving toward more sustainable production, using natural resources more efficiently, implementing science-based practices and adopting

new technology to ensure product traceability and safety.

Food companies will therefore have to increase their efforts in the fight against energy waste and the reconversion of waste.

Vegan and vegetarian foods have become a market in which to invest with a consistent return on earnings. At the same time, the so-called “food to go” or “ready-to-eat” (for example the single balanced dish of carbohydrates, vegetables and proteins), fresh, with a short shelf life, is increasingly popular (also for the increasing quality and variety) and lends itself to different modes of consumption, such as practical take-away food for those who work and study away from home and also from home, often packaged in new eco-friendly packaging.

PROCESSES

Processing of ready-to-eat fresh fruit and vegetables (MPV – Minimally Processed Vegetables): ready salads, washed/peeled/cut vegetables and fruit, fresh fruit juices (smoothies), etc.

Processing of fruit and vegetables for freezing: cooked/grilled vegetables, washed/cut fruit.

Processing and filling of fruit and vegetables for long-term storage: tomato based sauces, pesto sauces such as Pesto alla Genovese, creams, patés, Hummus, pickles, fruit in syrup, fruit purees, jam and marmalade, fruit juices, etc.

Preparation of fresh ready meals with short shelf-life: soups, pasta/cereal dishes, vegetable burges, falafel, cooked/grilled vegetables, etc.





TECNOCEAM
 VEGETABLES PROCESSING PLANTS
 PREPARATION OF READY MEALS
 WITH VEGETABLES, SAUCES LIKE PESTO
 AND PASTA/CEREALS

Research has therefore received and continues to receive an extraordinary impulse from the market. Having ascertained that this production segment will remain in a growing trend, investment in it is further ad-

vantageous in this period. Tecnoceam is able to offer cutting-edge technological solutions - both single machines and complete systems for medium and high productions - for the treatment of a very

wide variety of fresh vegetables, in particular for the preparation of ready-made salads, pestos, grilled vegetables, dishes, ready-made - soups (also with legumes and cereals) / vegetable soups, first courses



READY SALADS
 PROCESSING PLANTS





based on pasta / rice / grains mixed with raw / cooked vegetables and legumes - recipe bases for vegetable burgers.

Tecnoceam competitiveness is measured by the quality of construction materials, high performance, reliability, ease of operation and maintenance of the equipment.

Above all, Customers rely with total confidence on its staff of designers and technicians, able to study, with flexibility and high competence, the best technological solution for their needs according to the available

budget. In the field of services, Tecnoceam strength lies in the always open dialogue with the Customer and in the provision of experienced mechanical and electronic specialists, ready to intervene promptly, both in person and with remote assistance, thanks to the software connection. and to the 4.0 interface, for monitoring the operation of machinery - essential for the prevention of breakdowns and production stops - and intervention in the event of emergencies. With more than 40 years of know-how and recognized

international success, the historic company in the province of Parma is therefore the ideal partner for innovative producers, ready to modernize their production processes giving priority to hygienic design, safety food and environmental sustainability, with particular attention to reducing water consumption.

We therefore invite you to consult our website www.tecnoceam.com and keep yourself constantly updated on our news published on social networks. 🏠



MEKITEC RELEASES A NEW X-RAY INSPECTION SYSTEM FOR BEVERAGES, LIQUIDS & SOLID FOODS

Mekitec Group, a global manufacturer of innovative food quality control systems based on X-ray technology, announces the launch of a completely new X-ray inspection system, SIDEMEKITM, targeted for the product safety and quality control needs of food and beverage producers worldwide. Mekitec describes their newest system model to continue delivering the company's commitment of providing the best value also for these types of food applications, including liquid foods and beverages in taller than wider retail packages. The SIDEMEKITM system is targeted for food producers acknowledging the importance of overall quality inspection, demanding total pack-for-pack traceability and not settling for foreign object detection only, Mekitec states. A side-shooting X-ray inspection system has been on the company's radar for a long time but Mekitec decided to take the time to perfect the solution, making sure it complies with the real customer needs and provides the best value. "When we first started to specify the system features, we took our time to learn about the unique challenges, needs and desires that food producers have with these types of products and inspection systems. We took on to those challenges, needs and desires and created the possibility of having the sharpest X-ray image and enabled valuable quality inspection functions even for the tallest food products without compromising the foreign object detection performance," says Mr. Mikko Nuutinen, Director, Product Creation at Mekitec. According to the company, the existing inspection systems targeted towards these food and beverage applications have either been too complicated and expensive, or too simple with limited benefits for the food producers. This is something that Mekitec wanted to change by developing the SIDEMEKITM system. "We believe, that the system will be excitedly welcomed and take its place in the market. Our partners and customers have expressed strong interest towards the system and its benefits thanks to the total traceability and imaging capabilities that offer tremendous value to the food producers. It is obvious that the food industry has been waiting for a solution like SIDEMEKITM to bring the best value for food producers globally," summarizes Mr. Juho Ojuva, Director, Global Sales and Customer Care at Mekitec. 🏠



Professionals in online auctions for the food and beverage industry

Online auction machinery and inventory former location poultry slaughterhouse Norsk Kylling in Støren (NO)



Online auction machinery and slaughtering technology in Sint-Oedenrode (NL)



Online auction inventory for the food industry in Baarle-Nassau (NL)



Online auction machinery and inventory due to termination of soup and sauce production TOMamore GmbH in Ravensburg (DE)



Online auction machinery and inventory for the food industry due to closing Enkco BV in Holten (NL)



NICOFRUIT PAST, PRESENT AND FUTURE

NICOFRUIT is a registered trademark, owned and distributed by Frutthera Growers, an Italian company located in a town called Metapontino, in the Basilicata region, in the south of the Country. This area is well known and is ideally suited to the growing of strawberries, grapes, kiwi and citrus. These fruits find their natural habitat here and are included in the most representative made-in-Italy productions.

Adopting the integrated production quality system means employing environmentally friendly production methods, protecting the health of both workers and consumers, making use of technical and economic features of the most modern production systems.

Special care to the environmental issues led the company to achieve an important result: the drastic reduction of pesticides, implementing specific natural technics and recurring to a massive use of antagonistic insects. Natural protection of the plants gave a large contribution to get a “zero residues” pesticides for a lot of the fruit we produce.

Packaging represents another way to respect Earth. A totally brand new compostable packaging has been implemented in our production lines, being entirely degradable and used as a natural fertilizer. Great help for the environment!

Frutthera adopts the integrated production quality system that consists of a combination of eco-friendly production methods, the protection of both workers and consumers' health, and technical and economic requirements of the most modern production systems.



NICOFRUIT
ITALIAN FRUIT & VEGETABLE PRODUCERS

Full of Vitality





they are sufficient to feed most of the company's energy needs.

From the very beginning, dynamism and long-term outlook have allowed the company to reach internal large-scale retailers and important market spaces from South America to the Middle East. Analysing percentage shares, the products are sold 50% in the foreign market, 30% in the internal retail and 20% in the general market.

Since commercial aggregation is a very important target to achieve, Frutthera joined one of the biggest Producers Organization in south Italy, with a total turnover > 70 mln €, Asso Fruit Italia, that is also a partner of Italia Ortofrutta, the biggest Italian National Union.

Storage and conditioning are controlled by a software cell that provides constant monitoring of the products' temperature and humidity, from the countryside until their final destination into targeted markets.

and outdoor). It is newly built and it has been designed to guarantee the quality of the products.

As a natural consequence of environmental awareness, Frutthera takes part in a lot of projects to achieve this target, organized by Universities, Research Institutions and many other reliable partners. 🏠

Monitoring the correct temperature during transport is guaranteed by small electronic recorders installed on the means of transport. NICOFRUIT products are traceable and trackable.

Sustainable development is the only possible model for NICOFRUIT - solar panels are located on the storage and on the processing plants, and

www.nicofruit.it

Thanks to a computerized system, the product will be followed through all the stages of processing, packaging and storage to the sale moment so that the consumer can trace back the soil where the fruits and vegetables have grown.

Today FRUTTHERA Growers can count on more than 40 partners that cultivate more than 500 hectares of land.

On average, 160 seasonal workers are employed with a max of 350 in the most intense harvest periods. The factory is 12.300 sqm (indoor



Full of Vitality



FRUTTHERA GROWERS Soc. Coop. Agr.
Via Provinciale, 15
75020 Scanzano Jonico, MT - Italy
t. +39 0835 954666
f. +39 0835 953255
info@frutthera.it

nicofruit.it



TROPICAL FOOD MACHINERY: A LEADING COMPANY IN THE SECTOR OF FRUIT PROCESSING MACHINES

With decades of experience behind it, Tropical Food Machinery is a leading company in the sector of fruit processing machines. Founded at the end of the 1970s by a trailblazing Italian entrepreneur, the company currently boasts an operative branch in the Brazilian state of Minas Gerais, processing facilities for two fruits located in the north of the country, as well as liaison offices throughout the Asia-Pacific region, Western Africa, India, and Costa Rica.

Thanks to the experience it has gained over the years, Tropical Food Machinery designs and manufactures complete industrial processing lines for tropical fruits and those from temperate climates, for the production of natural juices, pulps, concentrates, sauces, and jams using the most cutting-edge technology.

Each line is designed in-house and then manufactured and tested before every delivery. This makes it possible for the company, whose philosophy revolves around the concepts of flexibility and versatility, to guarantee final products that conform to the most stringent international quality standards, as well as to identify the solution that best meets the needs of each individual client. Furthermore, Tropical Food Machinery offers thorough post-sales assistance that is able to provide replacement parts and prompt technical support if required.

Some of these lines are particularly suitable to the production of orange juice, a product which, also thanks to the pandemic and the growing global demand for vitamin C (the health benefits of which, especially for children, were recently reaffirmed by the



World Health Organisation) has registered a major increase in demand in the world's largest consumer markets, like those of Europe, the United States, and Latin America, with the latter two, together, absorbing almost half of the global supply.


Today Brazil is the biggest producer of oranges in the world. According to

FAO data, 19 million tons of oranges are produced in this South American country alone, 70% of which are used by the processing industry to produce a wide range of products, including 1.5 million tons of orange juice, making it by far the biggest exporter of this product at the global level.

Traditional processing of orange juice includes transformation of the frozen product. In recent years, however, a growing number of the sector's operators have adopted an alternative method that favours aseptic filling technology, which guarantees a shelf-stable product at room temperature (without the need for a cold supply chain) and is a low-cost solution that has already been tested with other kinds of juices.

Tropical Food Machinery provides complete filling units in accordance with clients' marketing and logistical needs: aseptic filling units for 200

l sacks in barrels and 1000 l bins, aseptic filling units for small sacks (with a 3 l to 20 l capacity), filling units for stand-up and flat bags, filling units for bottles, and, finally, filling units for cans.

Its crown jewel is undoubtedly the EA 2C BD aseptic filling machine. With a filling capacity of up to 12,000 l/h, it is perfect for the filling of whole pulp, concentrated juice, and tomato puree in bags, barrels, or 5 l to 1000 l ageing bins. These highly specialised systems make it possible to track the product's entire processing cycle, guaranteeing adherence to the highest FDA safety parameters. 

www.tropicalfood.net

TROPICALFOOD
MACHINERY



COMPLETE ROASTING COFFEE PLANTS



Petroncini, the renowned Italian company that since the 1919 has been operating in the coffee processing field, today is a part of the IMA Group specialized in complete roasting coffee plants, providing machines with capabilities to roast from 3,5 kg/h up to 3.5 tons/h, for any kind of coffee brewing style: from espresso to drip, from Instant to Turkish coffee.

Furthermore, Petroncini provides complete coffee processing sys-

tems, from the green coffee intake up to the feeding the packaging machines with beans and ground coffee, thereby providing superior expertise in feeding solutions for capsule and pod packaging lines. Petroncini roasters ensure uniformity, repeatability and allow the coffee to achieve the favorite aroma.

Particularly suitable for small and medium productions, TT Roasters Model can be equipped with different systems for the control and

management of the roasting profile and it is available also in TTR Version with Heat Recovery and Air Recirculation systems.

This model requires a limited layout space and an easy and fast installation on site.

TMR Roasters Model has been specially designed for industrial productions that require high profitability and repeatability of the roasting processes during the various work-

ing stages, allowing to achieve the desired roasting profile in terms of time, color and flavor.

TMR single burner system and the efficient heat recovery guarantee the lowest energy consumption. Petroncini roasters can ensure the maximum efficiency of green coffee, even for small productions. Specialty Roasters are the perfect solutions for handcrafted roasteries that require high quality roasted coffee.

These models can roast up to 60kg/h and are available in manual version or with the Profile Roasting Control system.

The machines are fitted with a modulating burner and a double output

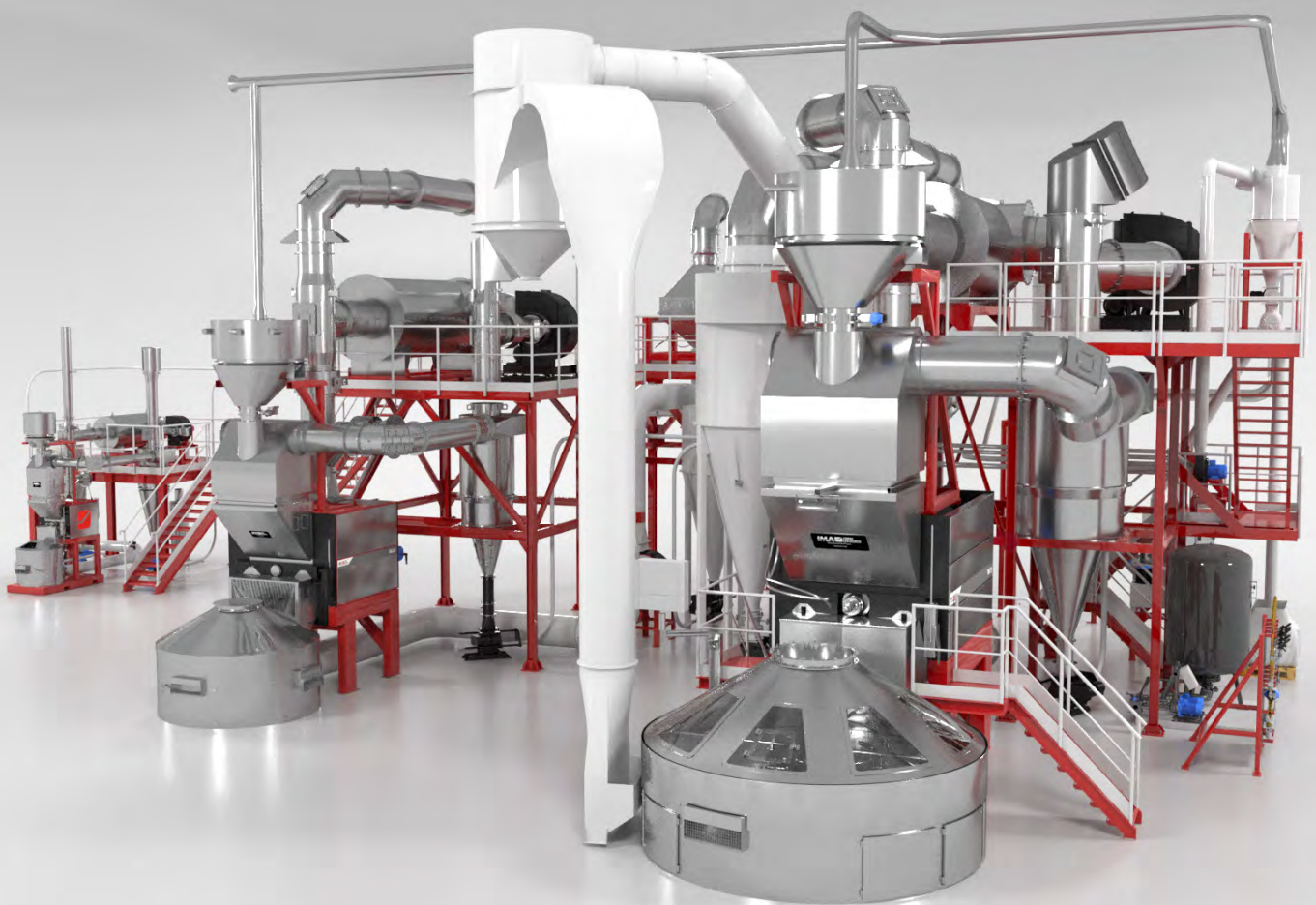
signal to connect external data loggers. R&D Lab Roaster counts on the same technical features of the industrial Modular Roasters and it can roast up to 25 kg/cycle, thus minimizing the waste of energy and good quality coffees.

The roasting profiles achieved can be transferred on industrial roaster without any parameters modifications, indeed it allows to analyze and improve the quality of the product and its performance, carry out specific test before starting industrial production.

One unit of R&D Lab Roaster is at disposal for test and trial at the Petroncini Coffee R&D Lab, where is also possible make product analysis and cup tasting.

The research and development of new technologies and effective synergies have allowed Petroncini to realize roasting systems suitable also for products with a high concentration of oily components, such as cocoa, barley, peanuts, hazelnuts, almonds, pistachios. 🏠

www.petroncini.com





Advanced traceability and information reliability

The food industry nowadays has the important need to monitor every step relating to the production process of what it places on the market, so as to provide consumers who are now increasingly attentive and aware, accurate and exact data related to the quality of their products. Connecting Food solves this imperative by providing an indispensable tool for quality management.



Stefano Volpi
Connecting Food

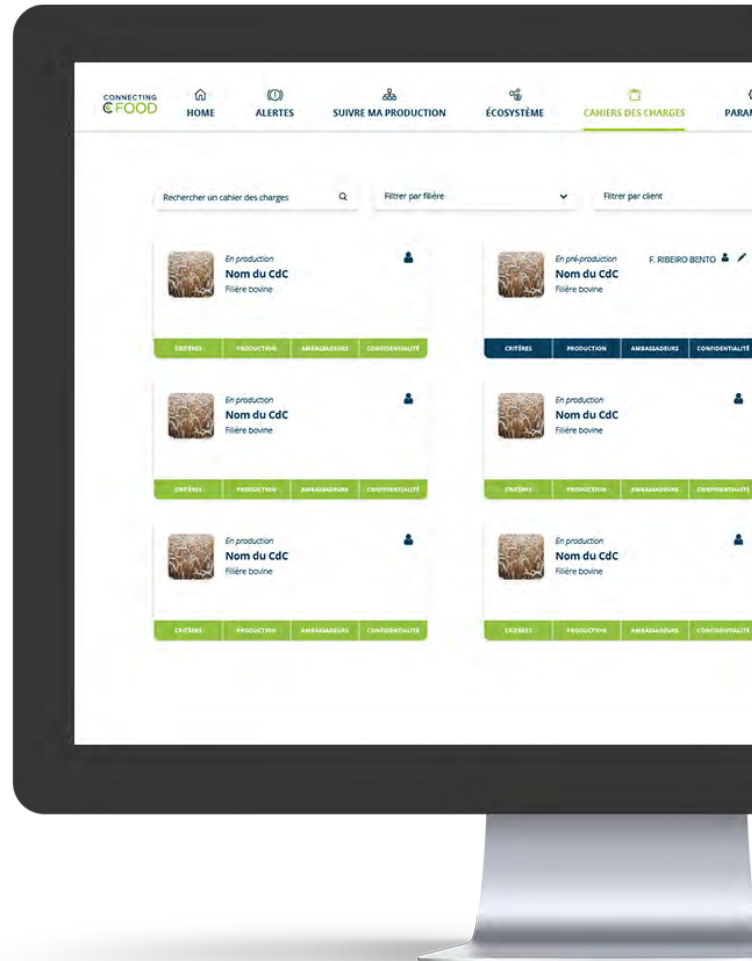


Where did the idea for Connecting Food come from?

Prior to founding Connecting Food, Maxine and I spent 40 years working for various agri-food companies. Throughout our careers, we saw how the lack of transparency in food supply chains was impacting consumer trust, and how much damage food scandals were doing to brands. We began looking into possible solutions for resolving this trust issue, and came upon blockchain technology, which was growing at the time in the FinTech market. We realized that those same blockchain principles could be used to not only ensure the total traceability of a food product, but to also ensure that each actor along the food chain truly respected their commitments and delivered the right product to the right customer.

Why did blockchain feel like the right tool/technology for this business?

As a secure distributed ledger, it was obvious that blockchain had the potential to play a key role when it came to sharing information in a secure way. Data security is especially important in the food industry, as it is both a very competitive market, but also a highly risky one; everyone is very concerned about ensuring their privacy while obtaining food safety and food traceability. Therefore, we opted for Hyperledger



Fabric, a private, permission-based blockchain. Hyperledger is known as the 'blockchain for business', as it enables a consortium of actors to set different levels of user-rights when it comes to sharing, writing, and reading information. This is vital for a producer for example, because if you're selling half of your production to one client, and the other half to their competitor, you obviously don't want all of your orders to be visible by both of your clients!

Another advantage to Hyperledger blockchains is that they do not require any mining, meaning they are much more energy efficient than public blockchains.

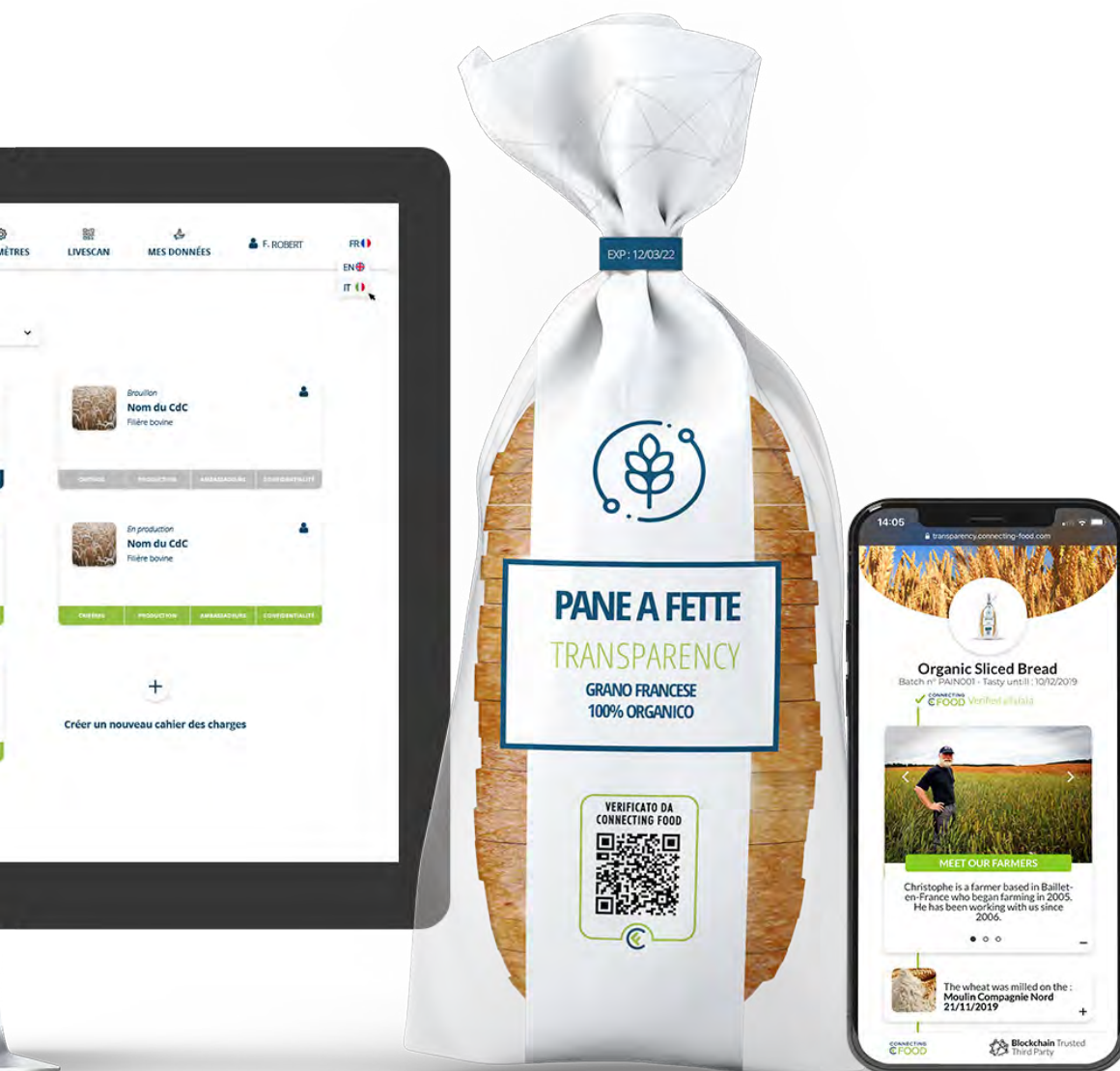
There is one common misconception about blockchain that we would like to address. Many people think that blockchain technology alone will be able to resolve the trust & traceability issues plaguing our industry. However, it is important to understand that blockchain simply records the information you enter in and renders it im-

mutable – it will not in any way tell you if that information is accurate.

This is what drove us to add an additional layer of intelligence to our blockchain platform, which allows us to first validate the data's veracity prior to recording it on the blockchain, providing the peace of mind our users needed to feel confident sharing data upstream and downstream. This process occurs via our LiveAudit@ module, which is a combination of mathematic calculations and algorithms, and gives our clients the ability to verify in real-time that every single product is compliant with its product specifications.

What has been the role of sustainability in the process of setting up the business? How important is it to the model?

Sustainability is at the heart of Connecting Food, as our mission is to identify supply chain problems in real-time,





limiting the risk of product recalls and food wastage. We believe that traceability is the founding principle of sustainability in the food business: knowing where your product came from and how it was made should be the basis of any sustainability roadmap.

In terms of food waste, we have a very important role to play on the industrial level, as Connecting Food identifies non-compliant batches of production in real-time.

In the past, batches were often found to be non-compliant they had already been packed and/or shipped to a retailer, meaning everything had to be destroyed, regardless of what the problem was.

By using the Connecting Food platform, producers and manufacturers can identify the problem earlier on in the food chain, allowing

them to downgrade the product or reroute it to another food chain instead of throwing it away.

Our LiveAudit® module is also a great tool to measure and prove that the CSR commitments for a product are truly being kept. For instance, if a product is supposed to be locally sourced, organic, GMO-free, or pesticide-free, our platform can verify this by leveraging production data, therefore proving the promises of the brand.

The Connecting Food platform enables our clients to put proof of sustainability directly into the hands of the end-user, instead of just saying 'believe me, they are sustainable' – and this makes all the difference in today's era where connected consumers want to be able to verify everything for themselves! 🏠





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in ogni campo.**



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nello stoccaggio industriale.**

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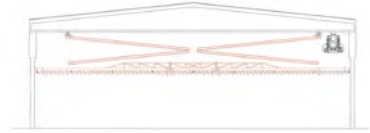


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BORGHI SRL: CEREAL STOCKING AND TRANSFORMATION PLANTS



BORGHI
INDUSTRIAL EQUIPMENTS



One of man's dreams is immortality, a concept bound indissolubly being healthy, which implies eating healthy.

In view of the fact that a large quantity of products, composing our daily diet, derives from cereals transformation (wheat, corn, barley, etc.), it follows that modern politics considers them as strategic products, as well as fundamental resources for a country's economy, so their conservation is a social target, as well as agri-food. Storing a cereal for longer or shorter periods, in a rational and safe manner with the minimum cost of operation, is the task of a silo.

In order to choose the type of a silos to be adopted, many factors are involved, such as annual passing number, storage capacity, conveying capacity, conditioning and non-conditioning systems, possible treatments and other factors.

In any case, the work cycles in a silos must be rapid, having the possibility to collect and to return the product at the same time, where the man must only check.

The silo capacity is a too subjective factor to allow practical suggestions, it depends on the purpose of the plant and the local market conditions as well as on economic-financial calculations.

However, we could state, in the first analysis, that a silos plant with:

a. many cells, of modest capacity and with different grains, is used to make quality.

b. few cells with large individual capacities and few varieties of cereal, serves for convenience exploiting the market prices for supplying goods speculating on the cost (e.g. cereal purchase and storage during the harvesting period)

The silos are divided into two above mentioned large categories:

Vertical silos

Normally circular, polygonal, with hopper and/or flat bottom.

They can be made of metal, where they can reach a diameter up to 30-35 m, with capacity up to 15.000 tons/each one or in concrete, generally with a diameter from 6 to 8 m with inter-bins and heights of 60-70 m (e.g. port silos).

However, we will deal with this type of silos in a special section.

Horizontal silos

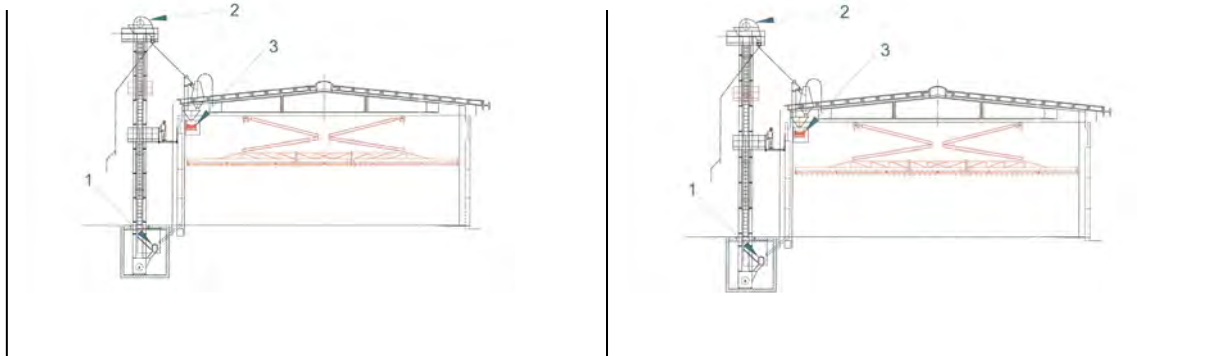
Consisting of flat warehouses, today they represent the most economical system (ratio between cost and stored tons) for cereal storage and conservation (energy and labor necessary for the plant optimal functioning). Generally made of metal or reinforced concrete and/or pre-

fabricated with variable dimensions: width 20-30m up to 50m and length over 100-150 m with storage height (side wall) ranging from 6 to 11 m, where the unit capacity is generally over 10.000 tons (finding in this situation an economic reason for the choice).

This type of silo is widespread in Brazil and Australia where, in the latter, it covers more than 10% of national storage with warehouses reaching up to 60.000 tons (133 m length, 54 m width, with 11 m average height storage).

The types of horizontal warehouses that we can meet are many, where the best known are the following: As already above-mentioned, the horizontal silos (warehouses) can be made with reinforced concrete walls directly cast in place or with lateral pillars supporting the lateral curtain wall made of reinforced concrete slabs (prefabricated). The flat warehouses can also be made with metal side walls where normally their walls are realized bending (Ω -shaped) steel slabs directly bolted to pillars, always in steel, placed at a constant pitch (from 3 to 5 m) on the warehouse perimeter.

The covering can be realized by means of prestressed concrete trusses or in metal where for impor-



tant lights (over 30m) it is an obligatory choice. The theory used to calculate the pushing on the walls (a fundamental element for calculation and design) is the one best known as “land pushing”.

In the past the use of flat warehouses for the cereal storages aroused some perplexity due to the difficulties that could be encountered in the management of the stored grain, such as:

- 1) difficulty in ensiling uniformly and constantly
- 2) difficulty in intervening in case of non-conditioning
- 3) difficulty of cereal return in compliance with health and hygiene rules
- 4) difficulty of cereal conditioning
- 5) difficulty in stocked mass temperature and humidity monitoring.

The new technologies and financial market trend (banks finance more willingly a flat warehouse than a vertical metal silos) represent an excellent alternative to storage in vertical silos. Take into account the company's type of activity choosing the unit capacity or the type of silo to be adopted, horizontal or vertical.

DESCRIPTION OF A FLAT WAREHOUSE MECHANIZATION TYPE

A chain conveyor (1) is mounted in one side of the warehouse (normally the longest) for cereal loading and unloading destined to the warehouse storage, in fact:

the conveyor is mounted on the bottom of a reception pit regularly covered by a self-supporting truckway grating along the entire length of the conveyor or only where it is strictly necessary (e.g. near the point of unloading of the vehicles and/or in other points, where it is deemed necessary, depending on the activity to be carried out).

The uncovered part is normally closed with reinforced concrete slabs or steel of suitable shape and thickness. The vehicle will discharge the cereal inside this pit which, through the chain conveyor (1), will convey the cereal into the elevator (2).

The elevator will raise the cereal and load the warehouse loading belt (3). The belt conveyor (3) will be equipped with a tripper (4) with a motorized advancement, able to discharge the cereal inside the warehouse on time.

The warehouse loading and unloading robot is positioned at the tripper discharging. This robot is substantially able to run along the whole length of the warehouse and it can rising and lowering for the whole height of the flat warehouse.

A screw conveyor system is installed on the lower part of the robot to move the cereal from side to side of the warehouse.

As it is easily understandable, once the cereal is discharged from the tripper and it touches the robot wormthreads, the same is pushed on the opposite side.

When the cereal reaches the opposite side, a special rocker system will indicate that the cereal has reached the desired position, so it will drive the tripper to move in a predetermined measure; consequently the loading robot will move and repeat the same cycle up to the total filling of the warehouse.

Some shutters (5) incorporated into the wall, which obviously can be manual or motorized, are installed on the side where the reception pit is located, so the chain conveyor (3). The robot will be placed at the point where you want to unload the warehouse and the correspondent discharging shutter will open.

It follows that before the cereal will fall down by gravity, after by means of robot and then it will be pushed towards the discharging shutter.

In this way the cereal will reach the discharging conveyor which, in turn, will convey the product to the elevator (2) placed generally at the head of the warehouse, under which a valve is able to carry out the following operations:

- return
- recirculation
- another operation (e.g. cleaning)

As shown in the operation description, the loading and unloading robot is the main performing element of mechanization. 🏠

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CAMA GROUP'S MP CARTON SLEEVER

Cama Group's MP Carton Sleever Helps Prepared Foods Company Improve Production, Meet Increased Market Demand

With the prepared food market poised for significant growth even before the pandemic, products that offered convenience, healthy ingredients, and ease of preparation for busy families and individuals were high in demand.

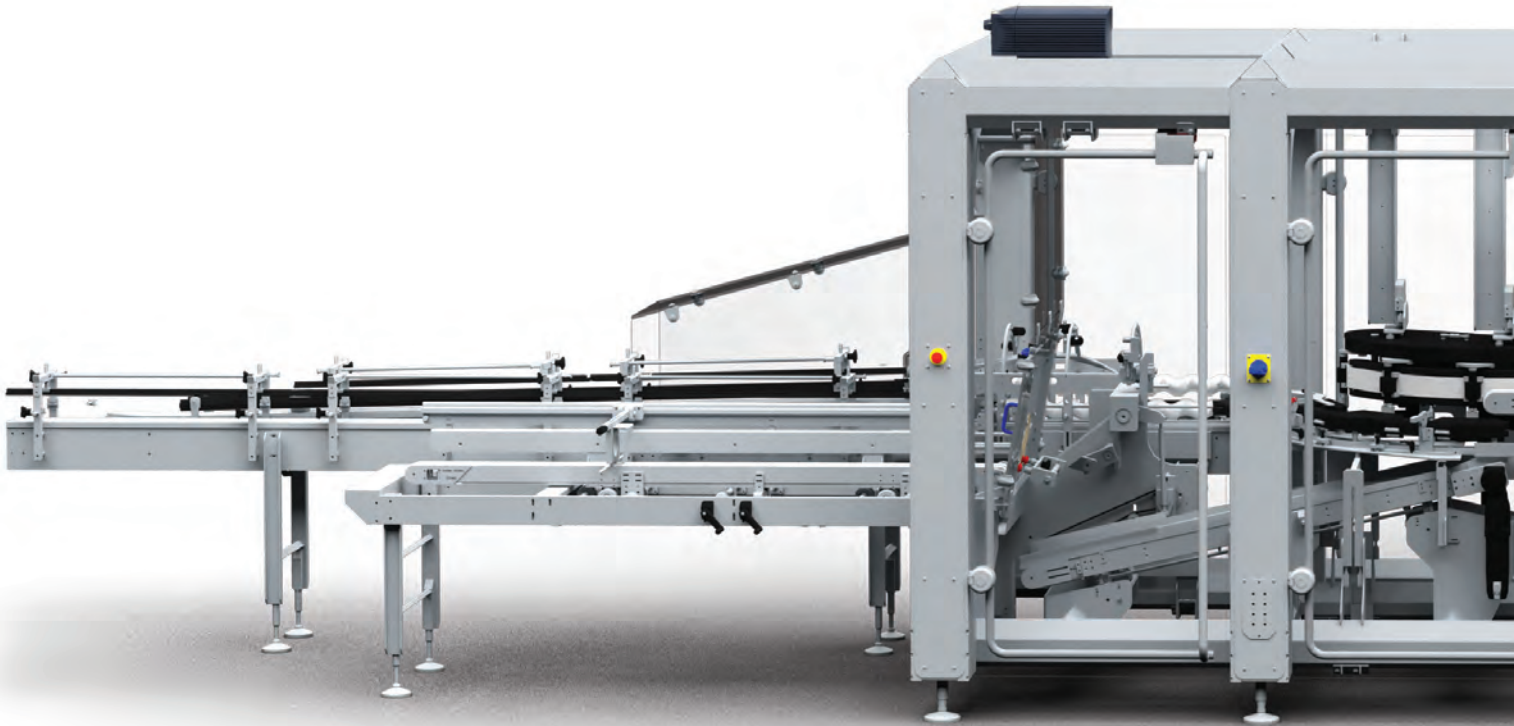
Of course, when shelter-in-place restrictions began in March 2020, more families were forced to adjust to working from home, schooling their

children from home, and preparing most of their meals from home.

Naturally, sales of easy-to-prepare meals soared. This was just one of the reasons a multi-national prepared foods company sought a new solution to automate its packaging line for oatmeal cups and macaroni & cheese.

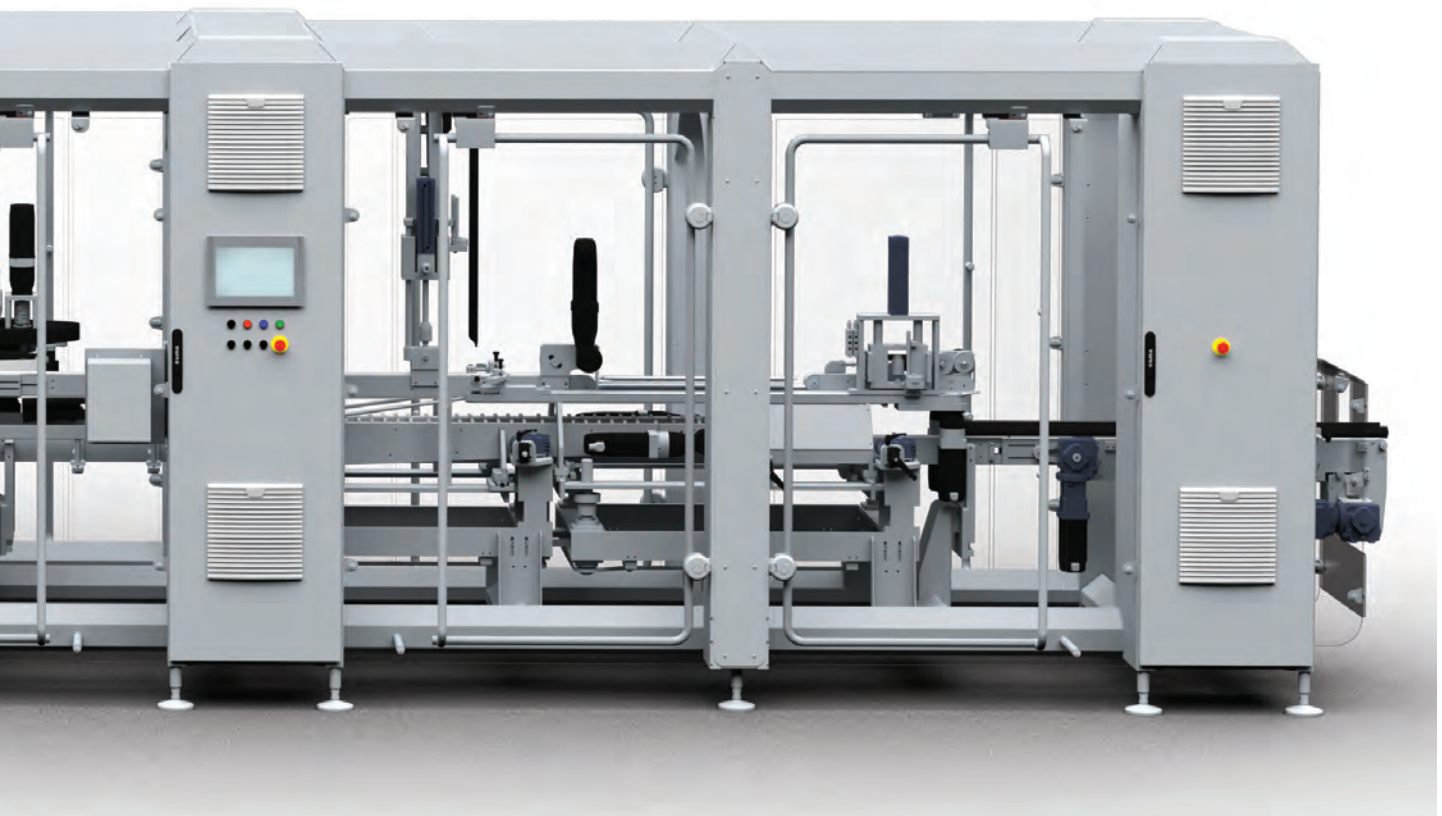
The Chicago-area food manufacturer was previously packaging the cups

in bulk and without the use of a carton sleever. With primary goals of increasing line speeds, easy changeover to multiple SKUs, and knowing the solution they chose would be a reliable partner for years to come, the company chose to work with Cama North America, Buffalo Grove, Illinois, a subsidiary of Cama Group, Italy. Cama proposed its MP carton sleeving machine, a member of its BreakThrough Generation (BTG) series.





camma
GROUP
Innovation meets Experience





Cama's BTG series, which includes sleeving machines, cartoners, and case packers, is truly a step forward in TPM compliant machines, and provides increased accessibility, higher sanitation standards, and a predictive maintenance program.

The BTG series is designed with reduced components for quick and easy changeover, simplified maintenance, less spare parts, and reduced environmental impact. Its monoblock design allows the configuration of custom packaging solutions in a limited space or compact footprint. In addition, it is designed with no hollow body structure and features a cabinet-free PLC with non-proprietary electronics.

For Cama Group, this was a debut installation for a sleeving machine in the BTG series. "For this customer, Cama's Model MP106 sleever offers several advantages," explains Billy Goodman, managing director, Cama North America. First, the sleever allows the customer to expand their product line with new retail ready multi-packs, something Cama was already very familiar with through

their experience with other customers and similar products. For instance, they can run multiple product configurations, such as 4-count and 6-count sleeves. In the case of a 4-count product configuration, the cups come 2 x 2 in two lanes at speeds of 300-330 cups per minute.

The sleever then picks 2 cups and places them atop 2 cups, then inserts into a cardboard sleeve at a rate of approximately 85 sleeves per minute.

"There were limited companies that can do the orientation required at the speed required," says Goodman. "With this style of machine and our technology, it's also possible for them to run a 2-flavor variety pack in the future using this same set up, allowing for future product line expansions."

In addition to high speeds and quick and easy changeovers, other advantages include the machine's compact footprint, sanitary design, and ease of use. Cama's fully digital cardboard sleeving machines are designed to pack bottles, cups, jars, bricks, tins/cans and thermoformed

containers in one or two layers from single and/or double lanes.

The machines are also suitable for clip-type carton sleeves and bridge sleeves with upper pack hot-melt closing. Cama's sleeving machines stand out for their technological innovation, high added value, accessibility, ergonomic design, performance, and functionality.

They are suitable for a variety of markets and products, including dairy applications such as yogurt and ice cream, bottled milk, juices and other beverages, as well as pet food.

For this customer, the results have been increased production, enhanced ability to expand their product line and meet future market demand, and labor savings.

In fact, the company was pleased enough with their decision to purchase the Cama system to order two additional systems, even before the initial installation. 🏢

For further information visit:
www.camagroup.com



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smartpackaginghub.com

GPI GROUP: ATTENTION TO INNOVATION AND RELIABILITY CHARACTERIZES END-OF-LINE AUTOMATION SOLUTIONS

Geo Project Industries (GPI Group), through continuous research, based on a consolidated technological know-how, designs and manufactures complete end of line systems, which have an optimal response in satisfying the requirements of its customers in the world.

The complexity of the problems faced and resolved constitutes the “benchmark” on which the skills of the staff who operate at various levels within the Company are based.

Currently the design, with the help of the latest generation software, allows to develop the most realistic simulations, ensuring customers can evaluate all the dimensional and functional aspects of a proposed solution.

Since its foundation, the main objective has been the cultivation of highly specialized skills that could meet and satisfy the specific needs of the customer.

The new marketing trends increasingly involve the use of various packaging formats, therefore a strongpoint of GPI Group are the personalized solutions, accompanied by particular attention in testing and a prompt after-sales service.

The evolution in packaging design furthermore requires continuous study to be able to safely and securely handle the most varied types of products, in this sense the car-



Top loading unit with picker





Cartesian palletizer



Wrap-around

toning and palletizing of innovative boxes (custom cases, tray/lid, wrap-around) is the specialty of the GPI Group.

The product range includes Forming machines, Side loading Cartoning Units, Cartoning machines, Closing Units, All in One Units, Traditional and Robotic Palletizers, in addition to the other equipment needed for

integrated lines. The many years of experience of the designers, combined with the know-how acquired in dealing with the most varied packaging solutions, have ensured GPI Group can propose innovative and high-performance machines that combine gentle handling of the product with high speed. Particular attention is also dedicated to territorial

marketing and communication. The dialogue between area managers and worldwide agents is continuous and collaborative, not only in relation to sales and assistance but also to marketing, in order to meet local needs in terms of communication support. 🏢

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Tel. +39 049 9475211 sales@gpindustries.eu





Costacurta S.p.A. - VICO: since 1921 design and manufacture of components in wire and metal sheets for the food and non-food industry

The history of Costacurta S.p.A.-VICO, began one hundred years ago, to be precise between Milan, where the company's first office and store were set up, and Lecco, where the first production facility was established. Since its origins, the company has specialized in the production of metal canvases and nets.

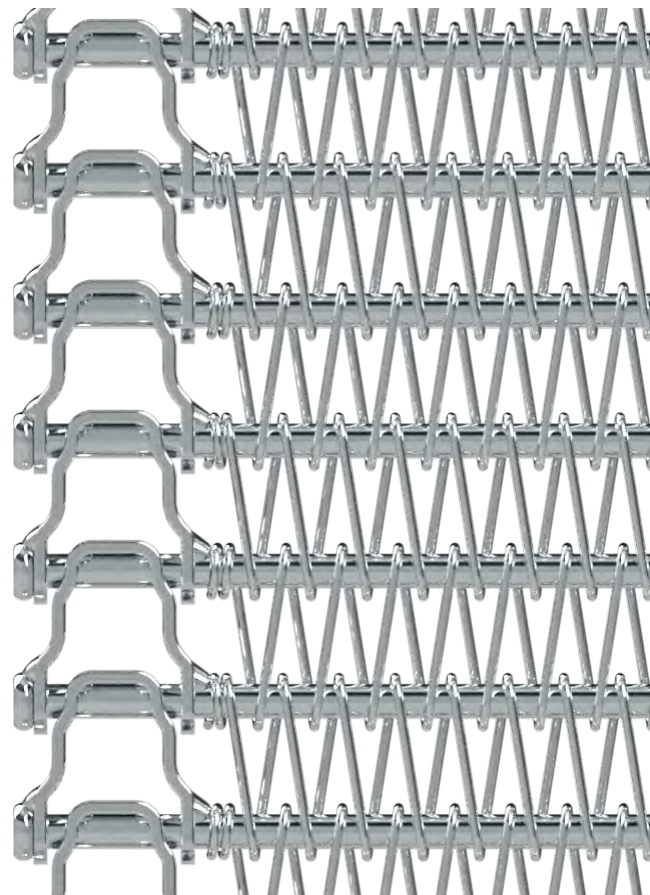
Still today the company's offices are located in Milan, while the production facilities are in Garlate and Olginate. The latter currently reach a total covered area of 40,000 square meters, where are created products which are currently exported to more than 70 countries around the world.

100 years after its foundation, Costacurta S.p.A.-VICO continues to be a family business, now in its 4th generation. In all this time, while carrying on the values set by the founder, the company has evolved, specializing in the production of components made from steel wires and sheets. Today, these components are used by manufacturers of industrial facilities in various fields, such as the food, mechanical, tex-tile, paper, oil, and petrochemical industries. Thanks to the tailor-made design of the components, carried out in constant dialogue with the customer, Costacurta S.p.A.-VICO is today a partner of the main international companies that develop technologies, provide engineering services, and build facilities for the Oil & Gas, petrochemical, and chemical industries. At the same time, the company produces essential components for the food processing industry, including straight, curved, and slat conveyors and a range of filtering elements including wedge wire screens, perforated sheets, and metal canvases and nets. Costacurta S.p.A.-VICO has developed consolidated experience in the design and manufacture of conveyor systems that are also used for heat-shrink packaging. Thanks to the raw materials used, Costacurta belts can be used for applications requiring temperatures ranging from about - 150° c. TO + 1,150°C. These characteristics make them suitable for many different industrial processes, but the variability of use is not only linked to the structural characteristics of the tapes, but also to the customer-oriented approach that characterizes the company. In fact, customers are assisted in selecting the most suitable belt type for the conditions and the shape, size, and weight of the products being conveyed.

History - 1921: it all began with a small family business... What has remained and what has changed in 100 years of Costacurta S.p.A.-VICO?

It all began with the production and sale of wire and metal sheets in a factory near Lecco and a small store in Via dell'Orso in Milan.

Since then, always starting from wires and metal sheets, we have diversified into the production of oil and gas, refining, and the petrochemical and chemical industry, then in the 60's we added the range of conveyor belts and filtering disks and in the '70s



Costacurta

punched sheets, reactor internals and hexagonal grids and, in more recent years, drilled sheets and wedge wire screens.

Our values were and are our compass: we have always aimed at excellence, with passion, commitment, respect, and integrity, constantly adapting to the continuous changes of the markets, diversifying our offer to serve an increasing number of industrial sectors.

Our components, in fact, can be used in many processes in the food, textile, packaging, chemical, energy, petrochemical, pharmaceutical, automotive,

engineering, and architecture sectors.

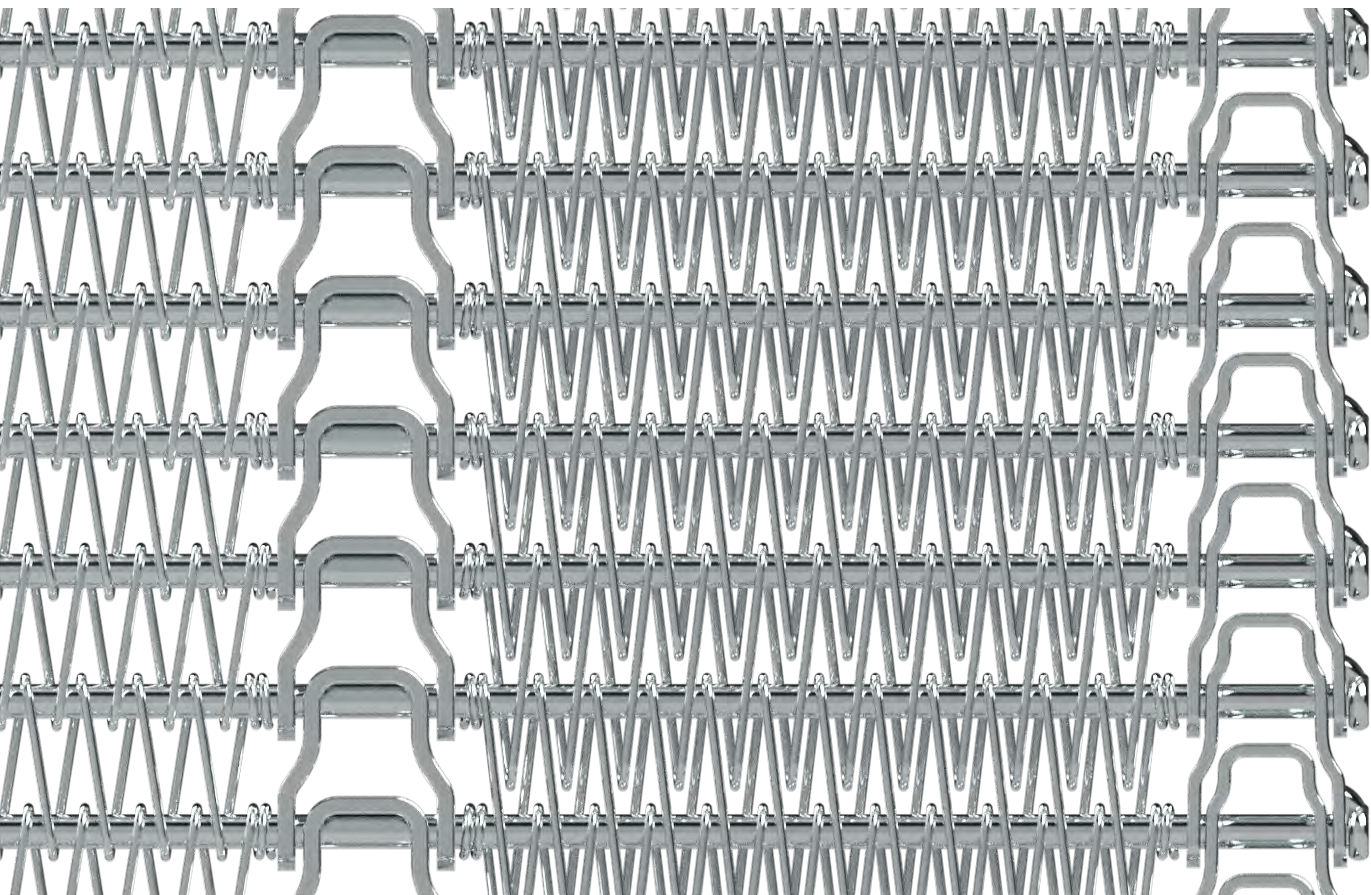
Products - What are the peculiarities that distinguish Costacurta products?

A careful study of the customer's needs and conditions of use, custom design of the component, constant collaboration and transparency with the customer during product development and assistance in case of replacement, combined with the quality of the materials, the technical expertise of our engineers and the experience of our production departments, resulting in high-quality products capable of meeting the most stringent specifications of our customers.

Food sector - What are Costacurta's products dedicated to the food sector?

For cooking, pasteurization, cooling, freezing, and packaging processes we offer a range of straight and curved conveyor belts that can be inserted in straight tunnels or spiral towers.

We also have a wide range of filter elements such as wedge wire screens, perforated sheets (punched and drilled), and wire cloths and meshes that can be used in screw presses for the production of sugar, cocoa, and tomato concentrate, in lautering and pressure filters in beer lautering and microfiltration





processes and vibrating screens and seed cleaning and sorting machines.

Conveyor belts - Why should a manufacturer choose Costacurta conveyor belts for their facility?

Because of our constant attention to providing the customer with high-quality service and product, starting from a careful selection of the materials used and selecting


materials of the highest quality, and applying advanced processes and technologies.

In the conveyor belts, the commercial department supports the customer from the receipt of the request to the selection and design of the belt, up to its installation and eventual resolution of problems. The engineering department, starting from a wide

range of solutions, studies and selects the most suitable conveyor belt for the design of the plant, the specific operating conditions and the characteristics of the product to be cooked, pasteurized, cooled, or frozen.

Costacurta's conveyor belts for the food sector can be made in stainless steel and carbon steel and can reach, depending on the material, temperatures ranging from -150° to 300° C.

However, the wide choice of materials, including special alloy steels, allows us to produce belts that can also operate at much higher temperatures, over 1000°C, in other applications than food.

The attention paid during the design phase, the quality of the materials, and the workmanship allow us to guarantee the best conditions for the transport and treatment of foodstuffs and a high level of hygiene and ease of cleaning. Finally, the automation and quality of the production process allow us to be flexible and meet the specific needs of our customers. 

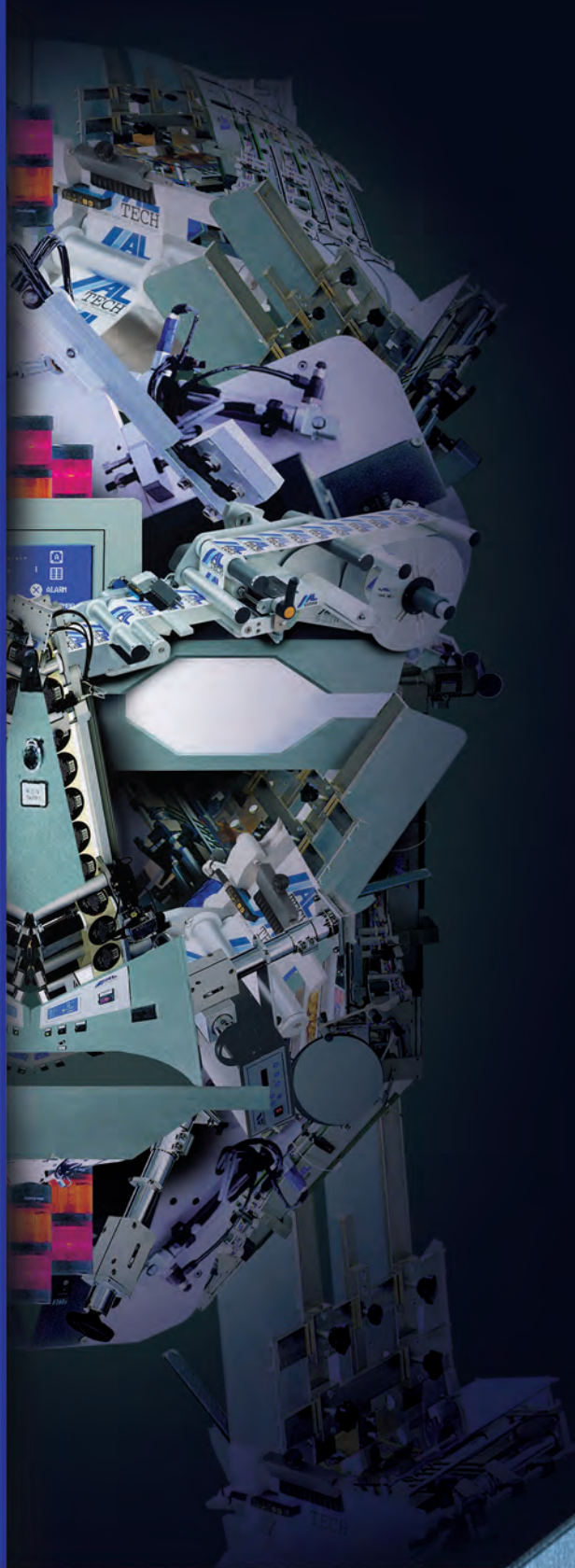




INDUSTRIAL LABELLING MACHINERY MADE IN ITALY



ALTECH SRL
Viale De Gasperi, 70
20008 Bareggio (MI)
Tel. +390290363464
info@altech.it
www.altech.it



ALTECH - ADVANCED LABELLING TECHNOLOGIES

ALTECH is one of the major European producers of self-adhesive label applicators for product decoration, coding and identification.

Today, the company distributes its systems all over the Italian territory through a network of direct sales , while the commercial distribution for Europe and overseas takes place in more than 50 countries through a network of 80 qualified resellers and 3 subsidiary companies in the United Kingdom, the United States and South America.

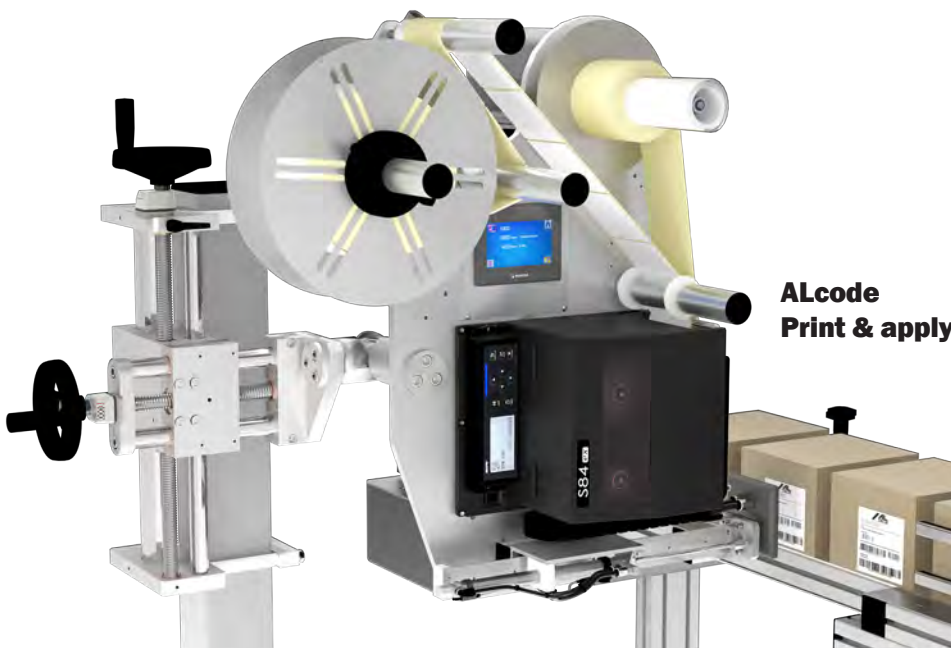
Its range encompasses the following products:

ALstep - low-cost applicator featuring modular and flexible configuration.

ALritma - high-performance label applicator, which can be easily integrated in packaging lines. It is also



ALbelt
Top & bottom labelling machine



ALcode
Print & apply label applicator

available with thermal transfer printing group in the ALritmaT version, for print/apply applications.

ALcode – real-time print-apply systems which apply labels immediately after printing, in any position, on both stationary and moving products (even at high speeds).

A specific pallet labeling version, ALcode P, is able to print and apply A5 format labels on two consecutive sides of a pallet (normally front and side, per EAN 128, or even three sides on request).

ALbelt - simplified linear system which is open, compact, and particularly economical. It can be configured for wraparound, c-wrap, top, bottom,

top and bottom, top and side labeling of various products, cylindrical or flat. It's ideal for labeling cases, boxes, trays, jars and cans.

Its simple and solid main structure houses a conveyor and one or more labeling heads (choice of ALstep, ALritma or ALcode model).

ALline – complex linear system able to apply self-adhesive labels to a wide range of product shapes, constructed with the most reliable materials and components on the market to offer the highest levels of performance and production.

The modular design incorporates ALstep and/or ALritma heads, and can be configured on the basis of

customer requirements, allowing application of labels of any shape and size for front/back or wrap-around labeling and seal application to food, cosmetics, chemical and pharmaceutical products.

For further information:

info@altech.it - www.altech.it

sales@altech-us.com

www.altech-us.com



ALline E
Front & back labelling machine

SIMPL-CUT REVOLUTIONIZES LABELING MARKET

A “Cutting Edge” Roll-fed Solution by P.E. Labellers

P.E. Labellers is one of the world’s leading providers of innovative labeling solutions. The company’s latest development is called Simpl-Cut™, and it is “simply” revolutionizing the Roll-fed labeling market.

Despite being widely used in industries such as soft drink and water, traditional Roll-fed labelers have several areas that can notoriously cause downtime and frustration for users. One of the biggest complaints about traditional roll-fed labelers is downtime associated with the frequent

cleaning of the vacuum drum that transfers labels after they are cut. In traditional Roll-fed labelers, glue can accumulate on the drum and in the vacuum holes.

Eventually, the machine must be taken out of operation and cleaned. Additionally, the label cutting area of traditional Roll-fed labelers presents inherent challenges for maintenance personnel. Typically, the setup time for the cutting blades is long and significant expertise is required to optimally set them up. Simpl-Cut uses a “cutting edge” process to solve each of these problems.

Identikit

- **INNOVATIVE CUTTING SYSTEM**
IMMEDIATE BLADE CHANGE IN 10”
- **GLUE APPLIED BEFORE CUTTING**
DRUM ALWAYS CLEAN
- **ONLY ONE DRUM**
ZERO MAINTENANCE
- **UP TO 5 DIVISIONS PER DRUM**
TOP LEVEL FLEXIBILITY AND SPEED
- **NO-STRESS LABEL UNDERWAY**
EFFECTIVE MANAGEMENT
- **TWO-IN-ONE MACHINE**
HOT MELT ROLL-FED AND LINER-LESS PRE-GLUED



P.E. LABELLERS™



SIMPL-CUT™

The Simple Revolution

Roll-fed Labelling will never be the same.



MINERAL WATER



BEVERAGE



CHEMICAL



FOOD & DAIRY

Simpl-Cut™ introduces the cutting-edge next generation of automatic labelers. Completely innovative cutting system and gluing concept that revolutionizes the traditional operating principle of the Roll-fed world.

What's on the line?

Ingenious Cutting System
change blade in 10" without adjustment

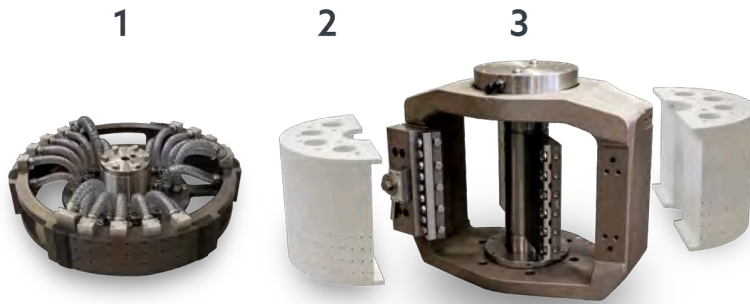
Revolutionary Gluing
glue roller before label cutting

Single Drum
for three operations: gluing, cutting, label application

Total Flexibility
3, 4 and even 5 different division drums on the same station

All-In-One
Roll-fed cold glue and linerless pre-glued technology

CHANGEOVER ROLL-FED



CHANGEOVER SIMPL-CUT

**A “Cutting Edge” Solution**

The patented Simpl-Cut technology optimizes the labeling process, virtually eliminating maintenance-related downtime and reducing cost by addressing three major areas:

- 1) One of the most obvious benefits of the Simpl-Cut system, as the name implies, is the simplicity of the cutting system. Unlike traditional roll-fed labelers that use contrasting blades to cut the label, Simpl-Cut uses fixed blades on a rotating drum to very simply cut the label. **The fixed blades are contained in a cartridge which can be changed out and ready to run in less than ten seconds.** The process of changing and setting up blades can take hours in traditional Roll-fed labelers.
- 2) Second, in the Simpl-Cut process, hot-melt glue is applied prior to the cutting of **the label, virtually eliminating glue buildup on the drum. In traditional Roll-fed labelers, glue is applied after the label is cut, leading to significant glue buildup on the drum** which has to be cleaned often by maintenance staff.
- 3) Lastly, **Simpl-Cut optimizes the labeling process by using only one drum to transfer and cut the label**, whereas traditional Roll-fed labelers require two separate drums for each function. This revolutionary feature significantly reduces maintenance, improves uptime and allows for much faster format changes.

A Global Revolution

“The response from our clients has been outstanding,” says Scott Smith, Senior Vice President of Business Development of ProMach, the global group leader in Packaging the P.E. Labellers in part of. “The problems that the Simpl-Cut technology is solving are universal, so these systems are being purchased by a wide variety of clients, from multinational soft drink manufacturers to regional bottled water companies.”

As a product brand of global packaging industry leader ProMach, P.E. Labellers has an extensive sales and service network around the world. The company believes that its global footprint is key to ensuring the success of Simpl-Cut. “This is truly a global product,” Smith says. “Adoption has been especially strong in Western Europe, South America, Mexico and the United States. We clearly understand the importance of local service and support and have made significant investments in our aftermarket infrastructure to be able to support our clients around the world.”

One of the earliest adopters of Simpl-Cut technology in the United States has been Silver Springs Water.

According to President Kane Richmond, the Simpl-Cut technology is the future of Roll-fed labeling. “Silver Springs has been a customer of P.E. Labellers and their Roll-fed systems for years. We saw the Simpl-Cut technology soon after it was released and liked the simplicity of the single drum, the reduced setup time and the quick-change knife system. We liked it so much that we ordered two Simpl-Cut machines. I expect this to be the standard for Roll-fed labeling moving forward.”

Other famous natural mineral water brands have been among the first to benefit from it. For example, **Spumador, part of the Refresco group**, already has four Simpl-Cut Flex installed in different factories and intend to purchase new ones.

Volvic, a brand of the Danone group, and Silver Springs Water are other important references. 🏛️

www.pelabellers.com

 **P.E. LABELLERS™**

CUSTOM LABELING SOLUTIONS

the fruit of an all-italian passion



LABELERS WITH ROTATING PLATE

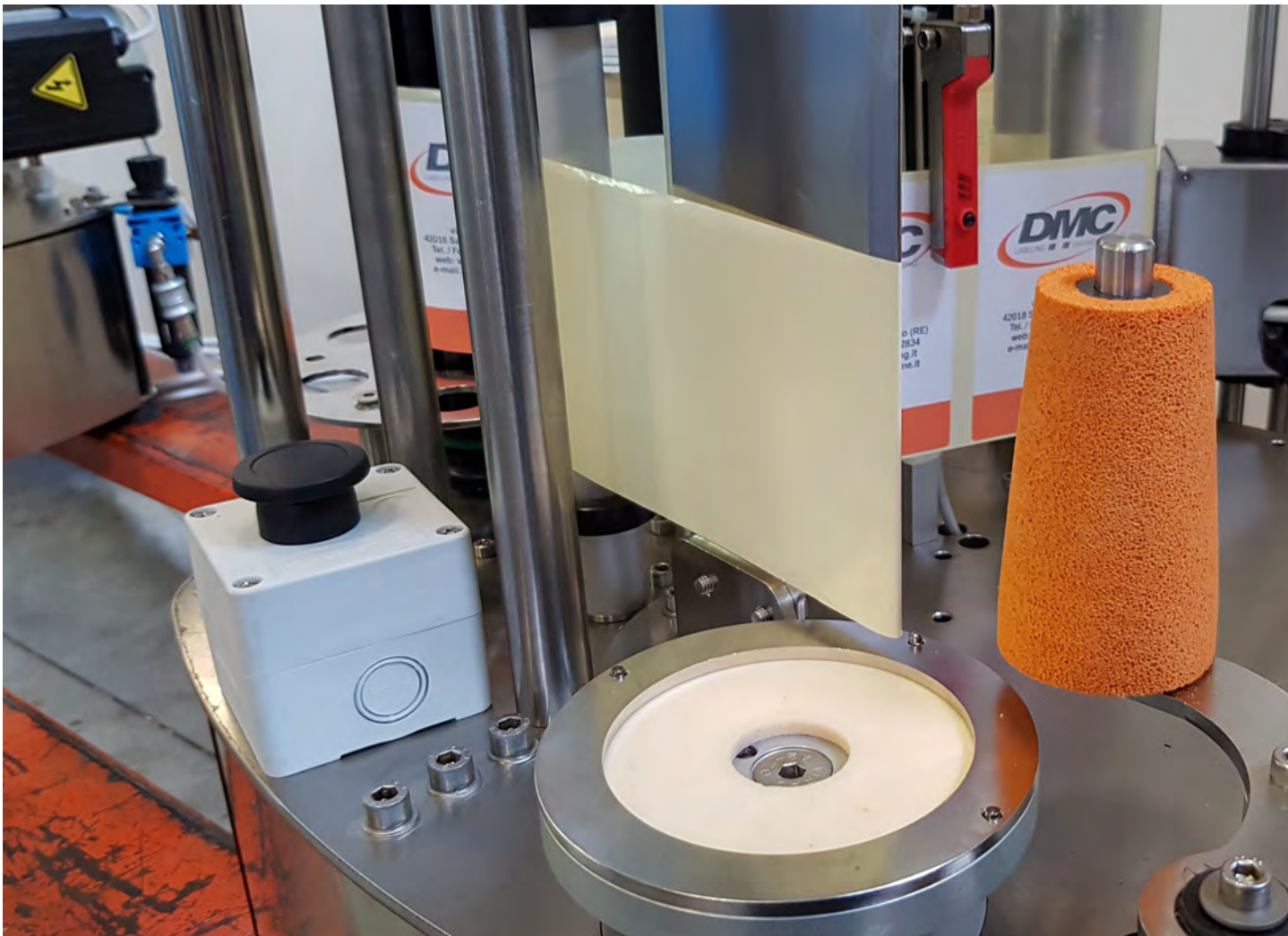


DMC: DESIGN AND CONSTRUCTION OF LABELING MACHINES FOR THE FOOD AND BEVERAGE SECTORS

The **DMC** company was founded in 2001 and for the first few years the main activity was represented by mechanical processing for third parties, then the *Labeling division* was created, dedicated to the design and construction of labeling machines for the food and beverage sectors.

All the machines are characterized by an innovative labeling system based on the use of the container rotating plate. This application guarantees the labeler considerable versatility of use and high precision in the finishing of the package, as well as a simple and economical format change. All models are highly customizable, thanks to the possibility

of integrating several functional groups, even designed *ad hoc*, to meet specific packaging requests. Therefore not only reliable and performing machines but also machines built to fit customer's needs: he can count on a real 360 ° technical consultancy service in the development of the project of his own customized machine.



The products by DMC are innovative, by choice. In fact, several patents have been filed relating to the study and design of high-performance and cutting-edge labeling systems, relating to both bench labeling machines and automatic line equipment. Recently solutions and strategies have been adopted within the workplace to aim at the efficient use of energy, the development of sustainable mobility and the reduction of consumption and waste, combining profit with environmental protection and growth of a green sensitivity in all the company staff. At the same time, a digital transformation process has started thanks to the adoption of solutions for document archiving and the introduction of new tools and procedures in the production department for the computerized management of orders and of the

warehouse. Today the range of products by DMC includes innovative labeling machines with hourly production between 500 and 4000 bph and includes both bench models and semi-automatic and automatic line models. The flagship model among manual labeling machines is the **ALPHA PRO**, a bench machine suitable for the packaging of multiple types of containers, from cylindrical to conical, square and shaped, which guarantees high labeling precision and a quick and economical format change thanks to the use of the rotating plate system. This labeling machine is also designed for the application of a neck label or a small medal, allowing the packaging

of the classic sparkling wine bottle to be carried out with manual bench equipment. Among the automatic models, the **TECH SONIC** stands out, an automatic 4000 bph labeling machine: it is a linear machine suitable for the packaging of cylindrical formats, which uses an innovative labeling system (patent pending) by means of opposing rollers which makes this model a valid alternative to traditional vacuum-type labeling machines. The range in 2021 will be further enriched by a new labeler, the **MHIRA** model, a 1500 bph linear machine specific for the packaging of classic Bordeaux. 🏢

www.dmclabeling.it





KM Packaging Launches Mono Material Polypropylene Lidding Films

Global flexible packaging and lidding films supplier KM Packaging has launched a new range of mono-polymer material lidding films, made from polypropylene (PP), that is designed for recyclability.

The sustainable films seal and peel to PP and PE-lined PP trays and can be used during microwave cooking as well as being suitable for ambient, chilled, or frozen applications.

Part of KM's K Peel range, it allows food manufacturers to meet the growing demand, particularly from supermarkets, for mono material packaging that is designed for recycling.



MONO



KMPACKAGING



Shaping the future of **ECO-PACKAGING**



www.universalpack.it

Some **eco-laminates** our machines can package:

- **PP** - Polypropylene
- **PLA** - Polylactic acid
- **PAP** - Paper
- **BIO-PE** - Bio-based polyethylene
- And many more...



APPLICATIONS

- ✓ Powders
- ✓ Liquids
- ✓ Tablets
- ✓ Granules



#ROADTOCARBONZERO

The lidding films are ideal for the packaging of poultry, meat, and chilled prepared foods. Features include:

- Mono structure made of one material type.
- Designed for recyclability.
- Ideal for use during food preparation and microwave cooking.
- Peelable from the tray.
- Suitable for ambient, chilled, or frozen applications.
- Exceptional transparency.
- Excellent anti-fog capability.
- Available with or without barrier.

As well as satisfying the needs of supermarkets and consumers who are seeking more recycle-ready solutions, KM is helping to future-proof its food packaging.

KM Packaging’s commercial director Graham Holding explained: “If you have a piece of flexible packaging that, for example, is a combination of paper, plastic, and aluminium foil, then that would be a really difficult thing to segregate and put into a recycling stream.

“It is anticipated that the UK government’s Extended Packaging Producer responsibility regulations, due in 2023, will quite highly penalise packaging like this that is difficult to recycle.”

The new PP lidding film is also designed for recycling around the world, with some countries already having well-developed recycling infrastructures for polyolefin (polyethylene and polypropylene) plastics.

In the UK, front-of-store recycling facilities allow consumers to return polyolefin-based flexible packaging. A similar approach is taken in other markets. For example, Australia’s REDcycle initiative and, in South Africa, polyolefins are the largest plastic commodity recycled by weight.

Therefore, putting a tray/film combination of polypropylene onto the market feeds into an already well-established recycling system.

And the new “Designing for a Circular Economy” guidelines from CEFLEX focus on polyolefin-based flexible packaging. This is due to the material making up an estimated 70-80% of the flexible packaging waste stream and because the ability to sort and mechanically recycle it is already proven at an industrial scale in Europe.

KM Packaging’s main purpose is to “protect, present, preserve”. That is delivering the best packaging solutions by:



- Protecting products throughout the entire process, from factory to table.
- Presenting food in a way that is attractive, professional, and recognisable.
- Preserving food and extending shelf-life across the food industry.

Graham said: “The main goal of our packaging is to look after and protect food. We don’t compromise on that. But we’re also trying to make sure it’s designed for recyclability and, when appropriate, it’s thinner and lighter. These are big drivers in our product-development process.”

The new polypropylene lidding film products follow KM’s recent launch of all-polyester (PET), weld-seal, mono-material lidding films within its K Seal range.

Both solutions are designed for recyclability and will allow customers to avoid putting multi-layer trays and films with different plastics combined into the market. 🏠

www.kmpackaging.com



THE **PUMA** MANIFESTO

working together to the end of packaging as
an environmental issue worldwide





THE PUMA MANIFESTO

WHAT IS PUMA?

PUMA is the collective effort of the packaging business community to end packaging as an environmental issue worldwide.

WHAT IS PACKAGING?

Packaging is the activity of temporarily integrating an external function and a product to enable the use of the product.



Waste essentially is an unwanted by-product of a (manufacturing) process



WHAT IS NVC?

NVC Netherlands Packaging Centre was established in 1953 to stimulate the knowledge and expertise in packaging. Since then, we have grown into an association with over 500 member companies in the Netherlands and abroad. The packing-filling (FMCG) industry, packaging manufacturers, retailers, manufacturers of packaging machines, wholesalers, recyclers, designers, even a number of financial institutions: they all are members of the large and vital NVC business family. The NVC membership, innovation projects (like PUMA), information services and education programme stimulate the continuous improvement of packaging worldwide.

WHEN IS PACKAGING AN ENVIRONMENTAL ISSUE?

Environmental issues are harmful effects of human activity on the biophysical environment. Waste essentially is an unwanted by-product of a (manufacturing) process. The activity of packaging creates environmental issues when the resources involved, either wanted or unwanted ('waste'), constitute an environmental issue.



Environmental (planetary) problems caused by us, People, can – and will – also be solved by us, People



WHY DO WE HAVE TO ACT NOW?

Packaging has been with mankind already since ancient times in some moderate form, but the 20th century has brought a dramatic acceleration. The world 'does it' now at least 320,000 times per second and this is causing substantial environmental concerns. Packaging will only keep it's societal licence to operate if these concerns are properly addressed.

ABOUT THE MANIFESTO

This Manifesto outlines the way forward to end packaging as an environmental issue worldwide. It consists of the PUMA Model to describe the essentials of the packaging activity and its relation with the resources involved. A conceptual roadmap is presented to be applied by every individual actor and the world packaging community as a whole in a self-organising manner. Key elements are open-minded sharing of reliable information, continuous knowledge development and truly holistic innovation. Environmental planetary problems caused by us, People can – and will - also be solved by us, People.



Packaging will only keep it's societal licence to operate if the environmental concerns are properly addressed



THE PUMA MODEL

THE VOCABULARY

First, PUMA defines the activity of packaging: temporarily integrating an external function and a product to enable the use of the product. There is no Law prescribing that we must do it (packaging). For instance in recorded music, streaming services like Spotify show that we can live without. If we decide to engage in the activity of packaging, the pack-use-empty (verb) spiral P-U-E is a consequence. This results in emptied packs later in time and at a different location. Waste is defined as an un-wanted effect of a (human) activity. Consequently a collect-control step must be built-in, followed by a postulated backend (BE) process step. Mirror-wise, a frontend (FE) step is required to obtain the necessary packaging materials. Philosophically and thermodynamically and in terms of information science, the situation at the backend is fundamentally different from that at the frontend. Both processes may be described in terms of converting, though.



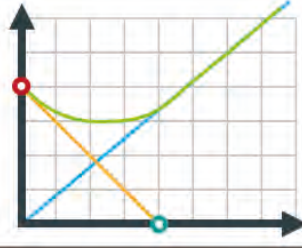
Holistic innovation is needed as we are all interconnected in packaging



ADDRESSING THE ENVIRONMENTAL ISSUES

Environmental issues may come and go, depending on the many different interactions between our human activity and planet earth. Whereas the PUMA model remains unchanged, its application to environmental issues may vary in the course of time. In this first edition of the PUMA Manifesto we focus on litter, CO₂, and (inadequate) pack optimisation. These three issues are deemed to be the most important in the current environmental packaging debate. The resulting table serves as the basis for addressing (future) environmental issues adequately.



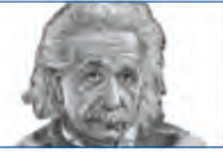
	FE	P-U-E	C-C	BE
Litter			✓	
CO ₂	✓			✓
Inadequate pack optimisation <div style="font-size: small; margin-left: 20px;"> Product Packaging material + Total environmental impact </div>				
Future issues	✓	✓	✓	✓



SUPPORTING PUMA



Success comes from deeper understanding and supplementing earlier insights



I SUPPORT THE PUMA MANIFESTO AND HEREBY PLEDGE TO:

- ✓ Reference the PUMA Model as an insightful source to address the activity of packaging worldwide
- ✓ Apply the vocabulary as used in the PUMA Model and positively contribute to possible improvements
- ✓ Contribute to the PUMA annual plenary meetings to the best of my capabilities
- ✓ Make my decisions and base my opinions on the state-of-the-art in packaging (i.e. on reliable, verifiable and up-to-date information) and using all information and knowledge that is brought to my attention
- ✓ Stimulate continuous education and training of those with a responsibility within the activity of packaging
- ✓ Contribute to helping facilitate all phases of PUMA (FE, P-U-E, C-C, BE)



Everything flows and so does the activity of packaging; we can put a clock back, but not the time



MY DETAILS:

Company name

Initials and surname

Date of birth

Address

Phone

E-mail

For an overview of recent references and background information worldwide please visit www.nvc.nl/puma



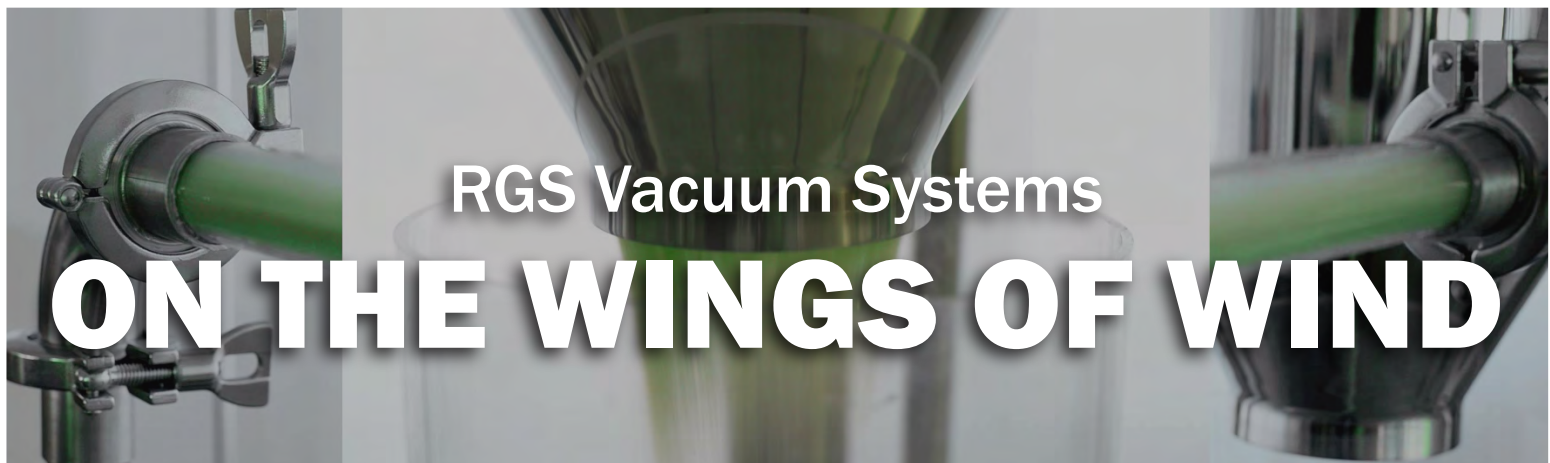
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Sharing the future in packaging

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RGS Vacuum Systems

ON THE WINGS OF WIND

RGS Vacuum Systems, the power of vacuum

A company specialized in the production of Industrial Vacuum Cleaners, Pneumatic Conveyors for dust and granules, Centralized Suction and Ventilation Systems.

Since 1997 RGS Vacuum Systems has been developing solutions for its customers customized automation that meet every industrial need, bringing less environmental risks and more safety than standard work. Since its inception, the RGS team has been working using the technology to meet the specific needs of customers, from design to maintenance. Today, the company realizes “turnkey” projects, with innovative and at the same time valid solutions.



INDUSTRIAL VACUUM CLEANERS | PNEUMATIC CONVEYORS | CENTRALIZED SYSTEMS
rgsvacuumsystems.com



RGS ON THE WINGS OF WIND

RGS, Zocca * based Italian company, started his adventure 30 years ago, manufacturing the first vacuum cleaners that soon became the reference for the clients in search of high-quality products and perfect clean results.

RGS peculiarity was and is the one of “understand “the client needs and cooperate with them for solving their problem.

From the cooperation with the best industries of the world, we gained the

experience to use vacuum technology for producing centralized vacuuming systems that were a further step in dominating the air technology. At that point many production plants of the world started asking RGS for complex cleaning projects tailored for them.

From this experience, using the air and its rules, came the know-how for the revolution of the pneumatic transport that made RGS one of the few companies in the world able to

manage at the same time the cleaning problem, of the industry and the environment, together with the big issue of the transport of bulk materials in the production process.

Not “one of the few “but the “only one “that can create transport solutions in dense phase, dilute phase, high vacuum phase allowing RGS to suggest to his customer the right technology for his problem.

1) Dense phase with dry compressed air (for the conveying of a





mix of products, fragile products,
at long distances, high quantities
up to 100 tons for 500 mt)

- 2) Dilute phase with blower or vacuum
- 3) High vacuum conveyor systems

RGS assembly teams travel the world to start up our sucking or conveying lines, assisted by our branches in China, India, Brazil, Mexico and by our network of specialized dealers.

Agri-food industry, pharmaceuticals, tobacco, mechanics, foundries, 3D printers, nuclear power, aeronautics... from the more traditional sectors to the more innovative ones RGS offers its cleaning and transport solutions. 🏠

* Zocca up to the hill at the top of the packaging and vacuum system valley.

www.rgsvacuumsystems.com

RGS
VACUUM SYSTEMS

Aspiratori industriali
Vacuum cleaners

Impianti centralizzati
Centralized systems

Trasportatori pneumatici
Pneumatic conveyors

THE (RE)DISCOVERY OF HYGIENE, HEALTH AND SAFETY CONNECTION WITH COLUSSI ERMES

The whole world has a new awareness: the connection between **hygiene and health** cannot just exist but must be tangible.

How? This is Colussi Ermes' starting point. This company specialized in food-industry washing systems has seized the opportunity to renovate their *mission*, which has always

aimed to pursue perfection in terms of **hygiene and sanitization**.

Colussi has done so trying to strengthen the concept of **safety** in the food-industry world. During such an intense period, many food-production companies faced the demand to comply with new strict standards. No one knows this better than Colussi Ermes who has

met many new requests coming from its clients: ranging from the meat to the dairy industry, from the confectionary field to fruit and vegetable production, from the poultry sector to fish industry.

How can safety be increased during the food production and washing cycle? With solutions that allow to reduce cross-contamination risks





thus protecting consumers and also with the kind of **care for every detail** that distinguishes Colussi Ermes. **Innovative hygienic design, energy consumption reduction**, water and detergent use, cycle automation, loading/offloading automation and the parameter monitoring in compliance with HACCP rules are just a few of the features that combined in a single washing

system make the difference. The CIP (Clean in Place) self-wash programs are an example of this. Their goal is to **protect and deurate the production lines** from organic and inorganic contaminating agents. Thanks to this automatic system - that involves all of the machine circuits, walls and key points and that is performed with pre-set pressure and temperature including also a

final rinse and sanitization phase - companies can reach the **high safety standards** that are required.

Colussi Ermes' challenge for 2021 becomes another opportunity to make the world a safer place. Two new plants have been built comprising the new **Colussi Research Centre site**. This is an actual innovation space, a lab where experts can study





new improved systems for industrial washing, sanitization and drying that guarantee energy savings and that aim to ensure higher performance and efficiency levels. The new sites, which are completely covered with solar panels, **qualify Colussi Ermes as a model of sustainable excellence.**

Colussi Ermes exports all over the world, extensively in many countries. Europe, North America and Australia are the main markets where the most important sales targets are constantly reached. Furthermore, with the aim of strengthening the efficiency in the American market, Colussi Aws Inc. has been established in California, together with an all-American brand: Colussi Aws Inc.

Service

Choosing a Colussi Ermes industrial washing plant means trusting in a partner who consciously believes

in the strategic importance of the **Technical Assistance Service**, and why a highly specialized dedicated staff has been organized within the company.

Our relationship with the customer does not end with the delivery of the system, rather it is the moment it begins: the continued presence and strong commitment of our specialized electricians and mechanics ensure a fast and smooth start-up, without hiccups.

Over forty years of experience and know-how gained in industrial complexes, including at the world-wide level, have provided our Technical Assistance Service with both global and specific knowledge, not only during the test stage, but also in the management of every operation which follows the commissioning of a washing system.

Saving resources

Large and small companies working

in the food market and using COLUSSI ERMES machines have been able to achieve extraordinary advantages such as:

- dramatic energy and chemical savings
- environmentally friendly wash operations
- reduced wash time vs. very high hygienic and sanitary standards
- increased production capacities and safety
- better working performance of their staff

Colussi Ermes is continuously innovating to improve your safety.

This is a company that marked its path with its resilience spirit which is fundamental in this memorable period. 🏛️

Visit:

www.colussiermes.com



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NAVATTA PRODUCTION AND INSTALLATION OF FRUIT AND VEGETABLES PROCESSING LINES

The company Navatta, founded by Mr. Giuseppe Navatta in 1983, produces and installs fruit and vegetable processing lines and boasts references across the globe

Navatta Group is also centre of excellence for the production and installation of processing machines and plants for peeled tomato and tomato by-products; it counts many references all over the world, with capacity ranging from 20 to 120 t/h of incoming fresh product.

Navatta Group is today a well – established and technologically efficient reality, also thanks to the numerous



companies' acquisitions over the years, such as Dall'Argine e Ghiretti in 2001, a 40-year-old company world famous for rotary can pasteurizers and tomato pulp-

ing lines.; Mova, in 2010, with extensive experience in bins handling, bins and drums emptying, palletizers and depalletizers, washing systems; Metro In-



Double head aseptic filler for palletized bags 220 liter in drums, small bags 3 – 5 – 10 - 20 liters with automatic bags loading system and automatic filling of product - no operator needed. – Patented System – great filling speed.



Turbulent Thin Film Evaporator for very high viscosity and concentration products, premium quality puree - Evaporation process performed in very short time to save organoleptic properties of products.



Rotary can sterilizer for vegetables, tomato and fruit products with pieces in preserving liquid.

ternational, in 2012, leader in fruit and vegetables processing, boasting international patents for juice and puree extraction, concentration plants and thermal treatment; Ghizzoni Ettore, in 2012, specialized in special batch plants for ketchup, sauces and jams.

MANUFACTURING RANGE

NAVATTA GROUP manufactures and commissions Processing Lines, Systems, Equipment for Fruit, Tomato, Vegetables for:

- peeled / diced / crushed tomatoes, tomato sauces and purees, tomato paste, all filled into any kind of package or in aseptic;
- diced, puree, juices (single strength or concentrated) from Mediterranean / tropical fruit, all filled into any kind of package or in aseptic;
- Fruit crushing lines from IQF, frozen blocks and frozen drums
- high yield PATENTED fruit puree cold extraction, fruit purees / juices equalized in aseptic.
- Wide range of evaporators to produce tomato paste Mediterranean and tropical fruit concentrate.
- Evaporators for coffee and milk: evaporation before spray atomizers, freeze dryers or other dryers
- Evaporators for cogeneration industry (waste treatment)
- Aseptic sterilizers
- Aseptic fillers for spout bags/ spout-less Bag-in-Box 3 – 20 liters, Bag-in-Drum 220 liters, Bin-in-Box / IBCs 1.000 – 1.500 liters;
- Spiral-cooler
- formulated products productions (jam, ketchup, sauces, drinks) starting from components unloading to dosing, mixing, mechanical / thermal stabilizing, to filling into any kind of package or into aseptic mini-tanks;
- processing pilot plants;
- vegetable processing as receiving, rehydration, cooking, grilling and freezing

Navatta Group's headquarter and the two production units are located in Pilastro di Langhirano, Parma, with a total production area of 10,000 square meters. A new area of 10,000 square meters has recently been purchased and is ready to be built.

VISION: Passion is the factor that drives us to higher targets, in terms of technology, products and services.

MISSION: To constantly increase Customers' satisfaction and fidelity. 🏠

www.navattagroup.com

FARA® FUNCTIONAL SYSTEMS FOR PLANT-BASED NUTRITION: FARABURGER!

Based on hydrocolloids (stabilisers and emulsifiers) Faravelli's FARA® functional systems have always guaranteed the best balance between innovation, cost and quality

FARA® functional systems, from the simplest to the most sophisticated, are tailor-made, following specific customer requests.

The blends include emulsifiers, natural hydrocolloids and functional ingredients that give foods and beverages unique characteristics, for example a well-defined structure, good resist-

ance to thermal stress, improved consistency, or a characteristic and consistent taste.

The added value is not limited to improving product quality. Functional Systems, in fact, simplify the phases of research and development, quality control and approval of raw materials, with important economic, practical and operational advantages.

They can be used in the most varied sectors of the food industry.

A rapidly growing trend, **the plant-based diet** favours the consumption of plant-based foods, such as fruit and vegetables, but also nuts, seeds and oils, whole grains, and legumes. In addition, although not biologically classified as plants, mushroom and algae products are also included in the definition.

According to a 2017 Mintel study, which is also collected by the Plant Based Association, taste is the main driver in consumer decision-making, even for plant-based foods. Therefore, it is important to offer products on the market that are not only healthy but also have the organoleptic characteristics that consumers are looking for.

Faravelli has developed a range of functional systems purposely dedicated to the vegan and vegetarian sector, the latest launches being Faramix HH 105 - intended for vegetarian meat alternatives - Faramix FV 104 for bakery products, both savoury and sweet.

FARAMIX HH 105 for meat-no-meat burger

FARAMIX HH105 is a functional sys-



From the very first steps in ORION Engineering company, we decided that one of the most important point to be focused on in our projects would have been the eco-sustainability of the processes in which our plants are involved.

Today, as then, we pursue this philosophy to pass on to future generations a world that places man at the center of an ethical and eco-sustainable business.



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tem to obtain a “meat-no-meat” product (hamburgers, meatballs, sausages) with visual characteristics and compactness identical to classic ones: meaty, juicy, pleasant to the palate. Within the plant-based diet, the “meat-no-meat” category is growing just as fast and responds to the new needs and sensitivities of a growing consumer segment. Plant-based meat is produced directly from plants. Like animal meat, it is composed of proteins, fats, vitamins,

minerals and water. The new generation of plant-based meat looks, cooks, and tastes just like conventional meat.

CHARACTERISTICS OF THE FINAL PRODUCT WITH FARAMIX HH105

- very juicy despite the absence of fats
- neutral taste (soya is not perceived at all), no flavouring, therefore very adaptable to the taste.
- structure identical to the classic meat burger, without syneresis.
- very versatile, it can be adapted to the most diverse recipe and format requirements, while maintaining its juiciness and fat-free characteristics.

A product so juicy and meaty, people won't believe it's made from plants! A food that is not only good and high in protein, but also an ally of environmental sustainability.

A certified quality production plant

First-class expertise in the selection of raw materials available on the market, special attention to food safety issues and a state-of-the-art production plant are the prerequisites to be the reliable partner in the production of powder blends. Faravelli's production plant is located in Nerviano, near Milan. It houses a packaging line for customisable solutions and an application laboratory where finished products are tested with methods that closely reflect the final application.

Both the production plant and the Applications Laboratory operate within the Faravelli quality system and are certified according to ISO, IFS, HACCP and FDA standards. 🏠

www.faravelligroup.com/functional
fara@faravelli.it



FARAVELLI
THE BEST INGREDIENT



RUMMO IS BORN AGAIN THANKS TO UNIQUE PARTNERS

The combination of multiple skills gives rise to customized and efficient projects. ICI Caldaie proves to be a precious partner for energy efficiency paths

In October 2015, severe weather conditions hit the Sannio area in the Campania region. The heavy rainfall caused the overflowing of three rivers – Calore, Tammaro and Sabato –, covering the industrial area of Ponte Valentino with water and mud. The storm violently hit the historic Rummo pasta factory, destroying the machinery, damaging the raw materials and stopping production.

Despite the irreversible damages, the management never considered the idea of shutting down. Thanks to the determination of its employees, about 150, and with the help of the Web, a spontaneous campaign of solidarity began on the social networks, prompting consumers and supermarkets all over Italy to buy Rummo products.

#SAVERUMMO IS ICI CALDAIE'S CONTRIBUTION

The hashtag #saveRummo went viral and the brand made fun of the tragedy with the slogan "water never softened us". Rummo is a family-run business that has been producing durum wheat semolina pasta since 1846, exporting it to 45 countries all over the world and continuing to do so for a long time thanks to both the management and employees' hard work and passionate commitment. Other invaluable protagonists in this history of rebirth are the many partners with whom the pasta factory works – qualified and reliable professionals who have supported the cause from the very beginning. Among them is the Venetian company ICI

Caldaie, which has contributed to the energetic improvement of the factory with its expertise.

The beginning of a successful collaboration

The year after the flood, Rummo decided to improve the modernization of its plants with the desire to significantly reduce primary energy consumption yet maintaining its high-quality standards. To achieve this ambitious goal, Rummo decided to turn to an important ESCO (Energy Service Company) operating in the industrial sector, S4E System (www.s4esystem.it). This company had been working for some time with





ICI Caldaie, an Italian boilers and steam generators manufacturer based in Verona. S4E System soon promoted the beginning of a wider collaboration between Rummo and ICI Caldaie, being it a company at the forefront in the Italian scene. Since the beginning of the new century, ICI Caldaie has been working on the research of possible alternatives in the energy sector, aiming at reducing carbon dioxide production and building effectively sustainable plants.

To do so, ICI Caldaie has always relied on the collaboration with national and international partners, including research centres, universities and manufacturing companies, and on innovative methods (including design thinking, a person-centred process aimed at solving complex problems). ICI Caldaie, in fact, strongly believes that only through a multifaceted

and versatile know-how it is possible to create a truly efficient and functional system. In the specific case of Rummo, the challenge was to continue to improve the quality of its production, reducing both energy costs and the company's environmental impact. Making use of each other's expertise, ICI Caldaie and S4E System developed several solutions that perfectly met the requirements of the pasta factory.

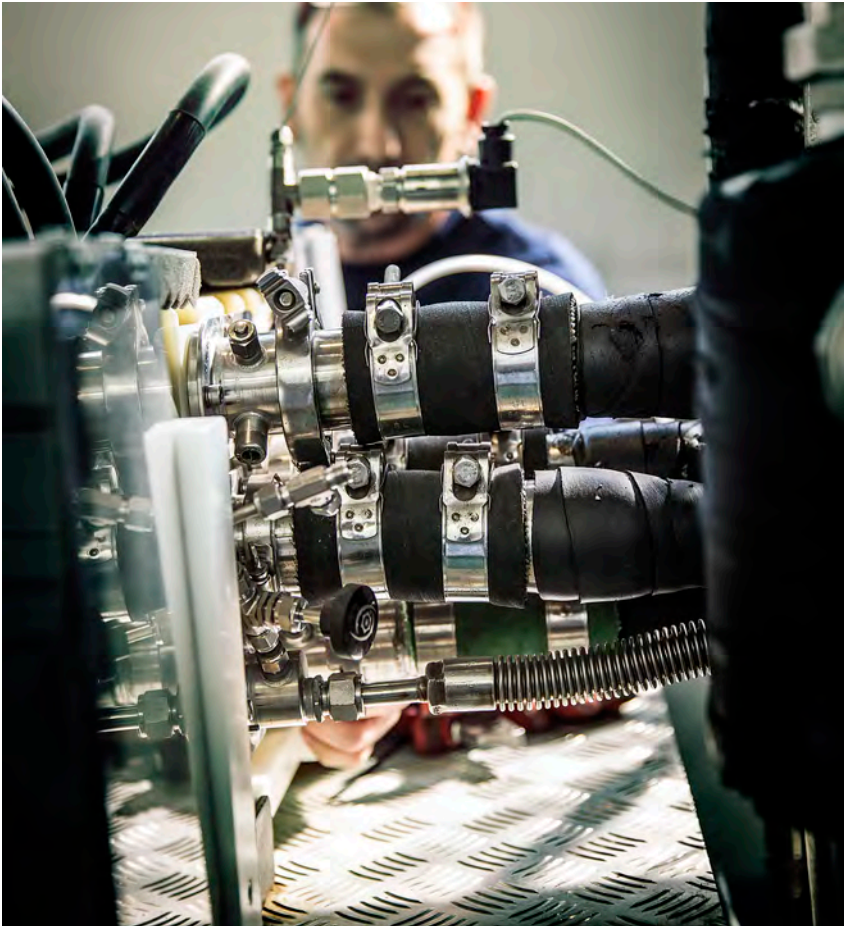
Interventions and results

The design and modernizing activity was performed throughout 2016 in collaboration with the plant technicians, and ended in 2017. The interventions mainly focused on the heating plant, but also involved the refrigeration plant, the compressed air plant, the vacuum plant and the general energy monitoring system of the heating and refrigeration plant, including the

Energy Diagnosis procedure according to the Legislative Decree 102/2014. The main intervention in the heating plant was to improve the production efficiency of superheated water. S4E System identified the main problem, detecting an ex-ante situation with an efficiency of 86% characterised by the presence of a boiler that used diathermic oil as an intermediate heat transfer fluid for the production of superheated water at 140°C.

On that specific boiler, there was a combustion air preheater. It was thus decided to improve the efficiency of superheated water production by introducing an ICI boiler ASGX EN 6000 superheated water boiler of 6 MW, equipped with economizer for heat recovery on flue gases and characterized by a nominal useful efficiency of 94%. To date, the boiler working on the





three pasta production lines in Room 2 produces at full capacity about 50% of the nominal power. This translates into a methane consumption saving of 200,233 Sm³/year, corresponding to about 58,000 € /year. The new system configuration also eliminates the diathermic oil circulation pump (diathermic oil pump Q=400mc/h H=35mt c.l. Pel ass= 45kWel) with a consequent electricity-saving equal to 356,400 kWh/year, about 28,500 € /year.

The energy efficiency path has thus produced the expected results: lower costs and reduced environmental impact. Overall, the intervention conceived by S4E System and carried out through the introduction of an ICI Caldaie boiler has led to saving about 234 TOE/year, a cost reduction of about 86,500 € /year and a decrease of about 520.86 tons of CO₂. The energy improvement process is not limited to this but has involved other sectors with excellent

Annual savings in the Pasta Rummo's plant thanks to the interventions ICI CALDAIE and S4E



TOTAL ECONOMIC SAVINGS

154.100 €/year



TONS OF CO₂ SAVING EVERY YEAR

800 Ton/year



equivalent to the emissions of 100 medium-sized cars that make 65,000 km



TOTAL POWER SAVING

1.202.359 kWh/year





results. In the refrigeration plant, for instance, a reduction in energy consumption for the production of chilled water has been achieved by changing the system configuration and improving the efficiency of chilled water production by achieving an EER of 4.5. This result was made possible thanks to inserting refrigeration units with screw compressors under inverter and replacing the plate heat exchanger with direct exchange and mixing hydraulic disconnecter to work

at the same temperatures as the cooling tunnels of 14°C. The electricity saving is equal to 282,972 kWh/year, equivalent to about 22,600 €/year, i.e. 93 tons of CO2 less released into the atmosphere. As for the compressed air power plant, the ex-ante situation was based on fixed speed compressors. These were replaced by inverter compressors, which resulted in an electricity saving of 30%, about 325,387 kWh/year, corresponding to about 26,000 €/year and a reduction of about 107.38 tons of CO2. Finally, in the vacuum plant, the vacuum pump has been replaced by a liquid ring pump cooled by the chilled water produced by the Fridge Units with an air-cooled pump.

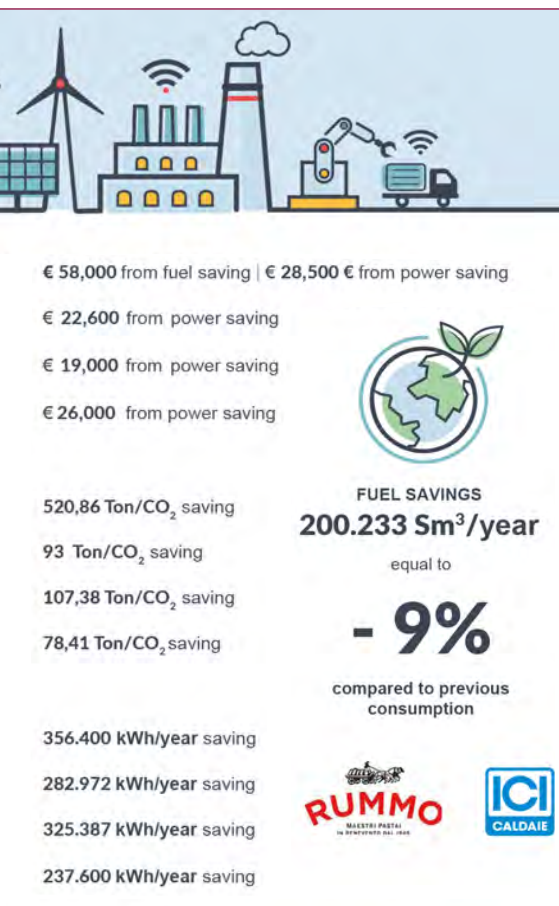
From a critical situation, the right partner helps rise to success

When the client's initial needs are fully met, there is no question of success. Success is made possible by the vision of those companies that no longer think themselves in terms of simple producers, from an individual perspective, but see the project on a larger scale. Only if driven by the desire to achieve a comprehensive solution one can establish partnerships with other companies that have different specializations and bring together multiple skills to develop complete projects.

With this ambition in mind, a company like ICI Caldaie collaborated in the energy improvement process of another company, in this case Rummo, not simply offering its boilers, but participating in a design process that involved many other areas. Starting from a specific urgency, making useful energy-saving actions, it has been possible to create a condition of saving in a wider sense, making the company sustainable while maintaining the high-quality standards of its efficiency and productivity.

This story teaches us that with the right partners, it is possible to create not only a product but a complete and innovative tailor-made system. 🏢

www.icaldaie.com



SCANNY3D®

From real bottle...

3D laser scanning systems



3D SCANNER for bottling industry

...to 3D model



100% AUTOMATIC

PackSim

Software for automatic design
of SCREWS & STARS



SCANNY3D® S.r.l.

Via Archetti, 15 - 63831 Rapagnano (FM) - Italy

+39 0734-510410 info@scanny3d.com

WWW.SCANNY3D.COM

PACK-SIM: SOFTWARE FOR AUTOMATIC DESIGN/SIMULATION OF SCREWS AND STARS

Scanny3D S.r.l. is a highly specialized company that deals with the design and production of reverse engineering systems, in particular 3D laser SCANNER, and the development of CAD-CAM software for the industry.

For the bottling sector, the company offers a complete, fast and automatic solution that involves the integration of a 3D rotative laser scanner with a software for the design of stars and screws.

PACK-SIM has been designed and developed entirely by Scanny3d for the design and fast and automatic simulation of SCREWS and COUNTER SCREWS, but also for the realization of STARS profiles to be included in machines of filling, labelling and packaging lines.


It consists of several modules. The Star simulation module is able to simulate up to 3 grip quotes at the same time and guarantees the full compatibility of the generated geometries (exportable in STEP and IGES formats) with the main CAD system.

The Screw module allows to design and simulate screws and counter screws with various types of handling.

The Multistar module allows to simulate the entire bottling line in all its main phases.

Furthermore, the software allows the design of SCREWS of any type by defining CUSTOMIZED MOTION LAWS in terms of speed, rotation and posi-

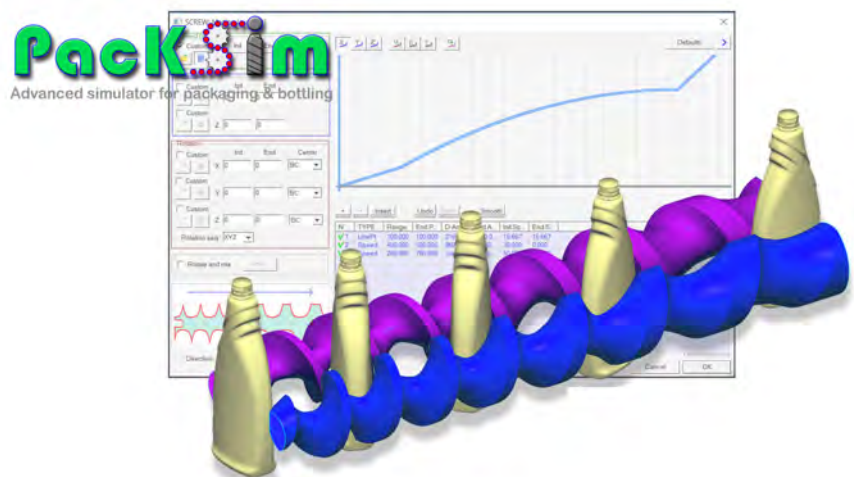
tion of the bottle during the handling. This module allows to design any type of screws in 3D: from simple transport screws, to rotation, inversion and orientation screws up to the more complex screws with double or triple helix to group or separate bottles and containers through the simultaneous simulation of pairs of counter rotating screws (screw and counter screws).

The 3D simulation is performed in a few minutes and allows to obtain a 3D model of the screw with a perfectly smooth surface ready to be made. 

www.minimotor.com

SCANNY3D®

Sistemi di scansione laser 3D
3D laser scanning systems



PNEUMAX: COMPONENTS AND SYSTEMS FOR INDUSTRIAL AUTOMATION

Pneumatic components,
electric actuation and fluid control

Founded in 1976, Pneumax S.p.A. has become one of the leading international players in the field of industrial and process automation components and systems. The company is at the head of the Pneumax Group made

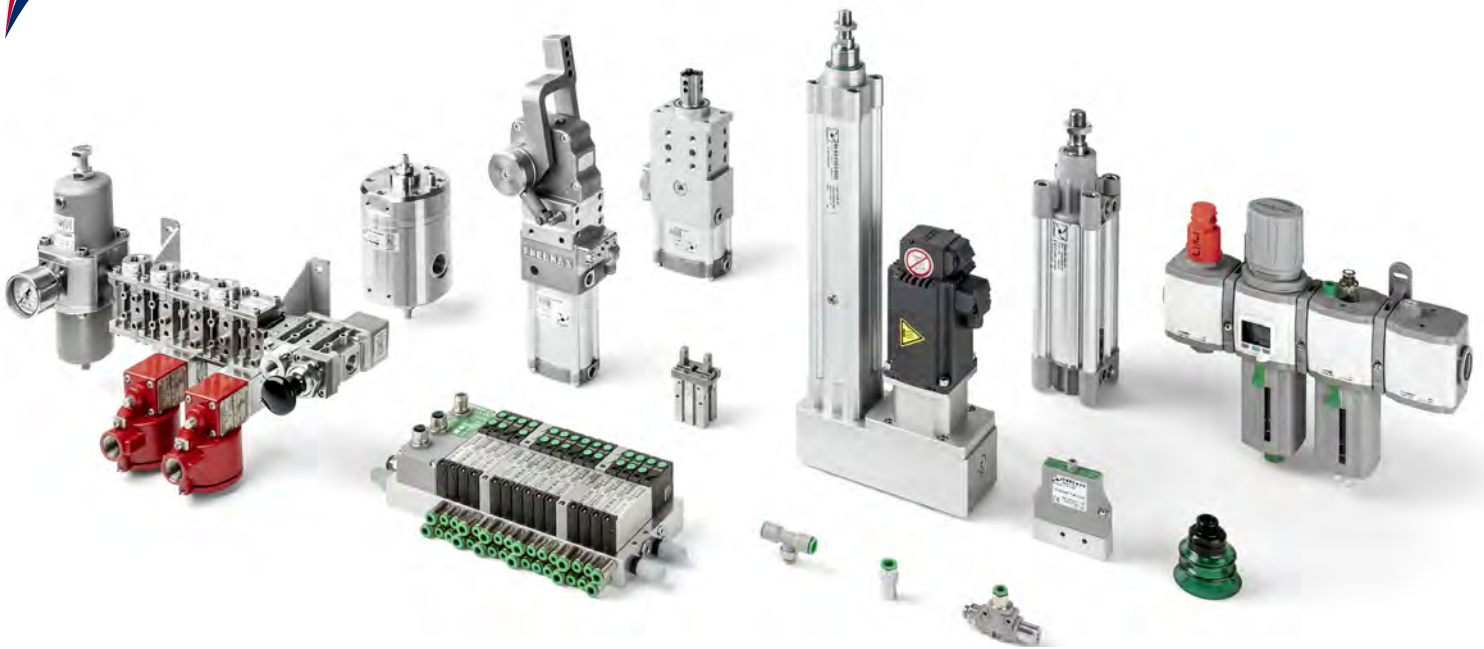
up of 25 commercial and production companies with over 730 employees worldwide.

The international network includes 9 branches in Italy, 8 branches in Europe in addition to branches in the

USA, Brazil, India, China and Singapore, and a vast network of distributors that guarantee presence in over 50 countries.

All of the Pneumax Group's manufacturing facilities are located in Italy, the seven units in Lurano (BG) plus





Titan Engineering in San Marino. All the facilities comply with the environmental and workplace safety requirements set out in standards ISO 9001: 2015, ISO 14001 : 2015 and ISO 45001 : 2018.

Pneumax Automation LLC
A Pneumax Group Company

128 Durkee Lane
Dallas NC, USA

Continuous investment in research and development has enabled Pneumax to expand its offer by combining well established pneumatic technology (actuators, valves and solenoid valves, proportional technology, fittings, air treatment, materials handling, vacuum), with electrical actuation and components for liquid and gaseous fluid control and offering solutions made from different materials ranging from stainless steel to engineering polymers or from aluminium to brass.

from component interconnection to the ability to remotely control and manage component performance, without ever neglecting aspects such as optimising consumption.

FCM fittings
Food Contact Material

The food & beverage and food packaging sectors are two of the sectors for which the company offers specific products such as the entire range of stainless steel components (cylinders, valves and air system units and

fittings) or FCM fittings which, in addition to ensuring reliability and high performance, comply with relevant international standards such as NSF/ANSFI 169 and MOCA. FCM fittings are suitable for contact with food and the passage of food fluids according to European Regulations (EC) 1935/2004, (EC) 2023/2006, (EC) 11/2011 and contact with drinking pursuant to Italian Ministerial Decree DM 174/2004. 

www.pneumaxgroup.com

The organisational structure designed to maximise flexibility and the use of cutting-edge technologies ensure maximum efficiency both for the supply of standard components and the creation of completely customised solutions.

At the same time, the development of mechatronic and digital expertise underlies the creation of integrated systems which, thanks to enabling technologies, are capable of meeting the requirements of Industry 4.0,



FAST CHANGE, DBS AND CLEAN, MINI MOTOR TECHNOLOGY BRINGING INNOVATION TO THE FOOD SECTOR

Three brushless motor lines just perfect for the needs of the Food market

Mini Motor, the Italian company based in the heart of Emilia's motor valley, has been designing and manufacturing electric motors for industry for over 55 years.

Present all over the world with operations in Europe, the USA and the United Arab Emirates and a wide-

spread network of dealers, Mini Motor makes innovation and development their source of satisfaction.

Fast Change is here: Mini Motor creates a brushless line that ensures fast, effective and safe format changeover.

With the market increasingly moving towards packaging customisation

and diversification and thus looking for a format changeover solution that is both reliable and fast, Mini Motor has listened and tapped into its expertise to come up with a new line of motors.

The Fast Change line stands out for features like compact size, high system compatibility and integration, re-





mote control, and speed. Speed, in particular, is ensured by the greater motor running speed (twice as fast as our competitors) and the reduced downtime during format changeover, an operation that can be very costly in terms of time and productivity. The electronics in FC lets you set parameters and run diagnostics remotely, enabling you to control and monitor the running status of the product and thus implement predictive maintenance, which is essential in order to service the machine within a short time frame.

DBS Series

Up there with the top products we find the family of DBS brushless gear

motors with built-in drive system where all the elements - motor, driver and reduction gear (where fitted) - are packaged in a single product of indisputable excellence.

The 4096-PPR multi-turn absolute encoder offers maximum freedom in terms of speed and position adjustment, maintaining the distance even when the motor is off. The great innovation about DBS is the presence of an accelerometer that is able to detect gear motor vibrations.

The accelerometer plus the other sensors that detect temperature, current and speed are able to identify anomalies within the sensors them-

selves or from the machine systems connected to them, implementing real predictive maintenance. What's more, with DBS several motors can be connected in a cascade system via the main communication protocols: EtherCAT, Ethernet/IP, Powerlink, Modbus, PROFINET I/O and CANOpen. The wireless protocol was recently added to these 6 fieldbuses.

Mini Motor has in fact patented the first all-wireless gear motor in the market powered by an inductive charging battery.

This means no drag chains, which translates into lower machine costs and greater freedom of movement.





erages, thus preventing their contamination and alteration. Thanks to this property, it was chosen as the star material for Mini Motor's Clean brushless motors.

It is the top and unavoidable choice in the food industry because 316L stainless steel is extremely resistant to splashing boiling water (80 °C) and high pressure (90 bar) plus very easy to clean.

Featuring a Hygienic Design, the series is ideal for use with the ageing systems used in pork and prosciutto processing plants, and with fish and seafood processing systems. These types of environments typically have high levels of salinity and the resistance of standard 304 stainless steel to corrosion is limited in such applications, whereas the 316L stainless steel chosen by Mini Motor is not affected.

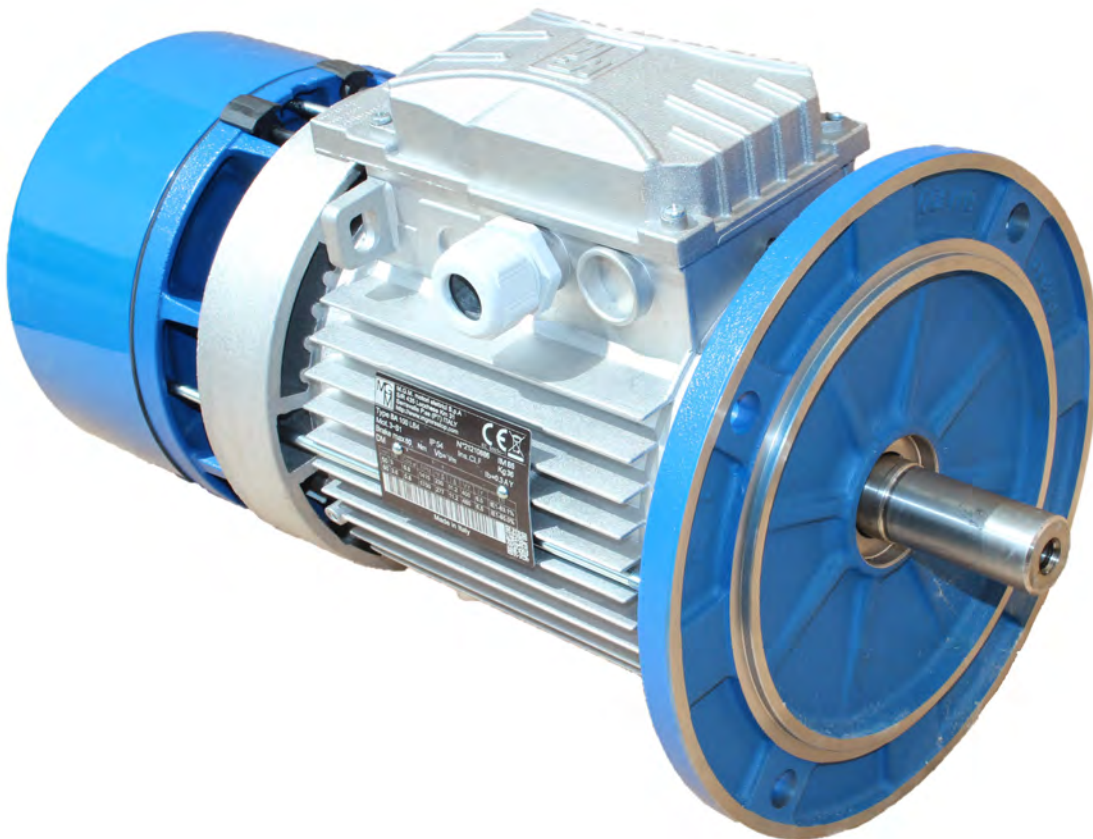
The Emilia-based company does it again, not stopping at meeting what the market needs but tapping into its innovative side to go beyond and create products that deliver real improvements to companies and close the competition gap. 🏭

www.minimotor.com

Offering full compliance with the strictest requirements of the industry, Mini Motor stainless steel motors guarantee the highest standards of hygiene, reliability and safety, your must-have allies in food processing and packaging. Stainless steel is resistant to corrosion caused by foodstuffs and bev-



MGM MOTORI ELETTRICI: LEADER IN BRAKE MOTOR TECHNOLOGY



MGM Motori Elettrici is the leader in brake motor technology, manufactured in Italy and consolidating its reputation and presence in the market for over 70 years in Europe and in the World.

MGM Motori Elettrici's facilities in Italy include the main production plant in Serravalle Pistoiese (Pistoia) and a warehouse with commercial offices in Assago (Milan). Further plants in Montreal (Canada), Detroit (USA), Chennai (India) and Izmir (Turkey) complete a global presence further enhanced by a network of distributors for sales and assistance in more than 70 countries.

The success of our AC brake motors is owed to the ingenuity of an innovative design created in our laboratories.

With great ambition, three years ago we set out to further upgrade our brake motors.

The first step was to discuss and receive feedback from consultations with over 100 technical departments at our customer sites around the world. With focus on the features and improvements they would like to find in their ideal brake motor.

Our goals were not only to meet the recommendations provided by our



customers but even to extend the life cycle of our motors, to increase the average energy efficiency and to give priority to the use of recyclable material with low environmental impact. Since 2008, the average amount of energy our products need to operate has steadily decreased. In addition, by rethinking and redesigning mate-

rials and the production process, we have reduced the energy needed for the manufacture of our brake motors with a significant reduction of the greenhouse gas emissions. We felt it appropriate to speed up this process.

All single-speed motors are already available with the level of energy efficiency in accordance with the new European regulation that has entered into force since July 1st 2021, the brake coils are undergoing improvements in terms of reducing energy consumption and increasing performance.

Motors with IEC frame sizes 100 and 112 will be the first to be presented in the market with most of the planned

upgrades. The dimensions compared to the current production will be reduced, the frame offers an optimal heat dissipation capacity and allows, thanks to two dedicated lifting eyes, greater ease of handling.

The terminal board has been made more accessible, simplifying the connection and reducing the installation time for the benefit of the end user. We then designed and realized, by patenting it, a new methodology that allows us to use rotors with larger active parts for the benefit of efficiency but without increasing the moment of inertia of the motor.

All this has allowed us to improve the dynamics and maintain the capacity

of a huge number of starts per hour. The remainder of the motor frame sizes will receive the same improvements during this year.

For MGM Motori Elettrici sustainable development and respect for the environment have always been very important goals.

In the Serravalle Pistoiese plant almost 100% of the electricity consumed is produced by the photovoltaic panels placed on the roof, the air conditioning is supported by a geothermal system and the consumption of drinking water has been reduced. 🏠

Visit:
www.mgmrestop.com



SMI: EVEN MORE FUNCTIONAL AND SUSTAINABLE PACKAGING

Environment is a common good, everyone has to take care of.

Thanks to investments in industrial plants equipped with smart and green technology, like the packaging machines supplied by SMI, food & beverage companies will save on energy, reduce the production environmental impact and use recyclable

and biodegradable packaging materials to manufacture packs in film or cardboard.

SMI designs and manufactures bottling plants and packaging machines with an innovative design, providing thousands of customers from more than 130 countries with smart solutions, able to meet their requirements in terms of competitiveness,

production efficiency, operational flexibility, energy saving, easy management and monitoring of the whole production process.

The latest developments and the continuous investments in Research & Development have led to the production of even more compact, economic and eco-friendly machines, able to meet production requirements **up to 36,800 bottles/hour**.



Within the **secondary packaging**, SMI offers several solutions that enable to combine the need of an efficient production with that of environmental protection.

According to the type of product to be packed and to the reference sector, customer can choose the most appropriate shrink wrapper among a wide range of automatic shrink wrapping machines for the secondary packaging in stretch film or in recyclable shrink film or among the packers that use corrugated, kraft or Arcwise® cardboard. All automatic packers produced by SMI are inspired by Industry 4.0 and Internet of Things (IoT) principles and ensure cost and energy saving, environmen-

tal sustainability and increase in competitiveness.

Automatic packers for every need

The use of plastics does not stop growing and the companies that produce consumer goods are increasingly opting for rPET containers and have been investing for making their plants more sustainable.

Within the bottled drink and water industry, packs in shrink film are still the most used type of pack: an economic packaging solution for creating practical, easy-to-handle and resistant packs.

SMI **shrink wrappers** meet these needs and undergo continuous hi-



tech improvements, in order to ensure greater production efficiency and energy saving in production plants.

Furthermore, in line with the green innovative vision, SMI offers the SFP 30 ERGON **stretch film packer** that perfectly combines the need of plastics reduction with that of energy saving in packaging plants. SFP packers use the stretch film instead of the shrink film for packing loose products, ensuring great energy saving, thanks to the absence of shrink tunnel equipped with electric resistances; less use of packaging material, as a 10 micron wide stretch film is used for the packaging; stable and resistant packs, thanks to the wrapping in film in a criss-cross pattern around the group of containers to be packed and reduces energy consumption thanks to motors equipped with built-in servo-drives.

Packaging plays a key role in directing the buyers' choices towards packs characterized by captivating graphics, practical use and product protection.

Some sectors, such as wine, alcoholic, beer or niche product industries prefer the **packaging in cardboard boxes**, that, despite a higher material cost, ensure a rigid pack, capable of protecting the bottles from damage during the transport.

SMI packers are equipped with cutting-edge solutions, feature a great quality-price ratio and can be used in compliance with the most advanced eco-sustainable principles. The range includes wrap-around case





packers and case packers suitable for packing American cardboard boxes (RSC) with a pick & place system.

The packaging system in boxes or cardboard blanks guarantees a smooth production process, that preserves the product integrity and quality.

By combining Arcwise® technology with the overlapping cardboard sleeve packers by SMI, food & beverage manufacturers can create a wide range of packs in carton with capti-

vating graphics in order to stand out from the shelves in the points of sale. The case packers from the WP ERGON series and the overlapping cardboard sleeve packers from the MP ERGON series manufactured by SMI can use the **traditional corrugated cardboard or Arcwise® special cardboard**, designed by the Swedish company SCA Forest Products, that uses raw materials entirely derived from renewable sources, thus allowing companies that opt for it to improve the eco-compatibility standards of their production.

This material has the advantage of being able to be folded more easily compared to the corrugated cardboard, thus easily acquiring the rounded shape of the product around which it is wrapped in the packaging phase. Such ductility enables to use the box surface as an excellent advertising vehicle, as the graphic appearance of the pack is uniform and continuous, without the unaesthetic interruptions that in all other boxes are due to the right angles. 🏢

www.smigroup.it



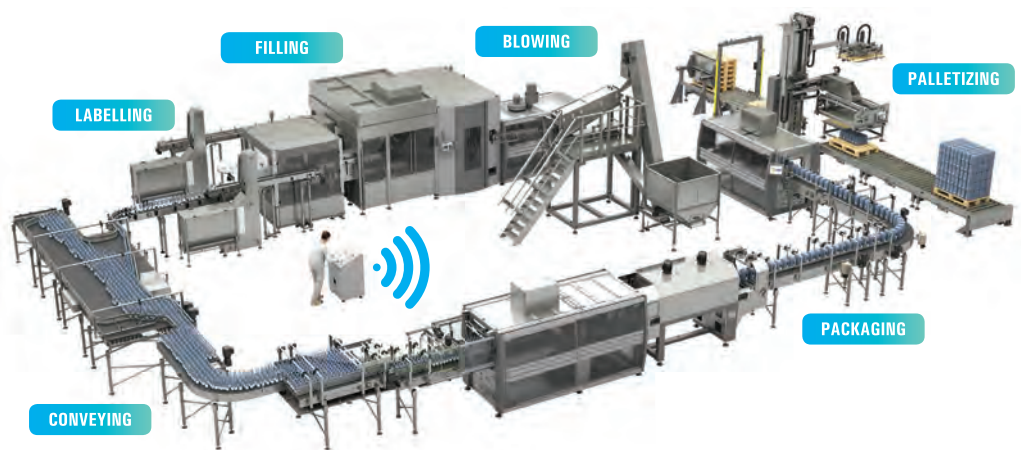
DESIGN WITH US YOUR CIRCULAR PACKAGING



IMPROVING YOUR PRODUCTION EFFICIENCY AND REDUCING YOUR CARBON FOOTPRINT IS EASY WITH SMI!

Our bottling and packaging systems benefit from Industry 4.0 and IoT technologies, can process recyclable materials such as rPET and allows for considerable energy savings.

Find out our solutions for packing a wide range of containers up to 36,800 bottles/hour.



PISTONS FILLERS WITH HIGH LEVEL OF AUTOMATION AND AUTOMATIC CLEANING SYSTEM

Zilli & Bellini is present in 76 different countries; about two thousand Zilli & Bellini machines are now working worldwide!

Zilli & Bellini provides the design and the construction of a wide range of machines to fill food products into rigid containers. We also supplied several solutions to add fruits particles in beverages products like for example: orange sacs, diced pineapples, mango pulp, peaches,... Zilli & Bellini also provides solutions for closing the containers.

The machines can handle bottles, jars, cans, made of tin plate, aluminium, glass and plastic having a capacity up to 5 Kg. The food products range is wide: powders, fruit cocktail, Chocó paste, vegetables, tomato paste, sauces with or without pieces, meat, oil, ghee, fish, ready meals,.... The speed of Zilli & Bellini filling and seaming lines can be from 10 to 1200 containers per minute.

Zilli & Bellini research and development is the focus of its success. We have developed our technologies having in mind the main focus of our Customers: to be fast in changing the containers sizes and to obtain the requested sanitary standards with the automatic cleaning of the filler after the production.

Regarding the pistons fillers the innovations and improvements are enormous. Few years ago Zilli & Bellini introduced on the market a new



generation of pistons fillers (Plunger valve pistons fillers) with a better filling accuracy due to the new concept of the valve. The plunger pistons fillers for some applications is the non-plus ultra of the food technology also because it is possible to make a C.I.P. completely controlled by the PLC and without to dismantle any part of the filler. The plunger pistons fillers C.I.P match the higher hygienic standards and minimize the maintenance time.

The grate success of the plunger pistons fillers push Zilli & Bellini to go on in the way of the innovation in pistons fillers machines. The idea in the pistons fillers with standard rotary valve is to make a C.I.P. controlled by the PLC. With this upgrade it is possible to press the touch screen and a mechanical device take out the pis-

tons from the cylinders. With this operation you can run an extremely efficient washings cycle in a very easy way; also the inspection of the seals is very easy and quick.

The main advantages of the automatic cleaning system are: constant cleaning results, less risks linked to the skill of the operators and fixed cleaning time for the production department planning.

For each different container size and for each different product it is possible to fix the parameters and the

operators just have to recall it by the HMI. In this way it is possible to be flexible and fast.

The deep experience of Zilli & Bellini technical staff grant to their customers a great consultant activity. It is available a testing services with prototypes in order to carry on study of feasibility of Customer's projects.

Zilli & Bellini is beside its Customers in developing technologies to improve the quality and the efficiency in food industries.

www.zilli-bellini.com



HERTI: YOUR BRAND TOMORROW IS OUR BUSINESS TODAY



The closure of a bottle is a part of the whole design and the impact of a brand. The aluminum screw caps have a long history and a broad popularity. The good news is that they are also environmentally friendly. The aluminum closures are fully recyclable and the production waste is reused repeatedly in the process. One can easily open a bottle without using any special device and then seal the bottle again for later consumption. And usually screw caps are sealed on glass bottles which are also eco friendly and do not change the taste of the drink.

Herti manufactures aluminum ROPP caps, plastic and composite

closures for all kinds of bottles with a diameter varying from 17 to 43 mm and height from 12 to 60 mm. The company suggests packaging solutions to many clients producing wine, spirits, non alcoholic beverages, mineral water and olive oil. Herti is a trusted partner for brand protection. Founded in 1993 as a start-up company specialized in metal packaging, Herti is now a public company with subsidiaries in the UK, France, Germany, United States and Romania.

Traditionally the aluminum closures were used for bottling spirits, but over the last few decades waters, edible oil and lately wine have

adopted the aluminum closures en masse. Closures with EPE liner, typical for the alcohol drinks, have numerous possibilities for decoration and contribute to the overall perception of the brand. For brand safety and to avoid the risk of counterfeits Herti offers composite closures and aluminum closures with non-refillable pourers.

All types of aluminum closures that Herti produces with SARANEX or TIN liners, can be used for wine bottling. "VINSTAR" is the trade mark under which Herti sales its wine designed aluminum closures. Herti provides the two most preferred sizes PP30x60 mm BVS and PP 28x44

HL HERTI

YOUR BRAND TOMORROW IS OUR BUSINESS TODAY

mm. Recently, more and more popular for bottling wines become other sizes of aluminum screw caps that Herti can offer: PP25x33 mm, PP22x30 mm, PP25x43 mm, 30x24 mm.

For the market area of bottled mineral water and carbonated drinks and juices, Herti provides different solutions – aluminum and plastic closures.

Herti offers 28x15mm aluminum screw caps with granulate with 5 and 6 side splits and also the most preferred by the customers aluminum closure with safety plastic ring called DORADO. It is designed for capping high and middle class quality still and sparkling mineral

waters in glass bottles. Herti produces olive oil caps in several sizes: PP31.5x24 mm, PP31.5x44 mm and PP31.5x60 mm with different pourers. The closures could be used also for capping vinegar, sauces or liquid spices. The numerous possibilities for offset and foil printing and glossy, matt or semi matt finish, contribute to the premium look of the bottle.

Herti has an energy efficiency program and makes evaluation of energy consumption and efficiency every three years to monitor progress in environmental impact and carbon footprint. The company works in the direction of waste reduction and responsible manage-

ment of chemicals and mixtures and aims to ensure a high level of protection for human health and the environment. Herti invests constantly and continuously in the latest production technologies and organizational improvements to guarantee its clients the best service and the highest quality of products. Our goal for the next several years is to keep the level of service and extend the capacity for producing screw caps for the soft beverage sector and optimize the processes to reach higher social performance for the company. 🏛️

The perfect packaging solution is just a click away at:

www.herti.bg



PLANNING AND REALIZATION OF MACHINERIES FOR OENOLOGICAL SECTOR

Enomet Impianti S.r.l. it's in the oenological sector from 1996 operating in planning and realization of machineries for oenological sector. Our Firm is formed from a team of 15 people with 2 Oenologists and different qualified Technicians. We operate in Italy and to the foreign countries, we develop projects of complete wine cellars and we occupy there both of the architectural part and technological, proposing innovative fittingses using ourselves of different brevets and of personnel that has matured an experience of 40 years in the sector. In particular, our activity concentrates on the project and development of new technologies, on the design of machines and processing lines, on the manufacturing and marketing of oenological plants, such as:

- Destemmer-crushers and selection lines.
- Membrane pneumatic presses.
- Must clarification machines.
- Vacuum rotary filters.
- Kieselguhr filters.
- Plate filters.
- Cross-flow filters.
- Reverse osmosis.
- Tartaric stabilization machines.
- Cooling units.
- Heat exchangers.
- Control boards to control the fermentation temperatures.
- Cooling plates.
- Classic and Charmat method machines.
- Machines for production of the beer.
- Nitrogen generators and plants.
- Machines for the recovery of CO2.
- Automatic machine for Batonnage.
- Bottling plants, automatic and semi-automatic.
- Pumps of several types.
- Stainless steel reservoirs.
- Barriques, barrels and relevant fittings.
- Plant engineering and stainless steel pipe fittings.



The various phases of our activity, from the planning to the realization, they are mainly managed from our Technical Office that uses in case of necessity qualified external Consultations. The installation of the fittingses, also when she is managed by external Enterprises, it is directly followed always by our Technicians. Furthermore, we inform You that we are able to give external technical assistance and repair also other machines not of our production, after having inspected them. 🏢

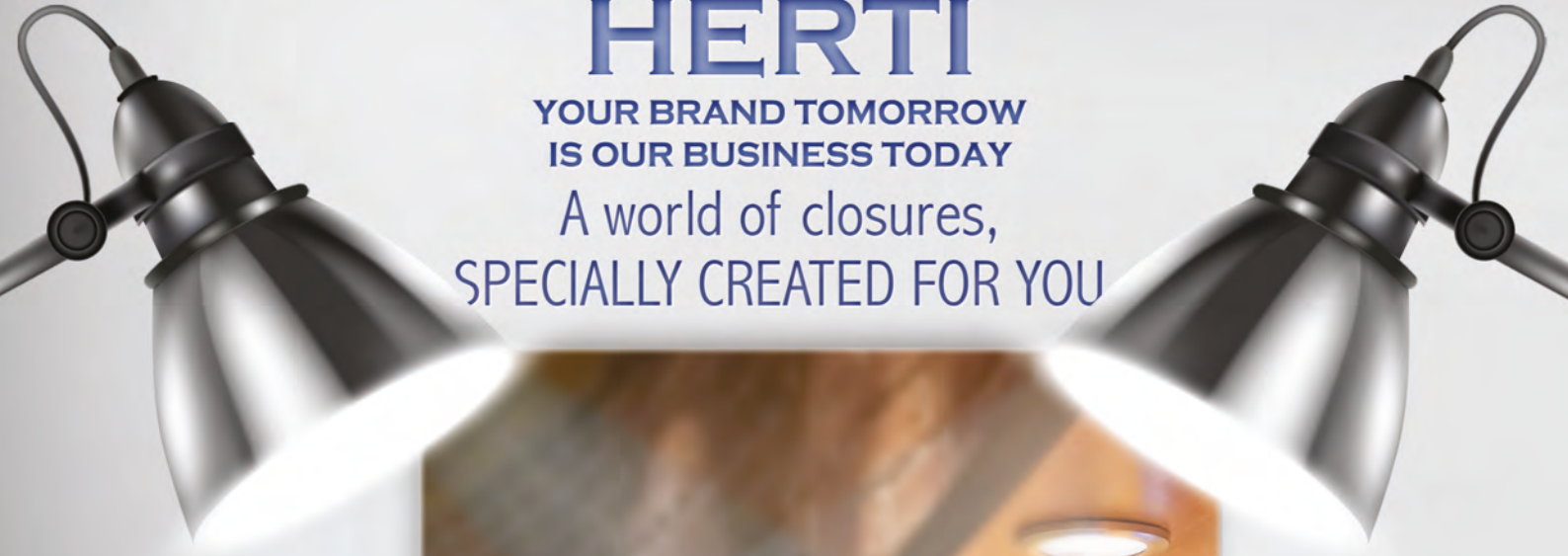
www.enomet.it



HERTI

YOUR BRAND TOMORROW
IS OUR BUSINESS TODAY

A world of closures,
SPECIALLY CREATED FOR YOU



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PROFESSIONAL BAKING SOLUTIONS

for Bakeries, Confectioneries, Biscuits Manufacturers, Bakery-Cafés, Hotels, Pizzerias and Fast-Food Restaurants



Established in 1990, EUROPA has been selling professional ovens to a large number of bakeries, pastry and pizza shops, hotels and supermarket chains.

The brand EUROPA has become synonymous with reliability and innovation, specializing in the production of commercial ovens and equipment for bread, pastry and pizza baking.

Located in the North-East of Italy, the company has always had a strong international vocation; in fact, EUROPA worked hard during the years to be present in new markets, being active now in more than 80 countries in the world, thanks to the continuous creation of simple, USER-FRIENDLY products but, at the same time, with the BEST TECHNOLOGY and 100% MADE IN ITALY.

The company grew and expanded in a very short time, leading the business over the main international markets. This could happen thanks to a dynamic team, characterized by a professional and fresh approach. The management group has always been supported by a qualified and experienced technical staff, ready to understand market's requirements and to meet customers' needs. Experimentation and research, in fact, have always represented the primary purpose of this company.

Our mission is and always will be clients' satisfaction. That's why our high-quality products are complemented by an added value: people ready to help and guide the customers through every step of the process.

From the identification of the best

product for your production to its offer, from equipment's delivery up to the after-sales assistance, we grant quick solutions and back-up services, offering alternative strategies custom-made for your specific conditions.

The wide range of products offered by EUROPA is divided in 2 main product lines: the BLACK Line and the GREEN Line.

The BLACK LINE offers a large number of OVENS and PROVERS suitable for artisan bakers, industrial bakery/pastry/biscuits productions and supermarket chains. In this line, you can find: rack ovens, electric deck ovens, steam tube deck ovens, multi-loading deck ovens and provers. Among all our products composing the BLACK Line, a special mention



GALILEO

new edition

Rotary rack ovens
for bread and
pastry products.

Designed both for **craft** and
industrial bakeries specifically
tested **for heavy non stop**
baking cycles.





is needed for GALILEO rack ovens. Through the years, this oven has become even more complete, sophisticated and modern. Since 1997, thousands of bakeries worldwide choose to bake their typical BREAD and PASTRY products in our rotary rack oven.

Its strong points are COMPACT dimensions and SOLID structure, joining together REFINED DESIGN and FUNCTIONALITY.

This product has been created fully understanding bakers' work routine: in fact, GALILEO has been studied to simplify the cleaning and the ordinary maintenance. Besides, the improved combustion chamber, completely renewed with innovative technologies, has allowed to reach a very high efficiency, with surprising recovery times and very low average consumptions.

The GREEN LINE presents more COMPACT OVENS for smaller bakeries, pastry shops, biscuit manufacturers, bakery cafés and ho.re.ca. If you need small-footprint solutions

and you are looking for a high-performance product in a limited space, GREEN LINE has the proper solutions for you: electric modular deck ovens, compact rotary rack ovens, mini-rotary rack ovens, convection ovens, combined solutions and provers.

Talking about GREEN Line, we have to talk about EDISON, which leads the idea of MULTI-PURPOSE ELECTRIC MODULAR DECK OVEN to a new, advanced level.

EDISON is available in different models, from 2 to 7 trays per deck, stackable up to 5 decks. Furthermore, EDISON ovens are available in 3 different CHAMBER CONFIGURATIONS: PASTRY, BAKERY or PIZZA.

In this way, the range can offer more than 50 solutions for PASTRY SHOPS,

BAKERIES, HOTELS, FAST FOOD, RESTAURANT and PIZZERIA, allowing the customers to create the perfect partner for their own workplace.

For EUROPA, the last ones have been 30 years of ovens but, above all, 30 years of innovation: research and development, analysis supported by state-of-the-art tools, patented systems, and care for detail in every component.

This is how we build our products, by introducing and patenting new solutions, in order to make everyday life easier for bakers, pastry chefs and pizzaioli.

... And the best is yet to come! 🏠

www.europa-zone.com
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INSTAGRAM @europaovens

EUROPA
 bakery • pastry • pizza
ovens

PERFECT MIX: PLANETARY MIXER WITH ELECTRONIC VARIATOR

PERFECT Mix is the name of these planetary mixers with exceptionally innovative features. A greater range of speeds distinguishes them from the other machines on the market and gives the possibility of increasing the number of workable products, greatly increasing the capacity to give volume to emulsified products and to be able to mix even the thickest doughs at very low speeds.

The operator himself can assign to the preset speeds from the factory, the number of revolutions of the tool that most prefer thanks to a touch screen panel installed on the machine.

Other important new features include: contact diagnostics, the setting of the wished language and the ability to program and memorize 5 recipes with multiple mixing steps.

Great innovation of the PERFECT Mix line is the innovative system of pouring the ingredients through a hole in the center of the planetarium.

This patented innovation allows an excellent distribution of the ingredients during the mixing phase. The power of the motors coupled with coaxial gearboxes gives the machine the possibility of working even in the most critical situations, however always respecting the use tables limits indicated in the manuals. Under the plastic protection in PETG, easily removable for a more accurate cleaning, there is a led light that guarantees excellent visibility of the product during its mixing.

Many parts, usually treated with chemical food or painted nickel, have been replaced with AISI 304 stainless steel ones, for greater guarantees of hygiene and durability. Particular attention was paid to to remove as many as possible screws and protrusions from the structure, creating an ergonomic and highly cleanable equipment.

The PERFECT Mix range consists of 2 models (40 and 60lt) with manual bowl lifting and three models (40-60 and 80lt) with motorized bowl lifting and lowering of the bowl and total disengagement of the tool for an easier removal from the machine.

In addition to standard equipment such as bowl, blade, whisk and a spiral, the machines can be equipped with a large number of accessories such as scrapers, special whisks, bowl trolleys, reduction kits for tank and tools and bowl lifters of different heights. 🏠



SIGMA
Bakery Pastry Pizza equipment

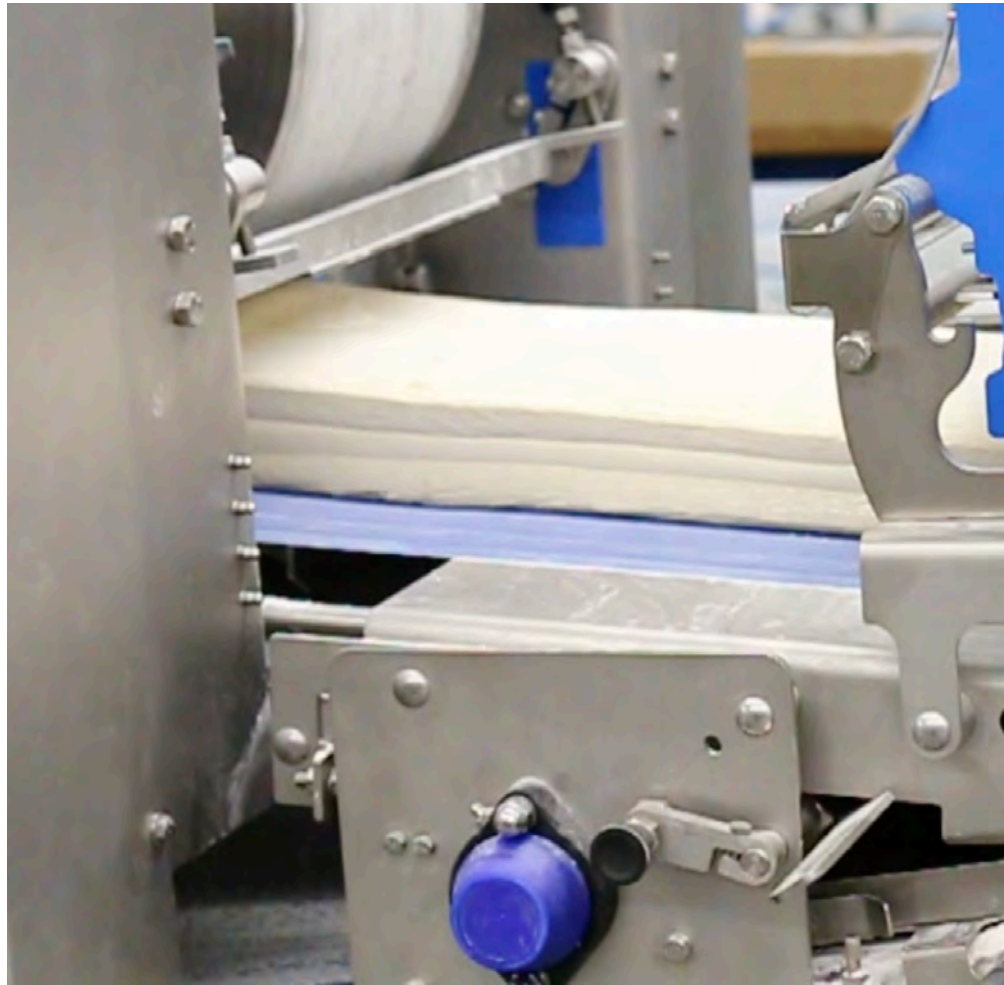
www.sigmasrl.com

THE SECRET OF RADEMAKER: CONTINUOUS INNOVATION IN THE RADEMAKER INDUSTRIAL BREAD LINE

What is the secret of the successful Rademaker Industrial Bread Line? It is not only the superb quality or the hygienic design of the line. Or its efficient operation, versatility or reliability and robustness. The real secret of Rademaker, a Dutch-based company that develops and provides solutions for the food processing industry all over the world, is that its technologists are continuously working on improving and optimizing the Rademaker Industrial Bread Line, so that customers always have state-of-the-art equipment. Recent innovations include a further improvement in the DSS pre-sheeter to accommodate a larger variety of doughs and an improved dough recycling system. And while the mechanical basis is solid and smart, the true line and process optimization originates in the software that controls the line. Rademaker introduced its first Crusto Bread Line in 2006, to meet customer demands and expand its portfolio of production lines for puff pastries, croissants, pizzas, pies and flatbread. In 2018, the new Rademaker Industrial Bread Line was introduced. Today's market requires an ever-increasing variety of breads, with different dough types, different crumb structures and different sizes. Bakeries, wanting to accommodate the market requirements, in turn ask for modular bread lines that allow for fast changeovers and offering the highest accuracy, while meeting the most stringent hygienic requirements.

Four components

Contrary to other brands, Rademaker's Industrial Bread Line is based on sheeting technology. A conscious



choice, as this gives bakeries the freedom to handle a wide variety of dough types, from 'green' to pre-fermented and strongly hydrated doughs. The line is capable of generating a wide range of high-quality products that can be produced at capacities from 500 kg up to 6.000 kg of dough per hour. It consists of four major components: pre-sheeting, sheeting, make-up & decorating and dough-recycling.

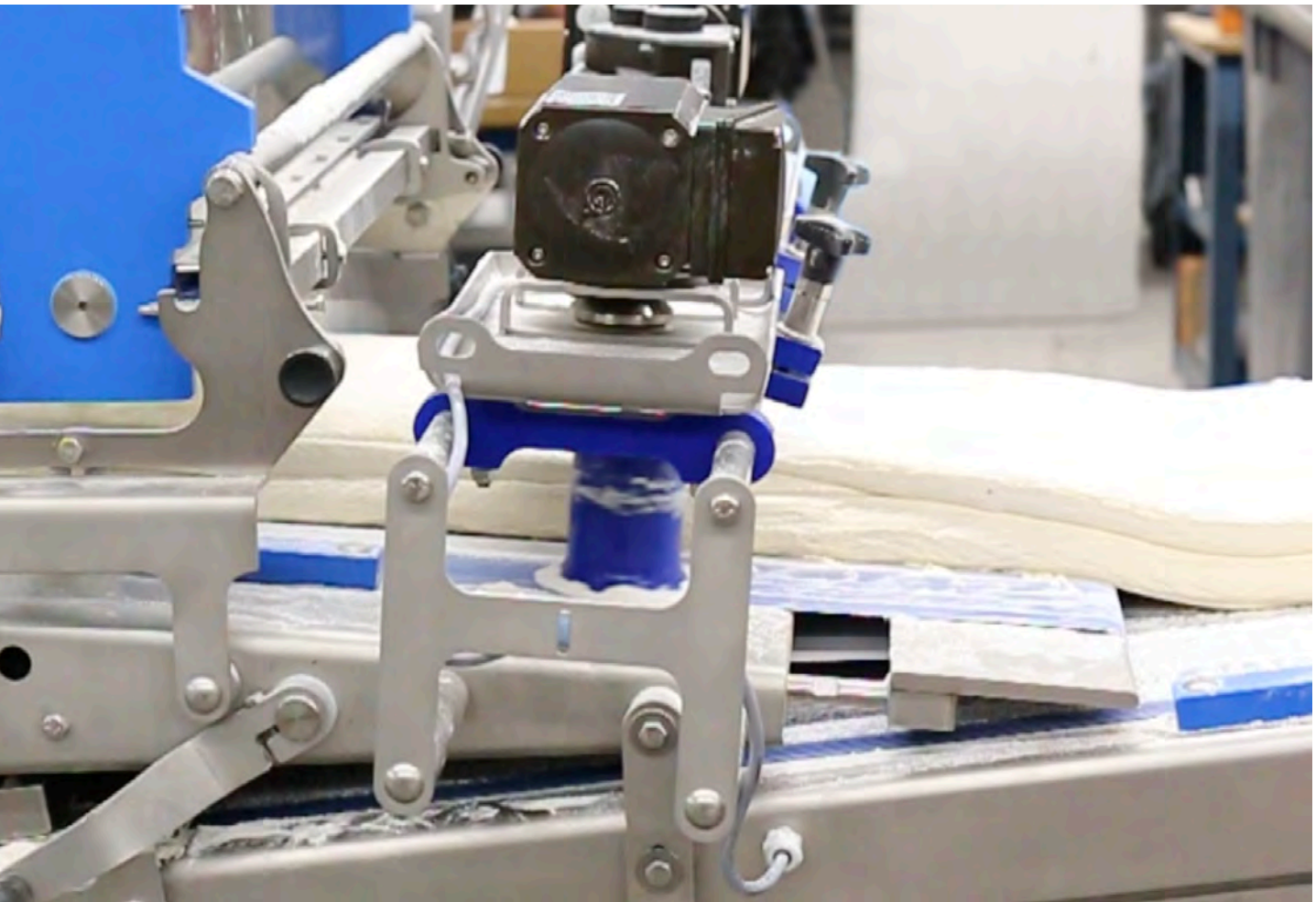
Unique pre-sheeting system

Sheeting the dough is essential for the final product. The dough is kneaded by the mixer and processed in the pre-

sheeter. The pre-sheeter transforms dough batches into a continuous dough sheet. Rademaker sets itself apart from its competitors with its proven Double-chunking Sheeting system (DSS), which has been updated to meet the latest requirements. An innovative dynamic hopper transports the dough in a controlled manner, keeping the shape of the dough chunks linear and constant. Landscape sensors and separate belts carefully guide the chunks in the sheeter, ensuring size and weight accuracy. Chunk weight and length is exceptionally accurate, leading to a more stable and consist-

Rademaker

Specialists in food processing equipment



ent dough sheet and eventually high-quality baked products.

Cost savings and better overall performance

Many doughs, for instance Italian bread types like ciabatta or focaccia, tend to have a very high water percentage, making it liquid and sticky. In the previous DSS version, oil was used to prevent the dough from sticking to the DSS hopper. Effective as this is, cleaning the line is a time-consuming issue. Rademaker replaced oil by wax, reducing the required amount by a fac-

tor four compared to oil. Cost-savings are considerable and return-on-investment for the wax distribution system is only 1 year. Cleanability is improved due to easily removable parts and because wax is used instead of oil. But maybe even more important, the wax-version of the DSS creates a more consistent chunk volume and a corresponding more consistent dough sheet. This results in a higher accuracy on the final product.

Superb dough homogeneity

Thanks to the minimal transportation

height difference in the pre-sheeting system, dough homogeneity and structure are maintained. The wider belts with advanced flour strewing and optimized waste bins, in combination with a design that meets the most stringent hygienic standards, allow for cleaner working. Compared to the previous version the new system is easy to operate and better accessible for cleaning.

Sheeting process

As part of the sheeting process, the continuous dough sheet created by

the DSS is reduced to the required dough thickness. In some of the reduction stations, non-stick upper rollers reduce the dough thickness to the desired thickness, ensuring that dough characteristics remain intact. Depending on the specific customer demands, a further set of stress-free reduction stations and other sheeting options define the sheeting configuration.

Flexible cutting in make-up & decorating

The final processing steps take place in the make-up & decorating section of the Rademaker Industrial Bread line. The design upgrade has resulted in a length reduction, a 400 mm wide rework conveyor and an increased hygiene level. The weighing conveyor was also reduced in length and fixed to the floor for greater stability and higher accuracy. Amongst the various product cutting solutions is a Box Motion Cutter. It offers different cutting processes in one machine and a unique dough sealing solution, sealing the softer dough products and avoiding products from cracking open during baking. Thanks to an ergonomic design, tools can easily be changed from the side, making it easy for the operator.

Fast products changeovers

In the molding conveyor, the side guides are repositioned on the lower belt, yielding a better molding performance. A simple, single operator control that allows fast, fool-proof adjustment of the molding table in height and molding degree to ensure fast changeover and product flexibility. The molding conveyor's unique design offers optimal access from both sides, allowing for fast product changeovers, cleaning and maintenance. As with other parts of the Rademaker Industrial Bread Line, the length has been reduced.

Unparalleled dough recycling

Traditionally, a part of the dough ends up as rework, especially when working with non-rectangular shapes like





omega baguettes. With Rademaker's new, in-line dough recycling system, 10 to 40 % of the return dough may be re-used. Side trim and omega trim can be transported back to start of the DSS as small cuts of rework and efficiently re-entered in the process. Client-specific rework dough options can be catered on specific requirements. Thanks to the controlled distribution of rework dough, the recycling process is highly stable and reliable.

Flexibility and line length

The Rademaker Industrial Bread Line is characterized by its flexibility. There are multiple configuration options and modules which can be exchanged fast and easily. The Rademaker philosophy calls for building functional production lines, as short as possible. With that in mind, line length has been reduced more than two meters compared to the first-generation Bread Line, saving floor space and resulting in a higher output per square meter.

Hygienic aspects

The Rademaker Industrial Bread Line is designed according to Rademaker Sigma guidelines, directly derived from various high-end requirements from GMA and EHEDG. Standoffs and machine surface are tilted at an angle to allow water to drain easily, to avoid contamination of the product zone and to reduce drying time after cleaning. Food-contact parts are constructed only with approved materials. All surfaces are smooth to help reduce microbiological contamination development. In addition, all parts of the line are designed for wet cleaning.

Work in progress

The Rademaker Industrial Bread Line is a work in progress, as Rademaker is continuously working on further improving the line, meeting and anticipating new customer demands, market developments and legal requirements. Rademaker thus offers a solution for every industrial bakery,

large or small. In addition to 'engineered to order' lines, Rademaker now increasingly focuses on 'configured to order' production lines, offering affordable standard solutions to most applications. With the flexible, reliable and robust Rademaker Industrial Bread Line, you are assured of the highest uptime, a long lifetime, and minimal spare parts consumption. Fast maintenance, cleaning and changeovers ensure efficient production. This, together with the excellent dough handling characteristics, results in a proven decreased cost of ownership. 🏠

rademaker.com



THE TOP QUALITY INDUSTRIAL MIXERS

Escher Mixers specializes in the production of mixing machinery for the bread and pastry-making sectors. Over the years we have gained specialized knowledge that has allowed us to develop machines and solutions to meet the needs of a variety of clients and different types of markets. Our machines are renowned for their sturdiness, durability, accurate finishes, and for the quality of the dough they produce.

BAKERY Equipment

We propose Spiral and Wendel mixing concepts. Both solutions can be with removable bowl through a Patented® bowl locking and motion system MR-MW Line or bottom discharge system MD-MDW Line with conveyors belts or bowl lifters which can be matched with automatic solutions with linear system and storage of the resting bowls in vertical or linear storages, rotating automatic systems-carousel, scraps recovery systems, transverse hopper systems and star-cutting / guillotine / roller with guillotine and other customized solutions.



PASTRY Equipment

The range of Planetary Mixers with double tool for the pastry industry is characterized by the lack of oil lubrication systems, improving hygiene and reducing machine maintenance. A wide range of interchangeable tools is available for different uses and doughs. For industrial productions, we have developed the PM-D Line with independent tool movement, with individual speed regulation and the possibility to reverse the motion. While the PM-DB Line with the bridge structure allows automatic insertion of the ingredients, air insufflation to reduce mixing times and increase volume, dough processing with negative / positive pressure and cleaning through CIP washing system. Various bowl discharge options are available. 🏠



www.eschermixers.com

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A quality designed to last. This is Lawer's mission statement, a Biella based company, internationally recognized for the excellence of powders and liquids dispensing systems. This excellence begins with a preliminary analysis phase, to the equipment commissioning, to ensure safe and automated systems, operated by a high-class software which is able to adapt itself to the manufacturing companies' changing needs. Quality is also the ability to provide the most efficient service and maintenance, being always on time and close to its customers thanks to a worldwide presence.

Since the beginning Lawer has always implemented the strategic decision to invest on people, research and new technologies. Thanks to the analysis and development of the technical department the company

shows its strong projecting capabilities. The task of finding the most innovative technical solutions for the systems continuous improvement is essentially provided by a qualified and professional team, which is constantly updated and trained with new technologies.

For this reason, Lawer continues leading in an increasingly competitive market. Lawer's dosing systems automatically weigh all the powder and liquid ingredients present in the recipes and batches, where the micro dosage of ingredients is required.

All Lawer's systems are the result of Lawer's 50-year experience and know-how in the design and manufacturing of dosing systems for many different applications in different types of industrial productions.

With the automatic powder dosing systems, it is possible to grant:

- **The highest quality of the finished product**
- **The highest weighing precision**
- **Replicability of the recipes**
- **Right balance of raw materials**
- **Production management, efficiency and cost reduction**
- **Complete confidentiality of know-how**
- **Optimisation of production, less production time**

More time/less costs, the automatic dosage system reduces the production time with consequently recovering of efficiency and marginality.

Confidentiality, it is possible to keep secret the composition of the recipe and protect your creativity and your know-how.

Control, it is possible to monitor and verify the daily production, monthly production, the consumption of each



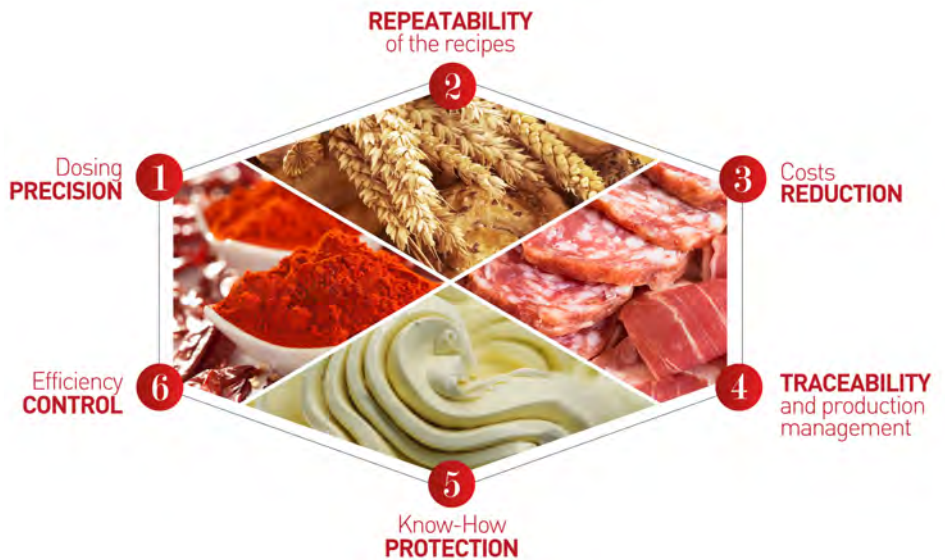
single raw material or each single recipe accessing to a protected area.

Replicability, in a fully automatic way, the system repeats countless times the error free weighing of the micro-ingredients of the recipes, guaranteeing constant quality at all times.

Less errors, less cost, higher quality of the finished product.

Traceability, all the weighing operations are saved and made available for a perfect traceability.

Saving, the systems contribute to reducing errors and time in the recipe preparation, thus reducing costs of production and personnel.



Lawer can supply different models of Automatic Dosing Systems, with sin-

gle, double and multi scale technology (**mod. UNICA TWIN, UNICA HD & SD** and **mod. SUPERSINCRO**), with different levels of accuracy (**1gr - 0.1 gr or 0.01 gr**) and different capacity of powders' storage (from **50 lt** up to **300 lt**. capacity of each hopper). Lawer is the ideal partner for the automation of the powder micro-ingredients dosing. 🏭

www.lawer.com



EXHIBITIONS - EXHIBITIONS

EXHIBITIONS

2021-2022

SIGEP

15-17/03/2021

RIMINI

Fair for bakery, pastry, ice cream, coffee.



mcTER

12/04/2021

ROME

Exhibition on energy efficiency.



mcT COGENERAZIONE

21/09/2021

MILAN

Exhibition for cogeneration.



FACHPACK

28-30/09/2021

NUREMBERG

International packaging trade fair.



MEAT-TECH

22-26/10/2021

MILANO

Fair for the meat and ready meals industry.



HOST

22-26/10/2021

MILANO

Fair for bakery production and for the hospitality.



SAVE

27-28/10/2021

VERONA

Fair for automation, instrumentation, sensors.



mcT ALIMENTARE

28/10/2021

BERGAMO

Fair on technology for the food&bev industry.



MECSPE

23-25/11/2021

BOLOGNA

Fair for the manufacturing industry.



SIGEP

22-26/01/2022

RIMINI

Fair of ice-cream, pastry, confectionery, bakery.



PROSWEETS

31/01-02/02/2022

COLOGNE

Fair for the sweets and snacks industry.



INTERSICOP

19-22/02/2022

MADRID

Fair for bakery, pastry, ice cream, coffee.



FRUIT LOGISTICA

09-11/02/2022

BERLIN

Fair for fruit and vegetables.



BEER&FOOD ATTRACTION

20-23/04/2022

Rimini

Fair for beers, drinks, food and trends.



COSMOPROF

10-14/03/2022

BOLOGNA

Fair for the cosmetic production chain.



ProWein

27-29/03/2022

DUSSELDORF

International wine & spirits exhibition.



MIDDLE EAST 2021/22

GASTROPAN

21-23/09/2021

ARAD

Fair for the bakery and confectionery industry.



GULFOOD MANUFACTURING

07-09/11/2021

DUBAI

Fair for packaging and plants.



HOSPITALITY QATAR

09-11/11/2021

DOHA

Fair of Hospitality and HORECA



PROPAK VIETNAM

10-12/11/2021

SAIGON

Fair for packaging, bakery, pastry.



WOP DUBAI

22-24/11/2021

DUBAI

Fair for for fruits and vegetables.



DJAZAGRO

22-25/11/2021

ALGERS

Fair for companies of the agro-food sector.



ANUTEC

02-04/12/2021

NEW DELHI

Fair for the food&beverage industry.



PACPROCESS FOOD PEX

09-11/12/2021

MUMBAI

Fair for product from packaging.



GULFOOD

13-17/02/2022

DUBAI

Fair for food and hospitality.



IRAN FOOD BEV TEC

07-10/06/2022

TEHRAN

Fair for food, beverage&packaging technology.



PROPAK ASIA

15-18/06/2022

BANGKOK

Fair for packaging, bakery, pastry.



GULFHOST

08-10/11/2022

DUBAI

Fair of hospitality.



EXHIBITIONS - EXHIBITIONS

EXHIBITIONS

2021-2022-2023

VINITALY

10-13/04/2022

VERONA

International wine & spirits exhibition.



LATINPACK

26-28/04/2022

SANTIAGO CHILE

International packaging trade fair.



ANUGA FOODTEC

26-29/04/2022

COLOGNE

Fair on food and beverage technology.



CIBUS

03-06/05/2022

PARMA

Fair of food product.



IPACK-IMA

03-06/05/2022

MILANO

Exhibition for the packaging industry.



MACFRUT

04-06/05/2022

RIMINI

Fair of machinery and equipment for the fruit and vegetable processing.



SPS/IPC DRIVES/ITALIA

24-26/05/2022

PARMA

Fair for industrial automation sector.



HISPACK

24-27/05/2022

BARCELONA

Technology fair for packaging.



FISPAL

21-24/06/2022

SÃO PAULO

Fair for product from packaging.



POWTECH

30-08/01-09/2022

NUREMBERG

The trade fair for powder processing.



DRINKTEC

12-16/09/2022

MONACO

Fair for the beverage and liquid food industry.



SIAL

15-19/10/2022

PARIS

Fair on food products.



SUDBACK

22-25/10/2022

STUTTART

Fair for bakery and confectionery industry.



BRAU BEVIALE

08-10/11/2022

NUREMBERG

Fair of production of beer and soft drinks.



SIMEI

15-18/11/2022

MILANO

Fair for vine-growing, wine-producing and bottling industry.



ALL4PACK

21-24/11/2022

PARIS

Exhibition about packaging technology.



INTERPACK

04-10/03/2023

DÜSSELDORF

Fair for packaging, bakery, pastry.



IBA

22-26/10/2023

MONACO

Fair for the bakery and confectionery industry.



RUSSIA CHINA

AGROPRODMASH

04-08/10/2021

MOSCOW

Fair of machinery and equipment for agroindustrial industry.



UPAKOVKA

25-28/01/2022

MOSCA

International packaging machinery exhibition.



MODERN BAKERY

22-25/03/2022

MOSCOW

Fair for bakery equipment and food ingredients.



BEVIALE MOSCOW

29-31/03/2022

MOSCOW

International trade fair for the beverage industry.



INPRODMASH

13-15/09/2022

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International packaging machinery exhibition.



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SENIOR PROJECT MANAGER

Mara Thierbach

Phone: +49 211 4560 208

Fax: +49 211 4560 87208

Email: ThierbachM@messe-duesseldorf.de

JUNIOR PROJECT MANAGER

Joline Olbing

Phone: +49 211 4560 274

Fax: +49 211 4560 87274

Email: OlbingJ@messe-duesseldorf.de

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