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Year 6 • N.23  
April 2022

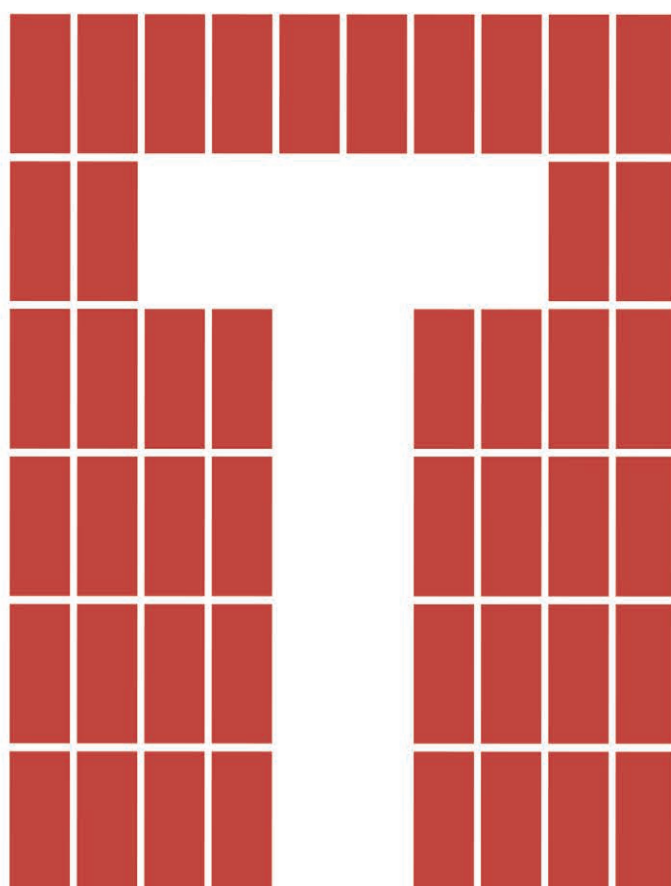
# TECH4FOOD

MAGAZINE

DESIGN • KNOW HOW • INNOVATION • VISION

Managing director: Angelo Frigerio

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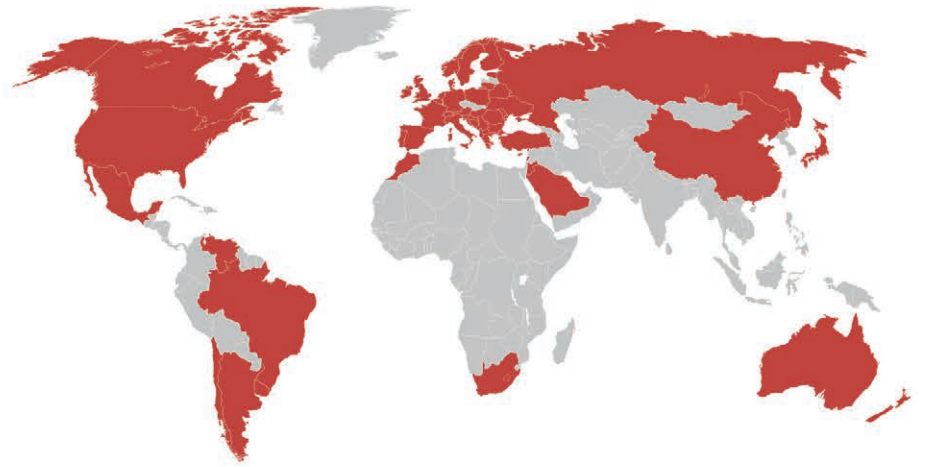


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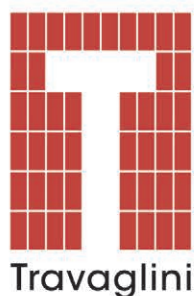
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## products showcase

# A TECH SPECTACLE

The companies, the machines  
and the ground-breaking technologies that will be  
on display at AnugaFoodTec and Ipack-Ima 2022.  
Exquisitely Italian, of course.

from page 23 to page 38

## hot topics

### The rise of the 'substitutes'

The plant-based market is surging, just like the related process technologies. But are these 'alternative' products really healthy options? It depends of how much processed they are, according to a recent WHO report.

from page 40 to page 42

### Technology up against the ropes

12

### Circular economy: challenge or opportunity?

20-21

### FoodTech 500, showcasing the innovations of the future

54-55

## the event

on page 56

### Global baking industry to reunite in Las Vegas for IBIE 2022

The grain-based food industry's largest and most comprehensive trade event in the U.S. is set to return in September (17-22). Special offers available for international attendees.



## coming soon

on pages 58 and 59

### IFFA at the starting blocks

It is time for the German trade fair dedicated to technology for meat and delis' processing. Many will be the innovations showcased from 14 to 19 May 2022 in Frankfurt. And, for the first time, the exhibition will open up to alternative proteins.



## MARKETS&DATA

**Recycling plastic?**  
**It's fantastic!**

**Long life to PET**

**Soil pollution:**  
**no time to lose**

**"SUPs need to be banned now"**

from page 44 to page 52

## the company

### Coligroup: technologies on show

This Spring, the Italian packaging specialist will showcase at Anuga FoodTec and Iffa its wide and cutting-edge product range. On display: the Thera thermoforming machines, the 'cook in' solution for cooked meats and the Webskin/Webmap process for creating sustainable packages.

on page 10

### Fratelli Pagani: "We will arouse your emotions"

At IFFA 2022 the Italian producer of exclusive ingredients and flavors for the food industry will present its renewed corporate image as well as its wide and varied product range. Engaging visitors in an authentic 'journey through taste'.

on page 16

### The right solution to all (shipping) needs

Whether in wood, chipboard or plastic, the products offered by Corno Pallets are able to meet the requests of every production sector. And thanks to the exclusive Presspall pallet, environmental and export requirements are respected too.

on page 22

## the interview

### Frigomeccanica: the efficiency that makes the difference

The need to optimize consumption and performances. The importance of diversification in business. The ability to supply, with considerable attention, both multinational corporations and SMEs. A 360-degree interview with the owners of the company that, in 2022, is turning 60.

on pages 14 and 15

### Gorreri: "Our family business turns 35"

With its technologies, it made the Italian confectionery industry its history. And in an ever competitive market, it does not stop growing thanks to a corporate model that puts people and flexibility at its core. We interviewed Chiara Lombardi, business development officer.

on pages 18 and 19



# The show must go on

By Federica Bartesaghi

The industry is in chaos, including the food technology one. The astonishing increase in energy costs, the unavailability of materials and components, the conflict between Russia and Ukraine, the transport difficulties... In recent months all companies, without exception, had to face a dramatically worsening scenario, where worries and uncertainties prevail. Because what terrifies the most is precisely the unknown. As the owner of a food company, that we met during a sector's trade show, well summarized: "Tomorrow I have to make an important decision: whether to invest or not half a million euro in expanding production. If I look around, I see enthusiasm and desire to restart, so I would invest without a doubt. But if I think of the market situation, of what is going on between Russia and Ukraine and that, from one day to the next, could interest the whole of Europe, I think it is better to give up. The worst thing is to live in this uncertainty."

And this is actually how the current scenario looks like. After the shock of the pandemic, the economic recovery had finally begun, as the (positive) balance sheets of the main Italian industrial associations also indicated. The same associations that, now, are asking the Italian and European institutions to take action to avoid the production paralysis.

"Some suppliers have already initiated temporary production shutdowns. We have big delays in deliveries and - if we continue not to receive the materials - I don't feel to exclude the possibility that, sooner or later, our companies will also be forced to stop and ask for payroll subsidies", said Barbara Colombo, president of Ucimu - the Italian machine tool, robots, automation systems manufacturers' association. "If at the end of last year the cost increase in production and raw materials, the delays in the delivery of components and the huge growth of energy costs put us on alert, now the country is close to halt," adds Matteo Gentili of Ucima (packaging association). "To avoid this, it is fundamental to intervene as soon as possible at both a national and European level."

And yet, even with these concerns in mind, the Italian food-tech companies are ready to 'polish themselves up' since two important trade shows are approaching, to liven up the business after the long stop imposed by the pandemic. Of course, we are talking about Anuga FoodTec (Cologne, April 26-29) and Ipack-Ima (Milan, May 3-6). Within this issue of Tech4Food, you will find a wide preview of the machines, solutions and technologies that Italian companies will present to global markets during the two exhibitions. Because never like today, 'The show must go on'.



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**ANGELO FRIGERIO**

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## The show must go on

L'industria è nel caos, inclusa quella del meccano-alimentare. L'esorbitante aumento dei costi energetici, l'indisponibilità di materiali e componenti, il conflitto Russia e Ucraina, le difficoltà logistiche... in questi mesi tutte le aziende, senza eccezioni, hanno dovuto affrontare uno scenario in

drastico peggioramento su questi e altri fronti. La preoccupazione è grande, l'incertezza domina, perché ciò che spaventa maggiormente è proprio l'incognita del domani. Come ben riassume ciò che il titolare di un'azienda dell'agroalimentare, incontrato durante una fiera di settore, ci ha confidato: "Domani ho un incontro per decidere se investire mezzo milione di euro nell'ampliamento della produzione. Se mi guardo intorno, vedo entusiasmo e voglia di ripartenza, quindi investirei senza dubbio. Se invece penso alla situazione del mercato, a quello che sta accadendo tra Russia e Ucraina e che da un giorno all'altro potrebbe coinvolgere

l'Europa intera, penso che sia meglio rinunciare. La cosa peggiore è vivere nell'incertezza".

E lo scenario è proprio questo. Dopo la 'mazzata' della pandemia, la ripresa economica era finalmente iniziata, come indicavano anche tutti i bilanci (in positivo) delle principali associazioni di settore. Le stesse che, ora, si appellano alle istituzioni italiane ed europee affinché venga fatto qualcosa di concreto per evitare la paralisi produttiva.

"Alcuni fornitori hanno già avviato fermi temporanei della produzione. Noi abbiamo forti ritardi sulle consegne e non escludo che, se continueremo a non ricevere i materiali, anche le nostre aziende prima o poi saranno costrette a fermarsi e a ricorrere alla cassa integrazione", sottolinea Barbara Colombo, presidente di Ucimu-sistemi per produrre. "Se già alla fine dello scorso anno", aggiunge Matteo Gentili di Ucima (mondo packaging) "il rincaro dei costi di produzione e delle ma-

terie prime, i ritardi di consegna della componentistica, gli incrementi delle tariffe per i trasporti e la crescita smisurata dei costi energetici erano elementi che ci facevano stare in allerta, adesso il paese è vicino a fermarsi. Per evitarlo è fondamentale intervenire al più presto a livello nazionale ed europeo".

E tuttavia, pur con queste preoccupazioni in testa, le aziende italiane del food-tech sono pronte a 'tirarsi a lucido' in occasione di due importanti fiere di settore che tornano finalmente ad animare il business dopo lo stop imposto dalla pandemia. Parliamo naturalmente di Anuga FoodTec (Colonia, 26-29 aprile) e Ipack-Ima (Milano, 3-6 maggio). E all'interno di questo numero di Tech4Food, troverete un'ampia anteprima delle macchine, soluzioni e tecnologie che le aziende italiane presenteranno ai mercati mondiali nel corso delle due rassegne. Perché, mai come oggi, 'The show must go on'.





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## ITALY-BASED GUALAPACK OPENS A NEW SUBSIDIARY IN MIAMI FOR THE US AND CANADIAN MARKET

Gualapack, an Italy-based flexible packaging manufacturer, continues to grow internationally. After having bought a converter in Brazil, the corporation opened a new sales office in Miami, Florida, destined for the American and Canadian market. "We will consolidate our presence in a demanding market, promoting even in North America our portfolio of green innovations", states Stefano Manfredi, global marketing and sales director at Gualapack and newly-appointed CEO of the Gualapack US & Canada subsidiary. "This opening is an important milestone for our company, in terms of networking and business development. And I am confident it will push us to find even more ways to grow, sustainably – taking Gualapack's vision to new heights". With the highest turnover to date in 2021 – over 300 million euro – and 2,300 employees around the world, the corporation has built a global presence in 11 countries across Europe, Asia, Australia and America.

### L'italiana Gualapack apre una sede a Miami per il mercato americano e canadese

Gualapack, azienda italiana attiva nel settore del packaging flessibile, continua la sua crescita internazionale. Dopo aver acquisito un convertitore in Brasile, l'azienda apre una nuova sede commerciale a Miami, in Florida, per il mercato americano e canadese. "Rafforzeremo la nostra presenza in un mercato esigente, promuovendo anche in Nord America il nostro portfolio di innovazioni green", sottolinea Stefano Manfredi, global marketing and sales director di Gualapack e ora Ceo di Gualapack Us & Canada. "È un traguardo importante per la nostra azienda per le opportunità che comporta in termini di rete e sviluppo in un mercato complesso. Sono sicuro che ci spronerà a trovare anche modi nuovi di crescere, in piena sostenibilità". La società ha chiuso il 2021 con un fatturato che si attesta sugli oltre 300 milioni di euro e vanta 2.300 dipendenti in 11 Paesi tra Europa, Asia, Australia e ora anche Usa.

## AT IPACK-IMA THE PRESENTATION OF THE WHITE PAPER: "FLOW WRAP PACKAGING: THE MOST WITH THE LEAST"

The presentation of the white paper "Flow wrap packaging: the most with the least - High protection, low impact" will be held on the 5th May at 5 pm, at Hall 2 of Fiera Milano on the occasion of Ipack-Ima (3-6 May) – trade show dedicated to food and non-food packaging and processing technologies. The publication, result of an intuition by Riccardo Cavanna, who represents the packaging supply chain, investigates the history, uses and future scenarios for flow wrap. A technical-scientific project that saw the collaboration of Politecnico Torino, leading companies and experts in the sector. "It represents the first result of a research activity that investigates, in a broad sense, the connection between flow wrap and sustainability," Beatrice Lerma and Doriana Dal Palù, researchers at Politecnico Torino explain. "The white paper summarises the key stages of its evolution, from the production sector to design aspects, and its role in society and consumption, its current and future challenges." As Riccardo Cavanna explains, the publication represents the first step of a long journey: "Within the supply chain, that has become a leader in the world, we noticed a profound difference in the perception of the future with regard to sustainability," Cavanna says. "What is missing is a culture of the functionalities and of the importance of packaging, but also a deeper knowledge of the opportunities that technologies can offer to reach a true circular economy." To participate in the event write to [info@flowpack.it](mailto:info@flowpack.it) or visit [www.flowpack.it](http://www.flowpack.it)

### A Ipack-Ima la presentazione del white paper "Flowpack: il massimo col minimo"

Si terrà giovedì 5 maggio alle 17.30, presso il Padiglione 2 di Fiera Milano nell'ambito di Ipack-Ima (3-6 maggio) - la manifestazione specializzata nel processing e packaging food e non food - la presentazione del white paper "Flowpack: il massimo col minimo. Alta protezione a basso impatto". Il volume, che indaga storia, utilizzi e scenari futuri del flowpack, è frutto di un progetto tecnico-scientifico che ha visto la collaborazione del Politecnico di Torino, di aziende leader del settore ed enti specializzati, su intuizione di Riccardo Cavanna, rappresentante della filiera delle macchine per il confezionamento e l'imballaggio. "Il documento rappresenta il primo risultato di un'attività di ricerca che indaga, in senso ampio, le relazioni tra flowpack e sostenibilità", spiegano le curatrici Beatrice Lerma e Doriana Dal Palù, ricercatrici del Politecnico di Torino. "Il white paper compie un'approfondita analisi sul ruolo, sul settore produttivo, progettuale, nella società e nei consumi, dal passato al futuro, del flowpack". Come spiega Riccardo Cavanna, il volume rappresenta il primo step di un lungo percorso: "All'interno della filiera, diventata leader al mondo, ci siamo resi conto che esiste una profonda differenza di percezione del futuro dal punto di vista della sostenibilità", spiega Cavanna. "Manca una cultura delle funzionalità e dell'importanza dell'imballaggio, ma anche una conoscenza delle opportunità che offrono le tecnologie per una vera economia circolare". Per partecipare all'evento scrivere a [info@flowpack.it](mailto:info@flowpack.it) o andare sul sito [www.flowpack.it](http://www.flowpack.it)



Riccardo Cavanna

## AGRIFLEX PRESENTS A NEW SOLUTION FOR THE STORAGE OF SHORT PASTA SHAPES

Agriflex, specialist in the concept and design of customised solutions for the storage, dosing, automation and transport of raw materials for the food industries, presents an absolute novelty for the pasta industry: a completely automatic system for the storage of short pasta shapes. "This system enables to electrically lift the bottom of the silo or of the bag towards the loading inlet", Agriflex explains. "Such movement allows the descent of the pasta in an 'assisted' and 'soft' way during the whole storage phase, avoiding jumps or sudden strikes that might determine its breakage. This is possible thanks to 'Siloflex', the product containment body structure realised in

transpiring food grade fabric, expelling moisture. Soft and flexible, it has a continuous internal surface so as to avoid screws that might get in contact with the product, or avoiding imperfect joints typical of the traditional panel silos. The system is customised and it is compatible with the pertaining standards. It can also be adapted to any type of loading system and withdrawal system. "This innovative class of silo", Agriflex adds, "is straightforward to install and easy to transport thanks to the modular structure and to the soft and flexible fabric, ensuring the maximum integrity of the product, with an investment that is considerably lower than the traditional storage systems".



### Agriflex presenta una nuova soluzione di stoccaggio per pasta corta

Agriflex, specialista nella progettazione di soluzioni personalizzate per lo stoccaggio, il dosaggio, l'automazione e il trasporto di materie prime per le industrie alimentari, presenta una novità dedicata ai pastifici: un sistema completamente automatico di stoccaggio per pasta corta. "Il sistema permette di alzare elettricamente il fondo del silos o del bag verso la bocca di carico", spiega l'azienda di Forlì. "Questo avvicinamento permette una discesa della pasta 'assistita' e dolce durante tutta la fase di stoccaggio, evitando salti o colpi bruschi che potrebbero determinarne la rottura". A renderlo possibile è 'Siloflex', il corpo di contenimento del prodotto che è realizzato in tessuto alimentare traspirante, per espellere l'umidità. Morbido e flessibile, ha una superficie interna continua per evitare la presenza di viti, che potrebbero entrare in contatto con il prodotto, o delle giunzioni imperfette tipiche dei pannelli silo tradizionali. Il sistema è realizzato su misura ed è compatibile con tutte le normative, oltre che completamente adattabile a qualsiasi sistema di carico e prelevamento. "Questa innovativa classe di silo", aggiunge l'azienda, "è semplice da installare e trasportare, grazie alla struttura modulare e al tessuto morbido e flessibile, che assicura la massima integrità del prodotto a fronte di un investimento significativamente inferiore rispetto ai sistemi tradizionali di stoccaggio".

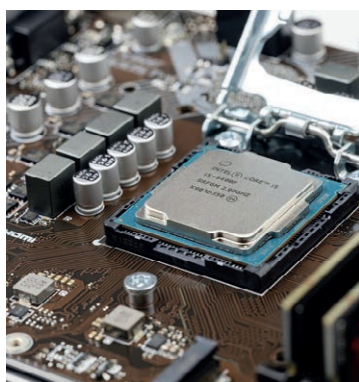


**EPTA STRENGTHENS  
ITS PRESENCE IN PORTUGAL, FINLAND AND CHILE**

Epta, the commercial refrigeration specialist, strengthens its international presence through the acquisition of three companies in Europe and South America. We are talking about the Portuguese Eurocold, Suomi in Finland (of which Epta acquired 90% of the shares) and the commercial refrigeration business Sociedad Ingeniería y Mantenición VPP Limitada, in Chile.

**INTEL TO INVEST 80 BILLION  
EURO IN EUROPEAN  
SEMICONDUCTOR MARKET**

Intel, the Santa Clara-based multinational corporation has announced its plans to invest up to 80 billion euro in Europe over the next decade in semiconductor research and development, manufacturing and packaging technologies. With the main objective of gaining semiconductor self-sufficiency, instead of depending on a limited number of Asian chip producers. The initial phase of this investment will see 17 billion euro earmarked for the creation of a semiconductor mega-site in Germany, and an R&D and design center in France. Moreover, Italy is set for a 4.5 billion euro investment to create a new chip back-end manufacturing facility.



**Intel investirà 80 miliardi di  
euro nel mercato europeo  
dei semiconduttori**

Intel, la multinazionale statunitense annuncia investimenti per 80 miliardi di euro in Europa, nel corso dei prossimi 10 anni, lungo tutta la filiera dei semiconduttori: dallo sviluppo alla produzione, fino alle tecnologie di packaging. Con l'obiettivo ultimo di contrastare la dipendenza del Vecchio Continente dall'import di chip dall'Asia. In una prima fase, 17 miliardi saranno investiti nella costruzione di un mega impianto in Germania, dedicato alla produzione di semiconduttori, e nella creazione di un hub di ricerca e sviluppo in Francia. In Italia è invece prevista la costruzione di un impianto di assemblaggio e confezionamento per chip, per un investimento di circa 4,5 miliardi di euro.

**Epta: nuove acquisizioni in Portogallo, Finlandia e Cile**

La multinazionale della refrigerazione commerciale rafforza la propria presenza internazionale con l'acquisizione di tre società in Europa e Sud America: la portoghese Eurocold, Suomi in Finlandia (di cui ha rilevato il 90% delle quote) e il business della refrigerazione commerciale di Sociedad Ingeniería y Mantenición VPP Limitada, in Cile.



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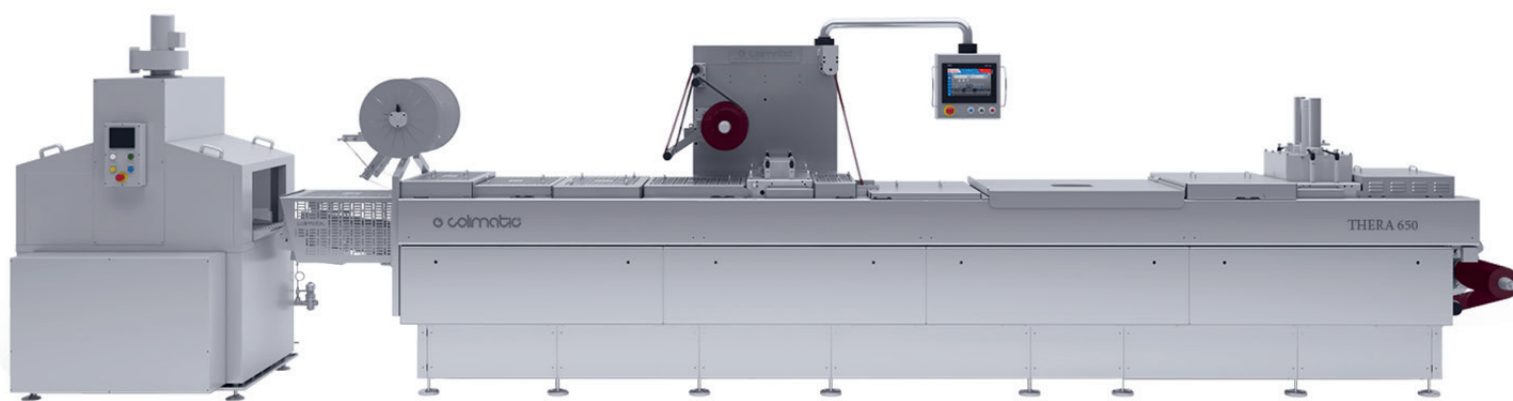
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**PACKAGING** *solutions*



# Coligroup: technologies on show

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by Federica Bartesaghi

After the long halt imposed by the pandemic, Coligroup, one of the leading Italian suppliers of custom-made packaging solutions, presents its wide and varied tech offer on the occasion of two strategic trade fairs for the sector to be held in Germany. The first in chronological order is Anuga FoodTec in Cologne, on stage from 26 to 29 April and perhaps the largest event in the world for food-tech suppliers. The second event, set to take place from 14 to 19 May, is Iffa in Frankfurt: undisputed point of reference for meat and deli meat producers and, starting from this edition, also for plant-based food manufacturers.

“We can’t wait to meet again our customers and partners in an informal context, where we can show off not just our high quality and innovative offer, but also the human side of our company, which makes us a very flexible partner,” Vittorio Libretti, Coligroup’s CEO explains. At the company booth, all eyes will be set on the ‘Thera’ thermoformer, on the Webskin/Webmap line for eco-friendly packaging solutions, as well as on the ‘cook in’ meat packaging system.

## High-tech sustainability

Ove the past years Coligroup’s R&D activities have been focused on developing packaging solutions able to manage eco-friendly materials. And today, all Colimatic lines can create a high quality packaging made of 100% recyclable paper. “The new paper-based materials can be used in a variety of

applications, thus allowing manufacturers to avoid the rising taxation on plastics,” explains Libretti. “Mono-material packages can be handled too, in order to satisfy the growing demand of grocery retailers. New technologies also allow to reduce the thicknesses of flexible materials, thus creating an airtight package capable of preserving the product in the best possible way, and using at least 30% less plastics.” Hence, with Thera650 Webskin/Webmap the investment in one machine only allows to use different eco-friendly materials to create packages with different technologies, namely Skin, MAP, and Vacuum.

## ‘Green’ solutions for pre-sliced meats

For the deli meat industry, whose growth is today driven by pre-sliced delis, Webmap presents some strategic features. It allows the creation of sustain-

able and at the same time attractive packages, that preserve all the organoleptic characteristics as well as the shelf life standards. “The pack is made of a top-quality cardboard bottom with a plastic content lower than 10%, and therefore recyclable in the paper stream, while the top can be easily separated and thus recycled in the plastic stream,” Vittorio Libretti explains. “The package, with printed and customizable graphics, is made starting from a reel which eliminates the storage and management costs of pre-cut sheets.”

Over the past years, the new Colimatic packaging lines for pre-slice delis have registered a growing appreciation, also thanks to the integration with cutting and automatic loading systems, that make production completely automated. The line is completed by the labeling and weighing systems. “All this resulted in a 20 meters long, 100% customized, engineering masterpiece

featuring a 3.5 meters loading area, top and bottom labeler, 10 cutting systems to avoid format change, aligner and OEE at 97.5%.”

## Techology is nothing, without (remote) control

To keep up with the 4.0 revolution, Coligroup has patented a software, called L.I.S.A (registered), which allows to monitor the status of production lines and maintain efficiency at the highest levels. Simple video tutorials accompany the operator step-by-step in maintenance and format change operations, minimizing the possibility of errors and reducing to minimum machine downtimes. Through the L.I.S.A software, all process data are historicized to make available not only information relating to performance (OEE) but also production process parameters, for a total traceability of the packages. This provides with an accurate ‘picture’ of production trends, to perform targeted analyzes and strategies aimed at continuous improvement.

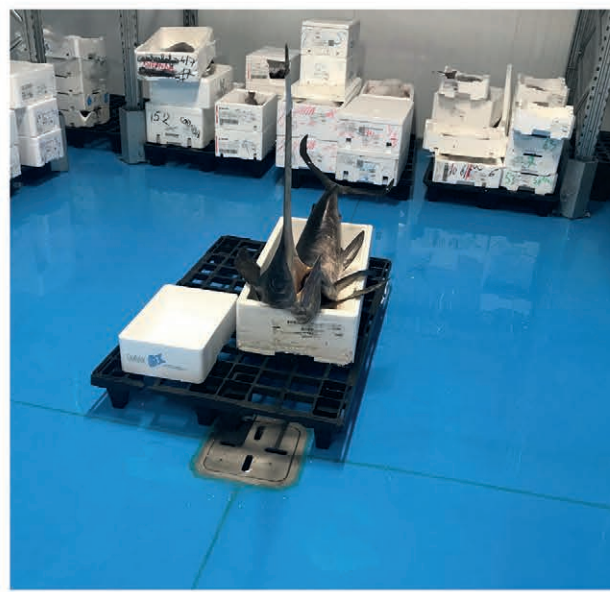
“We like to consider ourselves as the added value that helps our customers’ production being more efficient and performing,” Libretti adds. “Together with them, we project the solution that can fulfil their needs at the best, not only in terms of performance, but also of aesthetic and sustainability. This is why we give the possibility to carry out tests with different materials and production systems, as well as providing all the advice gained in 50 years of experience in the packaging sector, to help our customers reach their goals.”



## Coligroup: tecnologie in mostra

Appuntamento ad Anuga FoodTec (Colonia) e Iffa (Francoforte), questa primavera, per lo specialista italiano del confezionamento. In ‘vetrina’: le termoformatrici Thera, la linea Webskin/Webmap per pack sostenibili e linea di processo per il confezionamento di carne in calo zero.





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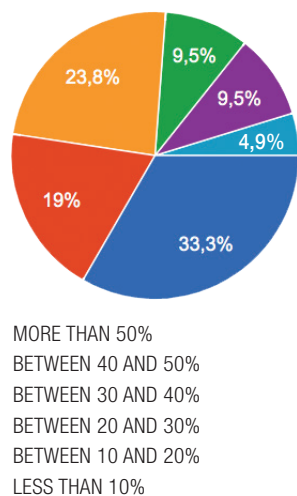


# Technology up against the ropes

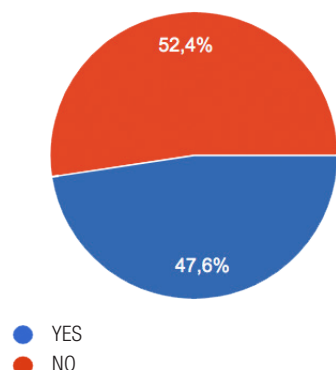
A survey conducted among Italian food-tech producers investigates the sector's biggest challenges and future perspectives. And sends an S.O.S to institutions, to avoid the (every-day closer) production paralysis.

by Federica Bartesaghi

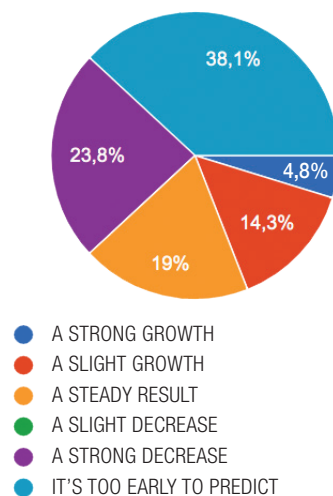
WITH RESPECT  
TO ONE YEAR AGO,  
ENERGY COSTS  
INCREASED BY:



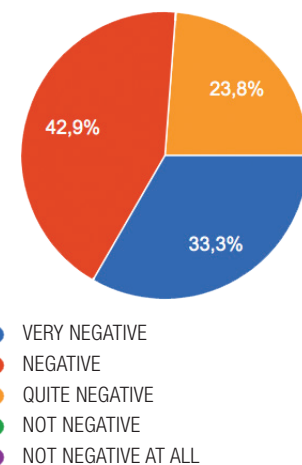
DID THE OUTBREAK  
OF THE WAR INTERRUPT  
ONGOING BUSINESS  
TALKS/AGREEMENTS?



WHICH ARE YOUR  
CURRENT EXPECTATIONS  
ON YEAR END,  
AS REGARDS PROFITS?



ASSESS THE IMPACT  
OF THE CURRENT MARKET  
SITUATION ON YOUR  
BUSINESS



All major industry association have raised the alarm. If things won't change soon, the possibility to face a production paralysis gets more and more realistic. Most raw materials are missing, or overpriced. Logistics is facing huge challenges and energy costs have surged: how long can Italian (and not only) manufacturers resist? To try to answer this question, we asked it directly to them, to Italian manufacturers of food & beverage machinery and ingredients, in a survey called 'Food technologies: war, energy, raw materials, logistics... which perspectives for 2022?'

63 companies, belonging to the wide and varied food-tech industry - producers of processing and packaging machinery and plants, of ingredients and materials - participated in the survey on the last week of March. Among them, both big and small enterprises (with yearly revenue between 1 and 100 million euro), and a large (above 80%) or small (below 10%) incidence of exports on total turnover.

## Energy, raw materials, logistics, and the war

The peak in energy costs has been the last - and probably the worst -

hammer dropped on companies. More the 33% of respondents talks about a cost increase exceeding 50%; while another 20% registered an increase comprised between 40 and 50%. As regards raw materials, the most difficult to find were electronic components (66.7%), followed by plastic materials (47.6%) and ferrous metals (43%). The latter, according to 52% of the interviewed, also registered the highest cost increase among all raw materials. Followed by plastic materials, non-ferrous metals and, again, electronic components.

On one question, however, everybody agreed: 100% of respondents were forced, to survive to such cost increases, to adjust their price lists: by more than 29% for 23.8% of respondents, between 10 and 20% for another 38%, and between 5 and 10% for the remaining 23.8%. The logistics crisis too had a severe impact on their business: defined as "negative"

or "very negative" by about 70% of respondents.

Looking Eastward, and thus at the consequences of the war between Russia and Ukraine, the situation doesn't get better. For about 10% of respondents the two countries are important destination markets for their products, but most of companies are not present there with production plants or offices. For about half of them, the conflict has nevertheless interrupted ongoing commissions. In addition, 80% of respondents are worried that the current situation could seriously impact their future business.

## The outlook for 2022 and the call to institutions

It's true, at the moment only a crystal ball would be able to make reliable predictions. Nevertheless, most companies have a general idea of how 2022 is going to develop

and close in terms of revenue: with a sharp decrease for 14% of respondents, and almost steady for another 19%. Looking at profits, 24% of companies expect a strong decrease, while 38% think that it's still too early to assess.

But if companies could make a call to institutions, what would they ask for? The ideas are clear enough: a decrease in labor costs, greater support to investments and a streamlining of bureaucratic processes. But also the permanent cut on excise duties on fuel prices and greater aid in sustain the currently unsustainable costs of energy. According to some, it is also necessary to boost the national production of some key ingredients and components for the industry, such as the never-so-hard-to-find microchips. With reference to the Russia-Ukraine conflict some would ask for an end to sanctions against Russia, "in order to place ourselves in a position of mediation". As regards business subsidies, instead, "an immediate suspension of the payment of the IRAP tax, an intervention to control prices for various raw materials and the granting of tax credits spread over various areas" would also be necessary.

## Tecnologia alle corde

Un'indagine condotta tra le aziende italiane del meccano-alimentare evidenzia le attuali problematiche e le prospettive per il 2022. E lancia un s.o.s. alle istituzioni affinché facciano tutto il possibile per evitare la sempre più vicina paralisi produttiva.



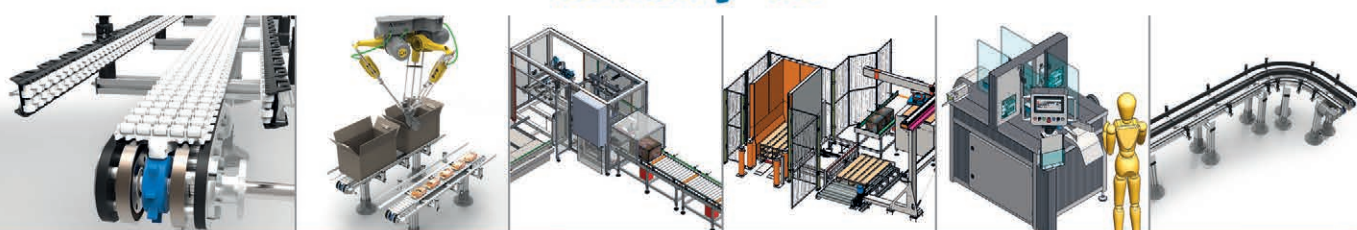
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# Frigomeccanica: the efficiency that makes the difference



From left: Andrea Zanlari, Stefano Remedi and Alberto Maggiani



## Frigomeccanica: l'efficienza che fa la differenza

La necessità di ottimizzare consumi e performance. L'importanza di diversificare il business. La capacità di servire, con la stessa cura, le grandi multinazionali e i piccoli produttori. Un'intervista a tutto tondo con i titolari di Frigomeccanica. Che quest'anno spegne 60 candeline.

Frigomeccanica is ready to celebrate its 60th anniversary. This important goal is the chance to recall what has been done so far and to find out what is coming next. Despite the current period full of uncertainties, the company has recently managed a corporate reorganization which has resulted in improvements in efficiency and better performances. This growth strategy is based on diversification and technological R&D applied, first and foremost, to energy savings. Interview with Andrea Zanlari, Stefano Remedi and Alberto Maggiani, owners of the company founded in 1962 in Sala Baganza, in the province of Parma, and specialized in the design and construction of clean rooms and air conditioning systems for the food industry.

**In 2022 Frigomeccanica is celebrating its 60th anniversary. Have you already planned any celebrations?**

On June 25, we are throwing a big party in the backyard of Sala Baganza Sanvitale Stronghold. It will be a very stylish event reserved to our employees – former and current ones – and their families.

**The mayor of Sala Baganza recently declared that “Frigomeccanica has shaped the modern history of the town”. Another notch on your belt...**

The inhabitants of Sala Baganza have always supported our company throughout time. It is a mutual relationship, as we have created many job places for our fellow citizens. We have all acted for the sake of the community, as it should be.

**How did the company perform in 2021?**

It performed well, far above expectations. In comparison to the previous years, we recorded considerable improvements and the turnover grew steadily thanks to new orders, clients and new types of systems.

**Which sectors benefited from the highest investments?**

We recorded a widespread growth among different sectors such as the deli, pasta and fish industry. There was a lot of diversification and, for us, it was a good thing.

**Did the Industry 4.0 tax incentives help this growth?**

Absolutely. Many Italian companies took advantage of the tax incentives to support important investments. Furthermore, we got important results from abroad too. Part of this success is due to the internal reorganization carried out by Frigomeccanica, which has brought to a better efficiency in the design and construction phases. With the same amount of resources, the company managed to get larger volumes.

**Did the staff of Frigomeccanica grow too?**

It did, as it had already done in the previous years. An adequate number of experienced employees is fundamental to sustain the growth of the company and the placement of new resources, both in technical and engineering positions, must be planned in time. However, we can also count on our internal Academy, which was inaugurated in 2019.

**Is it difficult nowadays to find qualified workforce?**

It is, particularly now. But it is a common problem shared by many companies which operate in our sector. There are few qualified resources and their training needs time too. School, and especially technical institutes, do not prepare young people to enter the job market. Furthermore, many jobs may appear particularly hard for some kids, who may look for ‘easier’ job alternatives such as delivery riders and Amazon logistics operators. But the possibilities in terms of professional development are extremely poor...

**As for R&D, where do your investments focus more?**

On energy savings, no doubt. When it comes to refrigeration systems, production costs are extremely high. Therefore now, more than ever, it is fundamental to pay attention to the consumption of gas and energy. We have been working on this aspect for more than 40 years.

**So, what did you do to reduce consumption?**

We have developed a system which controls and handles consumption. It guarantees maximum efficiency and, at the same time, points out whether some inefficiencies occur. As our clients already confirmed us, small or large applications make the difference within a system. Until a few years ago, companies used to evaluate ROI in five or six years. With the current energy tariffs, on the contrary, it can be gained in a couple of years. Forward-looking companies may now face a difficult situation, but surely not tragic. But those deli companies which cannot bear production costs are now forced to switch off machinery and suspend production.

**This kind of choice was previously made for sustainable reasons, but now it is also a survival matter...**

There is something else to consider. Many producers do not notice the poor performance carried out after a while by their installations. And they probably don't know how much a machine shortage really costs. Their attention is mainly caught by bills – which are surely higher than before – but the problem is that they do not consider the whole performing process.

**The deli market is now facing a real concentration, with big companies more and more in-**







# Fratelli Pagani: “We will arouse your emotions”

At IFFA 2022 the Italian producer of exclusive ingredients and flavors for the food industry will present its renewed corporate image as well as its wide and varied product range. Engaging visitors in an authentic ‘journey through taste’.

by Federica Bartesaghi



With a stand of more than 250 square meters, Fratelli Pagani will bring the art of good taste as well as Italian quality on stage at IFFA 2022, the world leading trade fair in technologies for meat and alternative proteins, set to take place in Frankfurt from 14 to 19 May 2022. “We will take to IFFA an ideal mix of flavors and calibrated expertise for the production of meat-based and alternative protein products, respecting the different national and international culinary traditions”, the company explains.

After a long and exciting phase of restyling of the corporate image, that lasted about 2 years and embraced all the official communication channels (social, digital, online and offline), Fratelli Pagani and its line of ingredients for the production of gourmet and ready to eat elaborated products ‘Pagani Chef’ will be shown at the fair, to the Italian and international public with a

new image, not only more modern but also more in line with the company strategies, which can be summarized as follows: diversification of its core business (ingredients for the processing and transformation of meat and charcuterie products) and expansion of the brand and sales at an international level.

“Fratelli Pagani brings to IFFA its Italian and global leadership in the production of tailor-made solutions, as well as clean label blends, exclusive ingredients, spices and flavors, for the industrial and production market”, adds the company that, always in step with the times and the needs of the mar-

ket, has expanded its offer by addressing other targets beyond just ‘meat’: fish, pasta and savoury, organic and vegan.

## The ‘Experience Area’ at IFFA

Food Quality, Sustainability, Clean Label and Food Safety will be central themes of Fratelli Pagani’s participation at IFFA, also through emotional and evocative graphics. In particular the ‘Emotion’ – the company’s main theme in this edition – will be aroused from May 14 to 19 also through the exclusive ‘Experience Area’: an area built specifically in the heart of the stand

## Fratelli Pagani: “Vi faremo emozionare”

A IFFA 2022 Fratelli Pagani, che produce e commercializza aromi e ingredienti esclusivi per l’industria alimentare, presenterà il restyling completo della brand image così come la sua ampia e diversificata gamma di prodotti. Conducendo i visitatori in un autentico ‘viaggio nel gusto’.

to make the visitor take an immersive journey into the taste, a sensory experience, made of smell, sight and heterogeneous flavors.

An explosion of flavors in this area called ‘Boutique of taste’ consisting of a careful selection of flavors in paste or powder form, enclosed in 6 different olfactory families, brought to the stage also through a path of videos and (metaphorical) filming of seascapes, forests or cityscapes: a journey of flavors between evolution, growth and innovation.

All the news that will be presented at the fair will join the promotion of Fratelli Pagani’s spearhead: the exclusive Skybridge service, which accompanies the customer in the creation of unique and customized projects and products, through a synergy between the customer and the four internal departments: R&D, Q.A.-C.Q., Flavor and Tech.



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# Gorreri: “Our family business turns 35”



The new, ultra-modern facility opened in 2020 in Sorbolo Levante di Brescello, in the Reggio Emilia province. Founded in 1987, in 2022 it will turn 35 years old. Gorreri, which designs and produces automatic complete lines, turn-key solutions and single machines for the sweets and the bakery sector, represents a landmark of the Italian confectionery history. In fact, some of the technologies that revolutionized the segment are attributed to Luigi Gorreri, the founder: starting from the first production lines for sponge cakes, pies and tarts, dating back over 40 years, to the turboemulsifiers for continuous mixing with vertical heads which enable to quickly prepare batters, perfectly homogeneous and aerated mixes. Through the years, the founder's abilities and the farsightedness of his wife's Armanda Dallasta, CFO of the company, merged with the know-how of their son Luca, technician and general manager, and his wife Chiara Lombardi, who is the lawyer and business development officer of the company. And it is precisely with her that we have gone over the key episodes of the growing path which bases its success on a key value: family.

**35 years after its foundation, is Gorreri still a 100% family-run business?**

Surely, and it is one of our main strengths. Moreover, we should not forget that Gorreri is a big family, per se. Which is made of technicians and collaborators who have grown with us. And it also thanks to them that the

company has developed and evolved throughout the years.

**How?**

After all, the production of technologies for the confectionery industry is a niche market. There are just a few specialized companies and the field moves ever more towards a 'concentration' of operators in big groups. Which, by their very nature, have a complex and not very flexible structure. A family business like Gorreri, instead, has always made flexibility and personalization an essential element of its processing technology range. And, as the years passed by, it has indeed evolved keeping in mind the clients' needs.

**How do you customize your production range?**

First of all, we do not sell technology, but the end product. Let me explain myself better. When we meet up

with a client, we do not say 'we will give you a processing line', but 'tell us which product you want to realize and we will study the most suitable solution for you'. Moreover, we have a very wide range of products and we always manage to include mixing, which is a significant advantage because it enables us to actually guarantee the end good. These details make all the difference and have enabled us to remain on the market for all these years while also continuing to grow. We have of course faced some challenges, but we have always overcome them thanks to the family's hard work and resilience as well. Today, we have 60 people working in the company and the turnover has more than doubled in the last six years.

**How did your story begin?**

Luigi Gorreri was the te-

chnical sales manager of Ravanetti, a historical company between Parma and Reggio Emilia, as well as the first, in Italy, to manufacture equipment for the confectionery industry. After the company closed, he worked for a few years as a private adviser until he decided to make the most of his know-how and founded Gorreri, together with his wife Armanda Dallasta. It was 1987. During his long career, Luigi Gorreri has developed an extraordinary mechanical and designing expertise. In fact, he manufactured the first lines for the production of sponge cakes and the first vertical turboemulsifiers. And, still to this day, the Turbomixer by Gorreri is considered among the most performing on the market.

**And what has the second generation provided?**

A push towards modernity and digitization, undoubtedly. Luca is an excellent technician, just like his father, and he is indeed the one who conceives and designs the machines and lines after talking to the clients. And with my legal, marketing and digitization expertise, I try to take the image of the company 'to the future', also thanks to a significant communication of the brand. Armanda Dallasta is still working in the administration. Without her, the company would have never made it to where it stands today. Hence, every generation makes its own contribution towards bettering the business and writing a piece of its history.

**Is this tradition destined to last?**

We hope so! We already have two 'small Gorreri' who are growing up taking in the company's air (ed: she smiles). All jokes aside, today continuity has a lot of value. And the family's commitment and its work ethic undoubtedly are the pillars of our success.

**Even in foreign markets?**

Of course. Our foreign business accounts for 95% of the total turnover. Even if during the last two years we have reconquered a piece of the Italian market as well.

**Which are your 'best seller' technologies?**

We are market leaders in the processing of layer cakes, even in this case thanks to the possibility of combining the Turbomixer, which enables to mix batches and continuously prepare whipped creams: not many in the world really do master this techno-







With its technologies, it made the Italian confectionery industry's history. And in an ever competitive market, it does not stop growing thanks to a corporate model that puts people and flexibility at its core. We interviewed Chiara Lombardi, business development officer.

by Federica Bartesaghi

logy. We are able to prepare a layer cake from scratch. Moreover, we have recently made our entrance into some big groups with our technologies for the production of dosed products: like muffins, cupcakes, plumcakes, doughnuts and many more. Perfect solutions for the American market, where we are strengthening our presence.

**Are you active in other markets?**

A little bit all over the world, actually. We are very active in North and South America, but we are also growing in Europe and we already sell many products on the Asian market.

**Are you planning on taking part in the segment's trade shows?**

On the calendar for 2022 we have Expo Pack Mexico in mid-June and possibly Fispal in Brasil, also in June. Ibie in Las Vegas in September and Dubai's Gulfood Manufacturing at the end of the year are must haves. Also, we will exhibit for the first time at Pack Expo Chicago 2022 and 2023's events are already on our agenda: Düsseldorf's Interpack in May and Iba in Munich in October.

**A very busy calendar indeed. Are you worried about the current emergency situation regarding raw materials, energy, logistics and now the Ukrainian crisis too?**

We are very worried, just like everyone else. Fixed costs have incremented, just as raw materials and electronics, which, besides costing more, are unavailable. The whole situation affects production and deliveries. And then the war, which is also a

matter of sanctions, will end up damaging companies that live on export just like us. In our segment, Russia is a big market, and it is rapidly developing. Modern Bakery in Moscow has already been postponed.

**Now that the company has reached the 35-year-old milestone, what does the future hold?**

We definitely see something more than the mere economic growth. During the last years, we have had many small revolutions that put the employees and their welfare at the heart. We opened a business canteen and we established more flexible hours in order to optimize their work schedules and provide our collaborators with more free time. Another big objective we will work towards is gender equality. Today, it is a trendy topic, however I think it is crucial especially in food processing, which is almost purely a male-dominated segment. The industry associations organize study courses for female entrepreneurs, the institutions grant non-refundable aids for gender equality. But who actually needs support are female laborers and the employees who have to balance work and family, and they must not be confined to minor or part-time roles. The companies within the same territory, just like municipalities, should cooperate to grant them a range of services. All this, along with the tax reduction of female employment, will definitely reduce the gender gap. At Gorreri, we firmly believe in this and we are investing to make a difference.

**Gorreri: da 35 anni un 'affare di famiglia'**

Nel 2020, ha inaugurato la nuova sede a Sorbolo Levante di Brescello, in provincia di Reggio Emilia. E nel 2022 festeggia 35 anni dalla fondazione, avvenuta nel 1987. Gorreri, che progetta e realizza macchine, linee complete e soluzioni 'chiavi in mano' per l'industria dolciaria, del dolciario italiano rappresenta un indiscusso pezzo di storia. Al fondatore, Luigi Gorreri, sono riconosciute alcune delle tecnologie che hanno rivoluzionato il settore: dalle linee per la produzione di pan di spagna, crostatine e girelle ai turboemulsori in continuo a testata verticale. Alla lungimiranza della moglie Armanda Dallasta, Cfo dell'azienda, si sono unite negli anni le competenze del figlio Luca, tecnico e general manager, e di sua moglie Chiara Lombardi, avvocato e business development officer dell'azienda. In un mercato sempre più competitivo, Gorreri non smette di crescere grazie a un modello di business che mette al centro persone e flessibilità.



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# Circular economy: challenge or opportunity?

The global scenario and the companies' best practices. AI applications and new regulations. Highlights from the Summit promoted on the past March by The Innovation Alliance.

## SNAPSHOTS



By using the SodaStream system for making sparkling water at home carbon emissions are cut by 87% with respect to purchasing plastic bottles.



Bite's 'Toothpaste Bits' (tablets) avoid the placement on the market of about 1 billion plastic tubes of traditional toothpaste every year

## Economia circolare, tra sfide e opportunità

Dalla situazione del mercato alle best practice delle aziende. Dalle applicazioni di AI alle novità sul fronte legislativo. Se ne è parlato lo scorso 23 marzo nel corso del Circular Economy Summit, promosso da The Innovation Alliance.

### GIUSEPPE DI MARTINO, PASTA DI MARTINO

"We have chosen to use single-material paper packaging and in our factories we have adopted a quarterly monitoring system of energy consumption. Furthermore, we have invested to be closer to our customers in distribution with decentralized and more efficient warehouses."

### SIMON PIETRO FELICE, CAVIRO GROUP

"From the by-products of the wine making process we create new products such as alcohol, natural fertilizers and biomethane. We are the major producer of biomethane in Italy and we consume 55% of what we produce. The remaining 45% is sold thus generating additional economic value."

### NAZZARENA FRANCO, DHL

"Our fleets are undergoing a deep transformation to migrate from fossil fuels to electricity and have, by 2025, 50% of our fleet electric; and reach 70% by 2030."

### FRANCESCO PINTUCCI, ISEM GROUP

"Although our sector operates with cellulose, the system is only apparently sustainable. Paper packaging is today one of the major sources of pollution, also due to the exponential growth of e-commerce and its impact on the volumes of packaging (and therefore waste) generated."

### CHRISTOPHE RABATEL, CARREFOUR

"By 2025, 100% of our PL products will be in recyclable, reusable or compostable packaging and we will halve food waste".

### SARA SCRITTORE, COLGATE-PALMOLIVE

"Today we produce 20 billion plastic tubes a year and they end up in landfills, because they are not recyclable, but they will be by 2025. We have in fact worked to make HDPE plastic (which boasts the highest recycling rates) softer and therefore 'squeezeable'."

Key topic in the European political agenda as well as in companies' business strategies, the circular economy is a concept as wide as simple. It is, literally, the closing of a circle to ensure that a material, a product, a physical asset can, at the end of its 'first life', start a 'second life' in other applications. It is the opposite of a linear production system, where the life of a product begins in production and ends in the landfill, or worse, in the environment. In recent years, thanks to more and more stringent environmental policies and increasing attention from consumers, industrial production has taken its first steps in this direction.

The topic will be a central discussion point also at Ipack-Ima, Green-Plast, Print4All, Intralogistica Italia (which make up The Innovation Alliance), that from 3 to 6 May will liven up the Fiera Milano exhibition ground as anticipated during the 'Circular Economy Summit', promoted by the trade shows' organizers. During the in-streaming debate, operators investigated the greatest issues but also the opportunities for those who pursue, with conviction, the goals of circularity.

### A problem to face 'head on'

"Considering the geopolitical moment, it is very important to focus on finding positive solutions to critical issues," said Alice Bordeau of the Ellen MacArthur Foundation. "Let's think of plastic, a field in which we are still a linear economy that generates waste. Of the global flow of plastic packaging materials, equal to 78 million tons, only a minimal part (2%) is properly recycled. As a result, if we do not change pace, by 2050 there will be more plastic than fish in the oceans."

According to Bordeau, we need to rethink the economy by focusing the attention on the three cornerstones on which the circular economy model is based: design out waste and pollution; keep products and materials in use; regenerate natural systems. "There are many effective solutions already in place on the market, but involving the 'downstream', that is the recycling phase. However, it is necessary to focus on the 'upstream', and therefore on the origin of the problem. Because if our house was flooded, before drying the water on the ground we would go in search of the leak. The same applies to the environment." The 'upstream' interventions, in the case of packaging, should therefore look at the selection of raw materials (not virgin), at the design of the packaging so that it lasts as long as possible or can be reused and, last but not least, at the chosen production and logistic methods. In a few words, to be truly effective the revolution must involve the entire production system.

Plastics, which has long been at the center of the environmental debate, has registered a constant production increase over the years, with a small contraction in the pandemic period. And certainly not because consumers were using less plastic, right the opposite: among delivery, e-commerce and single-use medical devices the importance of plastic has never been more evident. However, due to production shutdowns industrial plastic use has dropped, especially in construction. "In 2021 we saw a rebound effect, mainly driven by the restart of the US and Chinese economies, where plastic production grew at a higher rate than GDP," explains Rob Dellink, senior economist of the OECD (Organization for Economic Cooperation and Development). "More than half of the plastics come from applications with a life cycle of



less than five years, which is very little, while the use of recycled plastic stands at 6%, due to a lack of demand.” How can we strengthen the recycled plastics market, then? According to Dellink, there are four major levers: stimulate demand; push towards production innovation so that, for costs and quality, recycled plastic is competitive with respect to virgin plastic; increase investments and international cooperation between organizations and companies; push forward more ambitious policies.

#### **From eco-sustainable design to the EU ‘Digital passport’**

The Green Deal, the set of initiatives implemented by the EU Commission in order to achieve climate neutrality by 2050, is the cornerstone of European environmental policies. “In the last two years, incorporated into other policies, it has been also at the center of the EU’s post-pandemic recovery and growth strategy,” explained William Neale, Adviser on Circular Economy and Green Growth for the European Commission’s Environment Directorate General, who recalls some of the main stages of the EU ‘green’ revolution.

“In the past, the EU approach was more aimed at ‘punishing’ polluters rather than at prevention. In 2015 the first real step was taken with the creation of the European Circular Economy Action Plan; while in 2018 the first, disruptive strategy on plastics was launched with a systemic approach to

the supply chain. Finally, in 2020, the second edition of the Circular Economy Action Plan introduced a substantial revolution, placing the focus directly on products and on minimum requirements needed so that a product could be placed on the European market.” Now, a revision of the European Ecodesign Directive is aimed at ensuring that all products placed on the EU market are designed according to sustainability goals. “Because it is in the design stage - Neale adds - that 80% of the environmental impact of a product is defined.”

Among the other innovations that will be introduced soon, the Digital Product Passport (DPP) that would serve as an inventory of all materials, components and raw materials used in a product. “We need to make sure - he adds - that all products placed on our markets are designed to be durable and repairable.”

#### **How AI can contribute to the ‘green revolution’**

Artificial intelligence potential contribution to circularity is huge, according to Gianluigi Greco, president of Aixia, the Italian Association for AI. To introduce complex concepts, he starts from a very simple question: what makes technology intelligent? Its level of autonomy. Let’s think of self-driving cars: we set the destination, the car decide how to get there. “In the case of the circular economy,” Greco explains, “two different types of AI come into play: the symbolic one and

the subsymbolic one.” The first, he explains, is based on the coding of information (instructions) that enable the AI to carry out a specific project. The subsymbolic is instead based on the creation of a neuronal network to which certain knowledge is transferred, and that enables the AI to understand information and process them.

According to Greco, there are three main fields of application in which AI can contribute to circularity. The first is the design of components and materials with specific properties, since subsymbolic AI ‘overturns’ traditional approaches and, starting from the result I want to obtain (from the properties that my material must or must not have, for instance), I can build the structure optimizing the design and with a considerable saving of time. The second area of application is in circular business models, like preventive maintenance, demand forecasting and supply-demand matching to plan production and avoid waste. Finally, the third field is the optimization of the circular infrastructure, perhaps improving the waste sorting process. “However, let’s remember that all of these technologies run in data centers that require a strong power supply,” Greco highlights. “Given the expected growth in their use and complexity, the problem of the carbon footprint of data centers will therefore arise. So we need to start thinking about the development of a less polluting AI.”

*Federica Bartesaghi*

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# The right solution to all (shipping) needs

Whether in wood, chipboard or plastic, the products offered by Corno Pallets are able to meet the requests of every production sector. And thanks to the exclusive Presspall pallet, environmental and export requirements are respected too.

by Federica Bartesaghi

Founded in Saluzzo in 1957, Corno Pallets was initially specialized in fruit packaging for the regional agricultural sector. Nevertheless, the transformation of the local economy and the need to satisfy other economic sectors caused the company to leave its 'artisanal' origin to become a major producer, ecological and innovative pallets. To offer its customers, today like yesterday, products of the highest quality and oriented to the needs of a constantly evolving market.

"2021 was an important year for our results, but also very demanding", Paolo Francese, Corno Pallets' CEO, explains. "The lack of raw materials and the strong demand for packaging collided, at the end of 2020 and throughout 2021, and contributed to the strong increases that the entire logistics sector had to manage." As he points out, 2022 started 'on an upward slope' too: "The strong tensions on energy and fuel prices are heavily affecting production and logistics. And the war between Russia and Ukraine is putting in serious difficulty the imports to Europe of raw materials and wood".

In this delicate context, Corno Pallets is actively working with its supplier base, carefully managing production programs and staying in constant contact with its customers to manage their needs. "In a serious and uncertain contingent situation such as today's one, - Francese says - we think it is correct to professionally do what we do best: understanding and satisfying the customer's needs."

## Tailored solutions to all sectors

Corno Pallets offers wooden pallets in different sizes and for various applications, as well as plastic pallets for specific sectors. In the Saluzzo plant, over 3,500 wooden pallets are produced every day to handle, store and transport the most varied Italian excellences: food & beverage, automotive, chemical, mechanical, pharmaceutical and more. "Thanks to their characteristics - Francese claims - our products travel all over the world, safely transporting the 'Made in Italy' and the excellence of our customers."

To meet the large daily demand for pallets used for export, Corno Pallets has 4 ovens, which allow

the production of HT-IPSPM -15 pallets and pallets with drying treatment. Since 2005, the Fitok consortium has been authorized the heat treatment of wooden packaging addressed to shippings all over the world. Corno Pallet is a 2nd level EPAL certified manufacturer and it guarantees that its products comply with the production processes codified by the Consortium.

"Our added value", Paolo Francese explains, "lies in more than 60 years of experience in managing the characteristics and qualities of an important raw material, with a very strong personality, like wood." All produced pallets are indeed PEFC certified since 2015, and therefore made with wood coming from forests managed in a legal and sustainable way. The company also produces a wide range of tailor-made pallets with customer specifications - for large or small quantities - and that can be customized through the branding or through printing groups on the surface of the blocks.

Corno Pallets is also the only Italian company to offer the 'Presspall': a pressed chipboard pallet featuring three key characteristics: exportability, stackability and reduced environmental impact. A strategic solution in a market that is increasingly requesting products with a low environmental impact. "We are the only ones in Italy - the general director explains - to offer pressed pallets made with chipboard coming from processing waste of large sawmills of Northern and Central Europe and from the recovery of exhausted wooden packaging".

## The company's future plans

Corno Pallets is now running very ambitious growth plans: the expansion of the plant surface to improve logistics and product conservation, as well as the construction of a photovoltaic system capable of producing, in a clean way, a large part of the energy it needs for production. "We are also working to offer the market new solutions and innovative products", the director claims. "Because if our vocation is to understand the demands of our target market daily and quickly respond to it, in our DNA there is a continuous search for excellence and innovation."



EPAL PALLETS:  
TOP QUALITY WOOD



Thanks to its strength, flexibility and durability the traditional wooden pallet is ideal for all goods handling and transport operations. To produce and guarantee sturdy and resistant pallets, the wood quality is a fundamental feature. For this reason Corno Pallets carefully selects the raw material, using only fir and pine timber from sustainable managed forests and selected suppliers. Corno Pallets is one of about 40 certified companies to produce EPAL pallets, the most important system for the circular use of platforms for logistics and transport.

DISCOVER PRESSPALL,  
THE ECO-FRIENDLY Pallet



For more than 35 years Corno Pallets has been the exclusive distributor for the Italian market of Presspall. Obtained from a high pressure moulding of wood and natural resin, it falls into the 'processed wood pallet' category and is therefore the only one that does not require ISPM-15 treatments for export. This makes a company's international business immediate and free of bureaucracy. The pressed wooden pallet is also an ecological a risk-free choice, since it is made with 15% ecological urea resin and 85% recycled chipboard. PEFC certified, thanks to this characteristic it allows a considerable saving of space, up to 66% less than traditional pallets.

## Corno Pallets: a ogni spedizione la giusta soluzione

Che siano in legno, legno truciolato o plastica, le soluzioni offerte da Corno Pallets sono in grado di rispondere alle esigenze di ogni settore produttivo. E grazie agli esclusivi pallet 'Presspall' che permettono un risparmio di spazio di oltre il 66% rispetto all'Euro pallet tradizionale, anche i requisiti di sostenibilità ambientale, così come quelli di esportazione, trovano la risposta.



# A TECH SPECTACLE

The companies, the machines  
and the ground-breaking technologies that will be  
on display at AnugaFoodTec and Ipack-Ima 2022.  
Exquisitely Italian, of course.

BY FEDERICA BARTESAGHI



## B&B SILO SYSTEMS

[www.bebilos.com](http://www.bebilos.com)

### MICRO DOSER

#### FIELDS OF APPLICATION

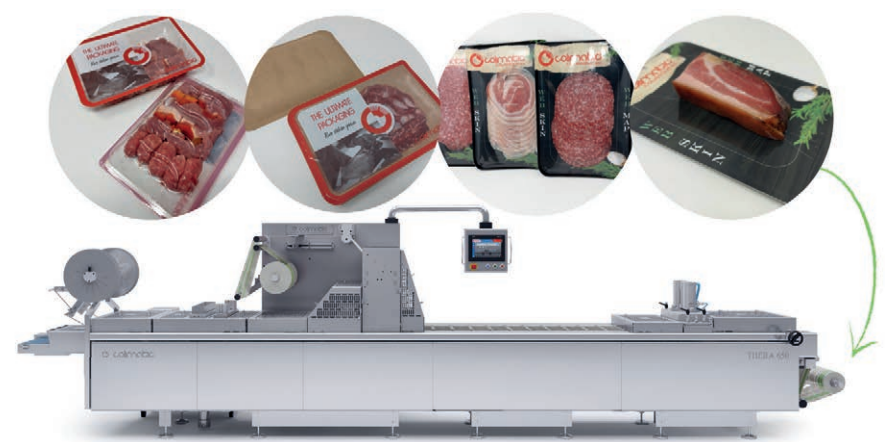
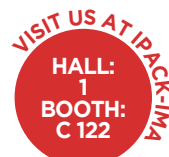
Food, pharmaceutical, chemical, cosmetic, plastic.

#### DESCRIPTION AND STRONG POINTS

High precision dosage of micro ingredients, powders, granules, solids and liquids, such as enhancers, salt, starch, flavorings, spices, or other additives. Weight and volumetric micro-dosages. Modular structure, adaptable to any space, with the possibility of subsequent extensions. Availability of modular hoppers, with variable capacity and fluidizing homogenizer, for the most complex ingredients.

#### TECHNICAL SPECIFICATIONS

- Pneumatic micro doser load
- Self-cleaning dynamic filter
- Special screw dosage group
- Level sensors
- Weighing cells
- Integrated automation



## COLIGROUP

[www.colimatic.com](http://www.colimatic.com)

### THERMOFORMING PACKAGING LINES THERA WEBSKIN

#### FIELDS OF APPLICATION

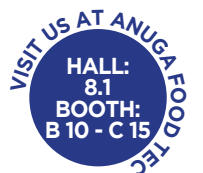
Fresh or seasoned food, with steering fluid, in bars, sliced, grated or julienne, in wedges or cubed

#### DESCRIPTION AND STRONG POINTS

The Thera650 Webskin/Webmap line allows, with the investment of a single machine, to use different ecological materials and to create packages with different technologies, such as skin, ATM and vacuum. It represents an innovative solution for the packaging of cold cuts, in a sustainable and pleasant package that maintains high shelf-life standards and the organoleptic and nutritional characteristics of food unaltered. Colimatic Webskin/Webmap uses a very high-quality cardboard bottom with a plastic percentage of less than 10% and is therefore totally recyclable in the paper. The lid (top) is separable and can be recycled in the plastic circuit. The tray is made from a reel, with printed and customizable graphics, thus eliminating the costs of manufacturing, storing and managing pre-cut cardboard blanks.

#### TECHNICAL SPECIFICATIONS

- Production: up to 15 cycles/minute
- Machine's length: customized
- Technologies available: Vacuum, MAP, Shrink, Skin







**AGRIFLEX**  
www.agriflex.it

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HALL: 10.1  
BOOTH: C-070

## FERMENTATION

### FIELDS OF APPLICATION

For the food industry, in particular applied to leavened baked products.

### DESCRIPTION AND STRONG POINTS

Systems and installations for the production of natural liquid yeast. Natural yeast (or sour-dough starter) is a mix of flour and water left to rise spontaneously in open air for a certain period of time, during which the micro-organisms in the flour, water and air reproduce and ferment, releasing compounds with excellent nutritional and aromatic qualities. Since the traditional preparation of natural yeast (yeast-based starter) is quite a complex and delicate process, for years Agriflex has been designing and installing industrial systems for the production of natural liquid yeast that guarantee a product that meets the expected qualitative standards.

### TECHNICAL SPECIFICATIONS

- The use of natural liquid yeast with a fermenter facilitates refreshment and allows for a greater control of the starter's pH, ensuring less variability and ease of use, even for inexperienced personnel.
- Standardisation and replicability of the production process (fermentation acidity is limited and always under control)
- Consistent product quality (soft, more 'relaxed' and more digestible dough; more uniform crumb structure and thin crust; leavened product that is always excellent and consistent)
- Increased product shelf-life



**ALMAC**  
www.almacsrl.com

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## STEAM STRETCHER FV700

### FIELDS OF APPLICATION

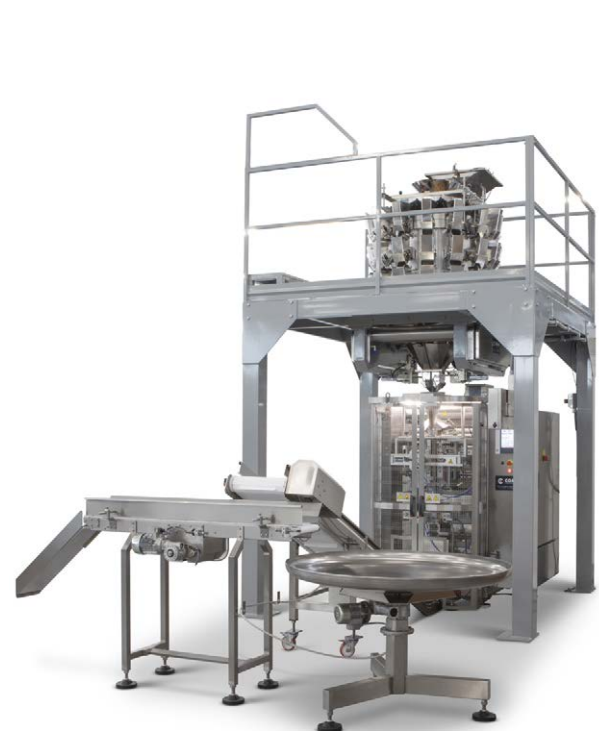
Pasta filata cheeses production

### DESCRIPTION AND STRONG POINTS

The steam stretcher mod. FV 700 is designed for the production of pasta filata cheeses using, as raw materials: industrial curds, fresh curds and food ingredients. Possibility to obtain cheeses with the desired fibrous and elastic features. Final cheese moisture standardization, thanks to the presence of 6 steam injectors into the processing chamber. The steam use avoids the unnecessary need of the stretching water preparation, with a consequent energy saving. The combined action of the augers and the steam avoids the need of the curd-cutter, as they succeed in shredding the curd. Possibility to pasteurize the processed raw material increasing the cheese shelf life. Increase of the production yield than the traditional stretching process.

### TECHNICAL SPECIFICATIONS

- Length (mm) 2365, Height (mm) 1990, Width (mm) 760
- Feeding height (mm) 1505, Discharging height (mm) 730
- Hourly production (Kg/h) 700
- Production per mixing (kg) 350



**COMEK**  
www.comek.it

VISIT US AT IPACK-IMA  
HALL: 3  
BOOTH: A 46 - C 54

## HIGH SPEED WEIGHING AND PACKAGING LINE 'COMEK'

### FIELDS OF APPLICATION

Diary, convenience food, fresh vegetables, frozen foods, snack, confectionery.

### DESCRIPTION AND STRONG POINTS

The new Comek weighing and packaging line allows to produce up to 160 packages per minute. It is made with carefully designed materials and components for easy cleaning and maximum accessibility. Created with a stainless steel 'Open Frame', without any outline or zones of deposit to ease the cleaning procedures. The horizontal sealing unit with box motion system combined with sealing bars with a special execution allows high packaging performance even with difficult heat-sealable packaging materials.

### TECHNICAL SPECIFICATIONS

- Line composed of Multihead weigher 14 heads with memory mod. CK14ST-DP-2
- Motorized opening buckets. High resolution, intuitive touch screen panel with help in-line
- VFFS machine mod. Omnya Evo 250 with triple mode of operation: continuous, intermittent and Doypack
- Possibility to realize many types of formats: pillow bag, gusset bag, block bottom, 'Stabilo', doypack with zipper



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**CIDIESSE ENGINEERING**  
www.cidiesse.com

## STAINLESS STEEL BUCKET ELEVATOR MOD. ETC/54 WITH BUCKETS CLEANING SYSTEM

### FIELDS OF APPLICATION

Food and non-food

### DESCRIPTION AND STRONG POINTS

Pendulum bucket elevator made of stainless steel, suitable for the horizontal and vertical handling of bulk materials. It finds application both in the processing and packaging lines. It is equipped with automatic buckets cleaning, particularly indicated at product changeover, to avoid any possible contamination with the previously processed material, or simply to clean

the buckets at the end of the shift. Cleaning programs can be set and customized through the touch screen control panel.

### TECHNICAL SPECIFICATIONS

- Throughput up to 4,6m<sup>3</sup>/h (models for higher flow rates available)
- Motor power 0,55 to 1,5 kW (according to material and machine dimensioning)
- Buckets cleaning system composed of a series of electrovalves, pneumatic cylinder and magnetic sensors
- Required compressed air up to 6bar
- Electrical panel with PLC and touch screen for the control of the whole system





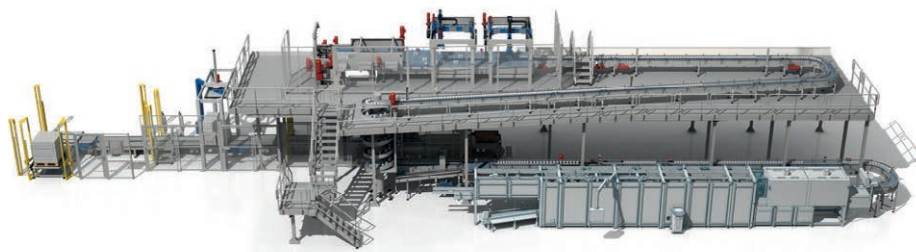
**CAMA GROUP**  
www.camagroup.com

**ROBOT 12 TRIAFLEX**  
**FIELDS OF APPLICATION**  
Food

**DESCRIPTION AND STRONG POINTS**

A fully integrated robotic solution, with a very small food printer and a battery of 12 Triaflex robots working in co-flow, capable of packaging about 1000 products per minute. These robots feature an anti-collision system, which allows them to work in a very small space without interfering with each other's functions: two product loading lines, one on the right and one on the left, with various configurations. The lines have an advanced vision system, which allows them to recognize product shapes and do quality checks. They are also equipped with an integrated digital-twin simulation system, the flagship of the first phase of Industry 4.0. Even before the machine was produced, the company focused on preventive design, dedicated engineering that allowed to replicate the packaging behavior of the products and their trajectories.

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**CLEVERTECH**  
www.clevertech-group.com

**AC 520 ARROW**  
**FIELDS OF APPLICATION**  
Palletizer for cases and bundles  
**DESCRIPTION AND STRONG POINTS**

The Clevertech AC 520 palletizer is equipped with a product inlet located at the top. The product enters the machine and is manipulated thanks to Lineflex Cartesian manipulators. The production speed can be doubled when another Lineflex, in layer formation, is added to the existing one. Hence, with a reduced investment the line can duplicate its performance. The Clevertech system is completed with an interlayer pad application between the palletized product layers and with a layer application on empty pallets. The pallet is integrated with stretch wrapping machine and labelling machine. All the supply and data monitoring is related to the customer's ERP and WMS at the end for direct management of the finished product pallet in the warehouse. Ideal for automatic palletization of cases and bundles at high speeds. The system automatically regulates the machine for different product sizes.

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# product showcase



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### AUTOMATIC CLIPPING MACHINE FOR CLOSING BAGS MODEL A480PLHTT

#### FIELDS OF APPLICATION

Packaging of food products

#### DESCRIPTION AND STRONG POINTS

A480PLHTT is an automatic clipping machine for closing food bags capable of guaranteeing precision and high speeds. It can be integrated with an automatic packaging machine or a bag blower, to facilitate the manual insertion of the product into the bag. The bag opener can be equipped with an aroma dosing system to preserve the bag content and increase its shelf life. The clipping machine is suitable for everything requiring an horizontal packaging, such as leavened products (Italian Panettone, Easter Colomba cake, etc.), cakes and pita bread.

#### TECHNICAL SPECIFICATIONS

- The box motion movement, driven by brushless motors, allows to reach high speeds and the technology of retractable belts allows the passage of small products
- The new 'Mitsubishi' PLC offers the possibility to vary the speed, view the alarm history, the piece counter and create 50 customizable programs.
- The remote connection via ethernet allows diagnostics, solving problems and the download of any updates.



## SORDI

[www.sordi.com](http://www.sordi.com)

VISIT US AT ANUGA FOOD TEC  
HALL:  
5.1  
BOOTH:  
C068

### CIP 5A

#### FIELDS OF APPLICATION

Cleaning of production and packaging lines

#### DESCRIPTION AND STRONG POINTS

The CIP 5A by Sordi is a fully automatic and pre-assembled system for cleaning food plants, which can be equipped with tanks with different storage capacity: 3,000, 5,000 or 10,000 liters. The system can have up to 5 washing lines each of them equipped with a feed pump, tubular heater and control instruments to guarantee a flow rate of 20,000 or 30,000 liters/hour. The unit has its own system for adding detergents and a control panel with PLC and HMI for controlling all CIP parameters. Optional components are: flow control systems, for adding disinfectant, automatic control of the concentration in the tanks and return pump.

#### TECHNICAL SPECIFICATIONS

- Tank capacity: 3,000, 5,000 or 10,000 liters
- Flow rate: 20,000 or 30,000 liters/hour
- Lines: up to 5



## TECNOVAP

[www.tecnovap.it](http://www.tecnovap.it)

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5.2  
BOOTH:  
C038

### STEAM CLEANING SYSTEM FOR CONVEYOR BELTS

#### FIELDS OF APPLICATION

Food industry

#### DESCRIPTION AND STRONG POINTS

The steam belt cleaner is an eco-friendly and innovative product, designed to clean and sanitize any kind of conveyor belt in a safe, efficient and fast way.

#### TECHNICAL SPECIFICATIONS

- Customized design for each client
- Structure made of AISI 304 stainless steel
- Squeegees of different types, suitable also for food industry
- Usage possible even during the production cycle
- Cleaning, sanitizing and drying of the conveyor belt in automatic mode without manual intervention
- Safe for the conveyor belt, no risk of surface damage



## FBR-ELPO

[www.fbr-elpo.it](http://www.fbr-elpo.it)

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BOOTH:  
C 040 -  
C 048

### MUSTANG ASEPTIC FILLER

#### FIELDS OF APPLICATION

Aseptic filling

#### DESCRIPTION AND STRONG POINTS

New completely automatic Mustang aseptic filler, built in stainless steel with double filling head with production capacity up to 1.200 bags/h. Designed for the filling of a wide range of products, liquid and with pieces, low and high acid, such as milk, cream, ice-cream basis, natural fruit juices and concentrates, tea, etc. the new Mustang filler can handle pre-sterilized bags from 1,5 to 20L with continuous module. Thanks to its significant flexibility, it can work with bags that use any type of spout available on the bag-in-box market, including those with pre-mix or post-mix dispensing pipes. Spouts can be 'short neck' or 'long neck type', placed in the centre or in the corner of the bag. Another distinctive feature is the possibility to sterilize the cap either with chemical agents and/or by using steam.





## FACCHINETTI

[www.facchinettinovara.it](http://www.facchinettinovara.it)

### EXACT WEIGHT WEDGES CUTTER PR01

#### FIELDS OF APPLICATION

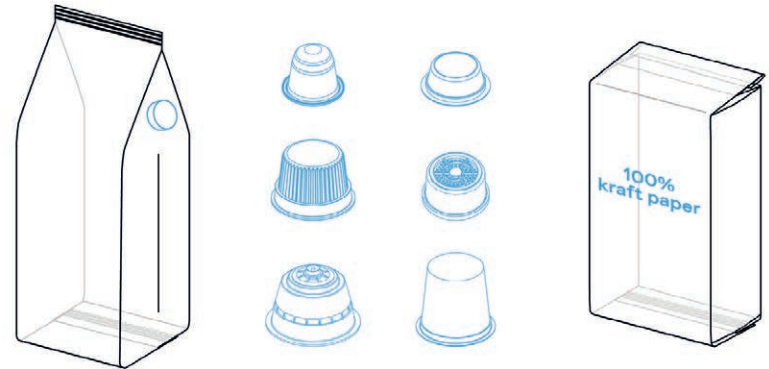
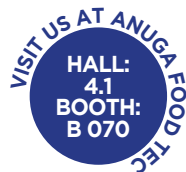
Dairy and cheese

#### DESCRIPTION AND STRONG POINTS

Compact machine suitable for round cheese cutting into exact weight wedges. Scale and Industry 4.0 configuration included.

#### TECHNICAL SPECIFICATIONS

- Stainless steel AISI 304/316 structure
- Compact footprint: 1500x1000xh.2100 mm
- Stainless steel or ultrasonic cutting blade
- Speed: up to 45 wedges/minute



## ICA

[www.icaspa.it](http://www.icaspa.it)

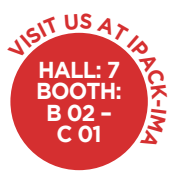
### PACKAGING MACHINES

#### FIELDS OF APPLICATION

Food, single serve

#### DESCRIPTION AND STRONG POINTS

Cap closure application on flexible packaging material to maximize practicality, always keep your product fresh, dose precisely the desired quantity without leaks, and have your pack always in a good-looking shape. Thanks to the small capsules machine RCL1, it's possible to work with all coffee capsules from top market players. Very suitable for entry-level production, the capacity of the machine can achieve 85 caps per minute and changeover in 20 minutes. Many of the historical ICA machines work with 100% kraft paper, renewed with the new-patented system to obtain an air-tight closure of the bag mouth, the result is no more dust in the supermarket shell as well as in the home pantry.



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## STRING CHEESE TECHNOLOGIES

Customizable string cheese solutions, upon client's needs.

### + 4.0

Automatically controlled systems with remote assistance, equipped with interface for connection and data exchange for industry 4.0.

### + Technological consultancy

Support granted by our company technologists, aimed to obtain a product able to meet all final users' requests.

### + US standard

For the US market, control panels and electrical motors built according to the UL rules (Underwriter Laboratories Inc).







## FRAUGROUP

[www.fraugroup.com](http://www.fraugroup.com)

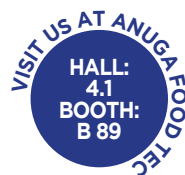
### RICOTTA CHEESE LINE

**FIELDS OF APPLICATION**

Dairy

#### DESCRIPTION AND STRONG POINTS

The problem of whey processing and utilization is very urgent for all dairy plants, and it often turns into a cost for enterprises. Fraugroup not only offers to safely process whey, but also to make significant profits, diversifying traditional product lines. Ricotta is a cheese type, obtained from whey by precipitating of proteins through thermo-acid coagulation. It has a very delicate creamy taste and a pleasant texture and is widely used in many preparations. In addition, it is a 'low cost' cheese, since whey, being a waste of cheese production, costs nothing. The production costs for ricotta are also low, while ricotta has a good added value, so the investment costs are paid off in a short time. FrauGroup offers complete lines for the production of Ricotta with capacity of 3000 - 6000 - 9000 litres or more of cheese whey every 1.5 hours.



## GELMINI

[www.gelminimacchine.com](http://www.gelminimacchine.com)

### AUTOMATIC CUTTING MACHINE MOD. ATENA BIG-3

**FIELDS OF APPLICATION**

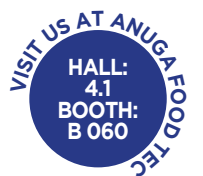
Automatic weight cutting line to process hard and semi-hard cheese.

#### DESCRIPTION AND STRONG POINTS

While maintaining one of its main characteristics, namely simplicity, the union of experience and technology has led the current version of the automatic cutting cheese to have many strengths, such as productivity, precision, versatility of use and remote management with remote assistance, for software updates and maintenance, in line with current Industry 4.0 market demands.

#### TECHNICAL SPECIFICATIONS

- Power supply: 380V three phase, 50Hz
- Installed power: 6 kW
- Air supply: 25 NI/min at 6 bar
- Machine dimensions: 3200x1200x2500 mm (LxWxH)
- Work surface height: 1080 mm
- Empty weight: approx. 2100 kg



## GRUPPO FABBRI VIGNOLA

[www.gruppofabbri.com](http://www.gruppofabbri.com)

### FABBRI HYBRID

**FIELDS OF APPLICATION**

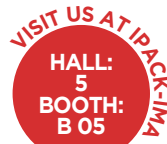
Food packaging

#### DESCRIPTION AND STRONG POINTS

The new Fabbri Hybrid range (Automac Dual, Automac Industrial, Automac Ultra) introduces a new wrapping standard to the sector, guaranteeing the perfect packaging of fresh and very fresh products with any type of tray (recyclable plastic, bioplastic, cardboard, balsa wood, cellulose pulp, etc.), neutral or printed stretch film (traditional, biobased, compostable) and labelling machine that handles compostable labels. All the machines in the series can work with Nature Fresh, the first compostable film for automatic packaging with domestic and industrial compostability certification according to UNI EN 13432.

#### TECHNICAL SPECIFICATIONS

- Wrapping programmes: Dual 50, Industrial 29, Ultra 29
- Packages per minute - maximum speed: Dual 40 ppm, Industrial 55 ppm, Ultra 75 ppm
- Min. reel width: Dual 280 mm, Industrial 350 mm, Ultra 330 mm
- Max. reel width: Dual 500, Industrial 550, Ultra 550
- Seconds for reel change: 45 seconds for all models



## WAMGROUP

[www.wamgroup.com](http://www.wamgroup.com)

### BATCH-TYPE SINGLE SHAFT MIXERS WBH

**FIELDS OF APPLICATION**

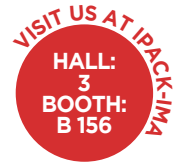
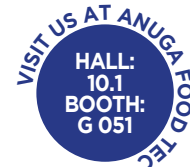
Used for mixing dry powders, granules or short fibres, for moistening, agglomerating or granulating the same materials, or for mixing liquids or low viscosity pastes.

#### DESCRIPTION AND STRONG POINTS

The WBH Batch-type single shaft mixer is the ideal machine to obtain highest quality mixtures in perfectly reproducible batches. Mixing tests for customers are performed in the Group's own laboratories in currently more than 15 countries. The machine ensures: no product deterioration, low maintenance, durability, power rating adapted to application, easy cleaning and access to all internal parts of the mixer, mixing know-how and test facilities.

#### TECHNICAL SPECIFICATIONS

- Capacity: 10 to 20,000 litres per batch
- Mixing ratio: 1/100,000
- Variation coefficient (CV): 3 - 5%
- Possibility of adding up to 20% of liquid







## FRIGOR BOX INTERNATIONAL

[www.frigorbox.it](http://www.frigorbox.it)

### ROLL-IN INDUSTRIAL BLAST CHILLER & FREEZER MOD. AS ULTRA-FRIBOX

#### FIELDS OF APPLICATION

Catering and food industry

#### DESCRIPTION AND STRONG POINTS

Roll-in blast chiller and freezer suitable for any size of trolley. It allows the following cycles, to stop the bacterial alteration of the products, in compliance with the sanitary standards: blast chilling from +80°/+90°C to +3°C; blast freezing from +20°/+25°C to -18°C; blast chilling/freezing from +80°/+90°C to -18°C. Each function is either controlled by product probe or timer. Several standard models are available, up to 10 trolleys, with possibility of customization. Each model is available with several refrigeration capacities, for different freezing productions. Great production capacity with very low energy consumption. Additional functions are: low temperature slow cooking, thawing, natural proofing, ice cream / gelato hardening, drying. Including Aircare Box sanitization system by ionization.

VISIT US AT ANUGA FOOD TEC  
HALL: 10.1  
BOOTH: C-078



## LINEA FLESH

[www.lineaflesh.com](http://www.lineaflesh.com)

### SHOE COVER DISPENSER

#### FIELDS OF APPLICATION

Food, cosmetics and pharmaceuticals industries

#### DESCRIPTION AND STRONG POINTS

This innovative concept simplifies daily operations of preparation for workers and visitors within the company. Easy and quick to use, it avoids the bending because they do not require use of hands. The display applied is an effective method to immediately visualize the number of overshoes available. It's very durable and occupies minimal space, marked by an environment in which prevail hygiene and order. 4 models of shoe covers to choose among: Nylon Shoe Covers, Reinforced Nylon Shoe Covers, Non-woven Shoe Covers, Cpe anti-slip Shoe Covers.

#### TECHNICAL SPECIFICATIONS

- Power: 220V 50-60 Hz
- Dimensions: 63x31x75 cm
- Net weight: 18 kg

VISIT US AT IPACK-IMA  
HALL: 2  
BOOTH: D 36



## OMAG

[www.omag-pack.com](http://www.omag-pack.com)

### PACKAGING MACHINES AND COMPLETE PACKAGING LINES

#### FIELDS OF APPLICATION

Primary packaging machines for food, cosmetic and pharmaceutical products.

#### DESCRIPTION AND STRONG POINTS

Omag designs and develops packaging machines for powdery, granular, liquid and pasty products into 3 or 4-side sealed sachets, stick-pack and doy-pack. Every machine is customizable, can easily pack a wide range of products in different pouches dimensions and sizes, can be completed with robot counting and feeding systems, cartoning machines and customized with a large variety of optionals. Omag machines are always up to date with Industry 4.0 new technologies: sensors, smart cameras, robotic systems and augmented reality.

#### TECHNICAL SPECIFICATIONS

- Design optimization to ease user operation and access to every component
- +20% energy saving thanks to brushless motorization, temperature and anomalies detection sensors installed on the machines
- +65% of machine's components are internally produced

VISIT US AT IPACK-IMA  
HALL: 5  
BOOTH: A 15



## STANDARD TECH IMPIANTI

[www.standard-tech.it](http://www.standard-tech.it)

### STERIL TECH CLEAN ROOM

#### FIELDS OF APPLICATION

Meat, milk, bread, fish, fourth range products

#### DESCRIPTION AND STRONG POINTS

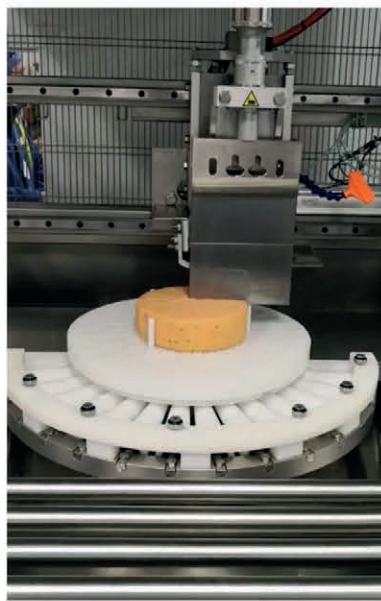
Steril Tech (registered) clean rooms are realized with completely washable paneling and interlocked access doors. The air handling units are sized in order to guarantee laminar or turbulent flows according to the class of filtration required by the products in transit inside the local. The washing process, determinant for a fast drying of surfaces after the daily cleaning operations, is a necessary phase to avoid dangerous water stagnation. Their design aims to reduce to the maximum the length of the air ducts that are built using a special self-cleaning antibacterial material. The set of the latest air conditioning and filtration technologies, together with the research of the correct operating flows - among workers, goods, packaging materials - allows the extension of the shelf-life of the finished product, acting on all the process variables that are possible to control, in order to limit the external risk factors as much as possible.

VISIT US AT ANUGA FOOD TEC  
HALL: 10.1  
BOOTH: B 089



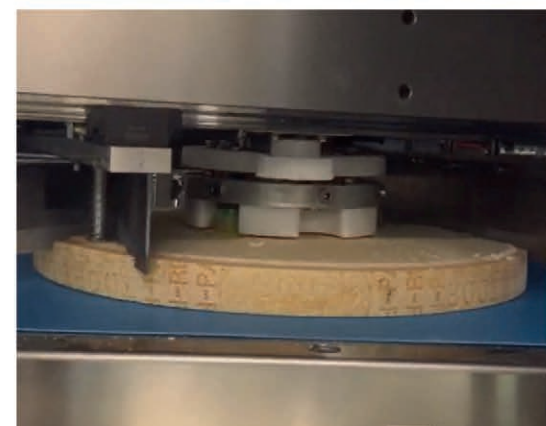
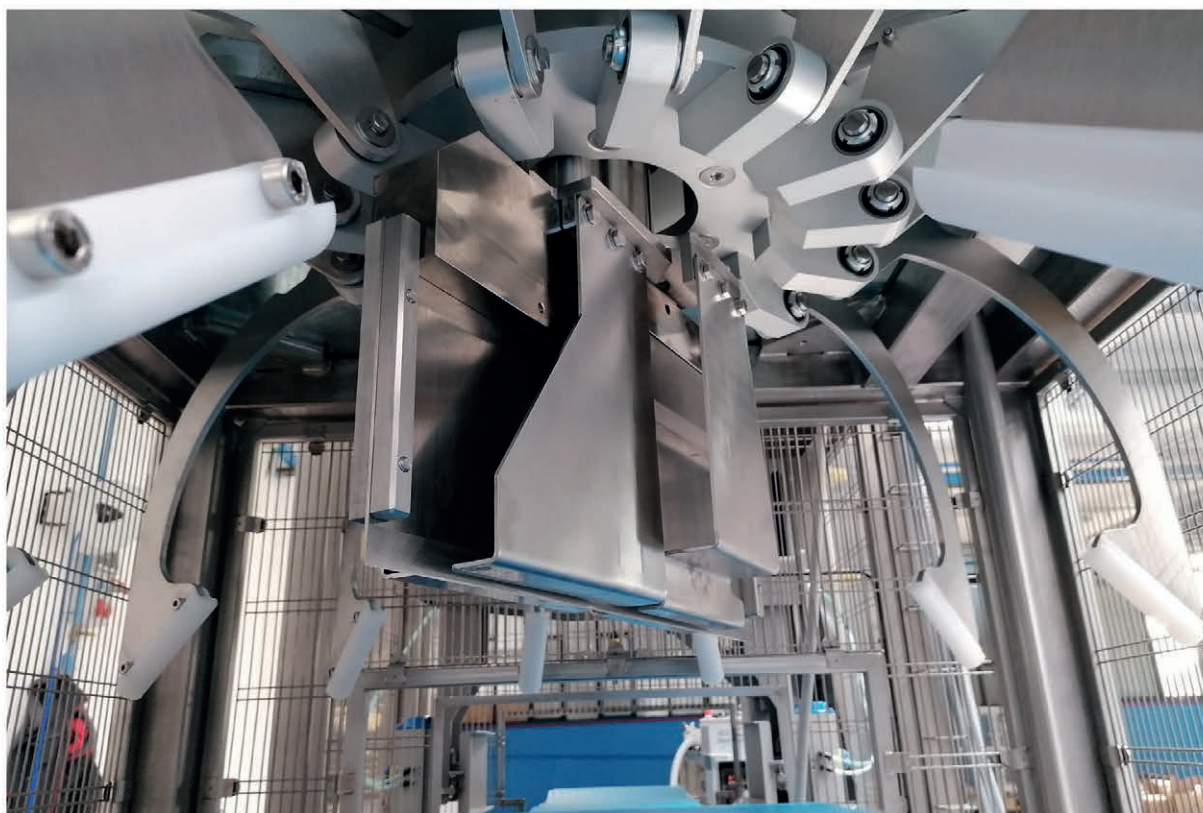
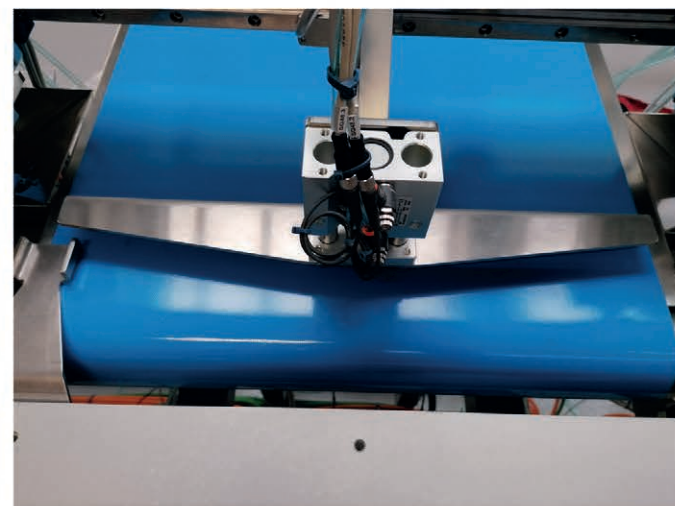
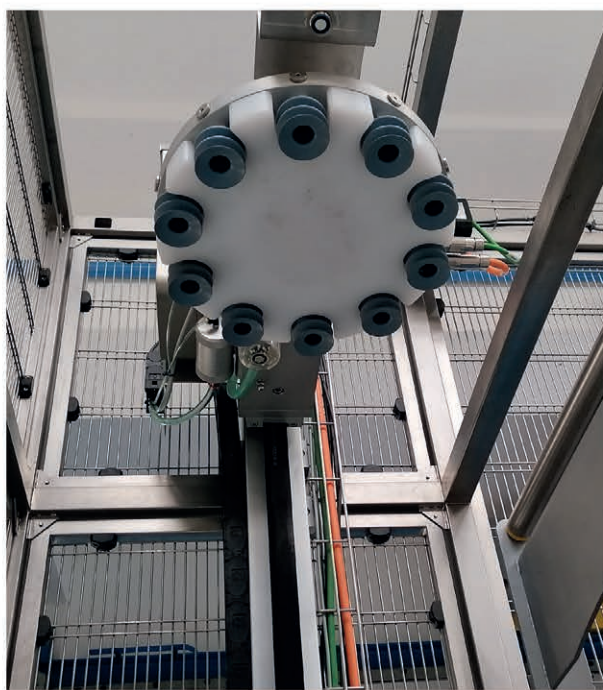
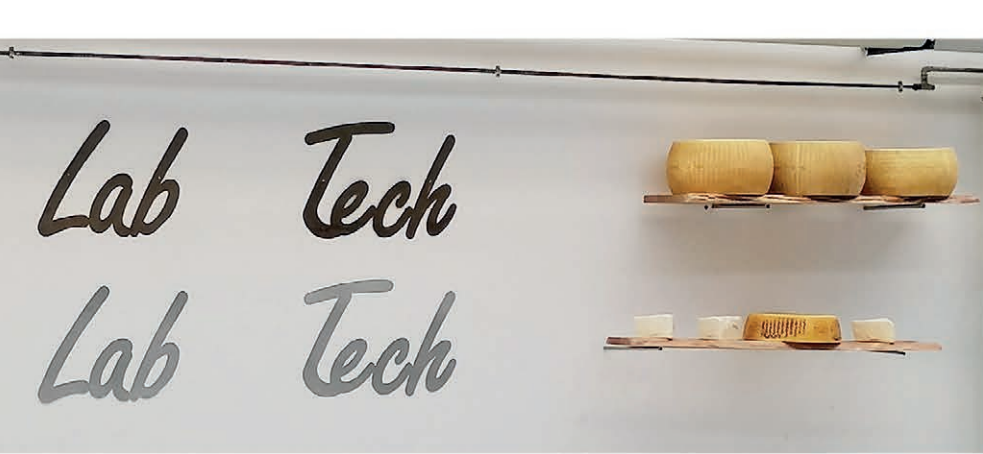


*Cheese  
Cheese*



*"I come from a  
I don't stop when  
I stop when I'm*







# product showcase



## IDECON

[www.idecon.it](http://www.idecon.it)

### CHECKWEIGHER WPM SERIES

#### FIELDS OF APPLICATION

Food, beverage, pet food, pharma, chemical

#### DESCRIPTION AND STRONG POINTS

The WPM series is a checkweigher combining weight control with detection of contaminant metals. The software has also been conceived to make the operator's work easier by integrating the checkweigher's interface with metal detector remote control. Also for checkweigher WPM series, Idecon offers a number of variations and customizations aimed at increasing customers' satisfaction. The WPM series can also be integrated into robotic cells. In addition, these machines comply with the requirements for Industry 4.0.

#### TECHNICAL SPECIFICATIONS

Checkweigher WPM series check both naked and packaged products. For the last type of products, the range is very wide: pouches, pillow bags, single or double square bottom bags, doypacks, trays of all types (cylindrical, truncated cone, etc.), cans, jars of glass, bottles and much more.

VISIT US AT IPACK-IMA  
HALL: 7  
BOOTH: A 36



## ILPRA

[www.ilpra.com](http://www.ilpra.com)

### FOODPACK HYPER

#### FIELDS OF APPLICATION

Packaging of fruits and vegetables, meat, fish, ready meals, dairy products and more.

#### DESCRIPTION AND STRONG POINTS

FoodPack Hyper is an in-line tray sealer designed to meet the needs of large-scale production. Available in the 1000 and 1250 versions, this model includes the CPS (Constant Placement System) technology that allows the continuous inflow of trays, thus increasing speed. Hyper can be easily integrated into any production line and is characterized by the presence of the Anti-crush system for the incorrect positioning of trays, the recognition system of authorized personnel and the predictive maintenance to plan maintenance and replacement of components. All movements are mechanical (including sealing). Although this solution achieves very high performance and speed, it guarantees extreme precision in the positioning and sealing phases, offering a quality end product.

#### TECHNICAL SPECIFICATIONS

- Automatic film tensioning
- Quick mould change
- Brushless drive
- Limited film waste
- On-screen data capture and self-diagnostic system

VISIT US AT ANUGA FOOD TEC  
HALL: 08.1  
BOOTH: A010 - B015

VISIT US AT IPACK-IMA  
HALL: 7  
BOOTH: B 26 - C 25



## COLUSSI ERMES

[www.colussiermes.com](http://www.colussiermes.com)

### SALUMI SANITIZING MACHINES

#### FIELDS OF APPLICATION

Meat sector

#### DESCRIPTION AND STRONG POINTS

Highly versatile tunnel and rack systems for sanitizing salumi, designed and constructed ad hoc for the meat industry, ideal for processing salumi of different types. Fully automatic, they are singled out for their low management costs and because they guarantee effective sanitization of the product, optimizing production processes in full compliance with the most stringent hygiene standards. Available in the cabin version with single or 'pass through' doors, or in the tunnel version. Automated movement systems, including loading and unloading, using rails or AGV.

#### TECHNICAL SPECIFICATIONS

- Structure in stainless steel with thick insulated panels to prevent heat dispersion
- Customized sanitization programs based on the type of salumi
- Washing programs designed to obtain maximum energy efficiency
- Constant and uninterrupted monitoring of the functions and critical parameters
- Interfacing with centralised monitoring systems in compliance with HACCP standards

VISIT US AT ANUGA FOOD TEC  
HALL: 6.1  
BOOTH: E070 - F071



## LAWER

[www.lawer.com](http://www.lawer.com)

### UNICA HD

#### FIELDS OF APPLICATION

Food production (bakery, biscuits, cured meat)

#### DESCRIPTION AND STRONG POINTS

Accuracy, repeatability, efficiency, traceability, speed and eco-sustainability are the best features of this automatic powder ingredients weighing. Equipped with a consumption and costs management control software. It automatically manages and doses micro ingredients without the need for operators to carry out the operations manually in the laboratory. Each operation is recorded and stored in the machine management software, thus allowing total production traceability. The right and constant dosage of raw materials allows cost control, fewer errors, less costs, more quality on the finished product.

#### TECHNICAL SPECIFICATIONS

- Constance and quality of the product thanks to the replicability of the weighing and the elimination of human errors
- Dosing correctly allows the control and planning of raw material purchases
- Production times are optimized
- It is possible to produce the required recipes without knowing their composition, thus protect your creativity and know-how

VISIT US AT ANUGA FOOD TEC  
HALL: 10.1  
BOOTH: B 101

VISIT US AT IPACK-IMA  
HALL: 3  
BOOTH: C 100



# HIGH PERFORMANCE PACKAGING MACHINES



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packaging solutions**

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# product showcase



## INOX FER

[www.inox-fer.com](http://www.inox-fer.com)

### PROCUT EASY

#### FIELDS OF APPLICATION

Sauces, pesto, homogenized, jams, glaze, fruit bases, creams, cheeses

#### DESCRIPTION AND STRONG POINTS

New all in one multipurpose vacuum cooker. A machine designed to achieve high quality levels using professional equipment, usually target for higher category systems, which offers the user the advantage of creating exclusive recipes and giving space to their imagination, obtaining a unrepeatable product thanks to the infinite possibilities of customization that the Inox-Fer proprietary software and the technology used allow.

#### TECHNICAL SPECIFICATIONS

- Structure designed for industrial use, which guarantees reliability and long life
- 4 blades for a more accurate and homogeneous cut
- Condenser that allows to obtain excellent vacuum cooking with reduced times and temperatures
- Delicate and controlled heating of the product, using heated water
- Interactive software that allows a nonpareil personalization of the recipe

VISIT US AT ANUGA FOOD TEC  
HALL: 10.1  
BOOTH: B 049



## IPI - COESIA GROUP

[www.ipi-srl.com](http://www.ipi-srl.com)

### REVIVO - ASEPTIC CARTON PACKAGING

#### FIELDS OF APPLICATION

Aseptic cartons for the packaging of liquids (milk and dairy products, fruit juices, wine and liquid foods such as soups, tomatoes and sauces).

#### DESCRIPTION AND STRONG POINTS

reVIVO is the brand that identifies with the new, greener range of IPI solutions for the aseptic packaging of liquid food products. Combining the 3 Rs at the cornerstone of IPI's vision for sustainable packaging: reNewable, reSponsible and reCyclable. reVivo bricks contain bio-polymer materials derived from sugarcane that offer a much higher renewability rate (up to 90) other than a reduced environmental impact in terms of CO2 emissions, especially if compared to PET and HDPE packaging.

#### TECHNICAL SPECIFICATIONS

- Available in all brick shapes and sizes originally comprised in IPI standard pack mat portfolio
- With paper straws and/or BIO-based Twist cap with one-step opening
- The new multilayer structure is composed by carton, BIO PE and BIO-based external coating, which increase the renewability percentage up to 28% compared to standard packaging solutions.

VISIT US AT IPACK-IMA  
HALL: 7  
BOOTH: A22 - B21



## XNEXT

[www.x-next.com](http://www.x-next.com)

### XSPECTRA

#### FIELDS OF APPLICATION

Inspection system suitable for various food sectors and industries

#### DESCRIPTION AND STRONG POINTS

Xnext has designed and developed the most advanced on-line real-time food inspection system based on the revolutionary, proprietary and patented XSpectra technology. The three types of machines (XIS4 Top -Down Inspection, XIS4 Lateral Inspection, XIS4 Bulk Top-Down Inspection) have different inspection orientations, depending on the product being inspected. XSpectra, which is based on the synergistic combination of photonics, nuclear electronics and machine learning, is able to detect high- and low-density foreign bodies such as plastics, bones, cartilage, and wood inside food products within milliseconds. It is therefore able to perform multi-energy analysis of the X-ray spectrum when examining a product, regardless of the material it is made of. Xnext's inspection systems are also fully customisable.

VISIT US AT ANUGA FOOD TEC  
HALL: 5.2  
BOOTH: B 040 - C 049



## IMA DAIRY & FOOD

[www.imadairyfood.com](http://www.imadairyfood.com)

### ZERO TECHNOLOGY

#### FIELDS OF APPLICATION

Cutting tool for multipacks made of PET, PP or PLA

#### DESCRIPTION AND STRONG POINTS

With the patented tools of the ZERO Technology range IMA Dairy & Food offers the perfect solution for the use of mono-materials such as PET, PP and PLA which are perfectly adaptable to the FFS machines of the brands Erca, Hassia, and Intecma. At Anuga FoodTec, the focus is on the patented and therefore unique punch for PET, PP and PLA. This punch is the technical solution for high-quality cutting and pre-cutting of PET, PP and PLA and thus enabling easy breakable multipacks made of these materials. Using transparent PET allows consumers to see the product, which makes it more attractive on the shelf. The cup can get a PET lid and label, making the packaging completely recyclable. Thanks to ZERO Technology maintenance costs are reduced and the performance and service life of the tools are increased many times over compared to existing tools on the market.

VISIT US AT ANUGA FOOD TEC  
HALL: 7.1  
BOOTH: A 90 - B 91

VISIT US AT IPACK-IMA  
HALL: 5P  
BOOTH: B 23 - C 24





## FINPAC SLEEVE

[www.finpacsleeve.com](http://www.finpacsleeve.com)

### SHM HS

#### FIELDS OF APPLICATION

Application shrink sleeve beverage, food, toiletries, pharmaceutical, cosmetic.

#### DESCRIPTION AND STRONG POINTS

Designed and refined after the experience acquired in collaborating with the biggest and most famous world's bottlers, the state-of-the-art SHM HS model presents itself as a robust and at the same time very versatile sleeve applicator, able to offer maximum flexibility in terms of utilization and boasting the handling of a wide variety of products, ranging from different shapes and contents, as well as empty, with full, partial body or tamper evident sleeve, up to speed of 36,000 bph. Equipped with the most advanced electronics PacDrive 3 featured by Elau-Schneider and with cutting-edge & eco-friendly technical solutions aimed to improve cinematics and awareness of environment in managing even more recyclable and thin films, the performance is at best.

VISIT US AT IPACK-IMA  
HALL: 4  
BOOTH: C 31



## ITALGI

[www.italgi.it](http://www.italgi.it)

### FORMING MACHINE FOR CAPPELLETTI AND SINGLE-SHEET FILLED PRODUCTS

#### FIELDS OF APPLICATION

Filled pasta production

#### DESCRIPTION AND STRONG POINTS

Single sheet molding machines for cappelletti, pelmeni, ravioli, saccottini and caramelle. Featuring a wide range of interchangeable and easily replaceable molds, the machine is easy to use and clean. Its major points of strength are: optimized production according to the mold used and reduced sheet waste; double-screw stuffing pump controlled by inverter included (only for mod. CR250); conveyor belt with scraps cutting system included (only for mod. CR250); moulds designed with integrated motion cams; inverter to adjust the speed of calibrating rollers; inverter to control rods carriage and cutter; PLC with touch-screen to select moulds program (only for mod. CR250); system to ensure the machine correct direction of rotation.

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HALL: 3  
BOOTH: A 124 - B 125

follow

# INTELLIGENT INNOVATIVE & SUSTAINABLE Automatic Dosing Systems



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# product showcase



## MINERVA OMEGA GROUP

[www.minervaomegagroup.com](http://www.minervaomegagroup.com)

### 'DERBY' VACUUM PACKING MACHINES

#### FIELDS OF APPLICATION

Retailers, laboratories, restaurants, refectories, catering services.

#### DESCRIPTION AND STRONG POINTS

Exclusively Made in Italy design and construction for this new line of vacuum machines. Ease of use thanks to the simplified and intuitive controls, the wide range of adjustments and the simplicity in cleaning and maintenance. Key strengths: extensive control of the vacuum process with the ability to retain up to 10 different programs, operational flexibility, a wide range of models with different sizes and tank depths for any work requirement, configuration of the sealing bars. Bench and floor configurations.

#### TECHNICAL SPECIFICATIONS

- Stainless steel body and tank
- Thick transparent methacrylate lid
- Sealing bars on pistons, easy to disassemble for cleaning and with no electrical cables in sight
- Low voltage controls
- Analogic vacuum reader
- Optionals: gas injection kit (protective atmosphere), external vacuum connection, double flat sealing bars, inclined plane for vacuum packaging of bags with liquids



## OMIP

[www.omip.net](http://www.omip.net)

### AVOCADO PITTING MACHINE MOD. KAV2

#### FIELDS OF APPLICATION

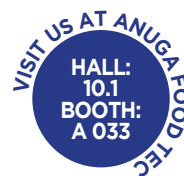
Avocado pulp processing

#### DESCRIPTION AND STRONG POINTS

The KAV2 pre-cuts the Avocado separating it into two halves and thereby facilitating its pitting. The machine is suitable to pit fruit even if not perfectly graded. All parts in contact with the fruit are for alimentary and hygienic purposes and the structure is completely in stainless steel. The avocados, appropriately unloaded into the feeder, are put into the channels of the orientation station that orients the fruits and positions them at the ideal cut through appropriate and particular devices. The flexibility of the orientation elements allows the machine to automatically compensate the differences in the fruits that are not perfectly graded.

#### TECHNICAL SPECIFICATIONS

- Made according to Regulations 89/392 CE
- Size fruit: from 30 to 80 Mm
- Production rate: 250 fruits per minute Installed power: 3.5 Kw
- Water consumption: 20 litres per minute



## P.F.M.

[www.pfm.it](http://www.pfm.it)

### HORIZONTAL FORM FILL AND SEAL MACHINE FOR STAND-UP POUCH

#### FIELDS OF APPLICATION

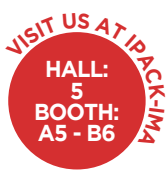
Food and non-food

#### DESCRIPTION AND STRONG POINTS

This range of Form Fill and Seal horizontal packaging machines is dedicated to the production of the highly appreciated stand-up pouches. The machine consists of 3 main modules, each of which performs a specific function. The first module (forming) produces the finished packaging, open only at the top. This operation is independent of the second module, thus facilitating format changes and avoiding packaging waste. The second module (filling) takes care of the pack itself, conveying it to the filling, gas flushing and other units. The third module (sealing) completes the sealing operation. The fourth possible module (classifying) is dedicated to the end-of-line operations, i.e. weight checking, metal detector, X rays and through to the boxing.

#### TECHNICAL SPECIFICATIONS

- Modularity is the basis of the manufacturing and operative simplicity
- Format changes cause no wastage in either packaging or time



## RICCIARELLI

[www.ricciarellispa.it](http://www.ricciarellispa.it)

### VSB150S (SLIM VERSION)

#### FIELDS OF APPLICATION

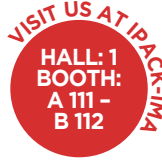
Pasta and food (rice, dried fruit, dried legumes) industry

#### DESCRIPTION AND STRONG POINTS

High-speed packaging group to produce pillow bags, square bottom and double square bottom bags starting from a reel of flexible film. The machine's strong points are: flexibility; production of different types of pack (pillow bags, square bottom and double square bottom bags); considerable reduction of the overall dimensions; possibility of equipping devices and accessories for working with paper.

#### TECHNICAL SPECIFICATIONS

- Mechanical speed: 90 double square bottom bags per minute / 120 pillow bags per minute
- Reel holder for foil width up to 580mm positioned at the head of the machine (at 90° in comparison to the standard rear solution) with return of the reel itself
- Operation cycle and driving axles controlled by Siemens Simotion
- Just one electrical panel positioned at the top and reduced mechanical structure







**DIMA**  
www.dima.it

VISIT US AT ANUGA FOOD TEC  
HALL: 4.1  
BOOTH:  
D 030 -  
D 038

**CONTINUOUS COOKING-STRETCHING MACHINE MOD. DM5000**  
**DESCRIPTION AND STRONG POINTS**

Specifically designed for the continuous cooking, stretching and kneading of a wide variety of 'pasta filata' cheese types. In particular for producing stretched cheese with low and medium moisture content as pizza-cheese, shredded mozzarella, provolone, kashkaval, kasar. The strong points of DIMA system are the robust and compact structure, the closed and hygienic design, the possibility to obtain a high quality product by adjust the intake, quantity and temperature of the cooking water according to production needs and the characteristics of the product.

**TECHNICAL SPECIFICATIONS**

It includes the C.I.P. circuit for a perfect cleaning of the machine and the manual or automatic management of the work and cleaning phases via PLC control panel



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www.sacmi.com

VISIT US AT IPACK-IMA  
HALL:  
1  
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**HY7**

**FIELDS OF APPLICATION**

Wrapping of flat-base chocolate pralines

**DESCRIPTION AND STRONG POINTS**

Sacmi Packaging & Chocolate's new wrapping system with hybrid drive for flat-base chocolate pralines, HY7, is marketed under the Carle&Montanari brand name. HY7 is the very first 'hybrid' technology wrapping machine on the market. Design and operation are based not only on traditional mechanical transmission but also on high-performance, energy-efficient servo drives. In this top twist configuration it can achieve output rates of 500 pieces per minute and is designed to aid transition towards utilization of a new generation of eco-sustainable wrapping materials.

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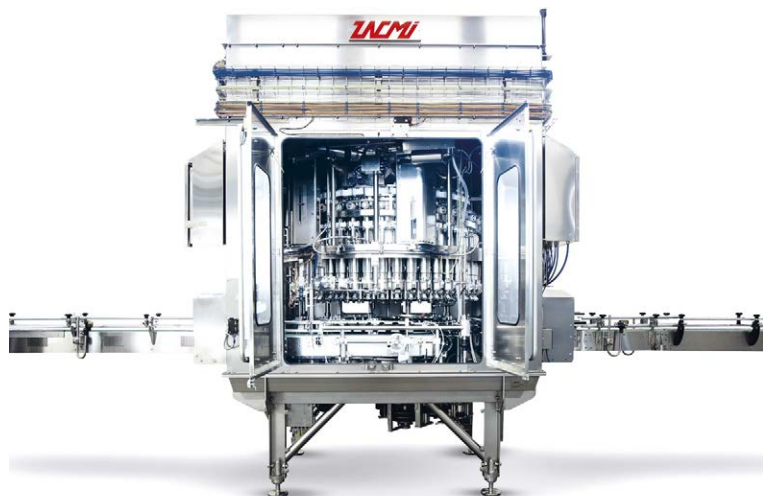
TROLLEY TUMBLER



SHAPING PRESS



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## ZACMI - ZANICHELLI MECCANICA

[www.zacmi.com](http://www.zacmi.com)

### VERTICAL VALVE PISTON FILLER

#### FIELDS OF APPLICATION

Volumetric filling developed and designed to fill liquid or viscous and pumpable products, with or without suspended solids.

#### DESCRIPTION AND STRONG POINTS

Vertical valve piston filler (ZACMI Patented) recommended for: high level of hygienic requirements for sensitive products (such as baby food, paté, etc.) or in presence of particles and pieces (goulash, tomato in suspended solid, etc.)

#### TECHNICAL SPECIFICATIONS

- Volume dosage from 500 to 3000 g
- Filling speed up to 1000 c.p.m.

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## ZUDEK

[www.zudek.com](http://www.zudek.com)

### REFRIGERATION SOLUTIONS

#### FIELDS OF APPLICATION

Food, pharmaceutical, chemical, logistics, plastic

#### DESCRIPTION AND STRONG POINTS

Zudek is a specialized producer of high-tech refrigeration plants and systems, able to guarantee high energy savings, maximum efficiency and respect for the environment thanks to the use of ammonia, a natural gas that generates cold quickly and economically. The company designs custom-made solutions starting from the different needs of its customers. Varimatik (registered) ed Ecomatik (r.) are water condensed ammonia chillers available in different versions (one of them features an evaporative condenser on the top). Airmatik (r.) is an air condensed ammonia chiller with highly efficient axial fans; while Zeromatik (r.) chiller is dedicated to icy water production. Zudek's range also includes Recumatik (r.) heat pumps, working simultaneously as boilers and chillers. One of the most innovative solution is Enermatik (r.), a water ammonia absorption chiller that produces special cooling power starting from a hot thermal energy source. Finally, Safematik (r.) allows neutralising the leaking of ammonia from the systems by abating it into water or an acid solution. All Zudek solutions are equipped with Telematik (r.): telemetry for monitoring and supervision that allow technicians to check all the machine's parameters in real-time.

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## SIREC

[www.sirec.it](http://www.sirec.it)

### EPOXIPLAN/EP

#### FIELDS OF APPLICATION

Food, chemical-pharmaceutical industry

#### DESCRIPTION AND STRONG POINTS

Polyurethane solvent-free pigmented self-levelling two-component mortar based on natural modified polyols, with added mineral fillers. Strong points: crack bridging, dust-resistant, wear-resistant, shockproof, waterproof, chemical-resistant and good mechanical properties.

#### TECHNICAL SPECIFICATIONS

- Self-levelling mortar for floorings with polyurethane body characterised by high elongation at break, crack bridging power and high elastic modulus.
- It can be used in combination with finishing and epoxy primers to guarantee resistant anchorage to the support
- It owns excellent chemical and mechanical resistances and it is possible to add different surface properties (anti-bacteria finishing, conductive and different anti-slip degrees)

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## SAES COATED FILMS

[www.saescoatedfilms.com](http://www.saescoatedfilms.com)

### COATHINK

#### FIELDS OF APPLICATION

High barrier flexible packaging for cheese, cold cuts, snacks, biscuits, chocolate, coffee

#### DESCRIPTION AND STRONG POINTS

Coathink (registered) is the proprietary water-based coating technology for high barrier films that enable flexible packaging eco-design. The coated films provide high barrier to oxygen, and by leveraging Coathink's synergies with our metallization and AIOx deposition processes, exceptional water vapor barriers can also be achieved. The process is designed in-house to provide maximum performance and versatility on a wide range of plastic (LDPE, MDO PE, PP, PET, PA) and bioplastic films (Mater-Bi (registered), PLA). In addition, the biodegradable lacquers are composed primarily of water and account for less than 1% of the packaging weight, thus enabling recyclable mono-PE and mono-PP structures and compostable packaging.

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## Ice makers

## UV-C and Ozone Sterilizers

## Dishwashers





# The rise of the

The plant-based market is surging, just like the related process technologies. But are these ‘alternative’ products really healthy options? It depends of how much processed they are, according to a recent WHO report.

by Federica Bartesaghi

Veggie patties, cheese and fish, plant-based drinks and ‘artificial’ eggs made from mug beans: the market of alternative proteins is booming. It’s a fact. Also thanks to multi-billion investments, the support from plenty of celebs, and the fact of backing – directly and indirectly – the thesis of animal rights supporters and environmentalists. Major global technology suppliers, for their part, take advantage of this new, unexplored market.

Yet, a report issued by the World Health Organization (WHO) at the end of 2021 warns against the impact that these products, often ultra-processed and “with little, if any, whole food” in them, have on human health. Meanwhile, most of consumer think they are more nutritious than the ‘originals’ they imitate.

## What the WHO says about plant-based diets

“Notwithstanding the health benefits of a diet rich in plant-based foods, not all plant-based diets are healthy,” the WHO report, published at the end of 2021,

claims. “While such diets are typically characterized in terms of the proportion of plant-based foods they contain relative to animal foods, little consideration may be given to the types and quality of the plant foods concerned. It is common to associate plant-based diets with healthy, whole and minimally processed plant foods such as whole grains, fruits and vegetables, legumes, nuts and seeds. However, refined grains, and sugar-sweetened beverages, snacks and confectionery are foods that can still be considered ‘plant-based’ as they or their ingredients originate from plants and may be free from animal products”.

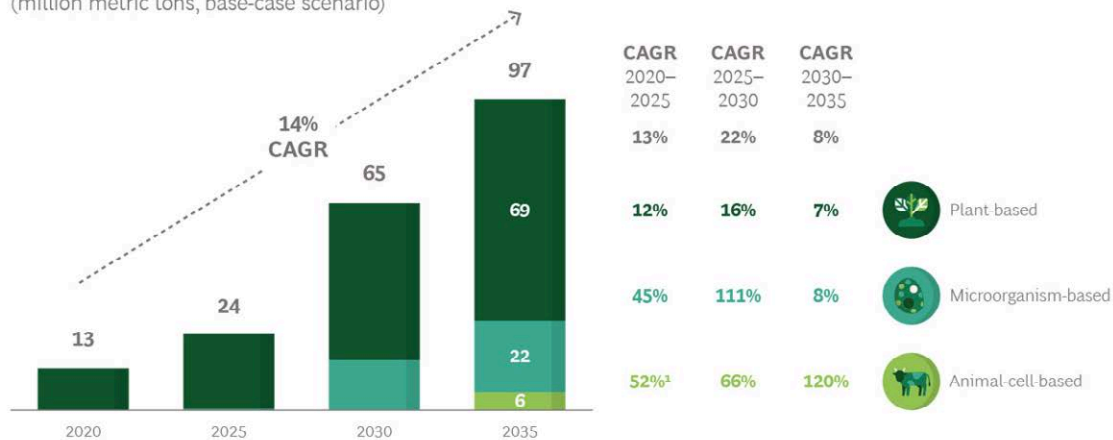
Modern plant-based diets, the WHO highlights, may therefore include ultra-processed foods like “imitation processed ‘meats’ (including products marketed as sausages, nuggets and burgers), beverages (for example, almond and oat ‘milk’), and plant-based ‘cheese’ and ‘yoghurt’”. Ultra-processed foods, as defined by the Nova classification system, are formulations

## È iniziata l’era dei sostitutivi

Il mercato delle proteine alternative è in rapida crescita, così come quello delle relative tecnologie produttive. Grazie anche a investimenti milionari e al fatto di supportare, direttamente o indirettamente, le cause di animalisti e ambientalisti. Eppure, un report pubblicato dall’OMS a fine 2021 mette in guardia dall’impatto che questi prodotti, spesso ultra-processati, hanno sulla salute.

## Alternative Protein Consumption Will Grow in Three Waves

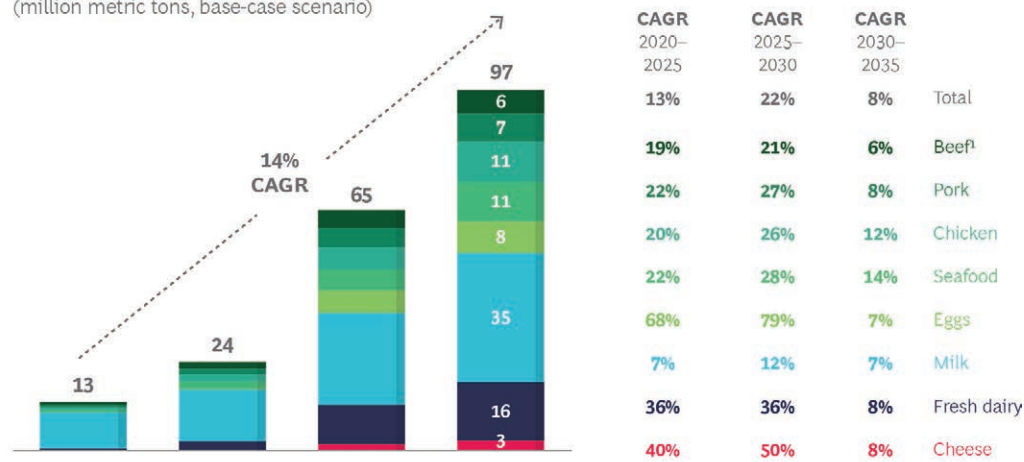
Consumption of alternative proteins by protein source (million metric tons, base-case scenario)



Sources: US Department of Agriculture; Euromonitor; UBS; ING; Good Food Institute; expert interviews; Blue Horizon and BCG analysis.  
\*CAGR from 2022 to 2025, starting from market entry.

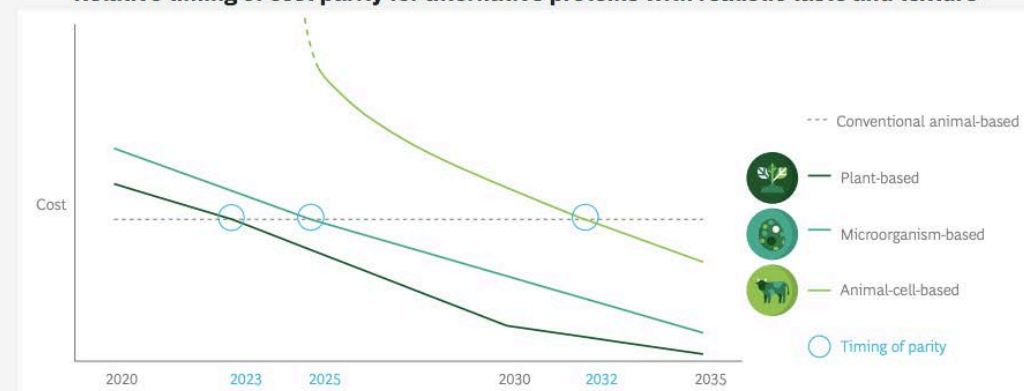
## Milk and Other Dairy Alternatives Will Dominate the Market, Followed by Chicken and Seafood

Consumption of alternative proteins by product (million metric tons, base-case scenario)



Sources: US Department of Agriculture; Euromonitor; UBS; ING; Good Food Institute; expert interviews; Blue Horizon and BCG analysis.  
<sup>1</sup>Including veal.

## Relative timing of cost parity for alternative proteins with realistic taste and texture



Sources: Blue Horizon and BCG analysis, expert interviews; industry report.

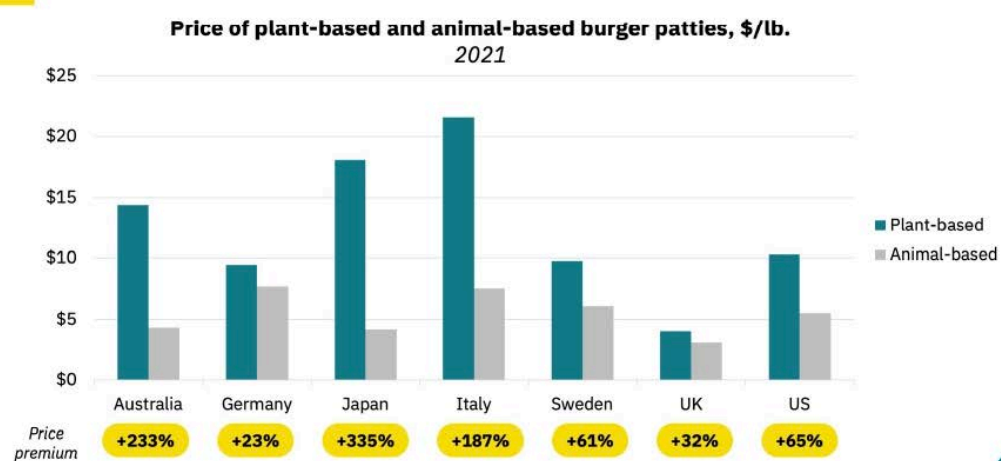
Note: This analysis includes illustrative data for US and EU; variations by product group and geographic area are omitted for clarity.

Source: Food for Thought by BCG x Blue Horizon



# ‘substitutes’

## Plant-based meat is sold at a premium across geographical areas



of substances derived from whole foods, such as starches, sugars, fats and protein isolates, with little, if any, whole food, and often with added flavours, colours, emulsifiers and other cosmetic additives to improve shelf-life, palatability and visual appeal. Consequently, there are significant knowledge gaps in the nutritional composition of such meat and dairy substitutes, while the extent of their contribution to contemporary diets in many countries in the European Region is unclear. In addition, further research is needed to investigate the yet-unknown health impacts of the food additives and

by-products formed during industrial processing of such plant-based ‘meats’.

### The global market for plant-based food is booming...

According to a report by Boston Consulting Group (BCG), 11% of all the meat, seafood, eggs, and dairy eaten around the globe is very likely to be alternative by 2035. With a push from regulators and step changes in technology, that figure could even rise to 22%. In 2020, about 13 million metric tons of alternative proteins were consumed globally, just 2% of the animal protein market. “We expect

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that consumption will increase to more than seven times that size over the next decade and a half, to 97 million metric tons by 2035, when the three types of alternatives [plant-based, microorganism-based, animal-cell based, ndr] will very likely make up 11% of the overall protein market. Assuming average revenues of \$3 per kilogram, this amounts to a market of approximately \$290 billion.”

As regards cost parity, for alternative proteins with realistic taste and texture, BCG expects that “plant-based alternative proteins will achieve parity by 2023, those based on microorganisms by 2025, and those based on animal cells by 2032”. These dates will vary also according to the type of animal protein they replace. Plant-based burgers, for example, “are very close to parity today and may reach it within the next two years. Plant-based chicken pieces, however, will likely only reach full parity after 2023. They are already close in taste and texture but need to get less expensive in order to compete with conventional mass produced chicken. Microorganism- and animal-cell-based products will first reach parity with more expensive animal products such as meat; achieving parity with eggs and dairy will take more time.”

## ...and manufacturers and retailers are taking note

Production costs and an adverse legislative framework have been, so far, probably the greatest obstacles to the spread of alternative products on a global scale. Consider that, up to date, Singapore (in 2020) and Qatar (in 2021) are the only nations to have approved cell-cultured meat for human consumption. But the situation could change soon.

2021 has been indeed called “the year of cultivated meat”, since the sector has attracted more than 500 million dollars in funding for cell-cultivated meat technologies just in the first half of the year. According to ‘Appetite for Disruption: The Last Serving’, a research launched by the FAIRR Initiative, which assesses how 25 food companies and retailers are responding to the rise of alternative proteins (including

both plant-based and cultivated ‘meat’), the number of firms adopting formal targets for protein diversification has grown from 0 to 7 in three years. It has grown from 0 in 2018 to 28% of companies in 2021 - with Unilever, Conagra, Nestle and UK retailers Tesco and Sainsbury’s amongst best-performing firms.

Amazon (Whole Foods), Costco and Kraft Heinz are the worst performers, with the majority of food companies (72% - 18/25) so far failing to set any quantifiable targets for protein transition, despite high consumer demand. “Dollar sales of plant-based foods grew 43% in the last two years – the report highlights – and the US meat and dairy alternatives market grew 300% from 2019 to 2020.”

## The ‘price gap’ is shrinking

According to a study by GFI – Good Food Institute, if plant-based meat alternatives continue to expand at their current rate, they will represent 6% of total meat consumption by 2030 — which means that manufacturers will need to produce 25 million metric tons of the products per year to meet demand. The report projects that to get there, the world would need at least 800 extrusion factories, each of which is able to produce at least 30,000 metric tons of extruded protein product per year, representing a total investment of \$27 billion.

The report projects significant supply crunches for common ingredients in plant-based food to meet the hypothetical 2030 demand: 16% of the global supply of coconut oil will be needed, 34% of total pea production, 10 times the projected global supply of enriched pea protein, and 2% of total soy production — but three times the projected global supply of soy protein concentrate.

GFI also suggests that as alternative protein production scales up, economies of scale can translate into cost and price efficiencies. So far the gap is still significant - at \$3.95 for a pound of beef and \$7.79 for a pound of Beyond Meat - but as the cost of beef and pork has steadily risen in recent months, and the price of



## SNAPSHOTS

In Singapore, **Eat Just** is building a huge plant-protein factory (on a 2.7 hectare plot) where mung bean - that can be transformed into a protein isolate, which is a main ingredient of alternative protein products - will be the key ingredient.

**Heinz** is growing its plant-based offer with a new brand called **Plant Proteinz**. The fmcg giant is ploughing 2.5 million pounds into the brand, which includes a trio of canned soups: Mediterranean Tomato & Bean, Coconut Curry & Jackfruit and Moroccan Chickpea & Bell Pepper flavours will roll into the mults.

**Amazon Fresh** has rolled out a plant-based private label line that includes 15 products at launch, including patties, almond milk and Italian meatballs, with additional products rolling out this year.



alternative meat products is expected to fall, the price gap is going to be erased by 2023.

“Progress on price parity is not only affected by reducing plant-based meat production costs, but also by market effects that raise conventional meat costs”, GFI explains. “Recent pressures such as higher input costs, meatpacker labor issues, higher worker wage rates, and supply chain interruptions have illustrated the relative volatility - and price instability - of the conventional meat supply chain. In fall 2021, conventional meat categories like beef, chicken, and pork have seen double-digit price increases compared to the same week in 2020, while plant-based meat

prices compared to prior year have decreased or remained the same”.

Just to make a couple of examples, in early 2021 Impossible Foods announced its second price reduction within a year for its plant-based grounds, decreasing the suggested retail price to \$9.32/lb, a 20% drop; in October 2021, Aldi launched its Ultimate No Beef Burger in UK stores, priced at £1.99 for two quarter-pound patties, or approximately \$5.30 per pound.

## What’s going on in Italy?

Between September 2020 and September 2021, sales of ‘alternative’ products in Italian grocery retail chains expe-

rienced a 17% growth, for a turnover of 458 million euro (source: Iri), equal to about 0.6% of all food sold in grocery retail. Italians are mainly fond of plant-based drinks (chosen by 35% of Italian households according to GfK) and gastronomy like burgers and finger food (32%). All food categories - among fresh, frozen and ambient - have experienced strong growth, in some cases up to 30%. Sales of plant-based drinks generate 220 million euro (about 11% of total sales sold in grocery retail). Plant-based burger and patties are worth 115 millions. Italy has thus become the fourth largest European market for plant-based food, on a value basis.

end





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# Recycling plastic? It's fantastic!

An overview of European production and demand data for 2020. And the main efforts to accelerate end-of-life management, in the midst of the pandemic. The report issued by Plastics Europe.

by Lucrezia Villa

For the very first time, both the production and demand levels of virgin plastics experienced a decline on a global scale in 2020. Indeed, during the year in which the pandemic broke out, 360 tons of plastics were produced, down by 1 million over the previous year. This trend is even more noticeable if we look at the European production, which has been decreasing since 2018: from 57.9 million tons in 2019 to 55 million in 2020. Naturally, the reason behind it must be sought in the downturn of industrial activities due to the sanitary emergency, which significantly affected the European plastics value-chain, composed by plastics producers, converters, recyclers and machinery manufacturers. Nevertheless, the plastics material segment still remains a pillar of the European economic system. And notwithstanding the pandemic it was able to maintain a high level of employment. With close to 1.5 million people working in over 50,000 companies, most of them SMEs distributed all over Europe. The total turnover of the seg-

ment amounted to 330 billion euro in 2020, showing a slight decrease compared to the previous year. The EU plastics industry ranks 8th in Europe in industrial value-added contribution. This is what emerges from the latest report 'Plastics - the Facts 2021', carried out by Plastics Europe, the association of Plastics Manufacturers in Europe, in collaboration with EPRO - the European Association of Plastics Recycling and Recovery Organizations. The annual analysis sheds light on virgin plastics' production, demand and preliminary postconsumer waste management in the EU27 plus Norway, Switzerland and the United Kingdom in 2020 (EU27+3).

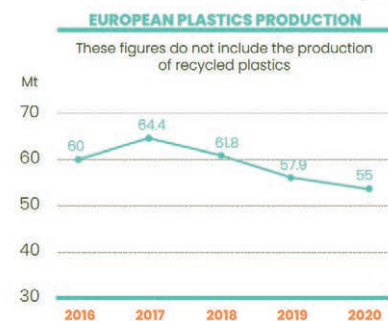
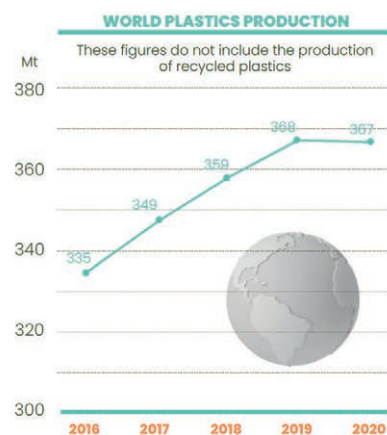
## The market's demand

In 2020, the converters plastics demand in the EU27+3 amounted to 49.1 million tons. Following a decreasing trend: indeed, they were 50.7 Mt in 2019 and 51.2 Mt in 2018. The six largest European countries represent almost 70% of the market's demand. Italy once again sticks to the second place in

## Recycling plastic? It's fantastic!

Per la prima volta, sia la produzione che la domanda di materie plastiche a livello globale hanno accusato un calo, mentre la panoramica europea (Eu27+3) continua nel declino iniziato nel 2018. È quanto emerge da 'Plastics - the Facts 2021'. Report con numeri riferiti al 2020 e realizzato da Plastics Europe, federazione europea dei produttori di materie plastiche. L'Italia, con il 14,1%, si conferma al secondo posto in Europa in materia di trasformazione, alle spalle solo della Germania (23,3%). Ammonta a 10,2 milioni di tonnellate il volume di plastica post-consumo rigenerata in Europa o fuori dal continente, a fronte di una raccolta di oltre 29 Mt. Il riciclo meccanico è pari al 34,6%, quello energetico al 42%. La quota restante, pari al 23,4% del totale, finisce invece ancora in discarica. Crescono, poi, gli investimenti nel riciclo chimico. Che, entro il 2030, toccheranno i 7,2 miliardi di euro.

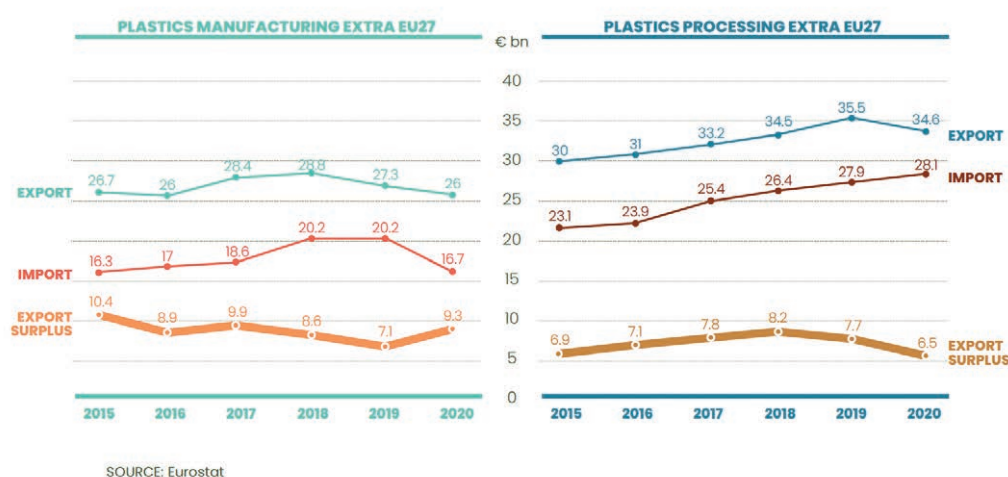
## WORLD AND EUROPEAN plastics production evolution



Includes Thermoplastics, Polyurethanes, Thermosets, Elastomers, Adhesives, Coatings and Sealants and PP-Fibers. Not included PET-, PA- and Polyacryl-Fibers.  
SOURCE: Plastics Europe Market Research Group (PEMRG) / Conversio Market & Strategy GmbH. Estimated data.

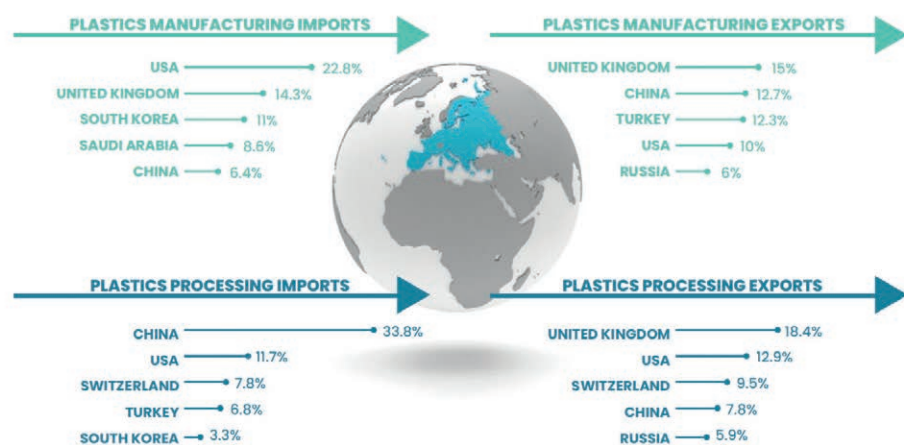
## TRADE BALANCE Close to EUR 16 billion in 2020

In 2020, the European plastics industry achieved a positive trade balance of EUR 15.8 billion.

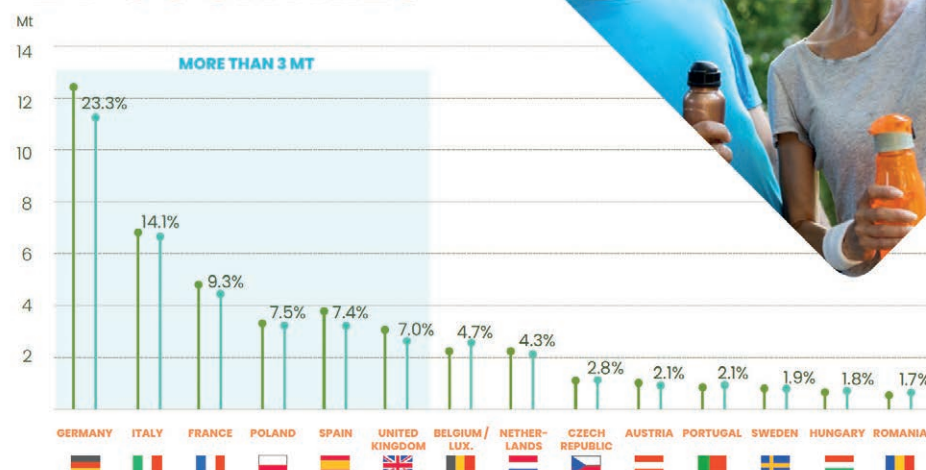


## TOP EXTRA EU TRADE PARTNERS in value

In 2020, the USA, United Kingdom and China were the top trade partners of the EU27 plastics industry.

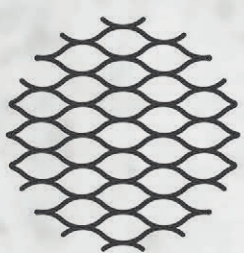


## Converters plastics demand BY COUNTRIES



Data primarily based on expert estimations by PEMRG (Plastics Europe Market Research Group). Country-specific quantities can differ from data provided by national statistical institutes (e.g. GUS Poland etc.).  
SOURCE: Plastics Europe Market Research Group (PEMRG) and Conversio Market & Strategy GmbH. Demand estimations only refer to virgin plastics.





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Europe with 14.1% out of the total, preceded by Germany (23.3%). France ranks third (9.3%), Poland, Spain and the United Kingdom follow right after with a share of almost 7%.

As far as end-markets are concerned, nothing much has changed compared to the previous report. Indeed, Packaging and Building & Construction by far represent the largest end-use markets. They respectively score 40.5% and 20.4%. The third biggest end-use market is the Automotive industry (8.8%); followed by Electrical and electronics (6.2%); Household, leisure and sports (4.3%); Agriculture (3.2%) and, lastly, others (16.7%). The latter category includes plastics for furniture, medical applications, machinery, mechanical engineering and technical parts. In regards to distribution by resin types, in 2020, the shares slightly change, but the ranking does not. Polyethylene accounts for almost one third of the total (17.4% PE-LD, -LLD; 12.9% PE-HD, -MD); Polypropylene (PP) grows to 19.7%; whereas PVC decreases to 9.6%. PET consumption increases from 7.9% to 8.4%; Polyurethane (PUR) amount to 7.8%; and Polystyrene and PSEs (PS, PS-E) all together account for 6.1% of the total converted volume in the EU27+3 area.

## End-of-life management

As far as post-consumer plastic waste treatment, the industry incre-

ased its efforts to accelerate the circularity of plastics and, although the overall European recycling activities faced serious difficulties, the plastics post-consumer waste recycling rate has increased. Indeed, the quantities sent to energy recovery facilities inside and outside Europe amount to 10.2 Mt compared with the 29.5 million tons collected in the EU27+3. The mechanical recycling amounts to 34.6%, and 42% was destined for energy recovery operations. And the remaining amount, which accounts for 23.4% of the total waste collected was still sent to the landfills. "Taking into consideration a longer period of time, that is from 2006 to 2020, the trend results promising", highlights the report. Indeed, the plastic post-consumer waste collected in 2006 amounted to 24.9 Mt and in 2020, as already mentioned, it grew to 29.5 Mt. Moreover, mechanical recycling increased from 4.7% to 10.2%, whereas the waste sent to the landfills almost halved (from 12.9% to 6.9%). And the waste sent to energy recovery operations increased from 7 Mt to 12.4 Mt.

Lastly, regarding investments in chemical recycling, in 2021, plastic producers planned significant investments in chemical recycling technologies, which is still marginal today, accounting only for 0.2% of the total. According to the report, investments will increase from 2.6 billion euro in 2025 to 7.2 billion euro in 2030.

## THE EUROPEAN PLASTIC INDUSTRY KEY FIGURES IN THE EU-27+3 MEMBER STATES

**1.5 MILLION EMPLOYEES**  
in the plastics industry across Europe

**52,000 COMPANIES**  
most of them SMEs

**330-BILLION-EURO**  
turnover in 2020

**49.1 MILLION TONS**  
Converters plastics demand in EU27+3 in 2020

**8TH IN EUROPE**  
The European plastics industry's place in the EU rank in industrial value added contribution

**10.2 MILLION TONS**  
Amount of plastic postconsumer waste collected in Europe to be recycled (inside and outside the EU)

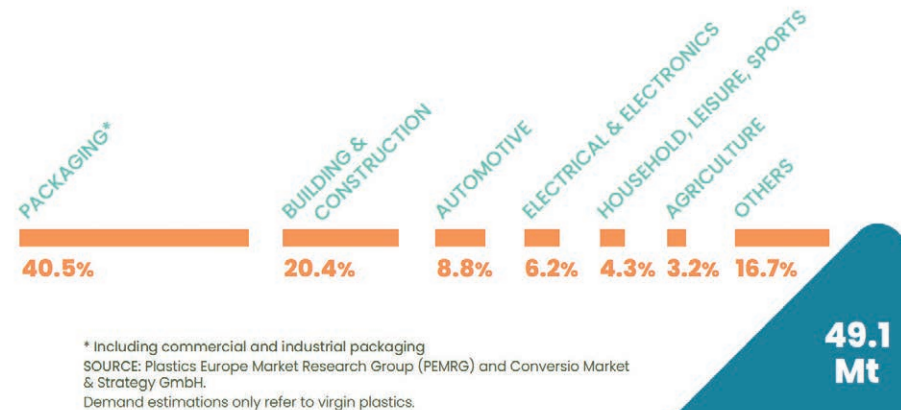
Source: 'Plastics - the Facts 2021' by Plastics Europe

## EU27+3 converters plastics demand BY SEGMENTS 2020

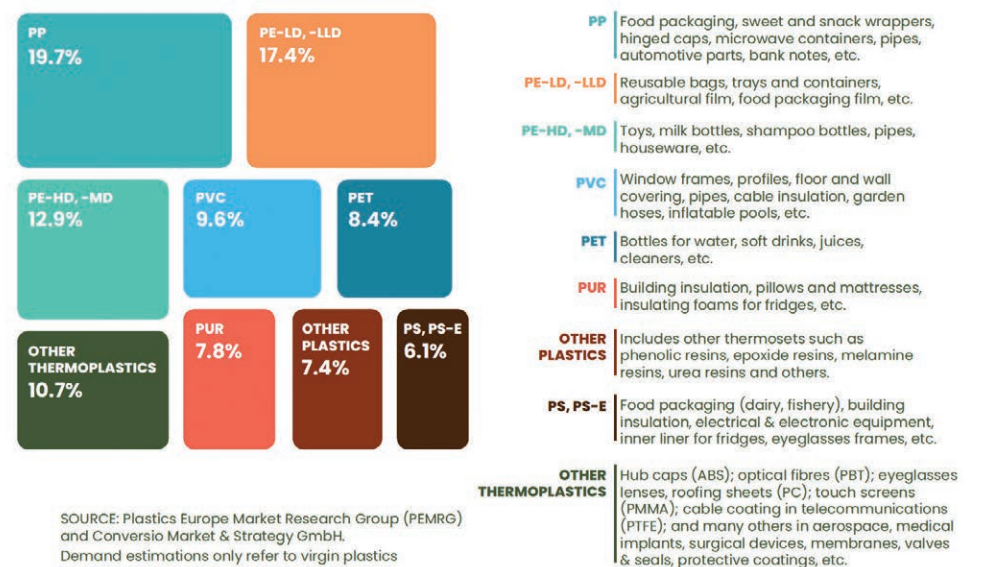
Packaging and Building & Construction by far represent the largest end-use markets.

The third biggest end-use market is the Automotive Industry.

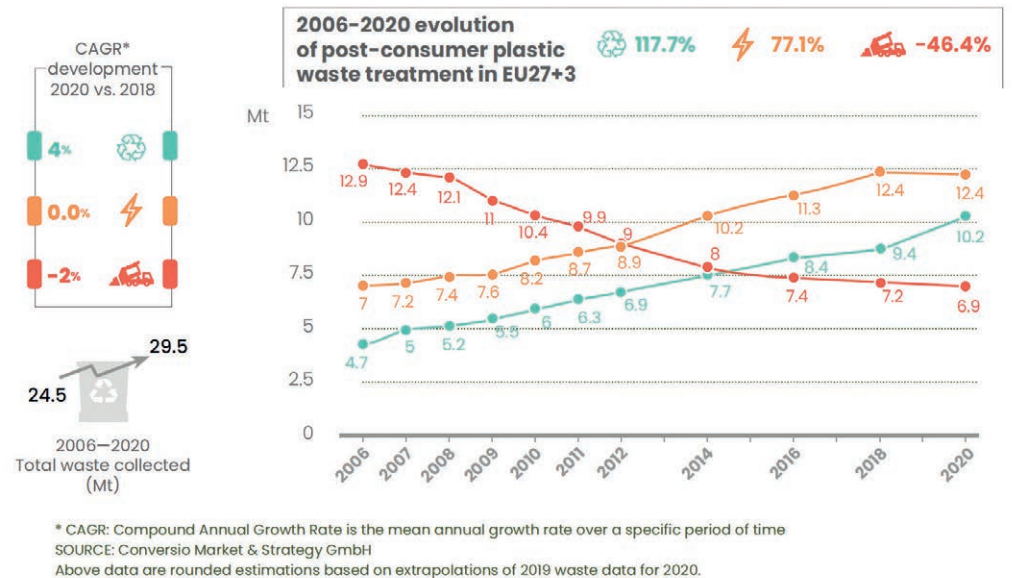
\*Others\* includes plastics for furniture, medical applications, machinery and mechanical engineering, technical parts etc.



## EU27+3 converters plastics demand DISTRIBUTION BY RESIN TYPES 2020



## PLASTIC POST-CONSUMER WASTE treatment in 2020 (provisional data)



Fonte: 'Plastics - the facts 2021' by Plastics Europe



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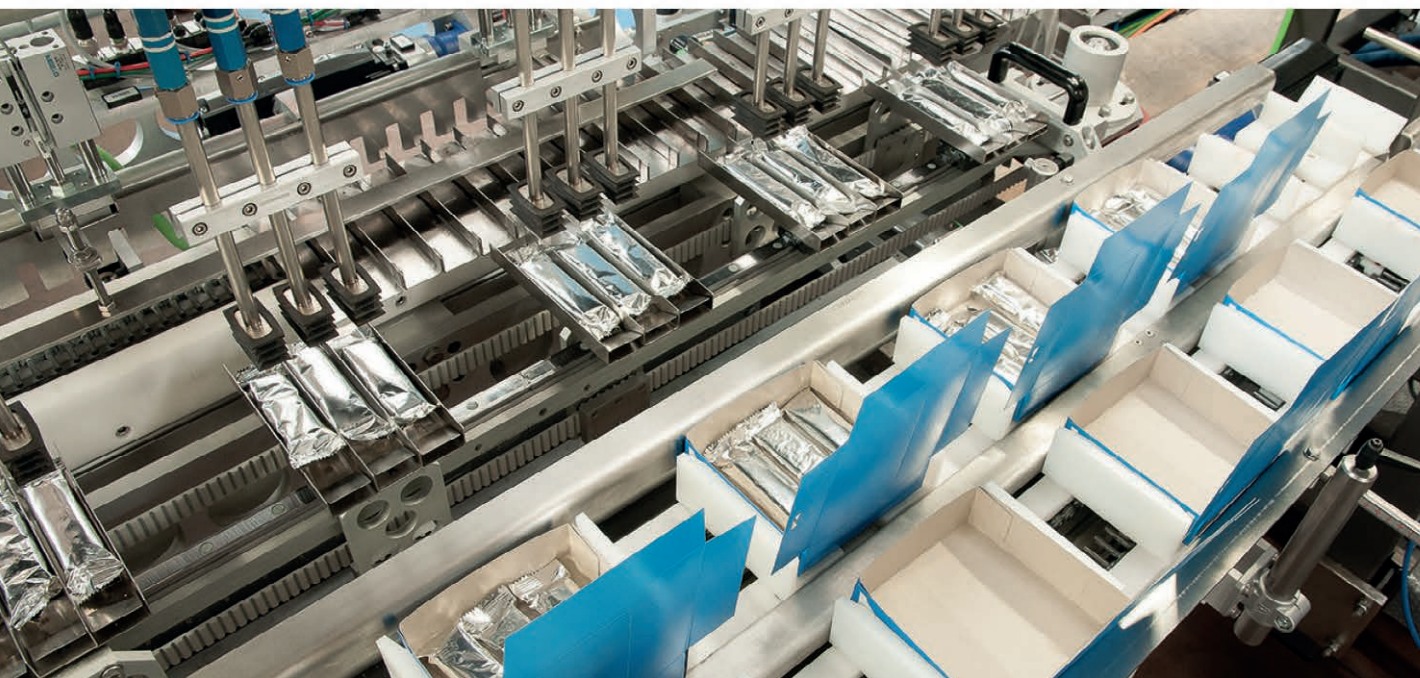
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# Long life to PET

The state-of-the-art of polyethylene terephthalate. An analysis of the market, the collection and recycling rate. A report commissioned to Eunomia by Zero Waste Europe illustrates key issues and the future challenges.

by Lucrezia Villa

A circular economy is one in which end-of-life products provide the materials for manufacturing new goods, without significant quality losses. Such kind of system is referred to as closed loop. Which reduces the need for virgin resources and minimizes waste generation.

This is the central premise on which bases the report 'How circular is PET?', carried out by the environmental consultancy Eunomia for Zero Waste Europe, a network of 32 local and national NGOs from all around Europe that work together for a zero waste future. The analysis provides a detailed evaluation of the current state of PET circularity in Europe. Moreover, it examines limitations and potential future scenarios in order to comply with the legislations and the industry's needs by 2030.

## The market's overview

Polyethylene terephthalate (PET) is a polymer used extensively in single use packaging as well as in textile manufacturing. An estimated 7.7 Mt of PET products are placed on the market within the general PET stream in Europe annually, with a vPET (virgin PET) demand of just under 5.5 Mt. "On a fully circular economic model, all PET products would be made from recycled PET (rPET), and there would be no need for vPET", states the report. Which is predominately focused on PET bottles (47% of overall EU PET demand), but in order to give a broader snapshot of the situation it also touches on PET use in other single use packaging, such as trays, flexibles and strapping (an extra 20% to overall PET EU demand); and the general PET stream,

that is packaging plus the polyester textiles and fibers (the latter add 33% to overall PET EU demand).

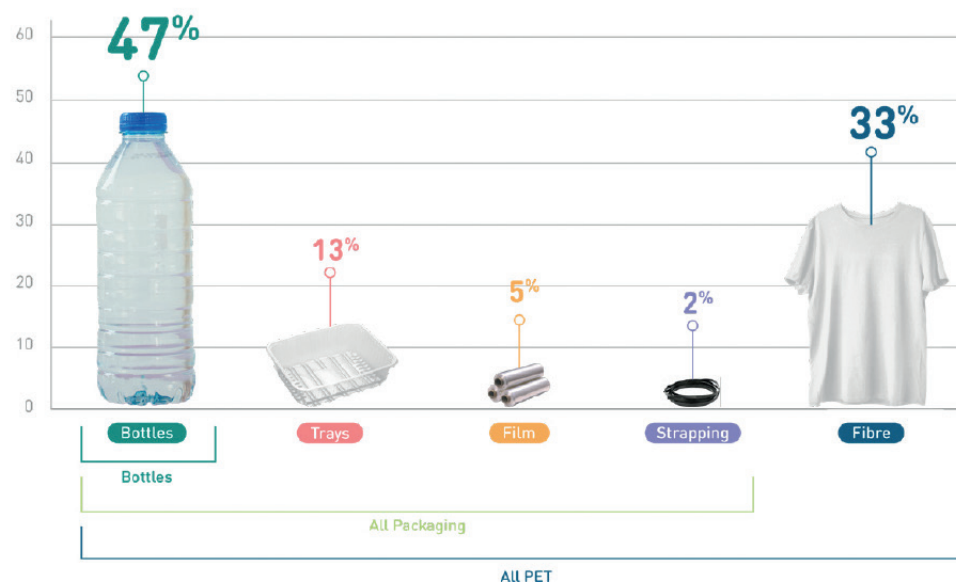
## PET bottles

Currently, bottle recycling has the most advanced technology and infrastructure. In Europe, the average collection rate of PET bottles is estimated at 96% for countries operating DRS (deposit refund schemes) and 48% in countries without DRS. This provides an overall collection rate for beverage and non-beverage PET bottles of 60%, a large proportion of PET bottles on the market (40%) are not recycled and end up in landfills, incineration facilities or even lost to the environment. The report estimates that the recycling rate for bottles, including caps, lids, and labels (both beverage and non-beverage) currently amounts to 50%. Moreover, on average, the report suggests that PET bottles are made up of 17% rPET, which is 31% of the total PET flakes derived from bottles annually (1.8 Mt each year), with the rest (69%) cascading into other products, such as trays, other packaging or fibers.

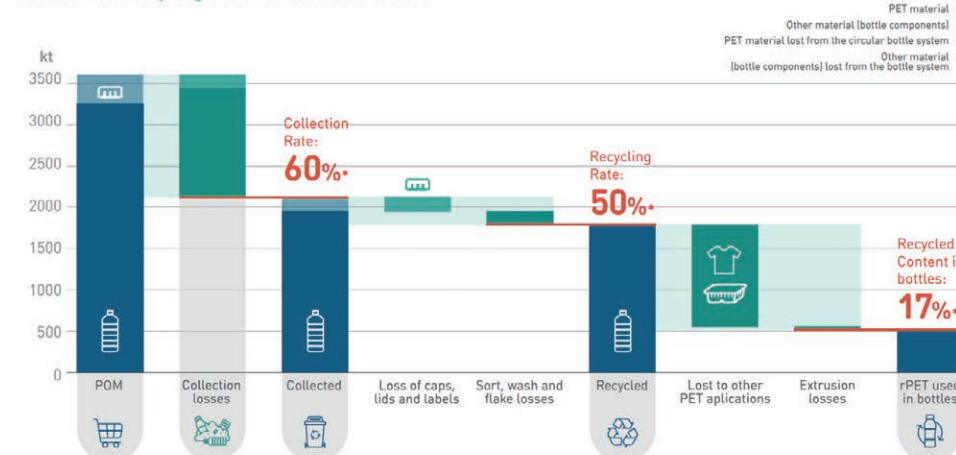
Packaging and general PET stream

While bottles make up the largest share of PET uses, there are also other packaging applications in single-use tray manufacturing (20%), flexibles (7%), and a small amount of strapping (3%). However, "the lack of appropriate sorting and recycling technologies combined with the varied design of these products makes them currently difficult to recycle", as stated in the report. Indeed, collection quantities for these PET packaging applications are much lower than they are for bottles, scoring 21%. The overall recycling rate for

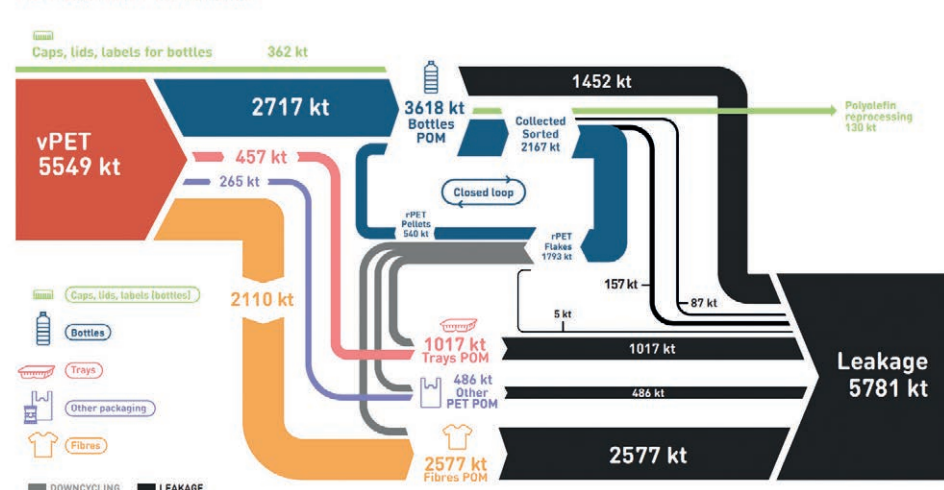
Market shares of PET placed on market by manufacturing scope



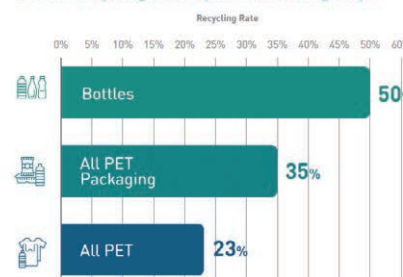
Collection and recycling of PET bottles – current state



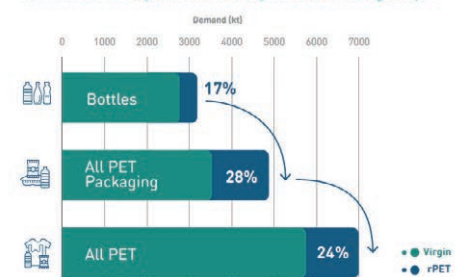
PET Mass Flows - current state



Current recycling rates by manufacturing scope



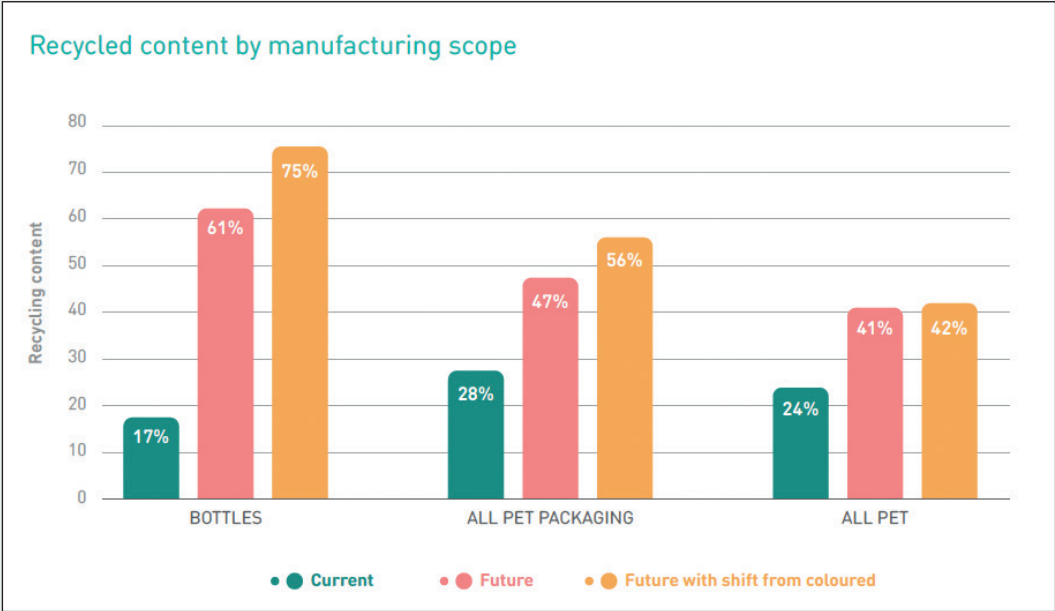
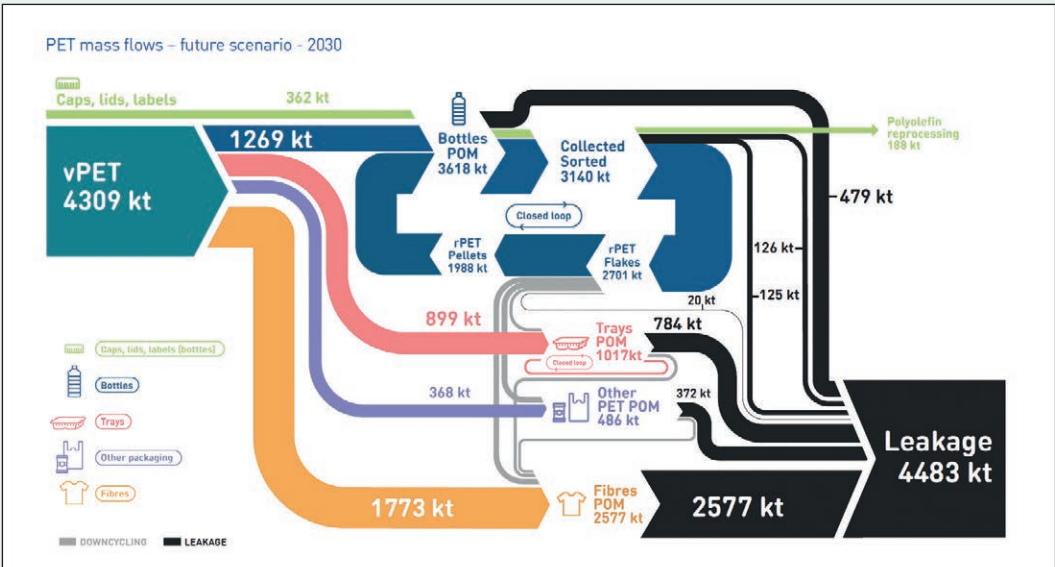
Current PET recycled content by manufacturing scope



## Quanto è circolare il PET?

Uno studio elaborato da Eunomia, società di consulenza europea su temi ambientali, per conto della rete Zero Waste Europe delinea un quadro dell'attuale circolarità del PET in Europa. Illustrando i principali limiti e i possibili scenari futuri. Ogni anno, ammonta a 7,7 Mt il numero di prodotti in PET immessi sul mercato, e la domanda di PET vergine è di circa 5,5 Mt. Sistemi di recupero e riciclo più avanzati sono previsti infatti solo per la trasformazione delle bottiglie. Ecco che anche altri prodotti in PET quali packaging e fibre di poliestere derivano dalle bottiglie. Di fondamentale importanza affinché aumenti la circolarità del PET, stando a quanto emerge dal report, sono le recenti direttive in materia oltre al potenziamento dell'infrastruttura.





Fonte Tabella: 'How circular is Pet?' by Eunomia for Zero Waste Europe

PET packaging amounts to 35% and the recycled content accounts for 28%.

The lack of appropriate PET packaging recycling facilities entails that the majority of rPET for packaging and other applications is also derived from recycled bottles. Indeed, according to the report 57% of rPET bottles are destined for the creation of new PET packaging.

As already mentioned before, the report also analyzes the current state-of-the-art of the general PET stream. Besides bottles and packaging, one of the largest non-packaging applications is in fact polyester fiber. 14% of the global polyester market is recycled polyester, even in this case the majority is produced starting from PET bottles. An approximate recycling rate of only 23% is estimated to be reached for all PET put on the market. And the overall recycled content drops to 24% if the use of rPET in all PET is measured.

Limitations and future scenarios

According to the report, the majority of PET is not currently managed in a circular model and leakage from the system is high. It is indeed the above-mentioned lack of recycling facilities and the ineffective collection system that leads to further leakage from all stages of the PET lifecycle. The report suggests that 5.8 Mt (75% of the total PET on the market) leak from the total PET system.

Other limitations to the current circularity are contaminants from collection and sorting; product design and material quality; and lastly rPET economics.

“Targets set by legislation are a major driving factor of improved outcomes for PET circularity in the future”. For instance, the Single-Use Plastics (SUP) Directive sets a 77% collection target for beverage bottles by 2025, and a 90% target by 2029, as well requiring manufacturers of PET beverage bottles to have 25% recycled content in their products by 2025 and 30% by 2030.

According to the report, other three main factors which are necessary in order to improve the outlined situation are prioritizing bottle-to-bottle closed loop recycling instead of using rPET from bottles in other PET applications; increasing the use of Deposit Return Schemes, which will improve collected material quantity and quality; and ultimately switching from colored and opaque PET to clear PET. If these changes were to be put into place, the report estimates that there could be an increase in the upper limit of bottle to-bottle recycling with a recycled content between 61% and 75%, up from currently 17%. Moreover, all PET packaging recycled content would grow from 28% to 47 and 56%. And lastly for all PET applications, the figure would shift from 24% to an upper limit of 41% to 42% in the future.

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# Soil pollution: no time

Plastic has become pervasive in agriculture too, posing a threat to food security, people's health, and the environment, according to a new report released by FAO. Which calls for immediate action.

by Lucrezia Villa

By now we have become accustomed to seeing plastics debris piling up on beaches all around the world, or floating without a destination across the oceans. These kinds of pictures keep making newspapers' headlines and swarming social media. However, the Food and Agriculture Organization (FAO) suggests that the land we use to grow our food is contaminated with even larger quantities of plastic pollutants. Hence, agricultural plastics pose a large and growing threat to soils, food safety and human health. Since just a small amount is collected and recycled. These are the findings of 'Assessment of agricultural plastics and their sustainability: A call for action', the very first report of its kind issued in December 2021 by the UN organization. Which outlines the situation as "catastrophic". As the demand for agricultural plastics continues to skyrocket, the report by FAO serves as an "immediate and loud call to coordinated and decisive action to facilitate good management practices, in order to curb the disastrous use of plastics across agricultural sectors", states FAO Deputy Director-General Maria Helena Semedo.

## The growing demand for agro-plastics

According to the report 12.5 million tons of plastics are used globally in agricultural value chains annually. An amount equivalent to almost 3.5% of the global plastic production of 359 million tons in 2018. More in detail, the crops and the livestock segment are the largest plastic users, accounting for 10 million tons per year collectively. Fisheries and aquaculture follow with 2.1 million tons, and forestry with 0.2 million tons. Moreover, other 37.3 million tons are to be added for the food packaging use in 2019, which comprised approximately 10.4% of global plastic production. According to the report, Asia is estimated to be the largest user of agro-plastics, accounting for almost 50% of the global use. China's use alone amounts to at least 6 million tons yearly.

In terms of plastic types used globally in agricultural production, films for mulching, silage production and greenhouses account for between 40 to 50% of the total annual quantities. Looking at specific rates of use on land, greenhouse films are used at an estimated 3,500 kg per hectare, irrigation tape at 400 kg/ha and much films at 180 kg/ha, with all other product

categories (protection bags/shelters; polymer coated fertilizers, bale nets) falling below 45 kg/ha.

And as the demand for single use agro-plastics does not stop growing, there is an urgent need to better monitor the quantities of plastic products applied in agriculture and that leak into the environment. Indeed, the global demand for greenhouses, mulching, and silage films will increase by 50% by 2030 – from 6.1 Mt in 2018 to 9.5 Mt.

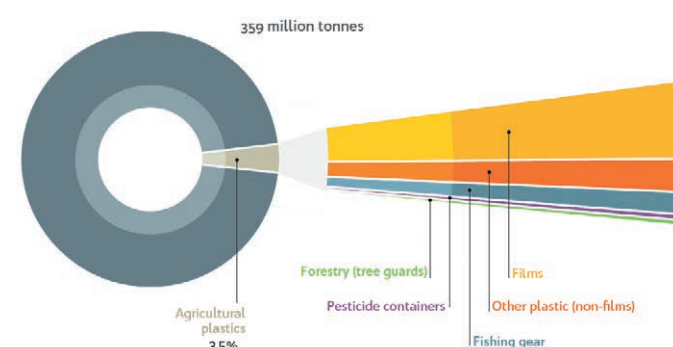
## Plastics' versatility and harm: two sides of the same coin

"Plastics have become ubiquitous since their widespread introduction in the 1950s", recites the report. The lightweight, water resistant and durable properties of plastics mean that they are now widely used in modern agricultural practices to improve crop productivity, animal nutrition, water use efficiency, and reduce food loss. Moreover, the rate at which these plastic products reach the end of their lives again depends on their application. With the exception of durable structures, the majority of these products are single-use with lifespans of less than 12 months.

As stated by the FAO report, out of the 6.3 Mt of plastics produced in 2015, almost 80% was not correctly recovered and recycled. As most plastics are made from petroleum-derived precursors and thus they are associated with significant GHG emissions, the same characteristics considered as major perks can also cause harm when these products are not managed correctly at the end of their lifespan and leak into the environment. According to the report's recent estimates global GHG emissions in 2019 attributed to plastics amounted to 86 gigatons of carbon dioxide equivalents. A figure that is expected to rise to 1.34 Gt CO<sub>2</sub> eq by 2030 and 2.8 Gt CO<sub>2</sub> eq by 2050. Assuming that plastics used in agricultural production represent 3.5% of global plastic production, it can be estimated that annual GHG generation will be 47 Mt CO<sub>2</sub> eq by 2030 and 98 Mt CO<sub>2</sub> eq by 2050.

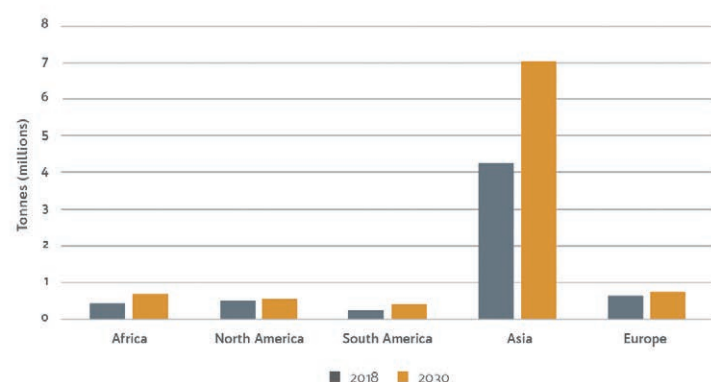
Thus, with whole ecosystems on the line especially due to microplastics, "policy options to reduce plastics' environmental impact should ideally target multiple steps in the value chain through a combination of interventions based on the 6Rs: refuse, redesign, reduce, reuse, recycle and recover".

Global plastic production and share of plastics used in agricultural production, 2018.



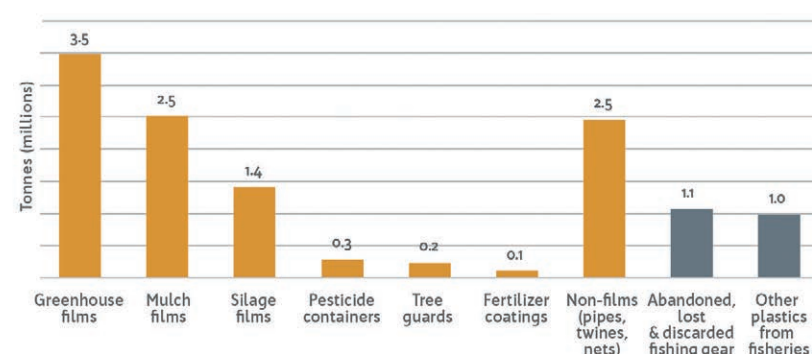
Source: Global plastic production from PlasticsEurope e.V., 2019 – 12.5 million tonnes are derived in this study based on the sources and assumptions quoted in the text.

Use of plastic film in agriculture in different regions



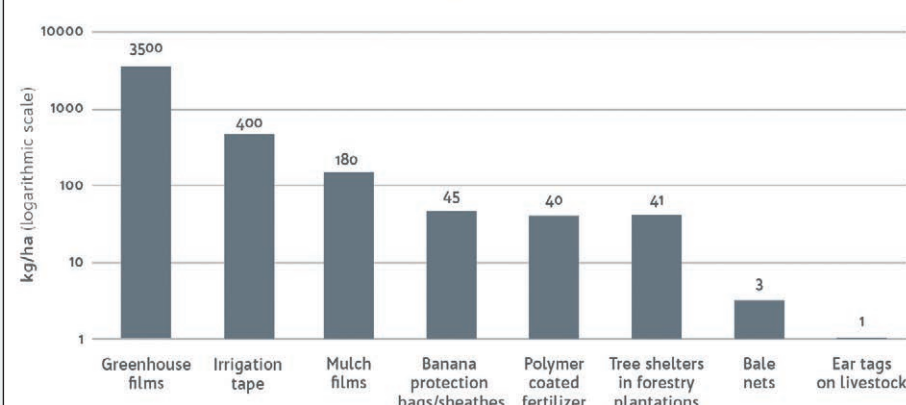
Source: Based on data from Le Moine, 2018.

Estimated global annual quantities of agricultural plastics



Source: Based on data of APE Europe, 2019; Le Moine, 2018; Sintim and Flury, 2017 and our estimation as commented in Section 3.2.

Estimated quantities of agricultural plastics used per hectare of land



Source: Adapted from Sanchez (2020) and FAO (2021).

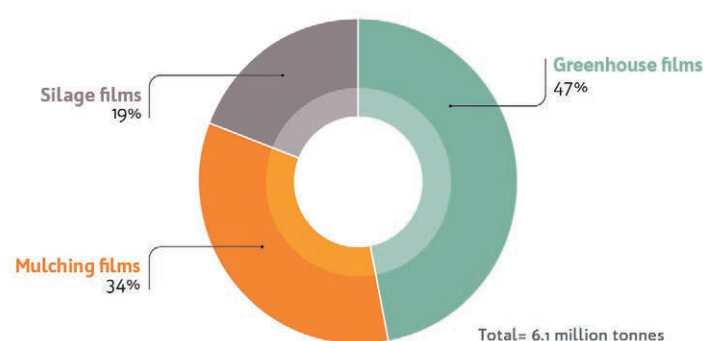


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## Inquinamento del suolo: non c'è tempo da perdere!

Il nuovo report della Fao 'Assessment of agricultural plastics and their sustainability: A call for action' fornisce un quadro completo circa l'inquinamento da plastica nei terreni agricoli. Le catene del valore del segmento utilizzano ogni anno 12,5 milioni di tonnellate di prodotti in plastica. E, per di più, altre 37,3 milioni di tonnellate vengono impiegate per gli imballaggi alimentari. I settori della produzione agricola e dell'allevamento sono risultati essere i maggiori utilizzatori, rappresentando complessivamente 10,2 milioni di tonnellate l'anno. A fronte di una crescente domanda globale di prodotti in plastica destinati ad applicazioni agricole (+50% entro il 2030), la Fao lancia l'allarme. A destare preoccupazione sono principalmente le microplastiche, difficili da smaltire e dannose per la salute umana e per gli ecosistemi.

Global use of plastic films in agriculture in 2018



Source: Adapted from Le Moine, 2018.

### Legislative measures and innovative practices to drive sustainability

The need for international policies is ever more urgent. A qualitative risk assessment identified polymer coated fertilizers, pesticide containers, and mulching films as high priority. Specific alternatives will be adopted according to the local or national infrastructure and socio-economical frameworks. However, the analyses highlighted some underlying themes for these range of agri-plastics.

For instance, as already stated, mulching films account for almost 50% of the total plastic used in the agricultural chain every year. And, in Europe alone, the films that are not able to be recycled amount to 15,000 tons. Thus, biodegra-

dable and compostable options represent one of the main alternatives. In order to solve this specific problem, conservation agriculture and cover crops are also listed by the report as valuable alternatives.

From replacing single-cycle products with more durable alternatives, through the introduction of products labelling to aid identification and traceability, to the development of a comprehensive voluntary code of conduct, the report explores all these possibilities.

"Extended producer responsibility schemes, and the introduction of national plastic management plans need to guide the segment. The urgency for coordinated and decisive action cannot be understated", concludes the FAO report.

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# “SUPs need to be banned now”

28 countries and over 20,000 adults under 75 interviewed to measure the public opinion in regards to the material's use. The results of the latest survey issued by Ipsos, in conjunction with the Plastic Free Foundation.

by Lucrezia Villa

Over 20,000 adults under the age of 75 across 28 countries in the world. Interviewed in order to know what the general public thinks about single-use plastics (SUPs) and the pollution that its use entails. This is at the core of 'Attitudes towards single-use plastic', the latest international survey issued by the leader in market research Ipsos, carried out in collaboration with Plastic Free July, the global movement signed by the non-profit Plastic Free Foundation. And the results call for immediate action.

## The importance of an international treaty to fight pollution

According to the report 88% of the interviewees believe that it is essential, very important or fairly important to have an international treaty to fight plastic pollution. Latin America (LATAM) and Middle East/Africa, along with BRIC countries (Brazil, Russia, India and China), display the highest levels of belief in the importance of an international treaty to combat plastic pollution. Respectively at 93%, 91% and 90%. “The fact that there is such strong support for an international treaty to address the single-use plastics shows that people see this as a challenge that all countries have to solve together”, comments Ipsos Australia director, Stuart Clark. Mexico (96%), Brazil (95%), Colombia (94%), Chile and Peru (both 92%) are the countries that most strongly ask for an international treaty.

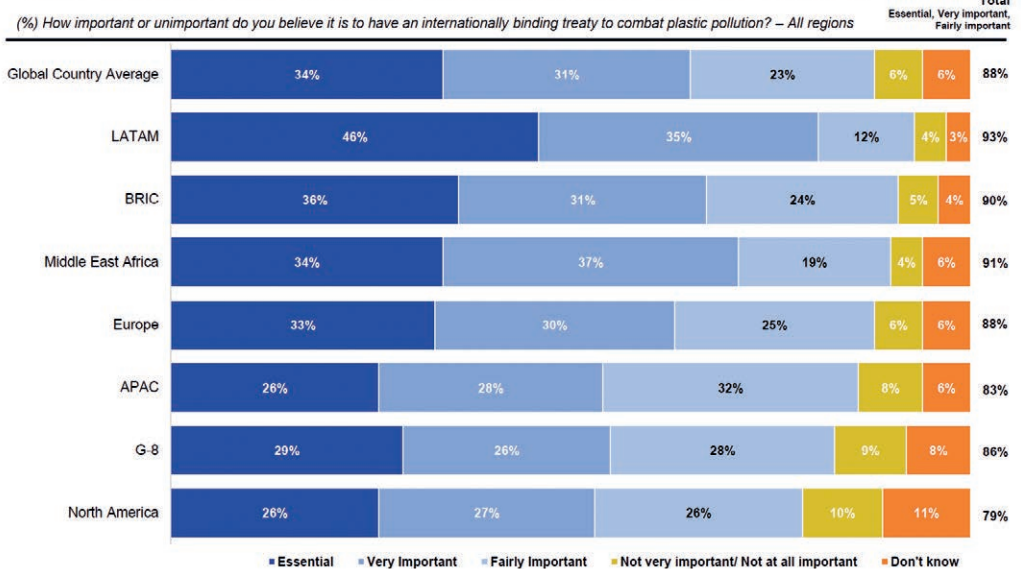
## Towards the ban of single-use plastics

In addition, an average of three-quarters agree that single-use plastic should be banned as soon as possible. According to the survey, Latin America and BRIC countries have the highest level of agreement that a ban on single-use plastics should be implemented as soon as possible, at 85% and 80% respectively. “These results make it very clear that there is a strong consensus globally that SUPs should be taken out of circulation as quickly as possible”, explains Clark. Once again, Latin American and BRIC countries show the highest levels of agreement with banning single-use plastics, at 88% and 80% respectively. While North America has the lowest levels of agreement at 61%. More in detail, the need for an official ban is urgently requested by Colombia (89%), Chile and Mexico (both 88%), and Argentina and China (both 84%).

## Which consumers are more sustainable?

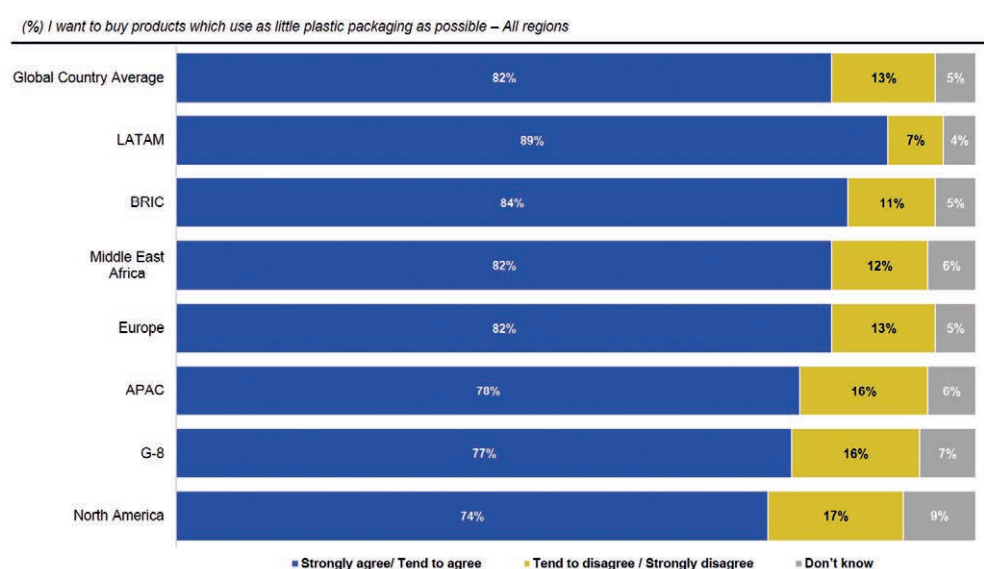
According to the data collected by Ipsos, a global average of 82% agree they prefer products that entail as little plastic packaging as possible. In general, Latin America and the BRIC countries show the highest levels of agreement at 89% and 84% respectively. On the contrary, North America and the G-8 countries show the lowest consent. At the country level, China, Mexico, and Colombia top the rank with 92% agreement, followed by Chile (90%) and Peru (87%).

## IMPORTANCE OF AN INTERNATIONAL TREATY



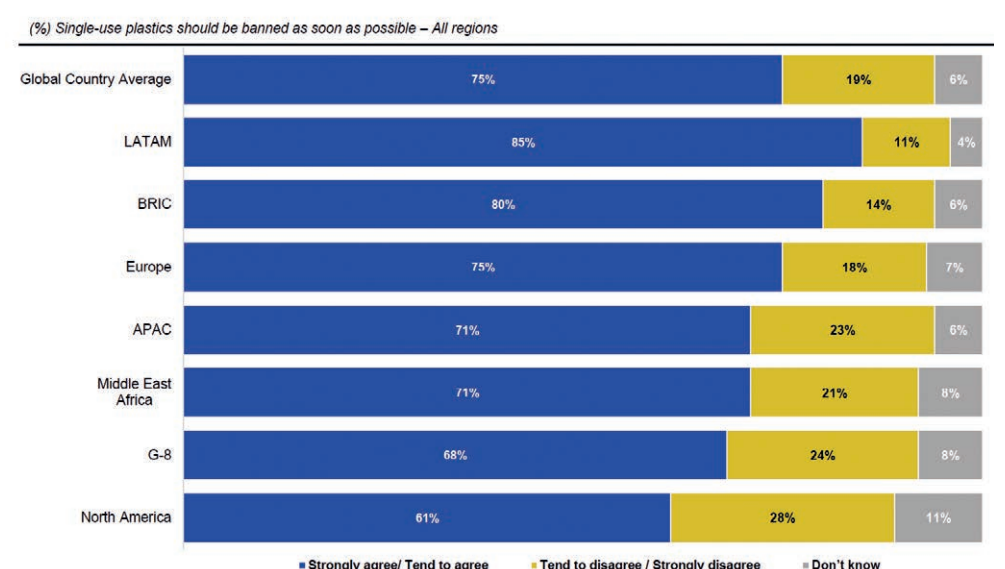
Base: Representative sample of 20,513 online adults aged 16-74 in 28 participating countries.  
Source: Ipsos Global Advisor. Global score is a Global Country Average. See methodology for details.  
Online samples in Brazil, Chile, mainland China, Colombia, India, Malaysia, Mexico, Peru, Russia, Saudi Arabia, South Africa, and Turkey tend to be more urban, educated, and/or affluent than the general population.  
The "Global Country Average" reflects the average result for all the countries and markets where the survey was conducted. It has not been adjusted to the population size of each country or market and is not intended to suggest a total result.

## REDUCING PLASTIC PACKAGING WASTE



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## BANNING SINGLE-USE PLASTICS



Base: Representative sample of 20,513 online adults aged 16-74 in 28 participating countries.  
Source: Ipsos Global Advisor. Global score is a Global Country Average. See methodology for details.  
Online samples in Brazil, Chile, mainland China, Colombia, India, Malaysia, Mexico, Peru, Russia, Saudi Arabia, South Africa, and Turkey tend to be more urban, educated, and/or affluent than the general population.  
The "Global Country Average" reflects the average result for all the countries and markets where the survey was conducted. It has not been adjusted to the population size of each country or market and is not intended to suggest a total result.

## “Stop alla plastica monouso!”

Oltre 20mila adulti tra i 18 e i 75 anni da 28 Paesi al mondo. Intervistati per carpire l'opinione pubblica in merito a plastica monouso (Sup) e l'inquinamento che il suo utilizzo comporta. È questo il tema alla base di 'Attitudes towards single-use plastic', l'ultimo sondaggio di Ipsos, realizzato in collaborazione con l'organizzazione no profit Plastic Free Foundation. Per tre quarti degli intervistati le Sup dovrebbero essere vietate il prima possibile. E l'88% richiede a gran voce un trattato internazionale per contrastare l'inquinamento da plastica.

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# FoodTech 500, showcasing the innovations of the future

Forward Fooding reveals the ranking of the most promising global agrifoodtech companies. Agritech and novel food are the most represented sectors. Italy is involved too, with 24 businesses among the 'finalists'.

The agrifoodtech ecosystem is increasingly in turmoil. According to FoodTech Data Navigator, 50.4 billion dollars have been invested in startups and scaleups companies working on agrifood innovation in 2021. Figures that represent a huge step up from the 19.8 million reported in 2020, translating into a 67% jump.

During the last weeks, Forward Fooding has unveiled the latest FoodTech 500, the ranking that analyses the most promising agrifoodtech companies of the world. The aim of the initiative is to raise awareness about the potential of the sector, give visibility to the best talents and facilitate the establishment of new partnerships.

Alessio D'Antino, ceo of Forward Fooding, explained that FoodTech 500 was created in 2019 in order to give visibility to the 'underdogs' (i.e. the ones who win against the odds) in agrifoodtech and shine a spotlight on the leading global innovators, from farm to fork, who are creating impactful solutions to improve food systems. "In three years, while tracking over 70 listed companies, we have seen the industry expand significantly. This year's list", explains D'Antino, "is a testament to us that the entrepreneurial talent behind the global FoodTech industry is capable of doing great business. While, of course, doing good for the planet".

FoodTech 500 is sponsored by Neom, a urban project located in the northwestern region of Saudi Arabia near the Red Sea, and Dole Sunshine Company, among the leading suppliers of high-quality fresh and packaged fruit.



## FoodTech 500, in mostra le innovazioni del futuro

L'ecosistema dell'agrifoodtech è sempre più in fermento. Secondo i dati di FoodTech Data Navigator, nel 2021 sono stati investiti 50,4 miliardi di dollari in startup e scaleup che si occupano di innovazione agroalimentare. Cifra che rappresenta un enorme passo avanti rispetto ai 19,8 milioni riportati nel 2020, con un balzo del 67%.

Nelle scorse settimane, Forward Fooding ha svelato l'ultima FoodTech 500, la classifica che analizza le aziende agrifoodtech più promettenti a livello globale. Scopo dell'iniziativa, aumentare la consapevolezza sulle potenzialità del settore, dare visibilità ai migliori talenti e facilitare l'instaurarsi di nuove partnership.

Alessio D'Antino, Ceo di Forward Fooding, ha spiegato che la FoodTech 500 è nata nel 2019 per dare visibilità agli 'underdog', ovvero gli sfavoriti dai pronostici, in ambito agrifoodtech e accendere un riflettore sui principali innovatori globali, dalla fattoria alla forchetta, che stanno creando soluzioni di impatto per migliorare i sistemi alimentari.

## Methodology

This year's edition, the third since the beginning of the initiative, attracted more than 2,250 entries from companies located in 85 countries. From these, the top 500 were selected to compile the ranking based on three criteria. Firstly, the size of business, whose score is calculated using an algorithm that predicts the growth of the company based on financial performance indicators, such as number of employees, funding raised and active offices. Secondly, the digital footprint: this score calculates the growth of a business according to its online presence, its positioning on search engines and the number of followers on social networks. Lastly, sustainability, assessed on the basis of a selected number of objectives set by the United Nations, the 'Sustainable Development Goals': these include the contribution of companies



to improving the social conditions of people and the impact on the environment.

#### **Top 10: vertical farming takes the lead**

Looking more into detail, the most represented sector at global level is AgTech, i.e. innovations related to agriculture, horticulture and aquaculture, which accounts for 30.8% of the top 500 companies. In second place, Next Gen Food, the so-called 'food of the future' (such as plant-based and alternative proteins) with 26.2%. Then, then is Waste management with 10.8%, and food delivery is also close behind, accounting for 10.2% of the ranking.

Among the ten most 'virtuous' companies on the international scene according to Forward Fooding, the first place goes to Infarm, a Berlin-based company founded in 2013, which works to build a global network of urban vertical farms to grow and distribute fresh produce directly in big

cities. The silver medal went to Plenty, a US-based company created in 2014 and engaged in the development of indoor farming. Ynsect from France, which uses bug proteins to make products for pets, farmed fish, plants and even people, takes the third place. Benson Hill, an American start-up that aims to exploit the natural genetic diversity of plants to develop new seed varieties in a sustainable and cost-effective way, came fourth. Again, in the field of agriculture there are Bowery Farming (sixth place), an American vertical farming company, and Pivot Bio (eighth place), which has developed fertilizers based on nitrogen-fixing bacteria in order to replace the synthetic and more polluting ones. Completes the top 10 Notco (10th), a unicorn company from Chile that specialises in plant-based alternatives to animal products, including egg and dairy products.

One of the latest trends is waste management. The Californian

company Imperfect Foods (fifth place) and the Danish company Too Good to Go (ninth place) are both dedicated to the cause, even if with different methods: the first offers a delivery service of 'ugly but good' fruit and vegetables, while the other connects customers and businesses to sell unsold surplus food below cost.

Another increasingly popular trend, also among companies, is meal kits, i.e. home delivery of ingredients and semi-finished products needed to prepare a homemade meal. The first company in the ranking, in seventh place, is Hello Fresh, a German company listed on the Frankfurt stock exchange, which closed 2020 with a turnover of 3.7 billion euros. A business model also taken up by the Italian Quomi, in 117th place in the overall ranking.

#### **The situation in Italy**

Italy also appears in the ranking. In the 2022 edition of the FoodTech 500, 24 startups from the

'Bel Paese' have entered the ranking (about 5% of the total). The food delivery business confirms itself as one of the leading sectors for our country: companies such as Soplaya, Orapesce and Deliveristo (which appear in the Foodtech500 in 233rd, 245th and 246th position respectively) are included in the category.

In general, Forward Fooding's analysis highlights the difficulty for Italian agrifoodtech to attract capital: according to the research, a total of 259.4 million euros have been invested in the sector during the last ten years. A figure that places us in tenth place in Europe, well behind the United Kingdom (3.5 billion euros), Spain (1.2 billion), France (1.3 billion) and Germany (1.9 billion).

Despite this, Italy ranks fourth among European countries for the number of active startups (217, after the UK, France and Spain), confirming that the Italian agrifoodtech sector is more alive than ever.

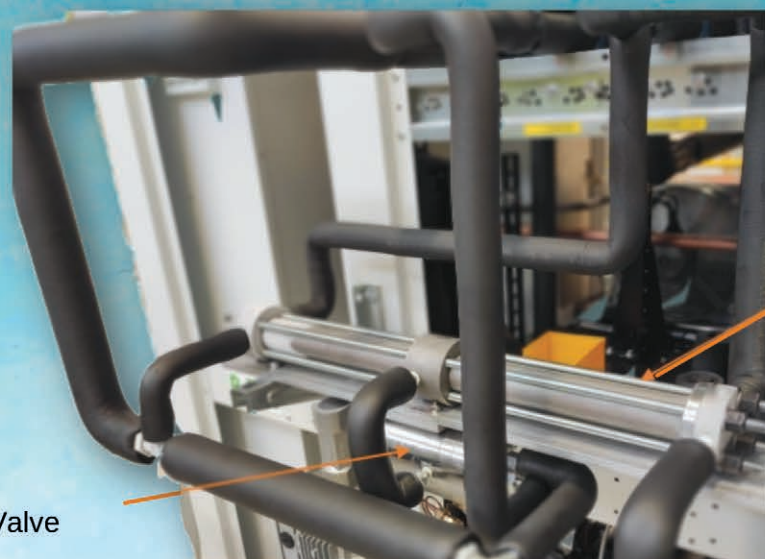
*Eleonora Cazzaniga*



THE FUTURE GETS A BOOST

## **TURBOALGOR CO2**

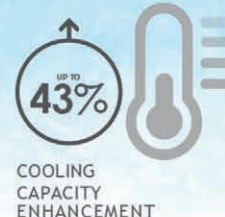
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# Global baking industry to reunite in Las Vegas for IBIE 2022

The grain-based food industry's largest and most comprehensive trade event in the U.S. is set to return in September (17-22). Special offers available for international attendees.

by Federica Bartesaghi

The International Baking Industry Exposition (IBIE), the largest baking industry event in the Americas, is set to return to Las Vegas, Nevada, Sept. 17-22, 2022. Held every three years, IBIE serves as a meeting place and one-stop shop for professionals from every facet of the grain-based foods industry and locations all over the world. Sponsored by the American Bakers Association (ABA), the Baking Equipment Manufacturers and Allieds (BEMA) and the Retail Bakers of America (RBA), IBIE is recognized as the grain-based food industry's largest, most comprehensive trade event in the U.S. A "working show," where millions of dollars of business is conducted daily, IBIE brings the entire professional baking community together, offering the complete range of equipment, supply and ingredient solutions and showcasing the newest baking technology in 40,000 square feet.

Nearly 30% of the show's attendance is international, with attendees representing more than 100 countries. By serving as a global platform, IBIE fosters the proliferation of ideas and collaboration that fuels industry-wide advancement. The expo is proud to offer a high-value international delegation program and onsite amenities developed specifically for wholesale, retail and artisan bakers traveling from outside the U.S.

"After two years of industry event cancellations and supply chain disruptions, it has never been more important to gather our international baking community. With the U.S. reopening borders to all fully vaccinated travelers, we are excited to be receiving early commitments from international delegations across the globe. Our exhibitors and buyers are



**TO LEARN MORE ABOUT IBIE 2022 AND HOW TO ORGANIZE OR JOIN AN INTERNATIONAL DELEGATION, PLEASE VISIT**

[www.BakingExpo.com/International](http://www.BakingExpo.com/International)



## IBIE 2022 da il bentornato all'industria mondiale del bakery

Torna l'appuntamento con IBIE: fiera numero uno, negli Stati Uniti, per il settore bakery e appuntamento strategico per la community internazionale del settore. Dal 17 al 22 settembre 2022, operatori e aziende - con una rappresentanza dall'estero che sfiora il 30% - si ritroveranno a Las Vegas per scoprire le ultime innovazioni tecnologiche del comparto e i trend che ne guideranno la crescita.

eager to come together in-person to share the innovations and solutions that will shape the future of the global grain-based food industry," said Anjia Nicolaidis, International Specialist for IBIE.

Recognized as one of the top trade shows in America, IBIE brings industry professionals together to learn how to evolve their businesses for the current baking landscape and discover the innovations that are defining the future, while building relationships with peers. Attendees can expect to see state-of-the-art technologies and quality products

including ingredients, supplies, and equipment for production, packaging, transportation and distribution — all on the 40,000 sq. ft. show floor. Nearly 1,000 leading manufacturers and suppliers will exhibit in 2022, with many offering interactive demonstrations as well as show-only deals.

IBIE also features the most comprehensive baking industry event education program in the world, IBIEducate. More than 100 sessions, demos and skill-building workshops are arranged into specialized tracks, with a focus on delivering strategies

and tactics that participants can leverage to overcome challenges, optimize production, improve products and increase sales at their organizations.

In addition to these features, international attendees can also access exclusive benefits and dedicated support before the show and on-site, including registration discounts, separate registration counters to facilitate easy check in and an International Lounge with amenities such as complimentary Wi-Fi, refreshments and translators to assist with meetings.



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# IFFA at the starting blocks

It is time for the German trade fair dedicated to technology for meat and delis' processing. Many will be the innovations showcased from 14 to 19 May 2022 in Frankfurt. And, for the first time, the exhibition will open up to alternative proteins.

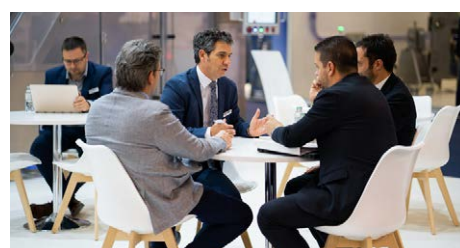
by Lucrezia Villa

Everything set for the 73rd edition of IFFA. The German trade show dedicated to technologies for meat and delis' processing will finally take place in person. From 14 to 19 May 2022, in fact, the main players of the segment will meet in Frankfurt, after three years since the last trade show. The exhibitors will be almost 900, coming from over 42 countries and they will all come together at Frankfurt Messe's exhibition grounds. This year, the area will spread over some 116,000 square meters of exhibition space. And the halls 8, 9, 11 and 12 will showcase the wide range of innovative solutions. The traditionally high level of internationality of IFFA is also guaranteed this year with over 60 percent of registered companies coming from outside Germany, especially Italy, Spain, the Netherlands, Austria, Switzerland and Poland. And, outside of Europe, the USA are the country with the highest number of participants and exhibitors. Showcasing the numerous novelties of the fair, in a digital conference which took place on 9 March, were Klaus Schröter, chairman of the Meat Processing Machinery Department at VDMA; Herbert Dohrmann, president of the German Butchers' association (DFV); Godo Röben, board member of the German association for Alternative Sources of Protein (BALPro); Johannes Schmid-Wiedersheim, director Brand management IFFA; and Kerstin Horaczek, vice president Technology shows at Messe Frankfurt.



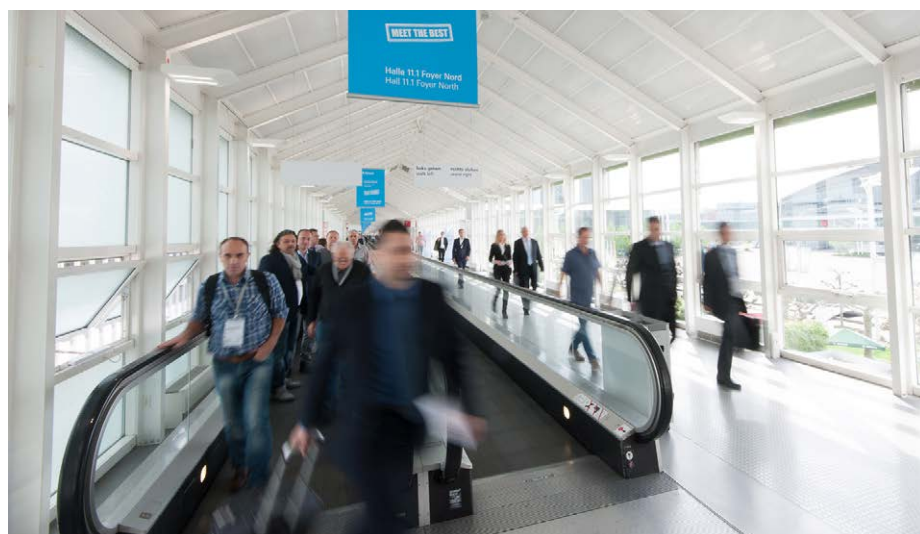
## Iffa ai blocchi di partenza!

Torna, finalmente in presenza, l'appuntamento con la fiera tedesca dedicata alle tecnologie per la trasformazione della carne e dei salumi. Tante le novità che andranno in scena dal 14 al 19 maggio 2022 a Messe Frankfurt. Tra cui, l'apertura per la prima volta in assoluto al mercato dei sostituti della carne con lo slogan 'Technology for Meat and Alternative Proteins'. Alla 73esima edizione di Iffa sono attesi circa 900 espositori, provenienti da oltre 42 Paesi. Anche per l'edizione 2022, Iffa si conferma una fiera dal forte carattere internazionale. Non mancheranno i concorsi di macelleria internazionali e i Discovery Tour, visite guidate a espositori selezionati. Tra le novità dell'edizione 2022 figura anche Iffa Digital Extension. Un'integrazione digitale che consentirà agli operatori professionali di entrare in contatto con partner in linea con le loro necessità ancora prima che la fiera fisica inizi. Inoltre, vedranno in anteprima gli articoli presentati alla kermesse.



## An eventful program

Many will be the conventions and demonstrations that will take place every day at IFFA Factory, the event area created ad hoc for the exhibition. The segment's experts will shed light on the main themes of the fair, such as automation, digitalization, food safety, sustainability and food trends. Moreover, product inspiration will be offered by the international butchers' competitions and Discovery Tours, guided visits to selected exhibitors. One of the main novelties of the 2022 edition is IFFA Digital Extension. A digital integration which will be active starting from two weeks prior to the trade show and it will last more or less up to three weeks after the fair will have ended. "This tool enables the professional operators to experience the show virtually even if they are not present in Frankfurt in first person", says Johannes Schmid-Wiedersheim, the director Brand management IFFA. Through the 'match-making' system it will be possible for visitors to make contact with po-







tential business partners and arrange mutually convenient appointments before the show even starts. Moreover, the professional operators will have the opportunity to get a preview of all the innovative product ranges that will be presented at the show. Among the digital innovations, there is also IFFA Contactor, the new fair's exhibitor and product search engine, which 365 days a year provides complete and always up-to-date information on all the exhibitors and their innovations, on the solutions for vegetable-based meat substitutes and alternative proteins.

#### **The machinery industry: the new challenges**

"Overall, our analyses show that the sector of the meat processing technologies has successfully overcome the pandemic emergency. And soon the industry will return to the pre-crisis level of the year 2019", explains Herbert Dohrmann, DFV's CEO. In 2021, the German segment increased more or less by 6% to just under 15 billion euro. "The packaging industry is thriving as well", adds Schröter, the chairman of the Meat Processing Machinery Depart-

ment at VDMA. Furthermore, as far as exports are concerned, according to the association's data, the exports of the EU countries have increased by around 3%. "Despite the travel and accommodation restrictions resulting from the Corona pandemic, the machinery manufacturers were able to serve their customers worldwide. But many projects have also been postponed due to Covid and in some markets the investment backlog is likely to ease only slowly", says Schröter. In this context, he also sheds light on the problems regarding the processing of orders due to continuous bottlenecks in the global procurement markets. "The shortages in material and procurement markets, along with the price increase for energy and materials represents a matter of concern. And all the machine manufacturers in Germany and Europe are put to the test", says Schröter. Who actually sees the future prospects for the meat and alternative protein supply industry as positive. "The global food industry is a dynamic market, whose growth is determined by demographic developments, nutritional trends, changing consumer habits and ever

shorter products' life cycles. The resulting demands of companies for safe, flexible and economical plant technology for production, processing and packaging are therefore constantly posing new challenges for mechanical engineering".

#### **Alternative proteins: IFFA's ground-breaking novelty**

Talking about new challenges, we have to necessarily mention the fact that this year, for the first time, IFFA will focus not only on meat but also on processing technology and ingredients for meat substitutes and cell-based meat. With the slogan 'Technology for Meat and Alternative Proteins', covering the whole exhibition grounds, at least 200 out of the 900 exhibitors will be showing a range of equipment and production lines dedicated to meat substitutes and alternative proteins. "It is an actual revolution. IFFA has the potential to bring together the many and varied international innovators in the alternative protein business and to promote a productive exchange of ideas and information between them and the conventional meat-technology manufacturers", states Godo Röb-

en, board member of the German association for Alternative Sources of Protein (BALPro). "In particular, given the fact that largely similar processing technologies are used for making and packaging animal products, cultivated meat and meat substitutes". And the substitute-meat market is a highly expanding one. The total annual sales are expected to exceed 12 billion dollars by 2025, and the market increases by over 18 percentage points year-on-year, according to the data of the Arizton plant-based meat market - Global outlook and forecast 2020-2025. At the same time, the annual sales of processed meat should reach almost 319 billion dollars, scoring barely a +0.2% annual growth rate based on the Consumer Market Outlook 2020 by Statista, a German company specializing in market and consumer data. "In 2022, in Germany alone, around 480 million euro will be spent on meat-substitute products. In 2021, the figure was approximately 414 million euro, which represents a two-fold increase compared to 2019. And over the next 5 to 10 years, growth is expected to continue with rates of even 25% being reached", Röben ends.



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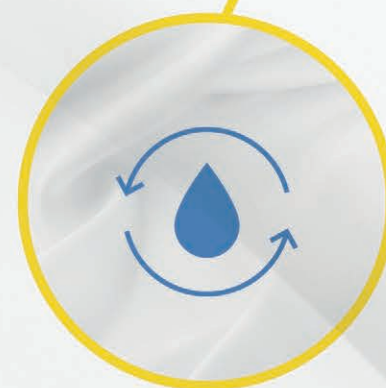


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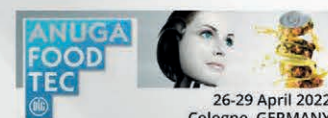
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