

MEATINGPOINT

magazine

SUSTAINABLE TECHNOLOGY, PROCESSING & PACKAGING

LARGEST TRADE SHOW FLOOR FOR 2019



**LIMA,
A WORLD OF SEPARATION**

**PROGRESS
THROUGH TRADITION**

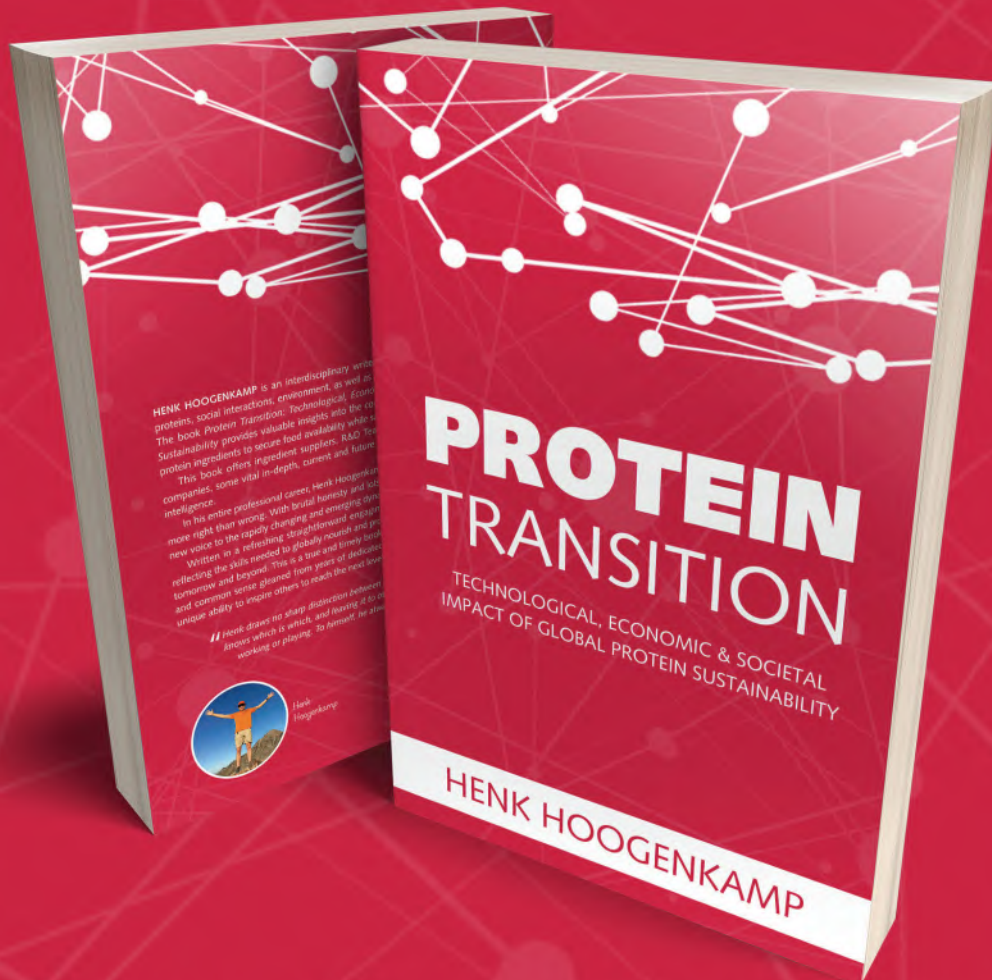
**PLANT MEAT:
CARNIVORE NO MORE PART1**

450 PAGES

OUT NOW!

ISBN-13: 978-1985117495

ISBN-10: 1985117495



HENK HOOGENKAMP – A world renown protein technology expert and globe-trotting, trusted advisor for food companies, academies and contributor to leading food journals. A powerful thinker and communicator about sustainable protein solutions. Henk Hoogenkamp has a worldwide reach designing and implementing strategic technologies to advance sustainable, nutritionally sound, tasty, and healthy food products. A Board member of public listed companies and also serves on the Advisory Boards of the world's leading food (ingredient & equipment) companies. Henk is probably the world's most referenced publicist in food technology, related to implementing animal and plant protein solutions, including sustainable and ecologically-sound hybrid and meat-free foods. Henk has pioneered and continues to be involved using transitional protein solutions in structured meat analog foods. Hoogenkamp's grand vision has clearly turned into reality now that world's largest food service companies are using plant protein solutions to provide wholesome and affordable nutrition to meet or exceed the consumer expectations. As evolving lifestyles, food choices and its related dynamic society diagnostics, continue to accelerate. Henk's latest work on plant protein solutions is timely and enlightening for the food and meat industry to better anticipate the world of tomorrow.

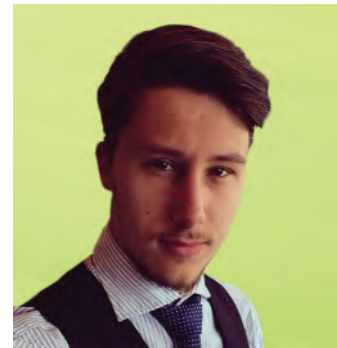
TO PLACE YOUR ORDER PLEASE VISIT

www.henkhoogenkamp.com

Dear reader,

All around the globe experts and companies are looking for sustainable solutions to improve food production system and optimise supply chain. Quite a few focus on circular economy based solutions to reduce resource and energy waste during food manufacturing, distribution and delivery.

Aware of that, the EU has built an action plan to prevent food waste. A package of measures that is expected to boost competitiveness, promote sustainable growth and create new jobs. They have created the platform on Food Losses and Food Waste involving both Member States and stakeholders, to improve the cooperation and value sharing.



Tristan Bogaard

Likewise, the US Department of Agriculture in cooperation with the Environmental Protection Agency, is promoting several food waste reduction projects. They assured that reducing food waste by just 15% would provide enough food for more than 2.5 million Americans per year. In Africa, statistics are similar but causes are different. The food lost in Africa could feed 300 million people and the continent loses every year 4 billion in food waste, but it is due to faulty cooling, poor storage conditions, market failures or inefficient supply chain.

A major step in improving processing practises, for example, is by making storage and packaging more efficient. Next, the manufacturing process must be optimised in order to reduce food loss and resources waste. Meating Point Magazine shows how optimisation in meat packaging helps to support the food industry's need to reduce food waste. See pages 30-33.

In this issue, Henk Hoogenkamp addresses top trends in the global meat market, related to animal-free proteins, which are gaining momentum. The future of world's food industry will increasingly focus to develop attractive products based on plant protein, as well as cellular agriculture, to create a sustainable and secure food solution for the rapidly growing populations.

As usual, we draw your attention to some of the industry's most significant "Meating" Points. One of them is IPPE, the worlds' largest annual, meet, poultry and feed trade show which will be held Tuesday through Thursday, Feb. 12 - 14, 2019, at the Georgia World Congress Center. Find some of the innovations to be showcased on pages 16-24.

Last but not least, with this final edition of 2018, our team would like to thank to all our readers, contributors and advertisers. Wishing you all a Merry Christmas and a Happy New Year!

Enjoy your read!

PUBLISHER:

MEATING POINT MAGAZINE Ltd.

8A Cedar Avenue, Ruislip, HA46UH,
London, UK

TEL: +44 (0)20 8581 2341

FAX: +44 (0)20 8581 2341

E-mail: info@meatingpoint-mag.com

www.meatingpoint-mag.com

EDITORIAL BOARD:

Tristan Bogaard

editor@meatingpoint-mag.com

Ben Anthony

banthony@meatingpoint-mag.com

Steliyana Vasileva

svasileva@meatingpoint-mag.com

MARKETING TEAM:

Aylin Nedzhib

marketing@meatingpoint-mag.com

Meylin Kara

support@meatingpoint-mag.com

Zvezdelina Kehayova

subscribe@meatingpoint-mag.com

DESIGN:

Taner Kyuchuk

design@meatingpoint-mag.com

MEATING POINT MAGAZINE is published six times a year (February, April, June, August, October, December).

The online version of the magazine is available at www.meatingpoint-mag.com.

The copyright of material appearing in MEATING POINT MAGAZINE is held by MEATING POINT MAGAZINE Ltd. Reproduction of articles and pictures published in the magazine requires written permission of the Publisher. All trademark names cited in the magazine are property of their respective owners. The published assumes no responsibility for any errors in the articles and as expressed by the authors. MEATING POINT MAGAZINE reserves the right to use email addresses supplied to it for promotional activities.

Contents

23 / 2018

Volume 4

EDITORIAL	3
INDUSTRY NEWS	6
IPPE PREVIEW	14
CASE STUDY	24
Ishida Flexgrader Increases Throughput	
BUSINESS NEWS	26
PACKAGING	30
WASTE REDUCTION	34
COMPANY PROFILE	
Lima, a World of Separation	36
Progress Through Tradition	40
PERSPECTIVES	44
Plant Meat: Carnivore No More	
By Henk Hoogenkamp Part 1	
HYGIENE	52
Hygienically Optimised Design is Top Priority	
"MEATING"POINTS	54
SUPPLIERS GUIDE	58

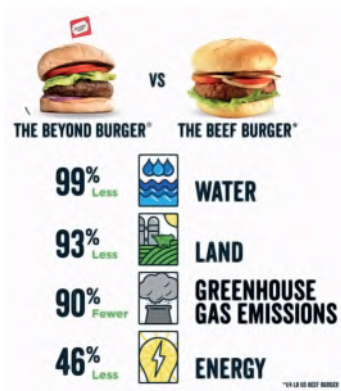


When you have finished with this magazine please recycle it.

28



44



32



40



Produktionslinie für Brühwurst

14



IN THE NEXT ISSUE:

- * Humane Stunning and Slaughtering
- * Skinning, Deboning & Trimming, Portioning, Grinding, Separating, Sorting
- * Vacuum Pumps
- * Sustainable Solutions for Meat Packaging Manufacturers

Ordering Deadline: 7 February, 2019

Publication Date: 18 February, 2019

INDEX OF ADVERTISERS:

GEA Food Solutions Bakel B.V	11
GLOBAL G.A.P	35
Industrial Auctions B.V	9
IPCO AB	51
ISHIDA Europe Ltd.	49
LIMA S.A.S	31
Marel Stork Poultry Processing B.V.	39
NOCK Maschinenbau GmbH	7
Productos SUR, S.A (PROSUR)	47
STEEN FMP International NV/SA	39
U.S. Poultry & Egg Association	60

PROSEAL TEST KITCHEN SERVES UP TRAY SEALING PERFECTION

Tray sealing specialist Proseal has refurbished and expanded its popular Test Kitchen facility, providing an enhanced service to help food manufacturers identify their ideal tray packaging requirements.

Based at Proseal's headquarters in Adlington, Cheshire, the Proseal Test Kitchen offers access to a wide variety of testing machinery, allowing companies to carry out shelf-life trials and seal integrity testing in order to facilitate smooth product launches without the need to invest in their own materials and equipment.

The availability of more than 15,000 trial plates and vast stores of trays and films of different materials in stock for trial samples and inspiration allows food producers to identify the most appropriate solution for their particular applications. In addition, Proseal can provide expert advice on the best packaging suppliers to use for different requirements.

Among the testing machines in the new facility are a vacuum tank, gas cylinders for MAP, gas analysers and Proseal's ProTest unit.



The ProTest machine is a universal, bench-top peel strength testing unit that quantifies the peel strength of any tray and film combination. This tells users how much force is required to peel open the film – an invaluable tool in ensuring that a pack meets the required peel-ability standards that will ensure it offers the ideal balance between customer convenience and food protection.

The Test Kitchen has been designed to provide an ideal environment for food testing with excellent lighting, easy-clean surfaces, and storage for chilled and frozen products, while the increased area of the new facility

means that it can now accommodate multiple users and prolonged trials.

"The Test Kitchen has already benefitted lots of our suppliers and customers by allowing them to prove material compatibility, analyse film tensile strength and produce presentation samples," explains Jessie Malone, Test Facility Manager at Proseal.

"Our enhanced facility will continue to provide the necessary production and pack conditions for customers to test and trial their products, for example the growing trend in the use of sustainable and recyclable packaging materials."

www.proseal.com

THE NEW VACUUM SEALERS EVOLUTION 300 PRO AND PLUS MADE BY KOMET: THE QUICKEST ONES OF THEIR CLASS!

The new tabletop vacuum sealers Evolution 300 Pro and Plus made by Komet distinguish themselves by an especially quick vacuum cycle and thus offer lots of advantages such as packing more products in the same time, serving customers more rapidly or less idle running in the kitchen.

The Evolution Pro has a double seal and is equipped with the Comfort

control, the Evolution Plus comes with the Perfect sensor control with boiling point recognition – which is important when packing liquids. Furthermore, with the Evolution Plus the open end of the vacuum bag is automatically cut off.

Both machines require a very small footprint and have a sealing length of 305 mm. In this way, they cover



the most often used bag sizes and are suitable for numerous applications

and target groups such as the gastronomy, butcher shops, food trade, cooking schools, market stall operators, barkeepers, but also for ambitious hunters, anglers and hobby cooks. Other advantages are: high quality finishing, easy to clean and extremely hygienic, since they are completely made of stainless steel, full end vacuum and "Made in Germany". They are easy to operate and are equipped with a display with large, easily readable figures and status displays.

www.vakuumverpacken.de

NEW!

NOCK
CB 435/4E HVC
**HORIZONTAL-
VERTICAL-CUTTER**

➔ ideal e.g. for chicken breast



Nock[®]

Know-how in food processing!

NOCK Maschinenbau GmbH
Industriestrasse 14
77948 Friesenheim/GERMANY
Tel: +49 (0) 78 21 / 92 38 98-0
E-mail: info@nock-gmbh.com
www.nock-gmbh.com

FROZEN MEAT SPECIALIST TRANSFORMS EFFICIENCY FOLLOWING INSTALLATION OF BITZER ECOSTAR CONDENSING UNITS

Poultry and meat specialist Westgate Frozen Foods has transformed the efficiency of its Lancaster food production facility following the installation of two high performance BITZER Ecostar condensing units.

The LHV7E/4CE-9.F3Y cooling systems, installed by Desiccant DryAir Systems Ltd of Morecombe, are equipped with the latest generation mini-channel condensers, high efficiency EC fans and BITZER's latest Ecoline varispeed compressor.

The BITZER system replaced two aging Searle evaporators and condensing units which had been damaged during a flood, and were struggling to cope with the -20deg C demand from the freezer plant during this summer's heat wave.

Ecostar was chosen due to its small footprint and packaged design, which incorporates all components and controls within a fully enclosed unit, simplifying installation and minimising wiring.

Mike Woods of Desiccant DryAir Systems, who led the project, said: "Since the Ecostar units were installed, our customer has been able to meet all refrigeration requirements from



a single unit, resulting in significantly lower energy bills, and giving 100per cent capacity in reserve to meet future expansion and peak demand. The savings, of course, will continue to accumulate over the lifetime of the plant."

Refrigeration output is controlled by the cold-room temperature, harnessing the fine control made possible by BITZER's inverter driven compressors. The customer reports that the new system "coped effortlessly" with the remaining two months of the peak heat-wave over the summer.

Real-time monitoring of the units is possible using the built-in web communications system that comes as part of the Ecostar package.



Mike Woods said: "This project was a first for us with Ecostar. However, following its success, we are now quoting all relevant enquiries with Ecostar. The units give us real confidence that we can fit and forget them, and that they will perform the task as required. In addition, the technical assistance provided by BITZER - from plant sizing at the beginning right through to commissioning - was outstanding." He added: "The only downside is we no longer get many call-outs to site, whereas we were often on site when the old kit used to fall over. But, on the plus side, we have more time to focus on serving customers with new solutions."

www.bitzer.de

SPEED UP WITH MEYN; FIRST 15,000 BPH PROCESSING LINE IN TURKEY

Meyn, the market leader in poultry processing, is well known for its reliable equipment at high processing speeds. In response to the rising demand for high-protein food, Senpiliç, Turkey's largest chicken producer, has selected Meyn as the preferred supplier for their new Greenfield project in Osmaniye. Construction activities are on schedule, and 80 percent is completed. The new site is expected to be fully operational as of January 2019. Meyn with its Turkish partner is very proud to deliver all equipment - from arrival to deboning - for the first 15,000 bph project in the history of Turkey. The new processing plant includes the first Rapid Plus Breast deboner M4.1, the Meyn Carousel rehangar M2.0, the Meyn Line Weigher M2.0 in the region.

The required total investment with a worth of 400 million TL (\$65 million) is Turkey's largest-ever agricultural investment. Initially, Senpiliç will establish



a feed mill with an annual production capacity of 579,500 tons and a poultry processing plant with a daily capacity of 450,000 birds, in Osmaniye Kadirli. At a later stage, hatchery and breeding farms will be added.

Hasim Gürdamar, CEO of Senpiliç, stated that the integrated facility

creates an ecosystem in an area of 200 square kilometers with 840 farms and 3,500 employees.

Senpiliç has a turnover in excess of 1.8 billion with the capacity of 320,000 tons of chicken meat and a 15 percent market share in Turkey.

www.meyn.com

BETTER DATA ENABLES BETTER DECISIONS FOR MEAT SUPPLIER

The use of specialist software from CSB-System has given a leading US meat supplier 'unmatched' transparency that has delivered important benefits for both the business and its customers.

Deli Brands of America supplies wholesalers, restaurants and steakhouses, food retailers and industrial customers with delicatessen, steaks, veal, pork, lamb and other specialities. Previously the company had used several manual systems, including Excel and Outlook, as well as many paper-based forms for operating its production facility. This led to inaccurate data, time-consuming information retrieval and poor reports.



The introduction of the CSB-System solution has enabled the company to manage its operations based

on real-time data. For example, when it comes to the quality of raw materials and ingredients, "we can



see where we stand every minute of the day,” explains Jeff Saval, Deli Brands of America’s President. “Using the software, we have improved performance in inventory control, yields, personnel deployment and post-calculation,” he continues.

The system allows comprehensive tracing of various process steps throughout the company, using automated traceability and advanced reporting tools such as dashboards with detailed information. This enables Deli Brands to meet the strict traceability requirements of the British Retail Consortium standard.

The Business Intelligence module provides real-time data that the company can retrieve immediately instead of exporting reports or searching for information. Stock on hand, sales, financial reports and open receivables and payables are available at the touch of a button, as well as via smartphones.

Customers have also benefitted through enhanced order fulfilment. The system allows fast replies to enquiries, provides precise cost calculations, and makes billing more accurate and easier to read. Equally important, by scanning the barcodes of their products on receipt, customers can maintain the data chain for traceability.

“We chose CSB because they know the meat industry very well and because they could give us a level of transparency that was unmatched by other ERP systems,” concludes Saval. “As we grow, the system will grow with us and our requirements.”

www.csb.com



**Industrial
Auctions** BV

Professionals in online auctions for the food and beverage industry

Online auction vegetable and meat processing machinery on former location Kuijten Verswaren in Eindhoven, the Netherlands

Viewing day: 10th of January | Closing auction: 15th of January



Online auction machinery for the food industry on behalf of Fountain Group in Wisbech, United Kingdom

Viewing day: 15th of January | Closing auction: 23rd of January



Online auction machinery for the food industry due to discontinuation activities AGRO-ON in Horn, the Netherlands

Viewing day: 22nd of January | Closing auction: 24th of January



Register for free

Find and bid

Win

Pay and pick up

www.Industrial-Auctions.com

REX TECHNOLOGIE - VACUUM FILLER & PORTIONING SYSTEMS

The new REX vacuum filling machines, series 300, 400, 700 and 900 are the result of more than 30 years of experience. They satisfy a broad spectrum of individual requirements. The new series replaces the already well proved and tested REX vacuum filler programme and it is the innovative pioneer for machine processing of various types of liquid or viscous sub-stances.

Services Rendered on a Permanent Basis

The qualified advice in the selection of machines to suit your special requirements; commissioning and demonstration in your company; regular service and

prompt customer service: This is the foundation of long-term cooperation.

Entry Models with Lifting Device

The RVF 420 and RVF 430 models are designed with all requirements of small trade in mind. The various equipment variants along with the optionally available lifting and tilting device make the machine a perfect vacuum filler for small companies.

The compact and space-saving design, with smooth and hygienic machine housing, as well as the large rotary vane conveyor system for precise portioning, correspond ideally to user needs. The meat emulsion is transported gently, especially for large product inlays and larger pieces of meat or raw sausage applications. The rotary vane conveyor system is available with 8, 12 or 14 vanes, alternatively also with blind vanes.

Both the RVF 430 and the RVF 420 are designed to be suitable for all applications, e.g. for operating clipping machines, REX hanging lines and attachments. The standard folding hopper is available in the variants with 100, 160, 250 and



350 litre hopper volume. The hopper flap opening is assisted by gas pressure absorbers. The large fold-out step rounds off the machine's user-friendliness.

The standard 12" touchscreen control is impressive thanks to its large-sized control elements making it easy to operate.

The tried-and-tested "REX Servo drive" rounds off the innovative control concept. The fixed or rotating casing holding device makes it easy to twist artificial and natural casings.

Features That Make the RVF 420 & 430 Special:

- Large rotary vane conveyor system for gentle meat emulsion transport
- Modern servo drive concept for highly accurate portioning
- Simple to fill and clean thanks to folding hopper
- Standard 12" touchscreen control
- Compact and space-saving design
- Solid machine body, manufactured completely from stainless steel



www.rex-technologie.com



The secret of perfect brine distribution and retention

GEA MultiJector for poultry and bacon

Choose the GEA MultiJector for achieving high quality products, longer shelf-life and maximum yield. The machine is equipped with GEA OptiFlex needles that are stronger than stainless steel and flex instead of breaking, even when injecting bone-in products. The needles are housed in a unique removable cassette for easy changeover and cleaning. With adjustable heads for maximum time-in-meat, a variable stripper plate and an ultra-hygienic design, the MultiJector offers unrivalled accuracy, consistency, flexibility and yield at a low total cost of ownership.

GEA North America Tel +1 214 618 1100 sales.northamerica@gea.com

Meet GEA at IPPE show
Atlanta
Booth B-5107



ILLEGAL, UNREGULATED, AND UNREPORTED FISHING: HOW GLOBALG.A.P. CAN HELP

A series of workshops with the topic "Illegal Fishing: How Surimi & Fishmeal Industries Can Help" were organized by Pew Charitable Trusts in collaboration with GLOBALG.A.P. and other private schemes to provide awareness and education of Illegal, Unreported, and Unregulated (IUU) fishing in Southeast Asia, as well as the understanding that seafood buyers around the world are increasingly demanding IUU-free supply chains. These workshops are also aimed at positively changing purchasing behavior in the fish meal and surimi industries in Vietnam, Thailand, and Indonesia, in order to reduce the risk of IUU fish being used to make fishmeal and oil.

Mr. Pham Viet Anh, Technical Key Account Manager at GLOBALG.A.P.,



attended two workshops in Bangkok, Thailand (8-9 Nov 2018), and in Ho Chi Minh City, Vietnam (15 Nov 2018), and presented GLOBALG.A.P. initiatives to address IUU fishing using both compulsory and voluntary standards for Compound Feed Manufacturing. At the moment, GLOBALG.A.P. has a compulsory standard called Compound Feed Manufacturing and two voluntary

standards (Add-ons) for Responsible Operations and NON-GM (i.e. no use of genetically modified raw materials/feed ingredients). These standards are being applied in feed mills for livestock and aquaculture. As of September 2018, GLOBALG.A.P. has certified more than 157 compound feed manufacturers in 30 countries around the world.

In conclusion, GLOBALG.A.P. has been working together with international communities, including private and public sectors, to prevent feed ingredients sourced from IUU fishing from being used in compound feed manufacturing.

www.globalgap.org

LIFTING DEVICE FOR ARTISANAL MACHINES

Blasting masters, roofers and track workers live dangerously. This is understandable as they can blow themselves up, fall off the roof or be hit by a train.

However, butchers are not exposed to all these risks - at least as part of their daily work - but dealing with sharp knives and more important a high level of physical strain also make this profession a high risk.

The Maschinenfabrik Seydelmann KG consistently pursues the goal of transferring all the advantages of the industrial machines to the artisanal machines in order to make working in the sausage kitchen as efficient and ergonomic as possible.

The new lifting device is designed for the standard Euronorm meat crates (E1, E2, E3) and an additional option



for cutters and grinders. The containers are stacked on a trolley and pushed onto the lifting device. By activating the knee switch on the cutter or push button on the grinder, the boxes are raised one after the other to working height. The lifting height corresponds to the box height, which can be set individually. After reactivation, the lifting device continues to move up, thus the next box can be easily removed at working height.

This improves the ergonomics of the operator elementary - standing with

a straight back, the filled, heavy meat crates can be discharged into the machine. At the same time, this way of working saves time.

Once all the boxes have been emptied, the lifting device lowers and the next stack can be pushed onto the lifting device.

When the lifting device is no longer needed, the carriage holder can be folded up. In this position it is locked and the space in front of the machine is free.

With the approach to make work in the sausage kitchen as efficient and ergonomic as possible, the Maschinenfabrik Seydelmann KG also wants to contribute to increase the attractiveness of the profession butcher in order to counteract the recruitment and succession problem.

www.seydelmann.com

GRASSELLI ANNOUNCES THE LAUNCH OF ITS DIRECT SALES AND TECHNICAL SERVICE OPERATION FOR THE UK AND IRELAND

By March 1st 2019, Grasselli will be servicing its customer base directly in the UK and Ireland, from spare parts supply, to service and new machine sales.

The direction of Grasselli and Cutting Edge Services, its long time distributor, has diverged, with Grasselli wanting to give full focus on their superior product range of slicing and skinning equipment and Cutting Edge fully focused on servicing the customers across a broad portfolio, and they have mutually agreed that Grasselli is better placed as a direct operation.

Starting March, 2019, all of Grasselli's know how and experience will be

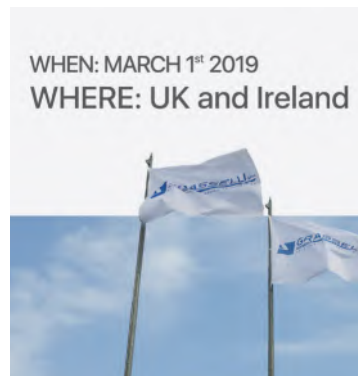


at close reach, thanks to a new direct sales and service organization.

Providing the highest levels of efficiency and productivity through advanced and innovative technology, that's Grasselli's goal. Today Grasselli is proud to shorten the path to its customers and to strengthen company's international presence in the UK and Ireland.

Grasselli and Cutting Edge will continue to work together, albeit in a more limited capacity, to ensure that customers are always in the best position.

www.grasselli.com



X-RAY MODELS IDEAL FOR LARGE ITEMS

Ishida Europe has extended its range of x-ray inspection systems with the launch of two models specifically designed for larger size products and pack formats.

The new IX-EN-5592 and IX-GN-5523 can detect a wide range of foreign bodies in large and heavy products, both packed and unpacked, such as transit cases and blocks of cheese. Their high-capacity inspection chambers - 550mm wide and 270mm in height - are perfectly suited to the EURO standard 600mm x 400mm cases and crates and are able to handle products with weights up to 25kg.

Both models incorporate Ishida's patented GA (Genetic Algorithm) technology that allows users to optimise their x-ray machine for their own unique



product characteristics. Each GA can be tuned to focus on a particular foreign body that could pose a risk during production, greatly improving sensitivity and detection rates.

The IX-EN-5592 provides the ideal entry-level x-ray inspection solution, ensuring accurate and reliable inspection for uniform products. The IX-GN-5523 offers even greater levels of versatility in its inspection of packed and unpacked products and features an integrated air conditioning unit. Set-up and operation of both machines are easy

via their user-friendly touch screen controls, and their ergonomic design and stainless steel construction make the models easy to clean.

In addition, the overall design of the machines and their small footprint enables them to be easily integrated wherever they are required on the production line.

As well as providing valuable food safety and product quality to deliver consumer reassurance and effective brand protection, Ishida's x-ray technology can also carry out a wide variety of additional quality checks. These include counting components, weight estimation, checking fill levels, measuring product size and detecting flaws such as missing or broken items.

www.ishidaeurope.com

LARGEST TRADE SHOW FLOOR EVER FOR 2019 IPPE

The 2019 International Production & Processing Expo (IPPE) will have the largest trade show floor ever in the event's history. It has already surpassed 560,000 square feet of exhibit space and has secured more than 1,315 exhibitors with eight more months to go to the Expo. IPPE is the world's largest annual feed, meat and poultry trade show of its kind and is one of the 50 largest trade shows in the United States. The trade show is sponsored by the U.S. Poultry & Egg Association (USPOULTRY), the American Feed Industry Association (AFIA) and the North American Meat Institute (NAMI). "Ninety-two percent of the show floor has been booked. We are pleased that our decision to go to all three halls of the Georgia World Congress Center has been beneficial in accommodating the increased demand for additional

space needed for new and existing exhibitors," said show organizers.

Due to the Super Bowl being in Atlanta, IPPE will be held Tuesday through Thursday, Feb. 12 - 14, 2019, at the Georgia World Congress Center. The 2019 IPPE will provide attendees with a full week of education programs, innovative technology, engaging events on the show floor and enhanced networking opportunities with key leaders from the feed, meat and poultry industry. The vast trade show floor will showcase the most current technology, equipment and services used in the production and processing of feed, meat and poultry products. Combining the expertise from AFIA, NAMI and USPOULTRY, IPPE will also feature more than 140 hours of dynamic education sessions focused on the latest industry issues.

2019 Animal Agriculture Sustainability Summit to Feature Advancements in Industry Sustainability Programs

Reflecting the continued importance of sustainability to the future of the protein sector, the annual Animal Agriculture Sustainability Summit will once again be held at the 2019 International Production & Processing Expo (IPPE) in Atlanta. The Animal Agriculture Sustainability Summit is scheduled from 9 a.m. to 12 p.m. on Tuesday, Feb. 12, 2019, and is offered free of charge to all registered IPPE attendees.

Sponsored by the U.S. Poultry & Egg Association (USPOULTRY), the Animal Agriculture Sustainability Summit program will focus on current sustainability topics relevant to the animal agriculture industry.





Representatives from Tyson Foods, JBS USA and other companies will provide insight on their company's efforts to advance sustainability practices and processes. There will also be an update on the newly formed Poultry & Egg Sustainability and Welfare Foundation and the U.S. Roundtable for Sustainable Poultry & Eggs. The program will conclude with a ceremony announcing the winners of USPOULTRY's Family Farm Environmental Excellence Awards for 2019.

NAMI Announces Details for Four Free Education Programs at 2019 IPPE

The North American Meat Institute (NAMI) announced details for four free education programs at the 2019 International Production & Processing Expo (IPPE), scheduled to take place Feb. 12-14, at the Georgia World Congress Center in Atlanta, Ga. The Beef 101 session, scheduled from 8:30 to 10:30 a.m. on Tuesday, Feb. 12, will provide an overview of the beef lifecycle, address common questions regarding beef production,

discuss factors affecting beef quality and offer a unique demonstration of innovative beef cuts. The workshop will feature Davey Griffin, Ph.D., professor and extension meat specialist, Texas A&M University. NAMI is once again partnering with the American Meat Science Association (AMSA) to host the Pork101 education workshop on Monday, Feb. 11, from 1 to 5 p.m. The four-hour, hands-on session offers attendees a brief look into AMSA's three-day Pork 101 Conference. The workshop will address quality and consistency issues in the pork industry, providing insight on the value differences in swine, pork carcasses, pork primals and processed pork products. The session will feature Dr. Griffin and Dean Pringle, Ph.D., associate professor and undergraduate coordinator at the University of Georgia.

Meanwhile, the Get the Facts With Meat Mythcrushers session will introduce attendees to NAMI's Meat Mythcrushers video series, which uses referenced facts and industry experts in the areas of affordability, animal welfare, antibiotics, environment, food safety,

meat processing, nutrition and livestock handling to crush some of the most common myths to help consumers make informed choices. The session, which will be held Wednesday, Feb. 13, from 2 to 3:30 p.m., will equip attendees with the tools needed to talk to consumers and customers about food production practices. NAMI Vice President of Public Affairs Eric Mittenthal will lead the session.

The Meat Industry Regulatory Update and Compliance Session, scheduled from 8 to 10 a.m. on Wednesday, Feb. 13, will cover the major regulatory issues affecting meat processors in the past year and the challenges facing the meat and poultry industry in 2019. In addition, the session will provide an overview of common in-plant inspection and enforcement issues and discuss strategies to best respond to these matters. NAMI's Senior Vice President of Regulatory and Scientific Affairs and General Counsel Mark Dopp and Vice President of Regulatory Services Norm Robertson will lead the session.

www.ippexpo.org

SMART SOLUTIONS AND LESS GIVE - AWAY

Cabinplant, innovative and global supplier of tailor-made processing solutions for the food industry, participates in IPPE 2019 where the company will present value-creating news in three key areas:

- * Post-marinating of fresh poultry meat enabling deliveries in small batches
- * Sensor-gate technology that addresses the issue of more precise weighing
- * Reduction of give-away through multiple portion sizes from the same process

Post-Marinating Allows for Small Production Batches

Supermarkets need frequent deliveries of fresh and varied marinated products on display in the counter. For producers, this requires a production set-up enabling production in small batches and frequent shift of marinades.

However, marinating of poultry products usually requires time-consuming cleaning of production equipment, like tumbler, elevator, multihead weigher, tools for the weigher and the marinade dispenser.

The Cabinplant marinating system disrupts the process because marinating is done after portion weighing. The marinade is added to the fresh meat in a special mixing-tool just before the meat is dropped in the tray. Only the tool and the dispenser need to be cleaned, allowing a much more frequent shift of variants.

The change-over time is down to less than 20 minutes and the cleaning time is reduced with up to 80 percent. In addition, the meat is treated far more gently because it will no longer be marinated in a large drum with perhaps several hundred kg of meat.

Our marinating solution is a proven solution and installed at several of Europe's large poultry producers. A

German poultry producer has tested the solution, where one part of the batch was marinated in a traditional drum and the other part was marinated after portion weighing. Blind tests showed that consumers preferred the taste and look of the Cabinplant-products", says Henning Ingemann Hansen, Development Director at Cabinplant.

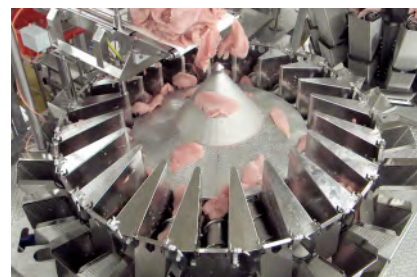
The marinade dispenser can be integrated with the weigher to make the dosage variable relative to the weight of the meat. If the meat weighs more than minimum, the amount of marinade is reduced accordingly. This saves marinade and results in packages of consistent weight.

The Cabinplant marinating system is placed in line with the packing line and after weighing the products are packed in trays or thermopack. The solution can be used for both meat and poultry. A patent has been applied for the system and it can be combined with Cabinplant's multi-weigher.

Sensor-Gate - Accurate Weighing of Few-Piece Portions

The sensor-gate technology addresses the issues of precise weighing of few-piece portioning in trays, in combination with a screw feeding multihead weigher. The optimum is to feed one piece of product into each weighing pan, thus obtaining the highest number of combinations for the highest level of accuracy of weight, e.g. 450 grams of chicken breasts with 3 pieces in a shelf-ready packaging.

The sensor-gate technology constantly measures the opening of the gate to each pan and adapts the speed of the screw so that only one piece of meat is dumped into the weighing pan. This reduces the number of duplets or triplets in the pans making it difficult to obtain uniform package sizes.



The sensor-gate solution has an intelligent and various speed control that reaches from "fast forward" to almost "slow motion", ensuring that there is always a product in the screw which reduces the number of empty pans - thus increasing the capacity of the packing line.

"We analysed how we could increase productivity in packing lines with screw feeding multihead weighers. The problem was unintelligent running time control system that let too many products in at a time. The sensor gate is the solution", says Henning Ingemann Hansen, Development Director at Cabinplant.

"Sensor-gate technology allows only one fillet per pan and the less weighing pans with duplets or triplets, the better. It means an increase in the possible combinations, meaning precise portioning and according to tests a significant reduction in give-away", he continues.

Sensor-gate is a patented technology by Cabinplant and it is being installed in packing lines of poultry production sites all over the world.

Multiple Target Weighing Reduces Costly Give-Away

The demand for poultry or meat, portioned in trays with a fixed weight is increasing but it can become costly for the industry. Fluctuations in average weight of the products over a day will now and then make the producer work with a high amount of give-away.

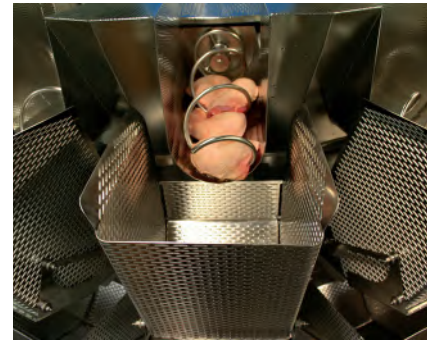
Cabinplant's dual/multiple target system can be set to work with one, two or multiple weighing targets of products in the finished packages. For example, the solution simultaneously can weigh out 450 grams and 1000 grams packages. This can reduce give-away dramatically.

"We have seen return on investment for the dual target system of only three months, in some cases even down to one month", says Henning Ingemann Hansen from Cabinplant. By working with multiple packaging sizes at the same time, the weighing system can optimize the grammage. Products that do not fit 450-gram

packages are instead used for 1000-gram portions. It offers a much greater flexibility and a lot smaller Give Away.

The rationale behind the solution is simple: If the average weight is 160 grams per fillet and a pack of 450 grams must contain three, it can become difficult to avoid give-away. In practice, give-away will be 30 grams per packet, which adds up to a lot per year in a two-shift production line, five days a week. If the average weight is less than 150 grams, the problems are even greater.

The dual/multiple target solution consists of software and a tool that



can be installed in existing Cabinplant packaging lines with multihead or combinatorial weighers and equipped with the sensor gate technology.



ADVANCING POULTRY PROCESSING

During IPPE, Marel Poultry will exhibit new ways of singulating, inspecting and cutting portioned poultry meat. We will also demonstrate the most advanced live bird handling system currently available, which pays close attention to animal well-being, sustainability, hygiene, and product quality.



Visitors can learn about the entire range of Marel Poultry processing solutions, from live bird handling up to packing and labeling. All of Marel Poultry's innovations are driven by the company's passion for advancing poultry processing.

Integrated Portioning

Marel Poultry will have on display an integrated solution consisting of a SingleFeed to singulate fillets where they will run through a SensorX for

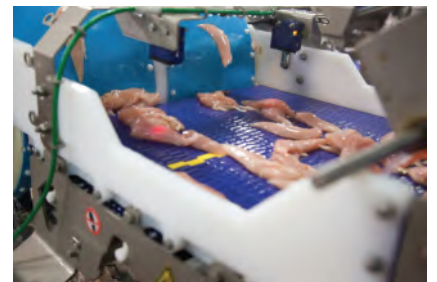


bone detection and then continue to the newest edition of our I-Cut 122 to be made into strips.

Animal Well-Being

The company will have on display their revolutionary ATLAS live bird handling system. The technologically advanced SmartStack module not only gives high attention to animal

well-being but also increases efficiency considerably. Along with the ATLAS system, CAS SmoothFlow will be showed cased too. This well-proven,



multiphase concept enhances animal well-being and product quality.

Full Production Control

Innova Food Processing Software is an integral part of the equipment on display and Marel Poultry will demonstrate how the software can further add value to your production, with a focus on food safety and traceability.



GEA DEMONSTRATES EXCELLENCE IN FOOD PROCESSING

GEA's leading technology strives for perfection at each stage of product preparation and packaging. The technology company will be putting its inspiring new processing and packaging solutions center stage at IPPE (booth B5107/hall B) from February 12 to 14 in Atlanta, Georgia/USA. Key highlights include its new multi-purpose brine injector, the GEA Multijector 2mm with flexible needles; the new GEA CookStar with in-line smoking application for super heat smoke; a new decanter series, GEA ecoforce for processing high quality animal by-products and a new packaging machine PowerPak PLUS. The new unique in-line freezer control system CALLIFREEZE®, which was launched during Anuga FoodTec 2018 in Germany, will now be presented to the North American market.

Gea Multijector for High Quality Bacon and Poultry Production

As inventor of industrial injection, GEA will celebrate its 50 years of expertise by introducing the new Multijector 2mm, an innovative continuous in-line injection solution developed for

Photo GEA



GEA Multijector 2mm with flexible needles for injections that do not break or distort and injection accuracy with a low standard deviation that can maximize profitability.

high quality and accuracy in the art of bacon making and poultry processing. The new equipment features unrivaled injection accuracy with a low standard deviation for excellent product quality and maximum profitability; flexible needles that will not break or distort, and maximum Time-in-Meat technique. The modular design includes exchangeable manifold needle cassettes for easy cleaning and quick changeover.

Time-in-Meat is a GEA injection precision technique based on the specific combination of stroke height and injection cycle time, both optimized for each product type. Thanks to the Time-in-Meat technique, the needles stay in the product longer during injection, which leads to better brine uptake and more even brine distribution. As a result, product quality and consistency are significantly increased, and higher efficiency and yields can be achieved.

At the heart of the GEA Multijector are the unique 2mm OptiFlex needles which combine flexibility with special strength. They are four times stronger than traditional stainless steel and will flex and recover their shape, helping

Photo GEA



GEA CookStar with SuperHeatSmoke is an award-winning in-line solution for smoking meat, poultry, seafood and meal components.

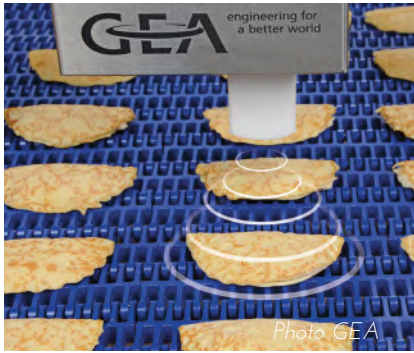
to prevent bent or broken needles and ensure consistent quality and maximum productivity. This help avoid over or under-cured areas for a more consistent taste and color.

Where There's Smoke, There's Flavor! - Gea Cookstar With Superheatsmoke

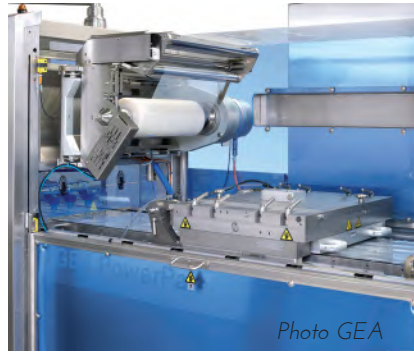
For more than 25 years, the GEA CookStar has been the leading oven in the food industry. The third generation GEA CookStar has evolved into a three-phase cooking concept, with the ability to cook any product in virtually any style. Combining the double spiral oven technology with the SuperHeatSmoke concept, enables food processors with in-line production to produce and brand their products with a CleanSmoke label. SuperHeatSmoke is the innovative and award-winning solution for in-line smoking of meat, poultry, seafood and meal components and is generated using a Red Arrow purified smoke condensate. The smoking process is conducted at temperatures above 100 °C. The oven provides a controlled environment for a more consistent smoke flavor and authentic coloring, similar to a traditionally smoked product. The technology further enables taste and color variation by using smoke condensate with various colors and flavor intensities and by applying smoke in one or both oven sections.

Callifreeze® - A New Unique Inline Freezer Control System

The new freezer process control system CALLIFREEZE® continuously measures the level of product



CALLIFREEZE® – a new unique in-line freezer control system for GEA S-Tec and A-Tec spiral freezers.



GEA PowerPak PLUS thermoformer with new technology features.



Photo GEA

The newly developed GEA hygienic decanter series GEA ecoforce provides the highest hygienic standard.

frozenness at freezer outfeed and adjusts freezing time, air temperature and fan speed to achieve the exact freezing quality with minimum energy consumption. The new system reduces power consumption and improves efficiency. The control unit can be configured for GEA S-Tec and A-Tec spiral freezers, handling a wide range of food products including meat, poultry and fish, ready meals, bakery and dairy products.

GEA PowerPak PLUS

The well-known thermoformers of the GEA PowerPak product family open up new possibilities thanks to a wealth of technical innovations. New features contribute to the objective of making the customer's work easier, which means more efficient with improved packaging quality; reduced film consumption; simple handling, as well as safe process sequences and greater availability.

The unwinding systems for both the top and bottom films in the GEA PowerPak PLUS are motorized and synchronized with the machine's advancing cycle. In combination with the innovative web tensioning system, they facilitate a controlled unwinding and a simplified and secure film path. For top and bottom films, it is also possible to adjust the

transverse position during operation. The axial position of the films is automatically monitored and regulated in an optimum fashion. Overall, this provides the basis for a substantially improved sealing seam quality. In addition, there are hygiene-related benefits because mechanical braking systems and the dust discharge this normally involves are eliminated. And downtimes due to jammed or sticking rollers are also a thing of the past.

Processing of High Quality Meat and By-Products with Decanter Series GEA Ecoforce

Animal by-products from meat processing, such as skin, bones, blood and flare fat, are valuable raw materials. They can be processed into lard, tallow, collagen or gelatin. In addition to the processing itself, producers within the food production chain must meet high hygienic standards in terms of raw material quality and handling. The newly developed GEA hygienic decanter provides the highest hygienic standard available on the market. This high standard is achieved via special adaptations required for food processing. These include the use of FDA-approved components, modification of the surface roughness from Ra 4.0 µm to Ra 0.8 µm, and design of corners

and surfaces with optimal cleanability, as well as a defined arrangement of spray nozzles.

To improve decanter performance, GEA has developed the GEA PerformancePlus service tool. With its different service level options, GEA PerformancePlus extends way beyond routine preventive maintenance and complements the Industry 4.0 strategic efforts of GEA customers. The service tool provides maintenance, monitoring, analysis and optimization services. By combining modern condition monitoring technologies with its industry expertise, GEA experts carry out analyses and recommend measures for optimal plant operation. In turn, GEA customers receive valuable information so business decisions which impact performance-related goals are easier to make. GEA PerformancePlus creates transparency when it comes to the actual condition and status of the equipment, increases its availability, ensures optimum productivity, delivers efficiency optimization and enables sustainable equipment utilization. This service tool is currently available exclusively for Separation. An expansion to other product groups will take place in the future.

MEYN - LET'S WORK!



Meyn will participate in the International Production & Processing Expo (IPPE) 2019 which takes place in Atlanta, Georgia USA, at the Georgia World Congress Center from February 12-14. At the IPPE, Meyn will offer its latest technology in processing equipment from live bird handling to deboning for a wide variety of line speeds and bird sizes - allowing its customers to achieve a high level of productivity with minimal labour.

For the poultry processing industry, labour has now become a critical issue with rising poultry consumption while unemployment rates are low. Poultry processors around the world, especially in the US, face many labour challenges. During the trade show, poultry processors will discover Meyn's innovative solutions that address labour challenges such as labour shortage, labour safety, and quality & consistency of working. This year, our campaign slogan will be 'Let's work' meaning Meyn provides relevant solutions to help the customer with their labour challenges.

The High Level of Productivity with Minimal Labour

Customers see unique benefits from this unrivaled deboning solution; it's still the only solution available that can harvest all fillets and tender products automatically at the highest capacity. The result is a significantly minimized dependency on labour skills and labour availability. The new Meyn Rapid Plus breast deboner M4.1 increases the capacity up to 7,000 bph while reducing the footprint up to 16%. The modular design and set up allow for an optimum TCO while saving up to 33 full-time employees per shift.

The Meyn Rapid Plus breast deboning concept has been globally accepted and proven to be very successful. At the IPPE Meyn will also present a sneak preview of the Rapid Semi-Automatic loading solution in addition to the Rapid Plus.

More Consistency in Poultry Processing

Meyn provides the latest innovation for the Physic and Flex Plus cut up

lines M3.0 for an unchallenged performance within numerous modules that can process up to 7,500 birds per hour. The new design of modules provides top performance both in accuracy and quality of cuts with a weight range increasing from 1.0 to 2.5 kg to 3.2 kg for grillers.

Labour Safety at the Processing Line

The Meyn evisceration equipment has been optimized by implementing the new ECP 1.1 concept. All machines are now fully covered with safety doors for total enclosure. Therefore, infeed guide adjustments can be made without opening the safety doors making for easier and safer operation at high-speed processing lines. In addition, fine-tuning adjustments can be made when the machine is running for maximum uptime and high yield.

LOMA LAUNCHES HIGH PERFORMANCE X5 PIPELINE X-RAY INSPECTION UNIT

'Designed to Survive' X5 Pipeline System Offers Reliable and Accurate Inspection of Pumped Food Products for On-Going Consumer Safety and Brand Protection

In response to growing demand for high performance contaminant inspection equipment from increasingly diverse global food industry applications, Loma Systems (www.loma.com) has added a Pipeline model to its expanding range of X5 X-ray equipment. The advanced new unit has been developed to ensure on-going consumer safety and brand protection, as well as further strengthen operating efficiencies and quality control processes.

With the risk of contaminants from incoming raw ingredients at its highest, Loma's X5 Pipeline system is ideal for the inspection of pumped products, such as processed meat, poultry, sauces, jams and slurries, at any stage prior to final processing and packaging.

By removing foreign bodies early in the process, Loma's X5 Pipeline further reduces product waste and helps eliminate downtime as a result of contaminants damaging expensive production equipment further down the line.

Like all Loma X5 X-ray inspection systems, the new X5 Pipeline adheres to the company's 'Designed to Survive' ethos whilst delivering maximum uptime at a low lifetime cost of ownership.

Loma's X5 Pipeline offers reliable and accurate detection of a wide range of foreign body contaminants, including

ferrous and non-ferrous metals, stone, ceramic, glass, bone and dense plastics, regardless of their shape, size or location within the product.



The X5 Pipeline can be used with 2.5" or 3" pipes and ARU (2.5") and ARL (2.5 or 3") reject options. The removable pipe cassette provides a simple option when changing between different sizes.

Pumped products can be messy but the easy to clean, low maintenance X5 Pipeline

is IP69K rated making it ideal for harsh, high pressure wash-down environments.

Offering a compact footprint, the X5 Pipeline requires a 400mm pipe length, without reject of S-bends, and can be easily integrated with a wide range of vacuum filling machines.

The X5 Pipeline incorporates Loma's Adaptive Array Technology (AAT) which tailors resolution, depth and scaling to give unrivalled inspection performance. It also eliminates the need to specify diode array pixel size as the system will adjust to give ultimate detection performance for each product.

Built for 24/7 operation, Loma's X5 Pipeline offers automated set-up, remote diagnostics and features an easy to use intuitive full colour touchscreen with multiple language options. It has been migrated to Windows embedded standard operating system and includes a high speed USB sensor and simple Ethernet connection for easy reporting.

As with all Loma's products, customers benefit from a high level of before and after sales service and receive a tailor-made solution to their X-ray inspection requirements.

TOMRA FOOD SHOWCASES HIGHTECH-PERFORMANCE OPTICAL SYSTEMS FOR MEAT AND POULTRY

Consistently high quality, reliable ejection of defective products, as well as less waste of valuable food - this is what TOMRA Food, part of the TOMRA group with headquarters in Norway, contributes to with innovative analytics and sorting systems. The leading manufacturer of sensor-based systems will be showcasing its Process Analytics Portfolio for the meat and poultry industry at the IPPE show on 12th- 14th February 2019 in Atlanta, Georgia USA.

Operations and applications experts from TOMRA will be on hand to show and explain to both poultry and red meat processors the unparalleled benefits of the company's next-generation technology:

Tomra Fatscan - In-Line Fat Analysis for Smaller and Medium Volume Processors



*TOMRA FatScan
Sensor-based in-line fat analysis system*

The economical TOMRA FatScan performs a sensor-based analysis of the fat content of meat such as beef and pork, whether frozen or fresh. The system reliably and continuously controls products of various shapes and sizes - both trimmings and diced or minced meat. Thanks to the interconnectance

spectroscopy developed by TOMRA, the fat content is determined with high accuracy for the entire product flow passing through the system and can be adjusted in real-time. This helps you avoid production stops. The user-friendly system with an intuitive user interface provides measurement data and reports at the touch of a button and enables complete traceability and documentation of all processes. The compact TOMRA FatScan helps users standardise and classify meat, optimises the purchasing process through continuous quality control, and ensures an even more efficient use of raw materials - enabling users to reach higher margins. The result is end products of consistently high quality.

Tomra Qv-P - Advanced Poultry Meat Detection



*TOMRA Qv-P
Real-time classification of muscle myopathy
in poultry meat*

The filtering out of chicken breast fillet, which is interspersed with firm connective tissue, poses great challenges for quality control in the poultry industry. With the TOMRA Qv-P, a unique patented detection system for poultry meat, butterflies or fillets with the muscle myopathy "wooden breast" or "spaghetti meat" can now

be reliably detected. The system thoroughly scans the product flow at processing rates of up to 240 fillets per minute and classifies each fillet in real-time. The user-friendly system can be easily integrated into existing lines or is available as a stand-alone version. The recorded measurement data can be retrieved as reports at any time and ensure complete documentation and traceability of the processes.

Thorsten Niermeyer, business unit manager Process Analytics at TOMRA Food, says: "The economical FatScan is perfectly designed for smaller and med-volume beef and pork processors and allows for precise, continuous



*Thorsten Niermeyer
Business unit manager Process Analytics at
TOMRA Food*

analysis of meat to improve batch control and reduce lean giveaway. Easily integrated into new and existing production lines, the compact FatScan will accurately measure fat in minced, diced, ground meats and trim. Visitors to our booth at IPPE will be able to see the both Qv-P and FatScan equipment in action and ask questions directly to the TOMRA team about how it will benefit their processes."



MAREL FURTHER PROCESSING WITH NEW EXITING SOLUTIONS

At IPPE 2019 Marel Further Processing shows a high capacity perfect and profitable solution for sausage production. Furthermore Marel highlights the newest coating equipment that enables you to take the next step in making perfect convenience products. Visit the Marel booth at IPPE in Atlanta (#B4211) to experience how we translate our thorough knowledge of food and process technology into new exiting solutions.

RevoPortioner

The RevoPortioner produces perfectly portioned products at low pressure, while retaining the texture and structure of the raw material. Regardless of whether the material being processed is beef, poultry meat (incl. whole muscle meat) or a meat mix, the RevoPortioner enables processors to create consistent products of practically any shape of uniform quality, exactly according to your wishes.

Thanks to our patented Helix Drum technology, the flow of meat will be



constant, supporting an optimum and more consistent end product.

Active Tempura Applicator

The Active TempuraApplicator applies a uniform layer of tempura or batter to a wide range of products. Besides formed products such as patties and nuggets, the Active Tempura Applicator can handle whole muscle and bone-in products. The machine runs up to 25 meters per minute and processes thick tempura batters up to 4000 cP.

coating, both to home style and flatbed coated products.

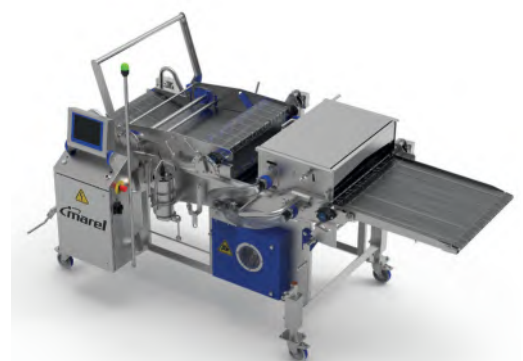
Frank-A-Matic Linker LK 400

Leveraging over 50 years of equipment knowledge and technological expertise, the fourth generation Frank-A-Matic Linker LK 0400 series offers industry-leading consistency in weight and length control for continuous, high-speed cellulose and collagen cased products.

RevoBreeder

Our new RevoBreeder is a flexible machine that offers a flatbed mode and drum mode. Thanks to the large drum size, the changeover time between both modes is less than two minutes, as the belt can be extended through the drum. Additionally, the large drum size ensures a high mechanical impact on products, guaranteeing optimum coverage and high pickup.

The RevoBreeder can handle a wide variety of dry coatings and offers even product distribution across the belt. This makes it the ultimate solution for applying high quality



2800 Peeler

The Townsend 2800 Peeler accurately removes the inedible cellulose casing from your cooked and chilled sausages without damaging the sausage itself.



www.marel.com
booth #B4211



HR GREEN WORKS TO TURN WASTEWATER INTO CLEAN ENERGY AT AMANA FARMS

HR Green offers specialty resources in Industrial Water and Wastewater Treatment. We assist clients with studies, design, permitting, and construction. We work with clients to provide treatment solutions that comply with corporate procedures and policies while offering sustainable solutions that add to the bottom line.

Amana Farms consists of 6,750 acres of crops, a 2,400-head cow/calf herd, a 4,000-head cattle feed lot, and a 1.69 million gallon anaerobic digester that is set up at the feedlot to digest manure generated at the farm, combined with waste from local industries.

The facility was designed to generate 2,600 kW electricity but biogas production was below expectations

and electrical power generation ranged from 300 kW to 1,100 kW. HR Green was asked to determine the cause(s) of the low gas production and provide recommendations to improve performance.

HR Green first recommended analysis of the ingredients being fed to the digester. Test results revealed that carbon content was severely deficient; the digester was overloaded with ammonia; no toxins were present in sufficient quantities to adversely impact the digester; and the industrial wastes were not high enough in carbon content to warrant the volumes being fed.

HR Green recommended that new substrates should be identified, tested and if the results are acceptable

be introduced to the digester. HR Green recommended the parameters that should be tested and provided guidelines with regard to interpreting test results. Amana Farms has since identified multiple potential substrates and full scale testing of these substrates is continuing.

Originally founded in 1913, HR Green has offices throughout the United States. HR Green offers specialty resources in Industrial Water and Wastewater Treatment. We understand the differences in industrial wastewater and water treatment and are accustomed to high strength waste. We provide viable, successful and sustainable solutions to all of our clients.



ISHIDA FLEXGRADER INCREASES THROUGHPUT

The installation of two Ishida FlexGraders at leading Hungarian poultry processor Tranzit Food has enabled the company to nearly double capacity with the same number of line operators.

The FlexGraders are grading packed duck and goose – both whole birds and pieces – into specified fixed weights for Tranzit's retail customers. Each pack is individually weighed and then diverted to a series of packing stations, according to its weight, where it is placed into a transit case for onward supply.



The 20 station FlexGrader is able to handle around 80 packs per minute, giving it the capacity to process around 3,600 ducks and 1,600 geese every hour, compared with the 2,000 and 1,000 birds delivered

by the previous manual system. Line operators are assigned three or four stations, where the packs are placed into the cartons and an outer case label is produced.

The system also has the flexibility to weigh and grade each pack by its individual weight where customers do not require fixed weights.

Packs sizes vary from 700g to 1200g for individual pieces and 1400g to 6500g for whole birds. Any pack not within the specified tolerances for a particular run is diverted to a special bin so that it can re-weighed.



The Ishida line, supplied by Ishida Hungarian agent MasterQuality, was specifically designed for Tranzit Food's requirements.

"We originally considered a 16 station FlexGrader," explains Ferenc Botos of Tranzit Food. "However, in discussions with Ishida to explain what we wanted to achieve, we opted for a 20 station solution and the company designed the system to meet our requirements and to maximise use of the available space in the factory. Ishida has been a very good partner to work with, with constructive suggestions, as well as providing excellent training for our operators."

Tranzit reports that the Ishida FlexGrader is simple to use.

Changeovers between birds can be done in less than a minute by calling up the required specification on the user-friendly Remote Control Unit, and tolerances can also be adjusted while the FlexGrader is in operation. The hygienic open frame design allows fast and easy cleaning, which takes place at the end of each shift.

The FlexGrader is operating two shifts, five days a week, with an extra shift on every second Saturday. Output is up to 28,000 birds per shift.

"Reliability has also been good and in the event of any issue,

we receive excellent support and back-up from Ishida," continues Ferenc Botos.

The Tranzit factory at Debrecen, which was acquired by the company in 2010, represents a major expansion of its business which has seen it continue to build its market share in key export markets for its market-leading Goldenfood brand.

"We consider Ishida to be the Rolls Royce of the machinery market,"



says Ákos Szabó, Tranzit Food's Executive Director. "If you want quality, you have to be prepared to pay for it.

"In our market, the need for accurate weighing remains constant but packaging and pack styles are continually changing, so you need reliability, flexibility and responsiveness in any weighing system, which is what Ishida provides."

For this reason, Tranzit Foods is looking to continue to invest in Ishida as it seeks to further increase the speed of its poultry processing operations.

www.ishidaeurope.com



AWARD WINNING POCKLINGTON BASED DETECTION EQUIPMENT MANUFACTURER, DETECTAMET, APPOINT GROUP MARKETING MANAGER



After 15 years of exponential growth, the market leader in detectable products for

the food and pharmaceutical industries, has appointed a Group Marketing Manager to further strengthen their international team.

"We've seen a phenomenal growth in demand for our products," says Helen Morrison, Detectamet's Group Managing Director, "and with this appointment, we can now focus on strengthening our global position. The last fifteen years have been about

growing the company and we have achieved remarkable success to date, but by creating this position we can now move the company into its next phase of growth.

"Our new Group Marketing Manager, Hellen Tordoff, has a wealth of business 2 business marketing experience, bringing much needed skills to the team."

www.detectamet.com

PROSEAL OPENS NEW US FACTORY AMID CONTINUED INTERNATIONAL GROWTH



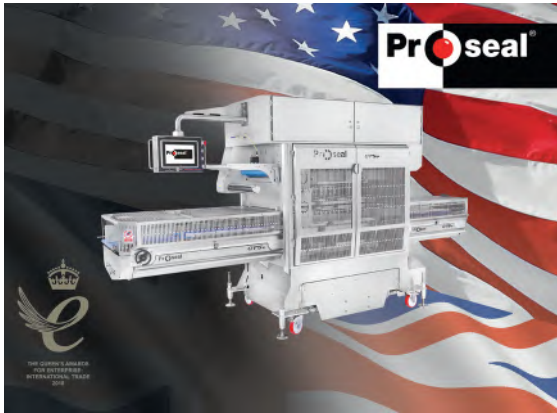
Tray sealing specialist Proseal has expanded its business in the US with the opening of a new production facility. The growth of Proseal America reflects the hard work and dedication of the Proseal America team, in

particular in identifying and meeting the growing demand in the US for fresh convenience foods.

The new facility – situated next to the company's existing plant and office

in Chesterfield County, Virginia – means Proseal America has effectively doubled in size to approximately 50,000 square feet. The company now has a staff of around 80, including highly trained engineers who fully manufacture the heat seal toolsets and spare components, as well as oversee the final fitment and testing of the Proseal tray sealing machines made at the UK headquarters.

"While we were already gaining a share in international markets before we started Proseal America, we decided that, to make the most of the opportunities in the US, we needed to establish our own base so as to ensure the highest levels of localised support," explains Gari Wyatt, CEO of Proseal America. "We came to central Virginia because there is a fabulous pool of labour here – and almost a decade on, it is the skill and dedication of our employees that has driven our success."



Proseal's advanced range of tray sealers is enabling food manufacturers to meet a shift in consumer preferences in the USA towards fresh convenience foods. The machines are also helping companies achieve greater throughputs and

efficiencies while delivering high-quality packaging.

Proseal America is now considering a further expansion that will enable it to produce entire machines for its customers. As part of this growth plan, the company is developing strong relationships with local colleges to start an in-house apprenticeship

training program to further strengthen the business's foundation.

"The new Proseal America facility is testament to the hard work and ability of all our team in the US," comments

Steve Malone, Proseal's Director, who co-founded the business with fellow Proseal Director Robbie Hargreaves in 1998. "The flexibility of our tray sealer range is very much answering the needs of the US market, and our biggest challenge, a good one, is simply meeting the demand.

"This success only encourages us to keep innovating and developing as new opportunities arise."

Proseal's ongoing success in the USA and other overseas markets was recognised this year when it received a Queen's Award for Enterprise in International Trade.

www.proseal.com

BETTCHER INDUSTRIES SIGNS DISTRIBUTION AGREEMENT WITH GRASSELLI



New agreement makes Bettcher the exclusive distributor of Grasselli manual and conveyorized membrane skinning and derinding equipment in the American market.

Bettcher Industries, Inc. announces that it has entered into a multi-year distribution agreement with Grasselli S.p.A and Grasselli SSI covering selected equipment segments sold into the American market.

According to the terms of the agreement, Bettcher Industries becomes the official distributor of GRASSELLI MANUAL AND CONVEYORIZED MEMBRANE SKINNERS AND DERINDERS for the U.S. market. The agreement covers

sales of equipment and parts, along with service activities which will be provided by Bettcher technicians.

According to senior leaders at both companies, the distribution agreement is a strong strategic fit for both entities. It combines Grasselli's innovative Skinner and derinder product designs and performance with Bettcher's focus on primary processing operations.

Bettcher is well-positioned to support primary processing because of the company's in-depth knowledge of yield management as well as its intimate, consultative approach to supporting America's meat processing plants. Not only has Bettcher forged strong working relationships with a large majority of the meat processing facilities throughout the country, its yield specialists and technicians excel at providing the yield management support that primary processors seek - and have done so for decades.

Grasselli slicing equipment is not included in the distribution agreement. Existing Grasselli slicer customers in the United States will continue to be supported through Grasselli SSI, the company's American marketing partner. Grasselli SSI will now focus its full efforts on growing slicing equipment sales and deepening business relationships with the customers of those products.

Commenting on the new distribution agreement, Don Esch, Bettcher's CEO, stated, "This is a natural fit for both companies. Grasselli has a superior lineup of membrane Skinner and derinder products, and we look forward to expanding the brand's presence in more meat processing locations. Not only are we able to provide productivity solutions for meat processors, we're committed to promoting the Grasselli brand while growing its reach and penetration here in the United States."

www.bettcher.com

MICVAC WINS THE 2018 SACCNY - DELOITTE GREEN AWARD

Swedish food tech company Micvac has been announced as the winner of the prestigious SACCNY-Deloitte Green Award 2018 by the Swedish-American Chamber of Commerce in New York, in collaboration with Deloitte, at the Sustainology Summit 2018

As a pioneering food tech company, Micvac contributes to a more sustainable society through their innovative system for healthy and environmentally conscious meals. The company has developed a chilled ready-meal system that utilises in-pack cooking and pasteurisation in one continuous process. Key to this process are the Micvac microwave tunnel as well as Micvac's patented packaging components: the Micvac valve, tray and specially designed film. This system enables delicious chilled ready meals to be produced that reduce food waste and have high levels of food safety, greater cost efficiency and significant energy savings all along the value chain.

Micvac's system has just been recognised and awarded with the SACCNY-Deloitte Green Award 2018. During the Sustainology Summit, every year the SACCNY-Deloitte Green Award is presented to a Swedish company that offers a breakthrough "green" solution or technology. The key is that the winning company demonstrates a vision to drive sustainability in the food chain and has developed a product or service that has a strong likelihood to revolutionise the food industry on a global level. The jury, consisting of thought leaders,

venture capitalists and academics specialised in the field, selected Micvac as the winner with the following motivation:

"In recognition of Micvac's food packaging method.", says Andreas Marcetic, Partner, Deloitte AB. "Micvac has created a great contribution to



SACCNY-Deloitte Green Award 2018

presented to



In recognition of Micvac's food packaging method. Micvac has created a great contribution to decrease the amount of synthetic preservatives being used in ready meals, as well as prolonging their shelf life, leading to a healthier and more sustainable environment.

SUSTAINOLOGY
November 13, 2018
New York City

Micvac proudly received the SACCNY-Deloitte Green Award 2018 at the Sustainology Summit in New York City, USA.
(Photo: Micvac AB)



*Delicious ready meals easily prepared within minutes due to the patented Micvac valve.
(Photo: Micvac AB)*



*Michael Bogdanski, CEO Micvac AB, was presented the SACCNy-Deloitte Green Award 2018 at the Sustainology Summit by Andreas Marcetic, Partner Deloitte AB
(Picture: Micvac AB)*

decreasing the amount of synthetic preservatives being used in ready meals, as well as prolonging their shelf life, leading to a healthier and

more sustainable environment." The Micvac method enables shelf life of up to sixty days without preservatives, compared to the typical five-day shelf

life for other chilled ready meals. This extended shelf life reduces spoilage in stores and at home while at the same time keeping food fresh and tasty.

Furthermore, the method itself is very energy efficient. Less precooking and less cooking of food in automatic cookers or large-scale industrial appliances leads to savings in energy and resources. Moreover, Micvac packages are extremely compact which in turn leads to energy savings during transport.

"This award is a true milestone in the history and development of Micvac," adds Michael Bogdanski, CEO of Micvac. "We have created the only truly innovative system that creates high quality sustainable chilled ready meals. All others either have very short shelf life with high spoilage rates or are preserved in some way that degrades food quality or includes unwanted additives. We are delighted and honoured to receive this prestigious award and look forward to continuing our work to further expand the adoption of the innovative Micvac system."

With their Sustainology programme the Swedish-American Chamber of Commerce, New York strives to bring attention to one of the most pressing issues of our time: sustainability in the food chain. By providing an arena for industry leaders, investors and innovators to create new partnerships in the food tech realm and awarding an especially forward-thinking company, they hope to encourage sustainable solutions to come to life.

www.c-b-c.de

EUROPEAN FOOD RETAILERS: “FOOD WASTE IS A MAJOR CHALLENGE”

Sealed Air's Recent Packaging Innovation is Set to Reduce Waste, Improve Efficiency for Processors, Retailers and Consumers

Improvement of sustainability credentials with optimised operational efficiency and brand's point-of-sale competitiveness are top concerns for food industry players.

Food processors are pressed to meet growing market demand for lower prices and greener image. Retailers, influenced by consumer trends, require products with new look and design, staying fresher for longer on the shelves. They also need to look at their profitability which is negatively impacted by in-store shrink.

These issues are being addressed by packaging manufacturers such as Sealed Air, which recently launched Cryovac® Darfresh®, a new vacuum skin packaging innovation to help support the food industry's need to reduce food waste and deliver cost efficiencies. The new product features top webs for mono-PP trays that can extend shelf life and improve brand differentiation for fresh red meat, poultry, fish, smoked and processed meat, cheese and ready meals products.

This new product addresses top challenges facing retailers and processors across Europe. For example, retail executives and managers estimate their store shrink level to be 26 percent, with the biggest contributing factor being product expiration (30 percent)¹. Additionally, to stand out in an increasingly competitive market,

food retailers are challenging processors to supply more eye-catching and convenient products for consumers. When facing retailer demands, food processors must also prioritise improving operational efficiency and profitability while ensuring environmental responsibility.



Sealed Air's Cryovac innovation seeks to alleviate these mounting pressures for both processors and retailers. This new top web for mono PP trays extends shelf life by up to 30 percent when compared with modified atmosphere packaging. The innovative, safe seal

prevents drip issues, and enables vertical display for increased point-of-sale competitiveness. The skin-tight, glossy pack and easy-open features make the product more appealing to the shoppers.

The new top webs are designed to be applied to a variety of mono-PP trays. This provides a greater range of potential tray supply options. Not only can mono-PP trays be thinner (by 100 microns as compared to PP/PE trays), but so are the new films. This helps processors to find cost efficiencies across the entire value chain. Material costs are also reduced due to a zero skeleton waste when used on the Cryovac Darfresh on Tray machine, in comparison to 30-40 percent scrap with traditional skin pack machines.

“In an environment of increasing business and consumer demands, processors and retailers can benefit from the improved sustainability and operational efficiency provided by Cryovac Darfresh new top webs for mono-PP trays,” said Didier Marteau, Europe, Middle East, Africa fresh red meat marketing director at Sealed Air. “With improvements at the processing and packaging levels, consumers can also recognise real benefits in the form of cost savings and convenience. The Cryovac Darfresh innovation is a win-win-win.”

www.sealedair.com

¹ Sealed Air/Planet Retail European Food Waste and Retail Shrink Study 2017 executed in France, Germany, Italy, Spain and in the UK.

KM PACKAGING ENHANCES KRESEAL RANGE WITH MULTYPEEL SOLUTION

Leading global supplier of flexible packaging and lidding films, KM Packaging, has launched its KReseal PET e AF resealable lidding solution, delivering enhanced multiple peel and reseal capability to improve consumer convenience and reduce product waste.

Part of the KReseal range, the new lidding film solution combines a reliable seal with leading-edge 'multi Peel' functionality, allowing the lidding film to be peeled and resealed multiple times without losing adhesion.

Sealing to aPET, rPET and some PET-lined pressed board trays, subject to testing,

KReseal PET e AF is the ideal solution to keep foodstuffs such as snacks, fresh fruit, meats and cheeses fresher for longer. It also helps to avoid contamination from other food products, including odour.



Charles Smithson, Managing Director at KM Packaging, said: "KReseal PET e AF is a fantastic addition to our comprehensive range of lidding film solutions. Offering a full-flange based reseal system, we can help manufacturers enhance convenience, minimise food waste and extend product shelf life.

"With the ability to peel and reseal multiple times, consumers can buy in

bulk, safe in the knowledge that food products will stay fresh due to a firm, secure reseal. This latest addition to the KReseal range is also ideal for on-the-go snacking, as packs can be closed and re-opened in between meals, without the fear of product leaks."

The KReseal lidding film range provides packs with high barrier performance, excellent anti-fog properties and low oxygen permeability making it suitable for MAP applications. Full colour printed solutions are also available, as well as macro holes, hot needle and laser perforation for advanced packaging solutions where applicable.

www.kmpack.co.uk

Quality in separation

Separators Deboners Desinewers



- High optimum yield • Nice structured meat • No prebreaker needed
- Hygienic operation • Quick dismantling • Minimum supervision • Space saving

A complete range from 100 to 20 000 kg/hr



LIMA, a team of specialists dedicated to quality in meat / bone separation through technology

WORLDWIDE SERVICE AND SALES



L I M A S.A.S. - 456, route de Rosporden - 29 000 QUIMPER - FRANCE

Tel. : +33 (0) 298 948 968 - Fax : +33 (0) 298 948 969

www.lima-france.com

lima@lima-france.com

AUSTRIAN MEAT MANUFACTURERS SUCCESSFULLY TURN TO FLATSKIN® SYSTEM BY SEALPAC

Food retailers in Austria, like in many other European countries, increasingly choose vacuum skin packaging. This technology can be found in a growing number of varieties across the retail shelves, owing to its obvious benefits: securely sealed under deep vacuum, food products have a significantly longer shelf life and can be presented in a much more attractive way. By introducing FlatSkin®, SEALPAC now offers a revolutionary skin packaging system to the market, which combines the renowned vacuum process with a

plastic reduction of up to 75%. In Austria, several manufacturers are already offering their protein products in FlatSkin® packaging at retail.

Sustainable Innovation, Optical Highlight

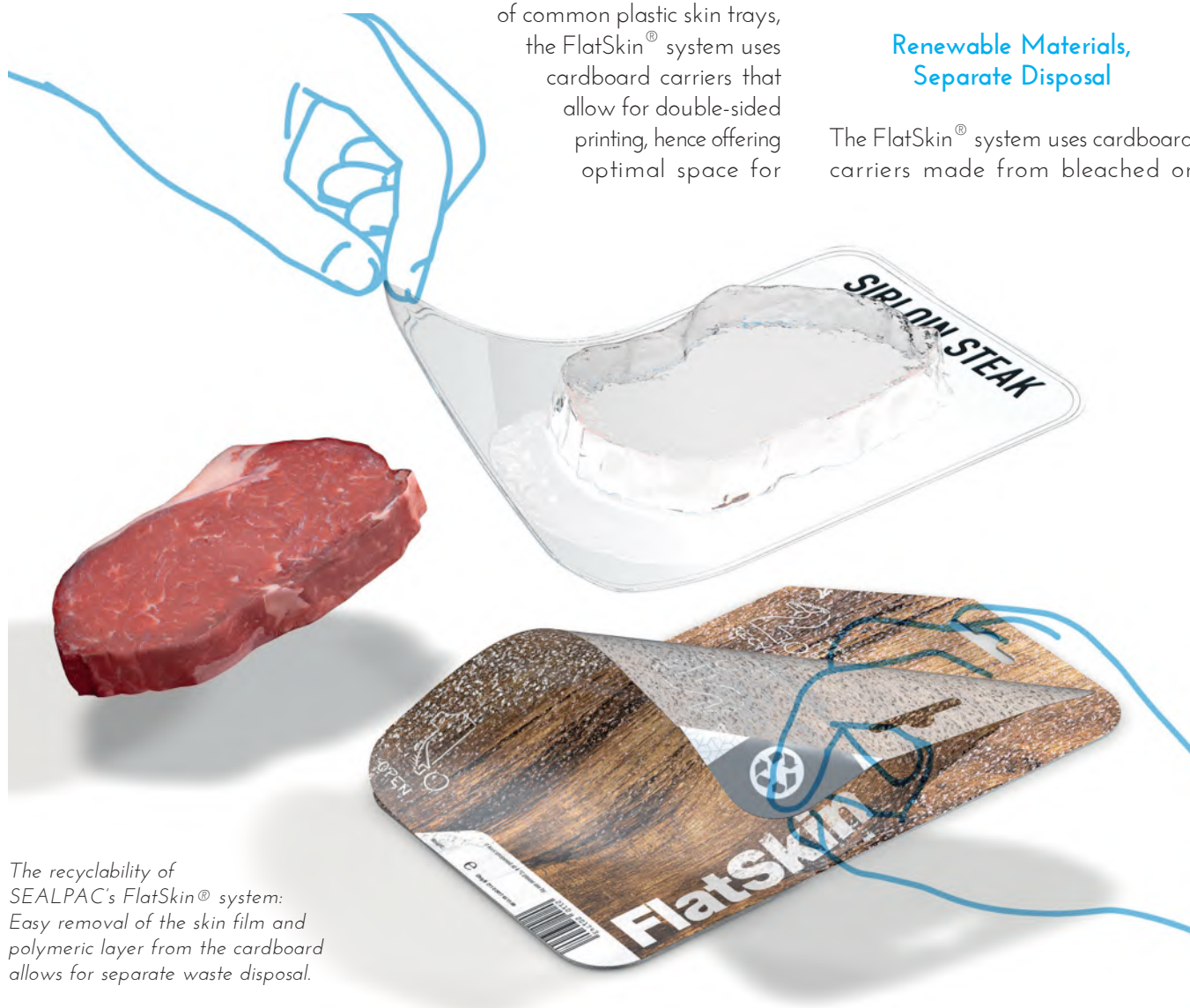
The FlatSkin® system, a joint development of SEALPAC (tray-sealing technology), VG Nicolaus (cardboard carrier) and Wentus (skin film), combines an attractive product presentation and extended shelf life with a highly sustainable use of packaging materials. Instead of common plastic skin trays, the FlatSkin® system uses cardboard carriers that allow for double-sided printing, hence offering optimal space for

product information whilst providing unique branding opportunities.

A highly transparent barrier skin film fixates the product directly onto the extremely flat cardboard carrier, which has been coated with a polymeric protective layer. This layer provides stability to the cardboard and forms a reliable barrier against grease, moisture and oxygen. FlatSkin® packs are perfectly suited to vertical presentation (e.g. hanging or standing), making them true eye-catchers at retail. In addition, the tight-fitting skin film provides an attractive 3D effect that highlights the product to the fullest.

Renewable Materials, Separate Disposal

The FlatSkin® system uses cardboard carriers made from bleached or



SEALPAC®

Forming innovations



SEALPAC's FlatSkin® system
at OSI Austria Foodworks:
Remarkable product
presentation with
excellent flatness
of the cardboard
carriers.

FlatSkin® packaging is used for steaks sold under the label „Zurück zum Ursprung“ („Back to the roots“) at HOFER retail stores in specific regions in Austria. With this brand, it is particularly important to offer a sustainable solution all the way from the raw ingredients to the final packaging, which is what FlatSkin® provides. Especially premium cuts of beef are presented at their best by using this vacuum skin technology.



SEALPAC's FlatSkin® system at
Marcher Fleischwerke:
Combining powerful branding with a
sustainable use of materials.

unbleached fibre, which can be printed on both sides by means of low-migration printing inks and varnishes. After taking out the product, the thin polymeric layer is easily removed from the cardboard to allow for separate disposal. As such, the FlatSkin® system achieves a plastic reduction of up to 75%, hence providing an answer to the food sector's increasing demand for sustainability. FlatSkin® is suitable for a wide range of product segments, such as fresh meat, cheese, poultry and seafood.

FlatSkin® Pioneers in Austria

Since the spring of 2018, the company OSI Austria Foodworks has been successfully supplying all NETTO

Marken-Discount stores in Germany with steaks packaged in FlatSkin®. The meat comes from OSI's own facilities in UK and Austria, such as dry-aged steaks from Alpenrind in Salzburg. In addition, its range of steaks includes international specialties from Ireland, Australia and the US. Crucial to the decision to switch to FlatSkin®, next to the environmental benefits, has been the particularly strong product presentation and durable flatness of the cardboard carriers while being able to maintain the shelf life of its previous packaging.

At Marcher Fleischwerke, FlatSkin® is applied for the premium steak range that it sells through internet (www.fleischwerkstatt.at). Furthermore,

Companies like Sonnberg Biofleisch and Huber Tirol will also rely on FlatSkin® in the near future. Here, the products of Huber Tirol will not only be available at SPAR supermarkets in Austria, but also abroad at for example EDEKA stores in Germany.

www.sealpacinternational.com

DOW ANNOUNCES NEW ACTIONS TO SUPPORT GLOBAL EFFORTS ON PLASTIC WASTE

Dow Joins Circulate Capital and the Ocean Conservancy with Investments to Keep Plastic Waste Out of the Environment

Dow announced its intention to further invest and develop new global initiatives and solutions that work to prevent and remediate plastic waste in the environment.

The initiatives, announced in conjunction with the recent Our Ocean Conference in Bali, Indonesia, include Dow's commitment to join several other major global brands to become a founding investor in Circulate Capital's \$100 million effort to incubate and finance companies and infrastructure that prevent waste in oceans. Dow also announced at the Conference that it intends to donate an additional \$1 million to Ocean Conservancy over the next two years to support waste collection and recycling solutions in Southeast Asian countries. This money would be used for projects that build the capacity of local non-governmental organizations and partnerships with city leaders to develop, scale and replicate implementable solutions.

"Dow is leading the way in our industry – by applying circular economy logic, collaborating across the value chain, innovating new products, and through the commitment of our employees and customers – to put an end to plastic waste in the environment," said Jim Fitterling, chief executive officer of Dow. "We will continue to seek opportunities to work with our industry partners, brand owners, local, national and international governments, NGOs and consumers to ensure that we develop true circular economy solutions for plastics."

Circulate Capital

Circulate Capital's mission is to demonstrate the viability of investment in the waste management and recycling sectors to

attract the institutional investment capital needed to scale integrated recycling and waste management companies and infrastructure across South and Southeast Asia. These regions have been identified as contributing disproportionately to ocean plastic pollution primarily because they lack the critical waste infrastructure to manage the problem. Circulate Capital's investment model seeks to mobilize institutional investment capital through financial structures that blend concessionary and philanthropic funds with market rate investment capital with a view to mitigating risk and demonstrating that investment in the resource recovery sector can ultimately provide attractive financial returns. Circulate Capital expects to receive \$100 million in combined funding from a variety of the world's leading consumer packaged goods and chemical companies.

"This is another important collaboration for Dow and reflective of our commitment to working alongside partners that share our desire to drive solutions to this critical issue," said Diego Donoso, business president of Dow Packaging and Specialty Plastics. "Circulate Capital's work is important because it empowers local people in the regions most impacted by lack of waste management infrastructure to develop actionable and scalable solutions within their communities. There are many people with both the ideas and the resolve to tackle this waste challenge and Dow is proud to help provide the capital to transform those ideas into solutions."

Ocean Conservancy

Ocean Conservancy is working to protect the ocean from today's greatest global challenges. Together with its partners,

the organization creates science-based solutions for a healthy ocean and the wildlife and communities that depend on it. Dow's latest \$1 million donation to Ocean Conservancy builds upon the more than 20-year relationship between the organizations. As a major sponsor of the organization's annual International Coastal Cleanup, Dow and Ocean Conservancy founded the Trash Free Seas Alliance® (TFSA) in 2012, a coalition of businesses, academics and NGOs, to analyze and address upstream causes of ocean plastic pollution.

"Partnering with organizations such as Ocean Conservancy are essential to Dow's commitment to advancing end-of-life solutions for plastic, as we accelerate innovation focused on driving new types of recycling processes, supporting reusability and using fewer resources," said Mike Witt, Dow's corporate director of Plastics Circular Economy. "Reducing the amount of plastic required to create products and improving the recyclability of plastics – while maintaining the benefits people need from plastics – are important parts of the solution that we support through research and collaboration."

These latest announcements add to a growing list of recent commitments and activities Dow is leading in plastics sustainability. Several of Dow's other efforts in this area include:

- Engagement with government: Dow recently announced a partnership driven by the World Economic Forum, called the Global Plastic Action Partnership, to bring businesses, civil society, national and local governments, community groups and world-class experts together to collaborate on solving plastic pollution.

This partnership is initially funded by the governments of Canada and the U.K, along with Dow and several global brands, with the objective to have investable localized solutions in place by 2020, which can then be adapted and implemented in other countries. The first project is a collaboration with the government of Indonesia.

- Cleanup of existing waste: Dow's recent #PullingOurWeight campaign, which began this fall, included more than 5,600 Dow employees, families and friends taking part in 55 cleanups globally, removing more than 52,500 pounds of trash and litter from beaches and waterways.

- Waste to energy: Dow initiated the Hefty® EnergyBag® years ago, a recovery initiative that collects hard-to-recycle plastics and converts them into valuable resources. As of July 2018,

the Hefty® EnergyBag® program has collected more than 176,500 bags and diverted more than 115 tons of plastics from landfill, the equivalent of approximately 92 million snack-sized chip bags or 546 barrels of diesel fuel. Dow recently announced another \$100,000 in grants for organizations to establish programs in their communities.


- Innovating for recyclability: Product innovation is another key part of Dow's efforts to end plastics waste in the environment. Dow's RecycleReady technology enables manufacturers to develop packaging that can qualify for the Sustainable Packaging Coalition's "How2Recycle" label and answer the demand for more recyclable packaging options. Packages made with RecycleReady Technology can be recycled via polyethylene recycling streams such as the grocery store drop-off system in the U.S. Dow also continues to focus

on compatibilizer technologies which allow multi-layer packaging materials to be recycled into new products, as demonstrated with our Virtuous Circle project in South Africa.

- Investing in recycling and waste management solutions: Another step Dow is taking to complement its circular economy activities is to drive development of new commercial recycling business models and growth strategies to monetize plastics waste recycling streams globally.


- Collaborating across value chain: Dow is also a founding member of the Sustainable Packaging Coalition, which collaborates with packaging converters and brand owners to increase production of stand-up pouches that can be recycled through existing polyethylene film recycling streams.

www.dow.com




THE GLOBALG.A.P. AQUACULTURE STANDARD


Caring for Consumers - Responsible Sourcing at All Stages of Production




COMPOUND FEED




HATCHERY




GROW-OUT



HARVEST




POST-HARVEST



Covers All Species of Finfish, Crustaceans & Molluscs

31 Species certified for Finfish

6 Species certified for Crustaceans, Molluscs



453 Producers under Certification

15 Accredited Certification Bodies

2+ Million Metric Tons Certified Worldwide

The only Aquaculture Certification Standard at farm level recognized by the Global Food Safety Initiative


Aquaculture Certification in **29** countries

Aquafeed Certification in **30** countries


Chain of Custody Certification in **21** countries

Consumer Label for Certified Aquaculture


www.globalgap.org/aquaculture



The Global Sustainable Seafood Initiative recognises the GLOBALG.A.P. Aquaculture Certification System V5.1-1 to be in alignment with all applicable Essential Components of the GSSI Global Benchmark Tool V1.0.



FORUM GFSI



GGN

LIMA, A WORLD OF SEPARATION

Since the time of its incorporation in 1981, LIMA is a company which has specialized itself in the design, manufacturing and sales of meat-bone separators, deboning and desinewing machines for the poultry, pork, lamb, beef and fish industries.

The company is located in the town of Quimper in Brittany region, in the western part of France. Equipped with the most up-to-date machine tools and facilities, LIMA keeps on innovating new mechanical separation technology. Its factory, in addition to manufacturing, offers testing facilities in its modern laboratory.

Numerous LIMA machines models, with separating capacities ranging from 100 to 20 000 kg/hr (220 - 44 000 lbs/hr) corresponding to the highest EU and US quality standards are at 95 % exported worldwide through a team of distributors servicing over 100 countries on all continents.

For those not evolving in the poultry or meat industry, the word LIMA would certainly evoke the magnificent capital city of Peru.

However, since its modest beginnings in the 80's, LIMA which literally in French goes as Les Innovations Mécaniques Alimentaires, The Mechanical Innovations for the Food industry, rapidly made a name for itself to become today one of the most acknowledged world leaders' in its field.

We may say that mechanical separation is their life at LIMA as they are 100% dedicated to this. Their job is



to separate the hard from the soft using a mechanical means.

The purpose is to maximize the value of co-products, such as, typically: wings, necks, drumsticks as well as poultry carcasses after automatic cut-up lines, which would otherwise be discarded or sold at a very low price as it would be virtually impossible to recover all this meat from the bones manually. The separation of the meat from the bones is performed by using a rotary auger into a filter. The machine gently pre-crushes the bones and as the auger pushes the raw material through the filter, the pressure is easily regulated by adjusting the distance between two conical parts at the bone exit of the machine. A graduated device enables the operator to know exactly in which pressure adjustment the machine is. As the pressure increases on the raw material, it enables to extract through the openings of the filter, the soft part, the meat whereas the hard parts, the bones continue their way to the exit of the machine. The first and most common use of such separated meat, referred to as Mechanically Separated Meat (MSM) is the production of fine

paste sausages such as Frankfurters for instance.

This is avoiding a considerable amount of non-desired side effects of the animal production.

This is a very significant amount of meat protein which is transformed into sausages or other meat products and offered on the market, generally at a very affordable price. In this sense, LIMA machines are serving a "green oriented" attitude.

LIMA has always been a prime mover in the development of new separation technology and filed several international patents.

Among the developments which were made by LIMA, only to quote a few:

- 1984 : Original one-piece slotted filter / auger patent on its LIMA S meat-bone separators for the production of excellent quality MSM at high yield.

- 1994 : Low pressure deboning head (filter + auger) patent with the manufacturing of its first low pressure deboners which



enables to separate meat from the bones with a better texture and consistency, closer to a minced meat.

* 1999 : Very low calcium deboning head development.

* 2006 : First pork skin / fat separators even for the hardest pork skins.

* 2011 : First BSP beef meat bones separators with incorporated bones

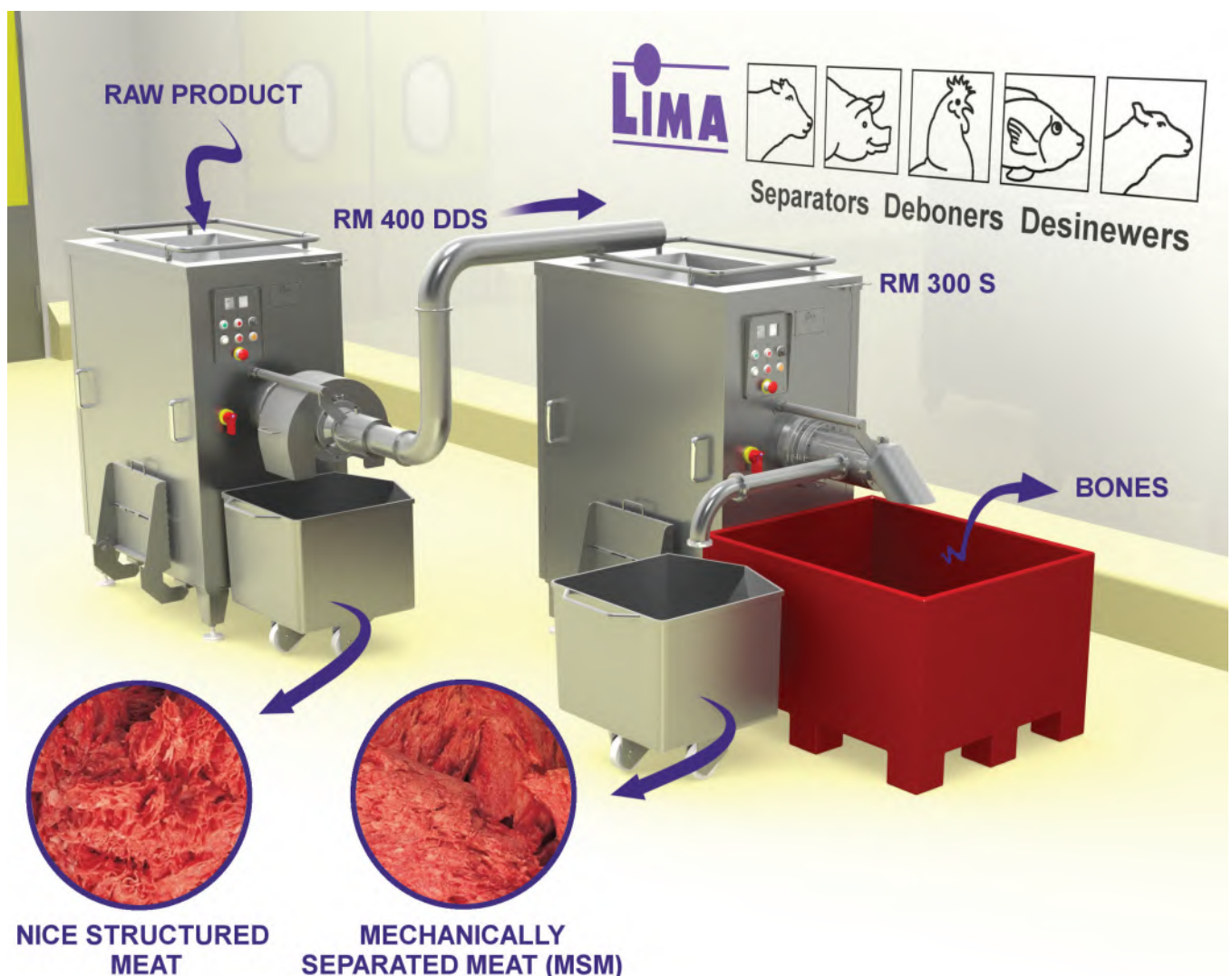
pre-breaker for a high quality beef structured MSM.

* 2015 : New very large capacity LIMA RM 2 000 S separator for chicken bones up to 20 000 kg / hr (44 000 lbs/hr), with very low maintenance cost features.

These developments enable LIMA to propose their customers with a full range of:

* Meat-bone separators type S for the production of excellent quality MSM at high yield, sometimes referred to as "LIMA meat" by their customers.

* Deboners for the production of very high quality separated meat in terms of Structure, Color and a low Calcium content, less than 1 000 ppm, commonly also referred to as "3 mm MSM" or "structured MSM" on the market. The mechanically deboning





applications are quite numerous such as for poultry raw materials : necks, V-bones, drumsticks, front carcasses, wings as well as for pork such as: back bones, necks, ribs.

- * Desinewers for the separation of tendons, sinews, cartilages, bone chips of meat cuts without bones such as trimmings, aponeurosis, shank meat at a very high yield, from 80 to 96%, so as to recover an excellent desinewed meat while C/P ratios remain under controlled values and the temperature hardly increases during the process.

and vice versa in a quick, easy and effective way.

Other specific applications have been developed throughout the years with its customers and not only for the human food industry but also the pet food industry or collagen industry with for instance:

- * Pork fat – skin separation, the good quality fat being reused in the formulation of further processed meat products and the defatted skin being used by collagen manufacturers.

These participate even more to the already established reputation of robust, user friendly and efficient separation equipment LIMA has.

It would take a very long article to enumerate all the separation capabilities of LIMA and what LIMA's customers actually separate, some animals being sometimes more exotic than those already mentioned. LIMA had estimated back in 2014 that more than 1 500 000 metric tons of separated meat were processed every year on LIMA



LIMA machines benefit from the following advantages:

- * No pre-breaking needed,
- * Single stage operation,
- * Low maintenance cost,
- * Optimum high yields,
- * Quick use and operator friendly

LIMA in its daily endeavour to develop equipment which actually fit its customers various separation needs, has standardized its range of equipment in order to enable most separators to be changed over into deboners or desinewers

- * Cartilage separation out of pork tracheas or beef gullets, such cartilage having various applications in the cosmetic and pharmaceutical industries.

Other soft bones coming from fish central bones after filleting or fish flaps can also be separated from the fish pulp, such fish pulp being used for the formulation of further processed products for human or pet food consumptions.

LIMA's expertise and experience has enabled the company to develop and propose its customers with deboners for much harder bones such as pork or beef.

separators, and this number keeps growing on. Definitely, LIMA has a world of separation!

LIMA actively participates to more than 35 different tradeshow a year, many of them being specialized in the poultry, meat and fish industries such as IFFA in Frankfurt, ANUGA in Cologne, IPPE in Atlanta, SIAL in Paris, SEAFOOD PROCESSING shows in Brussels or Boston and many VIV shows in Europe, Asia and in the Middle East. So, please feel free to come and meet them to discuss about your separation needs.

www.lima-france.com

RETAIL QUALITY WITH INLINE EFFICIENCY

THIGH FILLET SYSTEM

- Fully inline, automated thigh filleting up to cut-up line speed
- Revolutionary knee cap removal, keeping maximum yield
- Upgrading boneless thigh meat to an A-class, retail quality product
- No manual intervention needed

Contact us to find out more:
+31 485 586 111
info.poultry@marel.com
marel.com/tf

**ADVANCING
FOOD PROCESSING**



marel
POULTRY

STEEN®
www.steen.be



ST850

Turkey de-boner, thigh,
drum and prime wing

ST700

High-yield skinner for various whole fish, fillets and
poultry parts such as turkey, chicken, duck, pheasant, ...



VISIT OUR BOOTH
— B8327 —

OUR TECHNOLOGY, YOUR SOLUTION
FOR FISH AND POULTRY PROCESSING MACHINERY

PROGRESS THROUGH TRADITION

"Tradition is preserved progress, progress is continued tradition", as Carl Friedrich von Weizsäcker put it. In its 175 years of company history Maschinenfabrik Seydelmann KG impressively and repeatedly proved that this is the case.

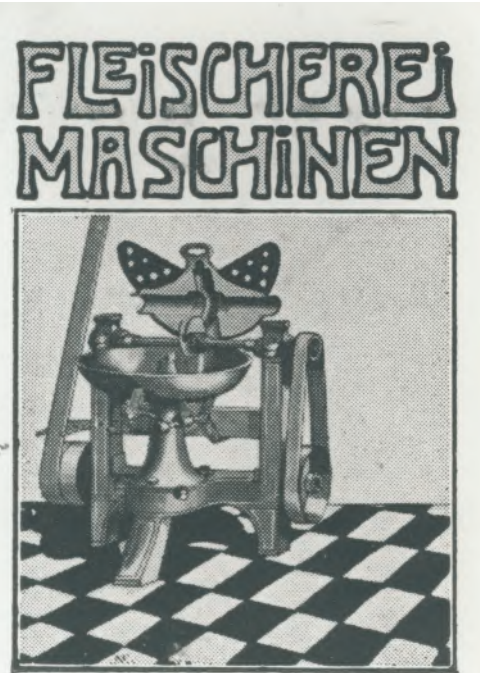


The notice of formation on March, 22nd 1843 in the local newspaper „Der Bote von Aalen“

Innumerable innovations lie between the first water- and transmission-driven cutter from the days of early industrialization and today's computer-controlled

high-tech machines. With their ideas, the sixth generation of the Seydelmann family is still driving the development of an entire industry. Much of what is standard in food processing today saw the light of day at Seydelmann. Numerous patents testify to this and make Maschinenfabrik Seydelmann KG a leader in quality and innovation. Today Maschinenfabrik Seydelmann KG is the global market leader in its field.

Artisanal and industrial companies from a wide range of industries find the right machines at Seydelmann - cutters, grinders, mixers, emulsifiers and entire production lines. Mainly used for the production of sausage and meat products, Seydelmann machines have also been established for years in manufacturing of cheese, vegetable, fish and pharmaceutical products as well as in the confectionery, soup, bakery and baby food industries. Each Seydelmann machine is built to order and according to specific customer wishes and needs. "Made in Germany" is a lived attitude - in addition to design and planning, the entire production steps like steel construction and welding, turning and milling, grinding, electrical assembly and machine assembly are carried out at the Aalen construction site. With more than 80 basic variants, the machine program today has an unsurpassed breadth of production.



The Cutter Blitz was the first cutter in serial production in Germany.

The First Innovations

The first meat-swaying-machine (Fleischwiegemaschine) of Louis Seydelmann in 1886 was still based on the manual sway-chop-method (Wiegehackmethode), which was then common in butchers. His son, Louis junior, designed his own transmission-driven cutter. Thanks to comparatively low-cost serial production, every butcher was henceforth able to operate his own powerful appliance. In 1910 the first 'mass-produced' "Blitz" cutter with transmission drive achieved a sensational blade shaft speed of 800 revolutions per minute. "Cheapest price, because my factory uses hydropower and serial production takes place on the most modern machinery," wrote Louis Seydelmann d.J. in the sales prospectus. Starting



Louis Seydelmann (fourth from the right) and his employees



Selling brochures 1924

1934, the first cutters and grinders with attached electric motors were constructed. The cutters with attached drive reached a blade shaft speed of 1,500 revolutions per minute.

The need for cutters and grinders rose rapidly after 1945. Cutters and grinders with built-in motors, ever larger capacity and higher performance - the time of the economic miracle demanded superlatives.

More Hygienic

Seydelmann was the first company to use stainless steel in its machines - thereby boosting product quality, hygiene, service life and labor efficiency. At the end of the 1950s, first the cutter lids were stainless-steel equipped, then the bowls, the complete outer surfaces, and in the case of the grinders from 1977 on also the worm housing,

the worms and worm nuts. From 1985 on, all cutters are equipped with a solid stainless steel machine frame. Hand-polished, stainless steel surfaces, welded and rounded edges and recessed, flush-mounted covers characterize the high-quality hygienic design of the machines. Automatic cleaning-in-place (CIP) equipment significantly reduces downtime for cleaning.

More Digital

The topic of digitization, which is hotly debated nowadays, was already addressed by Seydelmann in 1959 - with the first cutter controlled via punched cards. In 1987 Seydelmann developed a microprocessor control. The program control Memory 511 allowed from 1989 on an automated sausage production and consistent, plannable product quality. Since

2010, the Auto Command control has enabled recipe-based, fully automated operation of machines or production lines. A variety of functions and integrations follow the Industry 4.0 concept, in which the machines act as intelligent and digitally connected systems. Today, complex production lines can be operated fully automated without operators on the individual machines, controlled from a central control panel.

Digitization is also being used in development and production. Since 1989 Seydelmann has been planning state-of-the-art meat processing plants for customers all over the world. Today, machines and production lines are developed in the 3D CAD program and part loads are simulated.

More Efficient

Seydelmann repeatedly did pioneering work when it came to simplifying work



The Vacuum-Cooking-Cutter, developed in 1971, combines many work steps in one machine.



Higher Quality

With the development of the vacuum cutter in 1971, Seydelmann solved in one fell swoop a whole series of problems of meat processing. The processing of the brat under air exclusion has a positive effect on taste, texture, fineness and color, facilitates portioning and improves hygiene and durability. At the same time a weight-accurate filling is made possible by the homogeneous density.

In 1973, Seydelmann engineers have succeeded in revolutionizing the production of cooked sausage with the first cooking-cutter. The cooker allows to cook and cut the meat in a single machine. The user saves time and the product itself preserves all the flavors that were previously lost during the previous boiling in a water bath - a significant leap in quality. Already the first customer of the new cooking-cutter won awards for his products at home and abroad.

Using state-of-the-art production techniques, Seydelmann today builds the fastest cutters with cutting speeds of over 160 m/s. These allow the best processing results with the highest protein extraction and extreme fineness.

More User-friendly

Over the years, many new products left the research and development department of Seydelmann. Innovations such as hydraulic loading devices, screw conveyors and storage hoppers, outside knife, automatic balancing systems, monitoring of unbalanced state or the frequency-controlled drive



Sinews and gristles are sorted out automatically and removed separately

processes in the meat industry. Over decades, grinders and cutters took on more and more tasks that were previously performed at separate workplaces. Seydelmann machines turned into universal tools for meat processing.

In 1965 Seydelmann presented with the ULTRA cutter for the first time a product that was equipped with mixing gears. In addition to cutting and emulsifying, coarse ingredients can be mixed in now, in a very short time. The current generation of machines with their frequency-controlled, variable-speed AC-8 drives, achieve cutting speeds of more than 160 m/s, which enables excellent protein extraction and better utilization of all raw materials.

With the invention of the separating set in 1968, Seydelmann made it possible to automatically separate and sort out tendons and cartilage from the meat. This makes time-consuming steps in

preparation unnecessary. To date, the separation set is indispensable in the production of minced meat, burgers and dry sausage.



The separating set, developed in 1968, has helped to reduce time-consuming work steps until today

Since 2005, universal grinders have offered users even more flexibility: on the same machine, both frozen meat blocks and fresh meat can be processed. This allows more flexibility regarding fluctuating meat prices and saves an additional machine.

Energy-efficient, frequency-controlled drives achieve energy savings of up to 25 percent and switch-on or switch-over current peaks are avoided. In addition, the motors can be water-cooled thus offer the possibility of direct use or recovery of the waste heat.



made working with the machines more convenient and efficient. In addition, grinders and cutters work increasingly quieter.

unbalanced state improved the safety of the cutters. When it comes to grinders, features such as outlet hand guards and other safety

years. Loading aids and hydraulic product ejectors take on energy-intensive work steps, cross switches allow intuitive selection of functions and knee switches ensure that hands remain free during production. CIP cleaning also allows an automatic pre-cleaning.

What began as a mechanical workshop in Aalen in 1843 has grown into a leading global family-owned business with customers in over 150 countries and on all five continents. More



Produktionslinie für Brühwurst

Serial production allows highest quality with reduced production costs

Bigger and Faster

Several times in the history of the company, Seydelmann machines broke speed and size records. In 1958, the company introduced the "RASANT" model, the first high-speed multi-speed cutter. In 1967, the then world's largest cutter with 750 liter bowl content was delivered to Canada, in 1975 1200 liter bowl content were reached and in 1987 a mixer family with up to 5000 liter was developed. In 1970, the first grinder with 400 millimeter diameter was produced and in 1983, the then fastest cutter was again fifty percent faster thanks to high-tech precision production and minimal manufacturing tolerances. Since the beginning of 2008 cutters with knife speeds over 160m / s have been produced. In 2013, the K 1004 was presented - the largest vacuum-cooking-cutter ever.

Safer

Features such as noise reduction lid, safety guards and monitoring

guards led to significantly reduced occupational risks.

The minimization of noise emission is consistently pursued. Thus, the machine body is insulated and coated inside, knife systems with high smoothness and sophisticated control techniques are used.

Various features have improved ergonomics for the operator in recent

than 320 employees work at the company headquarters in Stuttgart and at the production plant in Aalen to fulfill customer requirements and further expand their quality and innovation leadership.

Tradition and progress are not opposites but go hand in hand. 175 years of tradition. 175 years of progress. 175 years Seydelmann. 175 years in the hands of the best.

www.seydelmann.com



With the new building, opened in 2017, Seydelmann continues investing in the future and high product quality

PLANT MEAT: CARNIVORE NO MORE

By Henk Hoogenkamp

Part 1

The combination of population growth and rising environmental pressures means the new protein demand will have to be met by more than animals. There is no doubt that animal-free proteins eventually become a significant part of the global meat and dairy market. However, it is true that consumers experimenting with vegan, vegetarian or flexitarian lifestyles are often looking for plant-based foods similar to those they are cutting from their diet.

For plant-based alternatives, texture and flavor remain a huge challenge, not to mention that it may be surprising to consumers that many plant-based foods contain significantly less quality protein and thus these nutrients must be obtained from elsewhere.

The plant-based food industry has gone from being a relatively niche market to fully mainstream in a matter of only a few years. The plant-based foods category are those that directly replace animal products like meat,

fish, eggs, and dairy, as well as meals that contain direct replacements of these animal-based foods. These meat and dairy alternatives are not just for vegetarians or vegans anymore; now, even mainstream consumers are enjoying these much-improved innovative food options.

Protein remains an essential nutrient and the accelerating demand for vegan foods; the need for alternative plant protein sources is growing. People are mainly driven to select "plant-based" foods to achieve health benefits, including managing and avoiding diseases and weightloss. Almost a third of Americans are flexitarians, even if they do not recognize the term.

Animal-free Alternatives

An increasing number of people living in affluent societies consider the traditional meat industry ethically unsound, environmentally catastrophic and embedded in old-world thinking. For many, the logical way forward

is the promise of sustainable proteins and cleaner foods.

Plant-based proteins have already proved commercially successful, and will maintain momentum as the younger generations increase their purchasing power. Plant-based proteins are mostly appealing for women, millennials and their offspring. In very broad numbers, the developed countries and affluent societies, about 23 percent of the adult population is flexitarian, 5 percent is vegetarian and 2 percent is vegan. To put it in numbers: total retail food sales in the US and EU increased by just 2 percent in 2018. In comparison, plant-based meat sales are growing by over 20 percent.

Premiumization

Young people drive the trend of "no longer eating meat" and are the most likely to worry about meat ethics. There is little doubt that persistent media campaign promoting plant-based eating is contributing to the rise of meat-free diets.

In the plant world the terms "vegan" and "plant-based" might appear to be interchangeable, but the majority of consumers tend to see plant-based as a more defined and positive dietary choice. Somehow the word "vegan" is sub-consciously associated with deprivation and a serious commitment to a cause such as animal rights and environmental activism.

While plant-based protein consumption continues to gain traction, and the consumption of -particularly- red meat will be a slow path of decline in developed countries, it can be expected that the consumption of animal protein foods will evolve



in which premiumization will take center space –i.e. less quantity but higher quality.

"The Burger that Bleeds"

It is quite logical that the plant-based meat industry is mostly targeting the traditional beef burger market. Over 50 percent of the beef served

The mission of these companies is feeding the world's burgeoning population with nutritious, tasty, affordable and environmentally-sound alternatives to traditional livestock-based systems of producing protein.

For the north American market burgers' have always been the lowest hanging carnivorous fruit, so it is

Part of the charm of "plant-meat" foods is the marketing claim that these products are 95 percent more efficient in terms of land usage, 70 percent more efficient of water usage, and generates only a fraction of the greenhouse gas emissions of a traditional burger.

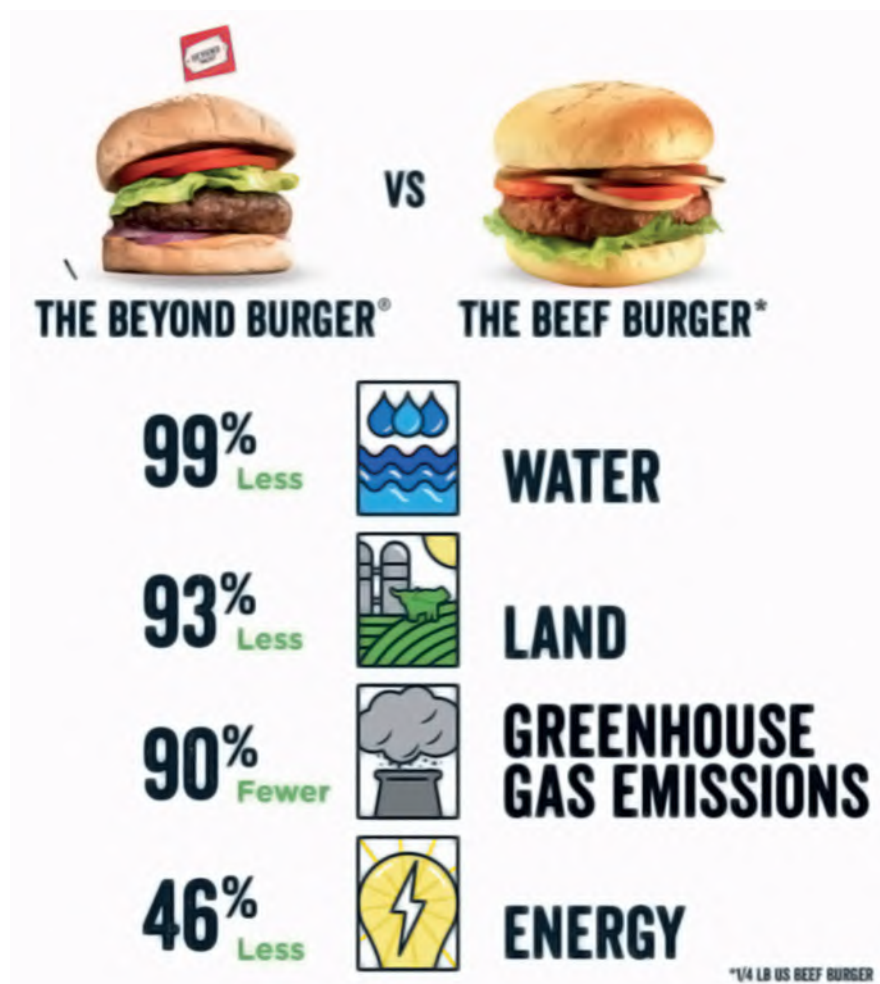
The plant-meat protein vision is not really new. Already since the end of World War 2 have American soy companies such as Central Soya, ADM, Cargill and Protein Technologies International, engaged in propaganda that going from plant to protein is much more efficient than translating anything through animals to create meat. (As a side note, it is generally accepted that the meat industry "love-hate" relationship with soy started in the mid 1950s when American soy companies tried to convince Europeans –who had been through the devastation of war- to eat "soy burgers").

The inefficiencies of animal meat are not solely about ecological conditions and sustainability such as damaging the ecosystem, but equally important the avoidance of some negative safety concerns including cholesterol, hormones, antibiotics and slaughterhouse scandals.

There is a Limit to Animal Harvest Growth

By 2050, global meat consumption is expected to increase by a staggering 40-50 percent compared to 2019. This huge increase will put enormous environmental and ecological strain on livestock farming. Presently, harvested crops face competition from both animal nutrition and human nutrition. These two pathways are on a collision course, and something has to give sooner or later.

Sustainable livestock intensification, including heavier carcasses weight and improved feed to grain ratios; will be of paramount importance to balance food security. However, despite progress



in the US is ground beef, of which more than 50 percent is served in restaurants.

US alt.meat companies are clearly on a mission to replace the All-American burger with a plant-based alternative to ground beef. Both the Beyond Meat and Impossible burger (US) –as well as the Moving Mountain burger (UK) are known as the plant-formulated "burger that bleeds".

no surprise really that the alt.meat companies decided to target the foodservice and millennial consumer first. Seen through the eyes of the alt. meat entrepreneurs, animal farming is not scalable and is going to create huge environmental and ecological problems in the future. Seen from this perspective, the challenge is of feeding the world at a much lower environmental impact than the current animal-based methods.

made to improve livestock harvest, the overriding question remains that the world cannot push traditional meat production to astronomical levels without being penalized somewhere along the way.

Every single week of the year, well over a billion animals are slaughtered worldwide and used as a source of animal protein for the human diet. When calculated per minute, this equals approximately 120,000 chickens, 2,800 hogs, 940 sheep, 800 goats, and 570 cattle. If fish were added to the equation, these numbers would probably triple, if not more.

In developed countries and affluent societies, the meat consumption per capita varies from about 50 kilos per person to as much as 102 kilos per person in the US. Most of the animals are raised on "factory farms" under confined conditions. The UN Food and Agriculture Organization (FAO) has projected that chicken will soar past pork as the world's most-consumed meat by 2020.

In comparison: the global formulated plant meat industry selling "vega-foods" is expected to grow at a rate of 9.2 percent in 2019 with countries like the UK and Germany growing very rapidly with double digits reaching almost 20 percent.

Legal Definition

The Vegetarian Society of the UK coined the word "vegetarian" around 1847. The

word originates from the Latin language "vegetari", which means "to enliven".

The drafting of an implementing act regarding the suitability of a food for vegans and vegetarians seems to be not a priority in the US. A legal clarification concerning the use of "vegan" or "vegetarian" terms on food products at EU and US levels is not likely to occur in the near future. However, the European Commission has announced in November 2017, it will begin establishing a legal definition of vegetarian and vegan food in 2019. Finally, the consumers, as well as, the manufacturers and retailers will be able to rely on one set of rules for plant-based food.

Plant Meat: Not If But When

In order to create a healthy, humane and sustainable food supply, the current food platforms need to be transformed away from factory-farmed animal products and moving toward cultured meat and plant-based alternatives. New technology and techniques are needed to engineer plant-based meat alternatives, with animal meat-eaters as the main target. The most important factors of alt. meat products that still need further refinement are the key elements of taste, flavor, smell and texture. To accomplish these goals successfully, a multi-disciplinary approach is needed to yield optimal results.

The future will probably look different even though many meat-processing companies are obsessed with driving-out costs by targeting lean meat replacement as an obtainable goal.

The question is not "if" but "when" the world will reach the junction where the use of lean full-muscle meat in emulsified sausage and all-beef hamburgers can no longer be sustained. When that point arrives, meat processors have no other alternative but to embrace transitional plant protein solutions to augment meat products. The leading transitional proteins are derived from soy, wheat, pea, and rice.

Today, the society relies on animals to turn plants into meat. In the future, a smarter way will prevail with meat made from plants ultimately transforming the global food system. Because no animals are needed, huge environmental, ecological and health advantages are achieved: No hormones, steroids, pathogens and antibiotics, less greenhouse gas emissions, significant clean water preservation and less land utilization.

Plant-based eating is not just about eating vegan, but rather a green evolution of social elements including animal welfare, sustainability, health and proactive living. Plant-based protein will be a big part of the food industry's future.

Real plant meat is a combination of amino acids - the building blocks of protein - some carbohydrates and vegetable oil, enriched with vitamins and minerals. These are the same components present in animal protein meat. Over the years, many names were coined to describe meat substitutes: mock meat, veggie meat, analog meat and fake meat. All of these names will slowly disappear from the vocabulary now that plant protein meat has reached the point of excellence wherein it can hardly be distinguished from animal-grown and harvested meat.

Vegan Food, are not of animal origin and in which, at no stage of production and processing, use has been made of or the food has been supplemented with:

- Ingredients, including non-natural additives, carriers, flavorings and enzymes.
- Processing aids
- Substances which are not food additives but are used in the same way and with the same purpose as processing aids in either processed or unprocessed form that are of animal origin.

Vegetarian Food, meet the requirements of vegan foods with the difference that in their production, the following may be added or used:

- Milk
- Colostrum
- Eggs
- Honey
- Beeswax
- Propolis
- Wool grease, including lanolin derived from the wool of living sheep or their components or derivatives.

A Game Changing Development

The future of world's food industry will increasingly focus to develop attractive products based on plant protein, as well as cellular agriculture, to create a sustainable and secure food solution for the rapidly growing populations.

As consumers look to decrease meat consumption, increasing number of people are choosing plant-based meat products. This trend is expected to further increase and, in fact, follows a similar trajectory as plant-based milk products that started to accelerate in 2010.

The plant-based meat market still has a long way to catch up the conventionally processed meat market. Globally, the processed meat is USD 148 billion (2018), far outpacing the USD 2.2 billion in packaged plant-meat sales. The gap is narrower in the US, where about USD 30 billion (2018) processed meat sales compare against USD 700 million in plant-meat sales. The top-five plant-based meat brands in the US by total sales are Morningstar Farms, Gardein, Beyond Meat, Boca Foods and Impossible Foods (US) LightLife (Maple Leaf Farms, Canada). The fastest growing brands in the category include Beyond Meat, Impossible Foods and Quorn. Whole Foods (an Amazon-owned company) carries most of the leading plant-based meat brands.

Although a great many people - especially millennials living in affluent societies - are actively cutting back on meat-based products, they do not wish to be labeled in a specific category of consumers. This indicates that a broader market may exist for plant-based protein foods beyond people who claim to be vegetarian.

For example, Australians have become more mindful in recent years about meat consumption for health and environmental concerns and the rapidly

growing vegan market is reflecting this trend. Growing media coverage is helping to take the vegan cause further. Data search from Google Trends is showing an increase in interest in veganism from 2004 - 2018, with the top search countries being the US, UK, Germany, Austria, Israel, Australia, Canada, and New Zealand.

In the UK, food retailers like Sainsbury, Tesco and Waitrose have launched dedicated vegetarian sections, or stocking alternative products in the meat isles, and focus on delivering high-quality plant-based products. The projected 2019 sales numbers show that the market for plant-based foods is growing rapidly and every

PROSUR
Get it Natural

WE CREATE CLEAN LABEL SOLUTIONS

Improve the taste and shelf life of your cooked and dried meat products with our innovative clean label solutions made from traditionally processed Mediterranean fruit and spice extracts. Create safe natural flavourful meats with no chemical additives.

- FRESH, NATURAL TASTE & AROMA
- PROTECT FOOD QUALITY
- IMPROVE FRESHNESS & OBTAIN LONGER SHELF LIFE
- NO ADDED PHOSPHATES
- CUSTOMER FRIENDLY LABELLING
- ALLERGEN & GLUTEN FREE

FOR MORE INFORMATION ON PRODUCT APPLICATIONS | INFO@PROSUR.ES | WWW.PROSUR.ES

BRC FOOD CERTIFIED

fourth meal in the UK is now vegan or vegetarian. Quorn is by far the lead selling brand in the UK.

In the UK, the plant-based meat substitute proteins are growing at 24 percent, and the plant-based milk category will be up 9 percent in 2019. There is a clear growing appetite for alternative “green” proteins as meat eaters have the desire to try something new. Generally speaking, a total of 7 percent of the UK population classifies themselves as vegetarian, with 4 percent pescetarian (only eating fish and dairy) and just 2 percent vegan.

Flexitarians –who cut down on meat consumption for health- or environmental reasons- make up a further 7 percent of the population. The UK has an estimated 24 million “flexitarians” –those who enjoy meat, but still are inclined to reduce it and substitute occasionally with plant-based meat foods. Many more people are interested in taking on some elements of a plant-based diet, even if they are not willing to commit full-time.

The supermarket focus is on challenging the meat and dairy category with tasty plant-origin alternatives. For consumers there is a clear and growing transitional awareness of avoiding meat and dairy products and is increasingly seen as the single most significant way to reduce environmental impact on the planet.

Veganomics

The past is our guide, but it need not dictate tomorrow. A real revolution is unfolding in the food world resulting in the very first meat analogs that taste like the real thing. In the last few years, scientists and technologists have made great progress and have come up with beef crumbles and chicken strips that have a structural biology entirely made from plant protein sources. What was formerly known as an “alternative” is now well

on its way to become “mainstream”. Ultimately, meat alternatives are not only healthy and sustainable, but also cheaper than muscle meat.

Plant meat foods are not only the opposite of the misery of industrial animal meat production, but also the invisible use of growth hormone, antibiotics, greenhouse gases, chemical fertilizers and clean water. It is estimated that about one-third of the land on Earth is used to raise livestock and their feed in order to keep the intensive animal farming systems afloat. All in all, plant meat foods are estimated to use 95 percent less resources than traditional farm-raised livestock.

Although plant-based diets are en vogue, there remain obstacles, which may deter people from making the switch. Moving to a whole food plant-based diet can be a roadblock if either a consumer and/or a medical doctor are ignorant about positive experiences or evidence. Often doctors are failing to do their duty by not offering a dietary solution for people (patients) with certain diseases and which may be at the end of the road for medical treatment and are not given the option of changing their diet.

A vegan diet can significantly reduce systematic inflammation and improve lipid profiles in patients with coronary artery disease. Reducing inflammation may help stave off heart attacks and strokes. Heart disease remains the leading cause of death for Americans, and time has come that therapeutic support becomes available beyond medication and procedures.

Vitamin B12 Alert

While it is true that predominantly plant-based diets have numerous benefits, they can also cause several underappreciated health problems. Especially vegan people who avoid animal food products such as dairy,

meat, fish and eggs, often do not get enough micronutrient B12, the much-needed vitamin that helps build red blood cells, repair DNA, and protect the brain.

The symptoms of insufficient vitamin B12 intake start slowly, with indicators like fatigue, irritability and other mood swings, memory lapses, and pale skin. These symptoms can develop into more serious maladies such as vision loss and even psychosis, imbalance, and paralysis. In addition, B12 deficiency is also known to raise the risk of developing dementia, depression, cardiovascular disease, stroke, and even cancer.

Expectant mothers with B12 deficiency are up to five times more likely to have a child with a potentially disabling or fatal birth defect, many of which involves the brain or spinal cord.

Vitamin B12 might also affect the elderly who take heartburn medication to reduce stomach acids, patients with celiac or Crohn’s disease, and even people who have undergone gastric bypass surgery for obesity.

To overcome B12 intake shortage, supplementation is a wise step in order to avoid these slow progressing health problems. Vitamin B12 tablet/pills supplements are safe and inexpensive, while regular B12 injections are an alternative option for those people who have absorption problems.

For vegans it is very difficult or impossible to get an adequate supply of nutrients like vitamin B12. (German Nutrition Society, August 2016). It is estimated that about one-half of all dedicated vegans have a clinical vitamin B12 deficiency. Other potentially critical missing nutrients in an all-vegan diet include iron, while vegetarian meat substitutes often contain excessive amounts of sodium chloride to boost flavor and taste perception.



► Find the smallest objects
before they cause the
biggest problems

Our quality control systems leave no stone unturned.
Or shard of plastic or glass. Or piece of metal or rubber.
If there's a foreign body in your product, our machines will
find it. Reducing product recalls and protecting your brand.

Work in harmony with Ishida.

ishidaeurope.com



While vegan living on an individual basis is possible with a careful controlled and calibrated diet, it is difficult to scale up to a nationwide level. People who stick to a vegan diet permanently should take vitamin B12 supplements and select nutrient-dense (fortified) foods to ensure supply of essential or critical nutrients, especially indispensable amino acids, long-chain omega-3 fatty acids, vitamins like riboflavin, D, B12 and minerals like calcium, iron, potassium, iodine, zinc and selenium. All of the above are especially important to consider during pregnancy or lactation or for children or adolescents at all stages.

Transformational Plant World

The transformational journey from animal protein nutrition to plant protein nutrition is a long and winding road. It has taken a long time to create a meat analog product that is almost indistinguishable from animal protein. No doubt that the hot new trend is meatless meat (cultivated animal cells) and plant meat. The science and technology to date are not quite there yet, but a little more progress is made every day. The road to concoct a "veggie burger" that is juicy and flavorful with the right bite and texture is quite long and not easy to navigate. Fortunately, with the arrival of cellular agriculture, major development hurdles can now be successfully taken. In fact, assembling certain compounds and ingredients from plants allows a level playing field when compared to the

traditional formulated meat products, like burgers and chicken strips.

In the US, flexitarians outnumber vegetarians 3 to 1 and the EU is following closely behind. Germany and the UK have the highest penetration of the flexitarians consumers and the trend is accelerating to double-digit growth to drive the market for plant protein forward.

Flexitarians are a rapidly growing consumer segment aiming for transformative change, albeit often driven by psychologically and emotionally inclined aspects associated with animal welfare. Also, young and adolescent girls going through puberty often decide spontaneously to stop eating (red) meat.

Feedlot Meat

Humanity needs to feed a fast-increasing global population, and the planet should not be burdened with ever more livestock. Besides the unfathomable amounts of feed and water and land needed, cattle methane emissions are estimated to make up about 10 percent of greenhouse gas emissions worldwide.

In terms of ecological food sustainability, industrial scale feedlot meat production is probably the world's largest environmental problem. Reducing meat consumption will free up vast amounts of land and water. Beef is generally considered the worst part of the meat pyramid because

of its very inefficient feed-to-meat conversion and the use of huge amounts of clean water during the outgrow cycle of the animal. Yet, on a worldwide basis, more than 50 percent of all beef is ground and ends up as a hamburger.

However, to be fair minded, a significant number of cattle graze on non-habitual unproductive agricultural land and as such contribute to the maintenance of main parts of the geographical infrastructure.

Meat happens to be incredibly tasty and nutritious and perhaps the only way to beat it is to develop a superior plant-based product that is at least equally good in organoleptic performance. The recent introduced plant-based burgers and sliders such as Impossible, Beyond Meat and Moving Mountains are well on their way to get to par with the meat burger equivalent.

There are major differences between animal meat and "plant-based meat". Plants typically contain just a few percent of protein, while animal meat has an abundance of high-quality protein and a great mineral profile. These differences need to be brought in line and harmonized.

About the author:



Henk Hoogenkamp

Former President DMV USA
(a Friesland Campina company), Senior Director
Strategic Technology Dupont Protein.
Board member RIBT.
Author and Publicist.



**Upgrade to an IPCO steel belt
meat conveyor for easy sanitizing,
reduced cleaning costs and
'best practice' hygiene.**

Previously operating as Sandvik Process Systems, we are a world leader in the supply of bacteria-resistant stainless steel conveyor belts for the food industry. Ask us for a copy of the VTT Expert Services report confirming the superior cleanability of steel belts, and for details of how our Application Team can support your upgrade process.

HYGIENICALLY OPTIMISED DESIGN IS TOP PRIORITY



Frank Wieland, Chief Sales Officer at Minebea Intec:

“The issue of hygienic design has been the top priority for Minebea Intec for years.”

In food manufacturing, one of the most important challenges is ensuring complete hygiene at all steps in the process. For Minebea Intec, the subject of hygienic design has been the top priority for many years now, a fact that continues to be apparent in the new systems introduced by the company.

For a company working in food manufacturing, nothing can ruin a good reputation quicker, or entail such high financial costs, as news of products contaminated with, say, dirt, mould or bacteria. “In modern systems, where food and beverages are being produced in industrial quantities, hygiene throughout the process chain is extremely important to guarantee high-quality products and to minimise safety risks for consumers,”

says Frank Wieland, Chief Sales Officer at Minebea Intec, one of the leading manufacturers internationally of industrial weighing and inspection technology.

The high value placed on hygiene is also apparent from the numerous organisations and regulations that operate across the world to ensure complete hygiene in food production. In Europe, the European Hygienic Engineering & Design Group (EHEDG) is the leading organisation that is strengthening awareness of hygiene in the food industry with relevant guidelines and disseminating technical knowledge about hygienic construction and design in the production process. Other institutions such as the National Sanitary Foundation (NSF) and the Food & Drug Administration (FDA) in the USA, and the British Retail Consortium (BRC) in the UK, alongside methods such as the 3-A Sanitary Standards, Good Manufacturing Practice (GMP) and the Hazard Analysis and Critical Control Points (HACCP), are concerned with hygienic processes and regulations in food production around the globe.

Hygiene Begins with Design

“For Minebea Intec,” emphasises Nick Parsons, Head of Product Management at Minebea Intec, “this sensitive topic has been the top priority for many years. When designing new systems, therefore, particularly for the food industry but also for others, we always seek to optimise the design in relation to hygiene. This applies to all three of our areas of business – that is, to our load cells and industrial scales as well as to all the systems in our Company Inspection sector.”

Nick Parsons is convinced that hygienic design begins with the selection of

suitable materials; the use of high quality, food-grade stainless steel with the smoothest possible surfaces produces the ideal hygienic conditions. In addition, it is important in the design phase to avoid creating areas that are difficult to access, since food residues will collect there and could start to decay if they remain for too long. Because all systems used in food production have to be cleaned regularly, the issue of accessibility is an important one that needs to be taken into account. In areas that require wet cleaning for production reasons, for example, partially dismantling the system for cleaning purposes generally can’t be avoided. In such cases, dismantling should be as simple as possible, without the use of tools, to preclude the possibility of food contamination.

Other highly important principles to be observed in hygienic design include avoiding horizontal surfaces, sharp corners and angles, excessive numbers of drilled holes, contact surfaces, screws and folds, as well as hollow parts and dead space. The condition of the floor is another aspect that cannot be neglected, if there is to be an end-to-end focus on hygienic design.

Successful Examples

“We have been adhering to such design guidelines for years in all of our new developments,” says Frank Wieland. He mentions the new weighing module Novego as a typical example of a hygienically optimised development from the company’s load cell sector. This product for weighing containers, introduced only recently, includes a multitude of constructional details that meet the EHEDG hygienic design guidelines and hence ensure less contamination and more efficient cleaning processes, explains the Minebea



The checkweigher Flexus checks the weight and integrity of packaged foods and similarly meets the EHEDG hygienic design guidelines

Intec manager: "When Novego was being developed, particular care was taken to minimise horizontal surfaces, to ensure low surface roughness and to use FDA-compliant silicone. Stainless steel grade 1.4418, which has exceptional corrosion resistance, provides not only improved hygiene but also a longer product lifetime and greater resistance to dirt, corrosion and even aggressive cleaning products. These factors, together with its high degree of measuring accuracy, make this weighing module particularly suitable for use in the food industry, not to mention pharmaceutical and cosmetic production."

Frank Wieland cites another example, this time the checkweigher Flexus from the company's industrial scales area, in the development of which Minebea Intec paid particular attention to observing internal hygienic design guidelines. It is used in the production of packaged foods, to check the weight and integrity of each individual product. "Here, too, we have minimised the number of contact surfaces and horizontal surfaces, and have used an open frame with no hollow parts of any kind." Summing up, Frank



The weighing module Novego includes a multitude of constructional details that meet the EHEDG hygienic design guidelines and hence ensure less contamination and more efficient cleaning processes

Wieland notes: "In combination with its increased floor clearance, this ensures the Flexus can be easily inspected and quickly and safely cleaned, saving our customers both time and money."

These products are just two of the countless examples in which Minebea Intec has focused on considerations of hygienic design. "No systems specified for the food and pharmaceutical industries go out to customers from us that have not been developed according to hygienic design specifications like EHEDG and NSF," explains Nick Parsons.

Higher Costs That Pay for Themselves

It goes without saying that the extra work involved in optimised hygienic design always brings with it with higher machine and system costs. According to Frank Wieland, however, these additional costs have to be set against the corresponding benefits and savings: "Cleaning a system that has been developed with an eye to aspects of hygiene takes less time, requires less use of cleaning products, entails lower

energy consumption and thus results in lower staff, maintenance and repair costs overall. Taking all of these factors together, over the long term there is no doubt that hygienic design systems represent a sensible investment." In addition, systems designed in this way protect the environment and reduce overall operating costs, which include not only the costs of procurement but also all expenditure in subsequent use, such as the cost of water, effluent, chemicals and electrical and thermal energy.

And Frank Wieland is convinced that "last but not least, in using a system with a hygienically optimised design, our customers benefit from a reduced risk of lost production and rejects." For these reasons, in developing the new industrial scales and inspection systems that the company will shortly be introducing, Minebea Intec has once again given maximum attention to the issue of hygienic design. Frank Wieland and Nick Parsons are unwilling to disclose details of these, but refer to a large number of imminent product innovations that will be launched in the coming financial year.

www.minebea-intec.com

“IF YOU DON’T MOVE WITH THE TIMES...” – FOOD TRENDS AT IFFA 2019



The butcher’s trade, if it is to be successful, must represent both tradition and contemporary developments. The best recipe is a mixture of clear expertise in meat and sausage products, technological background and new ideas. Sharpening a vision for the future and optimising what is already there – such is the invitation of the IFFA, from 4 to 9 May 2019. It will feature a comprehensive overview, showcase major trends, and offer every amount of inspiration and of specialist exchange of ideas.

The trend towards outstanding quality in the butcher’s trade is undiminished. Through its products the trade is differentiating itself from the mass market. The consumers are interested and require transparency.

High Quality, Not Average

It is the individual and authentic that counts, for instance the regional origin of the animals, unusual breeds or particular types of breeding and feed. What applies to meat applies to sausage, too. The trend is towards clear and unique recipes, true to the motto “less is more.” Master butcher Jörg Erchinger from Berlin is known there as one of the first who made a point of “gluten-free” products. He says: “Our focus is on what the customer wants. And so I have revised all recipes, so that the sausages are gluten-free, and also otherwise without glutamate. Our customers appreciate that.” Featuring striking products such as its “bone broth”, a broth made of bones, Ebert Butcher’s and Delicatessen from

Frankfurt am Main has attracted a good deal of attention. Inga Ebert says: “We created this fine bone broth in 2017 from just five ingredients. A healthy drink, which you can enjoy hot or cold, and is just full of vital nutrients! The trend has already made itself felt in the USA, and German start-ups have also already been offering bone broth. But who knows how to make it if not we butchers? We have the infrastructure – boilers, for instance – and we have the ingredients.”

The Question of Time

Even if convenience food is not always a positive idea among customers, dishes which can be quickly prepared continue to be popular. What is new is the demand that such foods should

be extremely good and healthy to eat. Thus sous vide cooking has gained a firm foothold among meat gourmets and offers butchers an opportunity to establish a market with particular cuts, marinades or individually prepared dishes. Ready-to-cook dishes from butcher's shops are also popular. They are The No. 1 for the meat industry Frankfurt am Main, 4 to 9 May 2019 quite different from those products with which the customer is familiar in retail outlets and gain their reputation through their authenticity and “the taste of home.”

Where it All Happens

Mobile sales are getting a new look in the shape of street food. In 2017 Jürgen Pum, master butcher from Freiburg, bought a truck. He says, “At the start it was meant just for party service; now we are very frequently at festivals. Thus for us the food truck has become a major element of our business.” Jürgen Pum has significantly extended the refrigerated logistics of the butcher's trade. When compared with the majority of food truckers, as a butcher he sees himself as having a definite advantage. “We have a kitchen, we have expertise and experience in party service.” He underlines this with high-quality creations, such as his “ox-cheek burger.”

If opening times are not long enough, there are not enough staff, or the business environment allows, vending machines provide shopping on a 24-



hour basis. Or a “drive-in”, as run by gourmet butcher's Zehetner in Dietach (Steyr) in Upper Austria, during normal opening times. Managing director Siegfried Zehetner explains: “We have been running the first butcher's drive-in for ten years now, enabling everyone to buy a snack, create a menu or collect a pre-order while sitting in their car. Mothers, who had their children asleep in the car, were some of the first customers. Treated as just an advertising gimmick when we started, this idea has enabled us to gain great attention and considerable recognition.”

“An online shop is part of the overall online package, and definitely part of a modern butcher's business”, says Rüdiger Strobel of Strobel countrybutchers of Selbitz in Franconia, “and also in our case it is particularly important for customers

who, though far from home, don't want to do without their Franconian specialities.” Strobel country butchers combine the traditional image of a no throw-away processing business with modern aspects which fit the region, such as produce from straw-reared pigs and grazing cattle. This master butcher does not believe there are any general trends: “The structures in Germany are too various. We can score well when it comes to personal contacts – with the farmers as meat producers and with the customers.” The image of the industry as a whole benefits from this. And what is true of other businesses is true of the butcher's trade: “If you don't move with the times, the times will pass you by.”

Iffa 2019 to Showcase Innovations for the Trade



These major incentives for the future of the butchery sector will be showing at the IFFA, the Number One for the meat industry, in Frankfurt am Main from 4 to 9 May 2019. Informative events covering every aspect of the trade, new products and services for sales, the quality competitions organised by the German Butchers' Association, and numerous innovations of a technological kind will all make a visit to the IFFA a real experience.

www.iffa.com

GULFOOD MANUFACTURING BRINGS UPSURGE IN OUT-OF-AFRICA VISITORS

Fifth Outing for Annual Production Platform Witnesses Growth in Geographic Visitor Footprint



Gulfood Manufacturing 2018, the fifth edition of the region's biggest food industry processing event - witnessed a major expansion of the annual show's visitor geographic footprint across continents, further cementing its position as a gateway to Africa - one of the world's major global growth markets.

Key players among the 35,000-strong turnout of visiting industry professionals from 160 countries, revealed that commercial potential evidenced by African buyers had delivered an unexpected, yet welcome, windfall over the three-day show, which ran November 6-8 at Dubai World Trade Centre (DWTC).

For global sector leader International Flavors & Fragrances Inc. (IFF), which leveraged an experiential display to attract high levels of interest on its first Gulfood Manufacturing outing, the show's ability to unearth intercontinental opportunities made the long journey to Dubai worthwhile.

"The effect of our multi-sensorial experience room, where we tried to re-imagine the future of food to foresee what changes might be and how they might translate into today's F&B world, was certainly the highlight of our participation," said IFF's Mamdouh Seoudy, Business Development & Marketing Manager Middle East & North Africa. "We were thrilled with the commercial potential we generated and the diversity of new buyers we were able to meet. The

geographical diversity of visitors was especially noticeable for us, with Sub-Saharan Africa delivering a great and unexpected representation. The size of the event, the number of visitors, and the quality of exhibitors and content was beyond our expectations."

IFF's ringing endorsement was underpinned by other mainline exhibitors, who all reported a significant uptick in on-the-floor business compared with the 2017 event.

Dohler, the global technology-driven ingredient, systems and solutions provider, reported a 15 per cent first-day upswing in lead generation with the quality of leads leaving the company's MENA Regional Project Manager Gayatri Vivek Damle, "most impressed."

German smart processing solutions provider GEA added that the 2018 show proved invaluable in reaching new prospects with Branding and Advertising Director Stefan de Roo celebrating actual early-show signed deals. "Half way through the show we'd nearly met out targets," he said.



The breadth and speed of buyer response came as no surprise to show organisers DWTC, with the 2018 edition taking on the mantle of ‘Future in Focus’ for the global food processing and distribution industry which is on the cusp of a major disruptive overhaul.

“The show has huge industry appeal as it hosted a spread of international breakthrough technologies which are set to reshape a sector, which is racing to meet seismic changes in consumer demand and driving the 4th industrial revolution efficiency to heighten competitiveness,” explained Trixie LohMirmand, Senior Vice President, Exhibitions & Events Management, DWTC.

“Across the globe, every serious industry player acknowledges the need to keep abreast of the new sector dynamics and that investment for competitive advantage is now non-negotiable. The upsurge in interest from Africa is attributed to the huge investment upswing under way on the continent to optimise its agricultural potential and the fact that Dubai is a gateway to this vast market with daily flights to most African nations being only around four-hours and with freight sea-lanes easily accessible from Jebel Ali port.”

The net result was a show which morphed into a ‘laboratory of the future’, with Gulfood Manufacturing’s

1,600 exhibitors from 60 countries applying cutting-edge innovation to a range of critical industry issues, from improved food safety and traceability systems, to food waste, improved yields, labour scarcity and shifting consumer preferences.

provided an enormous pull, with the conclusion being that for this industry the future is quite literally here today,” said LohMirmand. “Our history of value-add show features continued with new-look innovation demos and tours.”



All these key issues were aired at show’s associated ‘Food Tech Summit’, which ran on November 7 and 8 and blueprinted the Factory of the Future by exploring next-gen technologies, including artificial intelligence, digitalisation, the Industrial Internet of Things (IIoT), automation, robotics and blockchain transformation.

“The future-themed content of the conference, and the wider show,

The innovation demos ensured that visitors - including some of the 2,000 C-level executives who were hosted on a Big Buyers programme - received deep insights into the progressive technologies on offer. The tours took in the show’s five dedicated sectors: Ingredients, Processing, Packaging, Automation & Controls, and Supply Chain Solutions.

“This is an industry which is at the vanguard of national priorities and the 4th industrial revolution practices. With regional players keeping a close watch on global developments, we are committed to ensuring Gulfood Manufacturing reflects a sector where the pace of change in massively outstripping that of many other manufacturing segments,” concluded LohMirmand.

Gulfood Manufacturing returns to Dubai World Trade Centre from 29-31 October 2019.

www.gulfoodmanufacturing.com



Industrial Auctions B.V



Looyenbeemd 11,
5652 BH Eindhoven,
Netherlands
Tel: +31 (0)40 240 9208
Fax: +31 (0)40 240 9209
Email: info@industrial-auctions.com
Web: www.industrial-auctions.com

Micvac AB



Flöjelbergsgatan 10
SE-431 37 Mölndal,
Sweden
Tel: +46 31 706 12 30
Email: info@micvac.com
Web: www.micvac.com

GEA Food Solutions Bakel BV



Beekakker 11,
5761 EN Bakel,
The Netherlands
Tel: +31 492 349 349
Fax: +31 492 349 416
Web: www.gea.com

Meyn Food Processing Technology B.V.



P.O. Box 16
1510 AA Oostzaan
the Netherlands
Tel: +31 (0)20 2045 000
Fax: +31 (0)20 2045 001
Email: sales@meyn.com
Web: www.meyn.com

Maschinenfabrik Seydelmann KG



4 Kingdom Street
W2 6BD
London, UK
Tel: +49 (0)711 49 00 90 0
Fax: +49 (0)711 49 00 90 90
Email: info@seydelmann.com
Web: www.seydelmann.com

PRODUCTOS SUR, S.A



Saavedra Fajardo, parc. 27/7
San Ginés (Murcia)
30169 Spain
Tel: +34 968 881 991
Email: info@prosur.es
Web: www.prosur.es

Ishida Europe Limited



Hölderlinstraße 9
DE-70174 Stuttgart
Germany
Tel: +44 (0)121 6077700
Fax: +44 (0)121 6077666
Email: info@ishidaeurope.com
Web: www.ishidaeurope.com

IPCO Sweden AB



2453-B Västra Verken
81181 Sandviken
Sweden
Tel: +46 (26) 26 56 75
Fax: +46 (26) 25 86 75
Email: johan.nyberg@ipco.com
Web: www.ipco.com

LIMA S.A.S.



456, route de Rosporden
Z.I. Guelen - 29000 Quimper
France
Tel: + 33 (0) 298 948 968
Fax: + 33 (0) 298 948 969
Email: lima@lima-france.com
Web: www.lima-france.com

Sealpac International bv



Langekamp 2
NL-3848 DX Harderwijk
The Netherlands
Tel: +31 (0)341 46 20 30
Fax: +31 (0)341 46 20 33
Email: info@sealpacinternational.com
Web: www.sealpacinternational.com

Marel Townsend Further Processing B.V.



Handelstraat 3
5831 AV, Boxmeer
Netherlands
Tel: +31 (0) 485 586 122
Fax: +31 (0) 485 586 655
Email: info.fp@marel.com
Web: www.marel.com

Marel Stork Poultry Processing B.V.



Handelstraat 3
5831 AV, Boxmeer
Netherlands
Tel: +31 (0) 485 586 111
Fax: +31 (0) 485 586 222
Email: info.poultry@marel.com
Web: www.marel.com

Ordering Deadline:

8 February, 2019

Publication Date:

18 February, 2019

FEBRUARY

- Humane Stunning and Slaughtering
- Skinning, Deboning & Trimming, Portioning, Grinding, Separating, Sorting
- Vacuum Pumps
- Sustainable Solutions for Meat Packaging Manufacturers

2

Ordering Deadline:

8 April, 2019

Publication Date:

15 April, 2019

APRIL

■ IFFA MAIN ISSUE

- Dicing, Strip cutting, Slicing
- Food Safety, X-ray, Metal Detection, Checkweighing
- Tray Sealing and Thermoforming
- Disposal and Wastewater Treatment, Energy Efficiency, Processing of Left Over Parts

3

Ordering Deadline:

7 June, 2019

Publication Date:

17 June, 2019

JUNE

■ IFFA Post-show REVIEW

- Mincing, Blending, Mixing, Filling, Forming Technology
- Smoking, Cooking, Coating, Frying
- BBQ Trends, Snacks & Sides, Natural Ingredients Trends, Marinades, Clean Label, Meat-Free Alternatives
- Sustainable Packaging Trends

4

Ordering Deadline:

16 September, 2019

Publication Date:

26 September, 2019

SEPTEMBER

- Process Control, Weighing, IT Solutions, Software, Automation and Robotics
- Sausage, Bacon and Ham Production
- Casing, Netting, Clipping, Labelling
- Vacuum and Skin Packaging

5

Ordering Deadline:

18 October, 2019

Publication Date:

28 October, 2019

OCTOBER

- Turkey and Duck Processing
- Thermal Processing
- Chilling and Freezing Equipment, Ice machines, IQF Products
- Shelf - Life Extension of Packed Meat, Poultry and Seafood

6

Ordering Deadline:

3 December, 2019

Publication Date:

10 December, 2019

DECEMBER

- **IPPE Preview**
- Focus on Poultry Processing Equipment
- Food Safety, Hygiene, Disinfection
- Conveyors and Belting
- Convenience, Microwaveable Processing and Packaging Trends

IPPE Expo	Atlanta, USA	12 Jan - 14 Feb, 2019
Upakovka	Moscow, Russia	29 Jan - 1 Feb, 2019
Gulfood	Dubai, UAE	17 Feb - 21 Feb, 2019
Foodex Japan	Chiba/ Tokyo, Japan	5 Mar - 8 Mar, 2019
WorldFood Poland	Warsaw, Poland	7 Mar - 9 Mar, 2019
Cifa	Rennes, France	12 Mar - 14 Mar, 2019
VIV Asia	Bangkok, Thailand	13 Mar - 15 Mar, 2019
WorldFood Uzbekistan	Tashkent, Uzbekistan	13 Mar - 15 Mar, 2019
Seafood Processing North America	Boston, USA	17 Mar - 19 Mar, 2019
IFE	London, UK	17 Mar - 19 Mar, 2019
ProFood Tech	Chicago, USA	26 Mar - 28 Mar, 2019
Alif4Pack Paris	Paris, France	26 Mar - 29 Mar, 2019
Packaging Innovations InterFood	Warsaw, Poland	17 Apr - 18 Apr, 2019
St. Petersburg	St. Petersburg, Russia	17 Apr - 18 Apr, 2019
Alimentaria 2018	Barcelona, Spain	20 Apr - 23 Apr, 2019
SIAL Canada	Montreal, Canada	30 April - 02 May, 2019
FoodTechMash	Kiev, Ukraine	Apr, 2019
IFFA	Frankfurt, Germany	4 May - 9 May, 2019
Seafood Processing Global	Brussels, Belgium	7 May - 9 May, 2019
Foodtech Barcelona	Barcelona, Spain	16 May - 19 May, 2019
CIMIE	Beijing, China	21 May - 23 May, 2019
VIV Russia	Moscow, Russia	28 May - 30 May, 2019
ProPak Asia	Bangkok, Thailand	12 Jun - 15 Jun, 2019
VIV Turkey	Istanbul, Turkey	13 Jun - 15 Jun, 2019
Iran Food & Bev Tec	Tehran, Iran	18 Jun - 21 Jun, 2019
FOOMA	Tokyo, Japan	9 July - 12 July 2019
Inpak	G Rodgona, Slovenia	25 Aug - 30 Aug, 2019
WorldFood Istanbul	Istanbul, Turkey	04 Sep - 07 Sep, 2019
Pack Expo	Las Vegas, USA	23 Sep - 25 Sep, 2019
FachPack	Nuremberg, Germany	24 Sep - 26 Sep, 2019
Polagra - Tech	Poznan, Poland	Sept, 2019
Anuga	Cologne, Germany	5 Oct - 9 Oct, 2019
Process Expo	Chicago, USA	8 Oct - 11 Oct, 2019
AgroProdMash	Moscow, Russia	14 Oct - 17 Oct, 2019
CIBUSTEC	Parma, Italy	22 Oct - 25 Oct, 2019
Meatup	Milton Keynes, UK	30 Oct - 31 Oct, 2019
Indagra Food	Bucharest, Romania	30 Oct - 3 Nov, 2019
Pack Expo	Bucharest, Romania	30 Oct - 3 Nov, 2019
FoodTech	Herning, Denmark	26 Nov - 29 Nov, 2019
Meatmania	Sofia, Bulgaria	Nov. 2019
Gulfood Manufacturing	Dubai, UAE	Nov. 2019



WHETHER RED MEAT OR WHITE, IPPE IS YOUR STAKE IN THE INDUSTRY



ATLANTA, GA USA | FEB. 12 - 14, 2019

REGISTER NOW AT WWW.IPPEXPO.ORG

Join us for the 2019 IPPE. From production to processing to packaging, IPPE meets your business needs. See it at IPPE first and connect with more than 30,000 industry professionals in feed, meat, poultry and more at one powerhouse of a show in February!