

**WHITE PAPER**

## MEAT INDUSTRY

**Crisis-proof management of supply chains  
and supply shortages – from meat to  
pre-package**



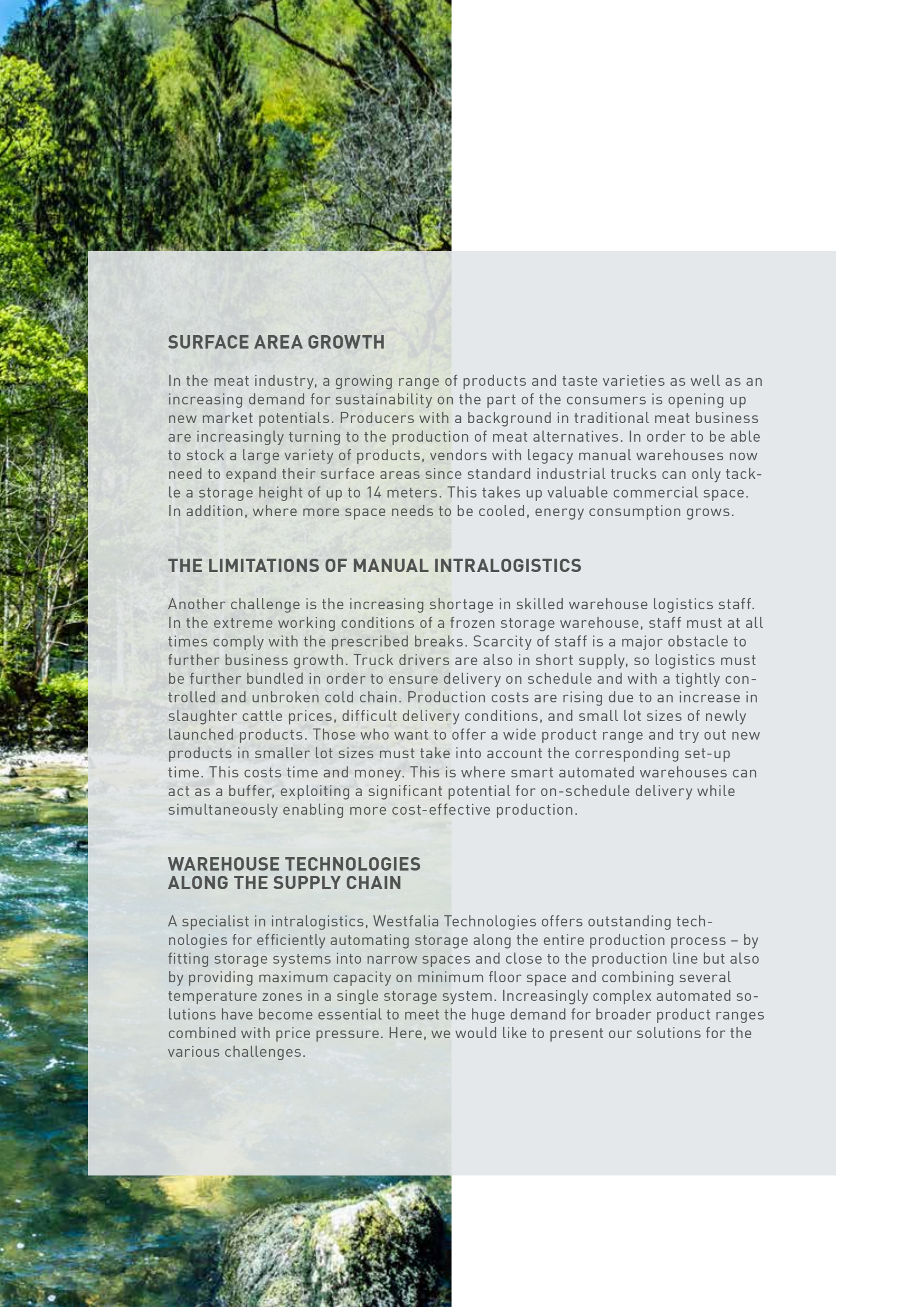


# CRISIS-PROOF AND SUSTAINABLE SUPPLY CHAINS

Modern consumers are transforming the food market on an unprecedented scale. They expect moderate prices and diversity and at the same time greater transparency about the production and origin of food. For producers of meat and meat alternatives, delivering fresh food on time and to every taste is only made possible by high-performance production and tightly scheduled logistics operations with huge storage capacities.

Industrially produced food is increasingly under scrutiny today. The desire for variety coupled with the growing demand for sustainable foods is reflected in different target groups – from price-conscious connoisseurs of traditional meat products to customers at the organic food counter who are concerned about animal welfare and excellent quality and are therefore prepared to pay more. Industry giants and former “niche suppliers” are therefore rethinking their procurement, production, and distribution logistics in order to serve this broader spectrum of potential customers in a cost-efficient manner.

Enhanced digitalization and automation can make intralogistics a key building block for greater market flexibility and sustainability. Based on some core challenges of the meat industry, we show how automated warehouse systems help build crisis-proof production and supply chains.



## **SURFACE AREA GROWTH**

In the meat industry, a growing range of products and taste varieties as well as an increasing demand for sustainability on the part of the consumers is opening up new market potentials. Producers with a background in traditional meat business are increasingly turning to the production of meat alternatives. In order to be able to stock a large variety of products, vendors with legacy manual warehouses now need to expand their surface areas since standard industrial trucks can only tackle a storage height of up to 14 meters. This takes up valuable commercial space. In addition, where more space needs to be cooled, energy consumption grows.

## **THE LIMITATIONS OF MANUAL INTRALOGISTICS**

Another challenge is the increasing shortage in skilled warehouse logistics staff. In the extreme working conditions of a frozen storage warehouse, staff must at all times comply with the prescribed breaks. Scarcity of staff is a major obstacle to further business growth. Truck drivers are also in short supply, so logistics must be further bundled in order to ensure delivery on schedule and with a tightly controlled and unbroken cold chain. Production costs are rising due to an increase in slaughter cattle prices, difficult delivery conditions, and small lot sizes of newly launched products. Those who want to offer a wide product range and try out new products in smaller lot sizes must take into account the corresponding set-up time. This costs time and money. This is where smart automated warehouses can act as a buffer, exploiting a significant potential for on-schedule delivery while simultaneously enabling more cost-effective production.

## **WAREHOUSE TECHNOLOGIES ALONG THE SUPPLY CHAIN**

A specialist in intralogistics, Westfalia Technologies offers outstanding technologies for efficiently automating storage along the entire production process – by fitting storage systems into narrow spaces and close to the production line but also by providing maximum capacity on minimum floor space and combining several temperature zones in a single storage system. Increasingly complex automated solutions have become essential to meet the huge demand for broader product ranges combined with price pressure. Here, we would like to present our solutions for the various challenges.

# TRANSPARENCY



## IS THIS YOUR CHALLENGE?

Increasingly, transparency of food production as well as composition and origin of food products are significant economic factors. Consumers exhibit greater awareness when shopping for food. Sustainability means providing consumers with information about how animals have been reared and about the conditions of production, storage, and transport. What route did the pork cutlet or beef fillet take? Was it produced regionally? And for how many kilometers were animals and products transported by truck? Customers demand transparency of the supply chain – from the farmer to the supermarket shelf.





## COMPLETE DATA TRANSPARENCY IN THE AUTOMATED WAREHOUSE

- > Automated storage systems consistently provide producers and trading partners with visibility into all information about stored, expected, and delivered products, about storage capacities, warehouse utilization, minimum shelf life, or other parameters linked to the products.
- > A Warehouse Execution System combines warehouse management and material flow control functions. It is linked to the ERP software and is scalable for any warehouse type and size.
- > Operationally relevant data and conclusions can be derived from warehouse movements at any time.
- > Cold and frozen storage warehouses can be operated with greater efficiency and space utilization, allowing surplus capacity to be offered to third parties.
- > Production planning can be aligned with picking and distribution data, and seasonal products such as barbecue foods can be produced and stored in advance to meet market demand.
- > Products can be supplied to customers error-free and at short notice. This reduces returns, excess inventory, food waste, and truck miles, improving carbon footprint and climate protection.
- > Increased sustainability allows manufacturers to tap into additional target groups and market segments.

# COST PRESSURE



## IS THIS YOUR CHALLENGE?

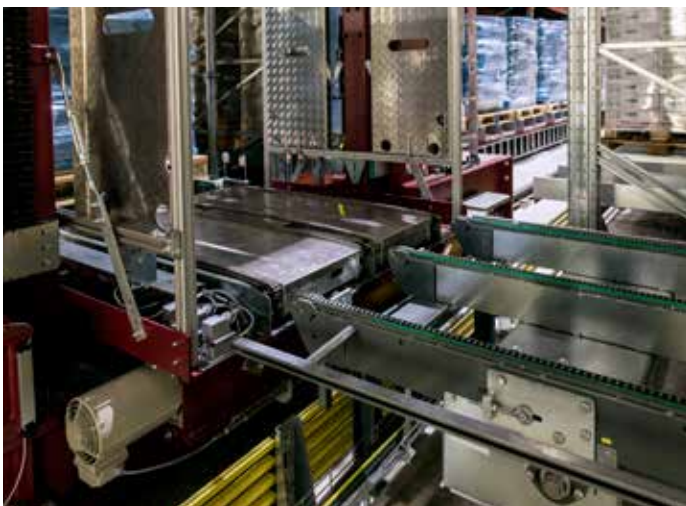
Economic framework conditions are becoming increasingly more stringent. Prices for slaughter cattle, animal husbandry, and feed have risen, and the number of economically viable farms is going down. Intensive animal farming is posing challenges in terms of animal welfare and climate protection. Meat consumption is falling. Experts say that prices for meat and dairy products would have to rise significantly in the future to fully reflect the costs of scarce resources.





## CUSHION COSTS WITH AUTOMATED STORAGE SYSTEMS

- > Automated high-bay warehouses concentrate high storage capacities on minimal commercial space, in existing facilities, or as standalone constructions, without the need to build additional halls.
- > This allows bundling of logistics operations and strategic storage of raw materials and semi-finished and finished products in order to be less affected by supply bottlenecks and price developments.
- > Costs per storage space as well as energy consumption are reduced thanks to a lower number of storage aisles and vehicles, which in addition are equipped with modern drive, control, and energy recovery systems.
- > Cooled space is reduced due to maximum storage density.
- > The industrial truck fleet can be cut down, loading, and unloading can be fully automated.
- > Automated storage systems increase the dynamics and throughput of the warehouse despite a shortage of skilled workers and ensure error-free processes. This helps reduce the number of returns and uneconomical stock levels.
- > Load carriers, such as costly pallets, can be used for longer thanks to material-friendly handling.
- > Production lines can be accelerated through automated provision and buffer storage along the production line, small batch sizes can be produced in staggered mode, and set-up times can be shortened.



# PACKAGING



## IS THIS YOUR CHALLENGE?

Packing the goods is often a space- and time-consuming process. Packaging warehouses are often located at quite a distance from the actual production lines. Manual and space-consuming block storage dominates the picture. This means that packaging material must first be transported to the production floor by forklift truck. The packaging industry is undergoing a change: New, more easily recyclable, and resource-saving materials and packaging methods are being tried out. Today, the success of a product is also determined by its packaging. How quickly can you add new modern packaging to your production line, and how do you store it until then?







## FLEXIBLE PRODUCTION THROUGH AUTOMATED PACKAGING WAREHOUSES

- > Thanks to their specific designs, automated warehouses can be connected to the production floor and flexibly prepared for different unit loads and formats. Even narrow spaces along production lines can be converted into high-frequency buffer and intermediate storage zones for packaging material.
- > Customized intralogistics processes are concentrated in the tightest of spaces. For example, different temperature zones, picking of external assortments, handling of empty load carriers, and packaging storage can be integrated into a single storage system.
- > Goods can be packed faster and more economically with custom-made packaging materials.
- > Packaging made of plastic or corrugated cardboard can be stored and retrieved more gently. Material waste due to damage that can occur during manual handling is significantly reduced.
- > Multiple checks of load units at checking stations and on storage and retrieval machines ensure that faulty load units are sorted out and corrected, thus avoiding damage to material or warehouse downtime.
- > Packaging materials can be purchased and stocked in large quantities in times of favorable market prices.



## **TAILORED TO THE NEEDS OF THE FOOD INDUSTRY**

When the first fully automated warehouse system went into operation at Herford Brewery in 1979, the challenges for the food and beverages industry were clearly defined: small product ranges, very large batches, and loads – those were the starting conditions under which compact, multi-deep warehousing proved its value. Those conditions were what drove the innovations behind a technology patented in 1983, the Satellite® load handling device.

Today, it is still proving what it can do. While there have been a number of developments in the market – such as high product diversity, packaging, order picking, and cost pressure – the challenges have remained the same: how to store extra-heavy load units in a bundled, compact form that saves space and energy, and do it efficiently to ensure fast, error-free distribution. Multi-deep compact storage facilities are the ideal solution for efficient and cost-effective use of cooling and refrigeration technology.

The satellite® technology meets the needs of high production performance by means of long buffer lines, plus double and triple transport of load units on the load handling device. Complex warehouse system layouts, modern conveyor and storage technology, PLCs and advanced logistics software complement the established, high-performing satellite® technology.



### **INVEST NOW TO BE READY FOR THE FUTURE**

Staying successful means setting the pace at the right moment. Therefore, the answer to your challenges should be: Now is the best time to invest in automation. It is a step-by-step process that lifts previously unused potential from inventory warehouses and future-proofs the warehouse operations of companies in the meat industry.

# Conclusion

## WHEN TO INVEST IN AUTOMATION?

We independently design and build proprietary storage systems that can be integrated into existing systems and are easily scalable. This way, they can be adapted to market developments. None of our storage systems is off-the-shelf; we always begin by analyzing each customer's particular requirements. We are committed to providing transparent quotations without hidden costs. In addition, we strive to provide our customers with on-time delivery and turnkey storage systems that offer long-term benefits.

We can map every materials flow in our warehouse management software. Thanks to our in-house manufacturing of storage and retrieval machines and PLCs as well as a robust supplier network, we offer on-time delivery of state-of-the-art technologies for the entire scope of intralogistics. For the required IT infrastructure, we use TERRA products supplied by WORTMANN AG corporate group of which we are a member. As a general contractor, we manage your project from initial consultation to acceptance and provide long-term customer support. We were the first manufacturer to develop the key technology for the multi-deep, high-density storage of large formats and loads for different load carriers – the Satellite® storage system. Use these advantages to raise the capacity and flexibility of your meat production to a new level.

**Would you like to learn more? I look forward to your inquiry and will be pleased to discuss your project with you!**

Stephan Bruns



### STEPHAN BRUNS

A graduate mechanical engineer, he has been with Westfalia since 2017 and looks back on over 30 years in the intralogistics industry. As Sales Director Technologies & Systems, he is responsible for new systems in the field of supply chain automation.

## OUR VALUES

### **ALL FROM A SINGLE SOURCE**

Logistics planning, mechanical engineering, control systems, software development, installation, and project funding

### **QUALITY MADE IN GERMANY**

All manufactured centrally at the corporate headquarters in Borgholzhausen with our own test center for key units

### **EXPERTISE & FLEXIBILITY**

Consulting, conceptualization, customer solutions made to measure

### **HONESTY & FAIRNESS**

Transparent pricing, fair price-performance ratio

### **CUSTOMER PROXIMITY & AUTHENTICITY**

Flat hierarchies; experts available at every project stage

### **SPEED & COMMITMENT**

Local service centers; customers always supported by the same personal contacts

### **SECURITY & RELIABILITY**

Dedicated and experienced employees ensure investment security and product functionality

### **RESPONSIBILITY**

Job security in Germany, environmental awareness, and social commitment

#### **Westfalia Technologies GmbH & Co. KG**

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