



BITO FOOD & BEVERAGE

Storage solutions for the food & beverage industry



BITO

...or how do you store?

BITO

STORAGE SYSTEMS NORDIC

Dear customers and friends,

For more than 50 years BITO is counting among the market leaders in the storage & material handling industry and is known as a reliable and innovative partner in planning and realizing complex storage and picking solutions. Our clear focus on market demands has helped us to maintain and strengthen this position. BITO innovations are inspired by the requirements of our customers and the needs of the industry in which our customers have to complete. With our expertise in intralogistics processes we support our customers in gaining the competitive edge. This brochure focusses on BITO products and solutions for the food & beverage industry and provides comprehensive information on industry specific trends and issues complete with case studies.

> **Benefit from our experience and contact us!**

About us – “Made in Germany”

BITO is a Germany based manufacturer with subsidiaries and distributors throughout the world. With a staff of around 800 and on a plant surface of more than 140 000 m² in Meisenheim and Lauterecken, we have specialised in storage and order picking systems, offering a customer-oriented and innovative product range for highest user demands.

BITO is one of the few single source suppliers in the intralogistics sector. With one focus on direct sales, we ensure fast track product delivery to our customers. Products can be ordered from our print catalogues, through our online shop or by calling our sales teams. As a full service provider of storage and order picking solutions, our second focus is on providing our customers a concept-to-completion service for any project size.

Plant in
Meisenheim



Plant in
Lauterecken



BITO – more than 50 years of experience in project business

BITO

Customer focus & support are top priorities at BITO! We offer a full service package including on-site visits, fast quotes, precision in-house manufacturing, on-time assembly & start-up and a reliable after sales service.

Technical advice

Each project is accompanied from the start by an experienced local sales & project manager who keeps close contact with the assigned project manager at the BITO main office.

Project coordination

We think that reliable time management and competent support are key to the success of a project. Our customers can count on exact specification, true-to-size product manufacturing, an extensive quality assurance program and reliable assembly coordination – in short, we provide an all-inclusive project package!



After sales service

Operators of shelving and racking installations are legally obligated to have their facilities inspected at least once a year by a qualified person. BITO provides this inspection service. Our inspectors are trained and authorised to conduct all mandatory tests. They will get in the quotes for required spare parts and manage follow-up inspections.

For live storage installations and electronically regulated facilities, BITO recommend their customers to conclude a maintenance contract and have their storage and order picking installation regularly checked as to proper functioning and operational safety. Maintenance prevents disruptions and troublesome consequences. In case a semi-automatic system fails to perform properly despite all preventive measures, BITO has set up an emergency management plan to reduce idle times at your site to a minimum.

Customer-oriented
and reliable project
monitoring

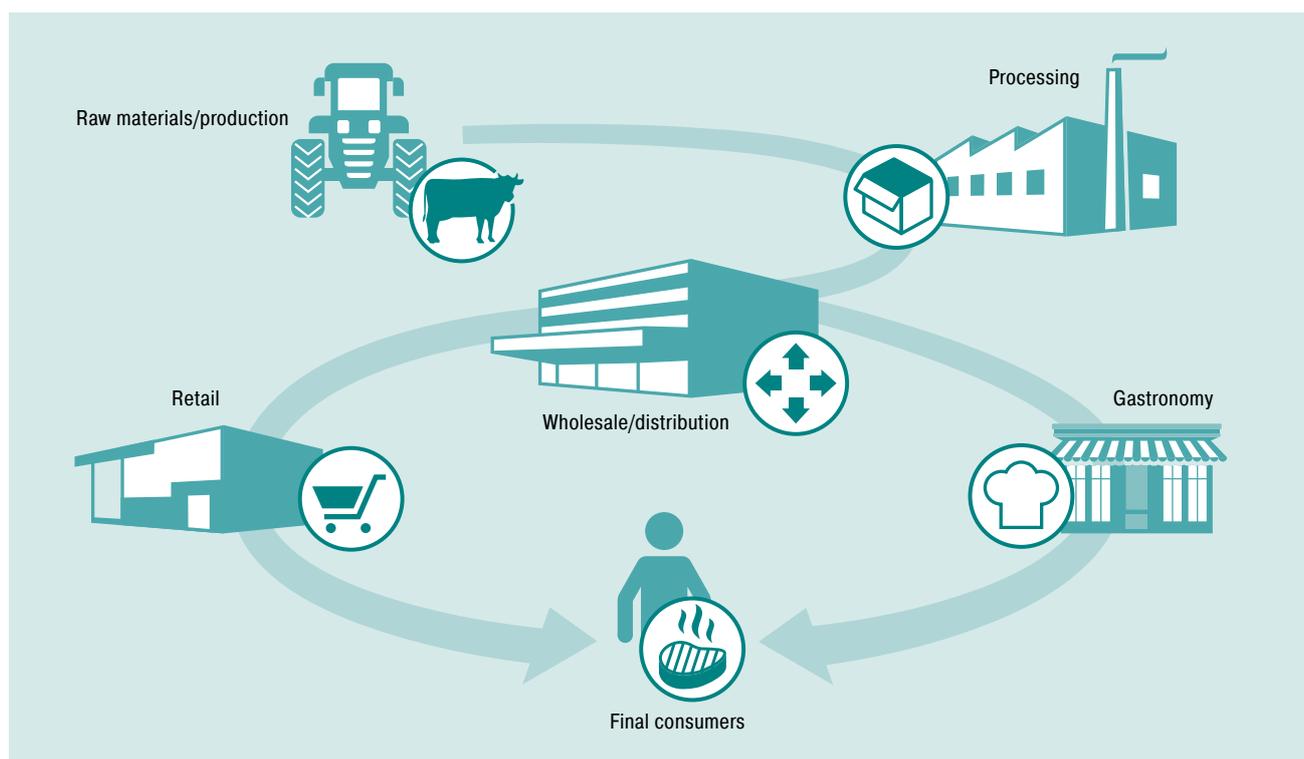
Food & Beverage Industry – an overview

Figures, data, facts

The food and beverage industry is one of the largest and hence one of the major economic sectors within the Nordic countries. Especially in Denmark this industry is the largest. The total turnover in the Nordic countries in 2012 amounted to almost 77 billion EUR of

which some 48 billion EUR were realized on the domestic market. The sector employs 192,000 people in some 9.260 companies and is closely tied to the global food markets with imports from agricultural raw materials and exports of processed food. In contrast to

the potentials on the stagnating Nordic market, food exports offers substantial growth perspectives in 2012, 37% of the sector's turnover was realized abroad.



Value added chain

Food and beverage products are highly sensitive to environmental influences which imposes high demands on transportation and storage logistics in the entire value added chain. More than 170,000 product lines must be transported and stored apart from each

other at different ambient temperatures with the main focus on sell-by dates. Enormous handling costs along with fierce competition cut down profit margins to a minimum and make business in the food and beverage sector particularly difficult.

Against this background, it is imperative to make full use of the streamlining potential of processes and structures through all stages of the value added chain – from raw material production, processing and distribution to the retail trade and to the final consumer.

BITO – Your provider of storage solutions for the food and beverage industry

Spotlight on:

The high-volume food & beverage industry is one of the target industries in BITO's day-to-day business activities.

Industry specific solutions for the food & beverage industry meet demands at all levels of the value added chain



- > **In-depth knowledge of the industry and industry specific trends**
- > **Competent advice and customer-oriented planning provided by our sales representatives located throughout Europe**
- > **Industry-oriented solutions at all stages of the supply chain**
- > **Comprehensive service from on-site advice to after sales**

BITO

Our topics at a glance:

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TREND:

eCommerce conquers the food & beverage retail market

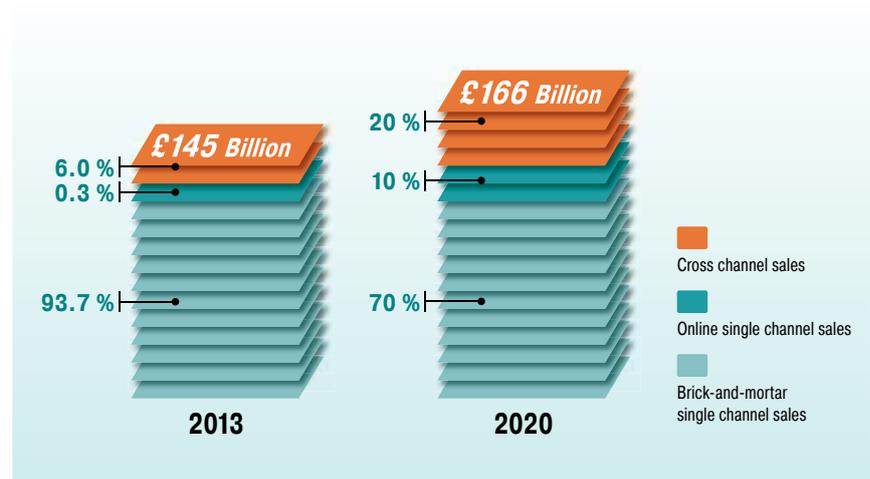
Trend

Compared to the turnover achieved in the consumer electronics business, buying food over the internet is less common. In the food sector, consumers mainly use the internet as a source of information. In 2013, food sales accounted for only 0.3% of the total internet turnover which is equivalent to the roughly 88 million EUR.

These figures contrast with UK figures: In 2013, a turnover of 5,5 billion EUR was achieved with food and beverage sales over the internet - almost 5% of the total internet sales volume. Exports forecast that food sales in the Nordic countries will rise from today's 0.3% to 5% in 2020. This means that every twentieth consumer will buy food

exclusively over e-commerce systems. The share of cross channel purchases which cover customers buying food on internet as well as from non e-commerce sources is estimated to rise from currently 6% to 20% in 2020. The market share of non e-commerce channels is estimated to drop to 70%.

Development of sales volumes in the German food trade



*Source:
Turnover achieved
in food trade: Plant
Retail 2013/Market
shares: EY figures

Business models

The most common business model for shopping fresh foods online are drive markets. Customers order their product selection online on the website of a grocer and personally pick up the prepared package in the branch store at their location. The business model "online shopping with delivery ser-

vice" modelled on the Amazon consumer electronics trade implements more thoroughly the convenience concept. However, logistics requirements are higher since a consistent strategy for storage, dispatch and handling returns is needed.

TREND:

eCommerce conquers the food & beverage retail market

Implications of this trend

- > Sales surface in retail markets is diminishing
- > Growing number of distribution centres and decentralised warehouses instead of new retail markets
- > Order picking and distribution processes must be thoroughly planned as to capacity and efficiency

Logistics requirements

- > Compact and efficient storage of foods under product specific temperature conditions
- > Fast and error-free preparation of customer orders
- > Temperature controlled and reliable delivery of food orders at low additional cost
- > Cold chain needs to be extended to consumer's house door (last mile)
- > Bridging the time gap between transport of goods and handover to the customer

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eCommerce
conquers the
food & beverage
retail market



Case study: LESHOP.CH

Company

LeShop.ch is a subsidiary of the Migros union of cooperatives and Swiss market leader in the internet retail trade. In 2013, the online supermarket sold groceries to a regular clientele of some 50,000 households and realised a turnover of 158.1 million Swiss francs. The company provides a unique assortment of Migros products and brands. Groceries include deep-frozen foods, convenience goods and home & hobby products. Deliveries are made nationwide directly to the customer's house door (95 % of all households). Optionally, the customers can also pick up their order at so-called drives and at selected train stations.

Capabilities

- > The distribution and cold chain had to be extended to the customer's house door
- > Goods need to be palletised and secured for transport
- > The distribution containers need be returned in batches in a space and cost saving way
- > Possibility of colour marking to distinguish the deliveries according to their classification into dry foods, fresh produce/products and deep-frozen products

Situation

As soon as a customer places an order with LeShop.ch, customer-related order picking is triggered off. In a first step, the groceries are packed in paper bags and then, for protection during transportation, into solid containers. In a next step, the bins are palletised and dispatched by the Swiss parcel post. After the goods have been delivered to the final customer, the distribution containers are collected and returned to LeShop.ch

- > Order fulfilment required to build a picking store and to establish a food supply chain

Solution

- > **Products are picked directly into stackable MB containers which are also used for distribution**
- > **Food deliveries are made in colour coded containers with different print messages to distinguish the consignments according to food specification (dry, fresh and frozen)**
- > **Goods are protected against exterior damage, light deterioration and temperature influences**

Customer benefits

- **Safe transport without risk of damage to goods**
- **Empty container nesting on return trips saves up to 75 % of freight and storage costs**

TESCO



Case study: TESCO

Company

Tesco is a British multinational grocery and general merchandise retailer. It is the second-largest retailer in the world measured by profits (after Walmart) and third-largest retailer in the world measured by revenues (after Walmart and Carrefour). It has stores in 12 countries across Asia, Europe and North America and is the grocery market leader in the UK. Tesco operates a "good, better & best" policy for its own-brand products, including the upmarket "Finest", mid-range Tesco brand and low-price "Value" encompassing several product categories such as food, beverage, home, clothing, Tesco Mobile and financial services.



Capabilities

- > Temperature control in collection points
- > Improved space utilization through space-saving storage system
- > Ergonomic picking

Solution

- > Ergonomic picking solution with BITO's carton live system in ambient zone
- > Boltless shelving system in freezer- and chill stores

Situation

Besides the normal shopping in their retail stores, Tesco also offer "Home Delivery" or "Click and Collect" in their grocery business. In both services, Tesco allows the customer to order a wide range of products online. In the case of home delivery, customers have their shopping delivered directly to their door at a suitable time. When choosing Click & Collect, customers pick up their order themselves at a time and place that suits them. For both services, Tesco offers low prices like in store and many promotions so that the major benefits of shopping in Tesco are available to everyone with an access to the Internet.

- > Setting up collection locations (pods) for customers to pick up their orders in 120 UK-stores and 20 stores in Eastern Europe
- > Special storage equipment for pre-assembled collection pods with three different temperature zones

Click and Collect

Customer benefits

- Customized solution as standard for all Tesco stores
- Optimized space utilization
- Increased picking speed and reduced number of damaged goods due to ergonomic picking solution
- Fast service to collecting customer

 eCommerce

The perfect match:

BITO MB MULTI-PURPOSE CONTAINER FITTED
WITH THERMO INSULATION SET

BITOBOX MB



eCommerce

The perfect match:

BITO MB MULTI-PURPOSE CONTAINER FITTED WITH THERMO INSULATION SET

Trend

The e-commerce business model is conquering food trade. Similar to consumer electronics orders, customers can order groceries online and have them delivered to their door. Special attention has to be paid to temperature-sensitive products which have to be kept cold along the entire delivery chain. For this reason, grocers need to provide a failsafe, uninterrupted cold chain right to their customer's doorstep.

BITO solution

BITO has developed a thermo insulation set for storing, picking and shipping temperature-sensitive goods. The cool kit includes a BITO-BOX MB container with a lidded Neopor® box, a washable inlay and three cool packs. This unit provides optimum temperature conditions for any product on its way to the customer and protects the goods from light deterioration and external damage. Single use seals prevent unauthorised access to the contents. With this clever package, the deliverer is independent of the customer being at home since deliveries can be left at the doorstep. Empty MB containers without thermo insulation set can be nested for space saving return trips thereby saving up to 75 % of the freight and storage costs.

Capabilities

- > Safe and efficient transport of groceries to the final customer
- > Cold chain needs to be extended to consumer's doorstep (last mile)
- > Bridging the time gap between goods leaving dispatch and handover to customer



Customer benefits

BITOBOX MB containers are the perfect solution for shipping foods.

- **A temperature range of 2-8 °C for at least 12 hours is maintained.**
- **The risk of damage or product spoilage is substantially reduced**
- **Compliance with all hygiene standards as BITOBOX MB containers are food safe and the inlays are easy to clean**
- **Transport to the customer and direct handover of the delivery are "decoupled" as products are kept cold and protected against access by third persons**
- **Empty container nesting without thermo insulation set on return trips saves up to 75 % of freight and storage costs**
- **The BITO 3 in 1 formula – MB containers are ideal for storage, order picking and distribution alike – eliminate costs for repackaging material and additional handling**
- **Optional RFID labelling permits delivery tracking and surveillance**

TREND:

The market for frozen foods continues to expand

Trend

The market for frozen food is a fast growth market with a strong growing sector in the Nordic countries. The above average growth of the past twenty years and the continued upward trend have their origin in social change. On the one hand, the number of single person households keeps growing and with this the need for easy subdivision into por-

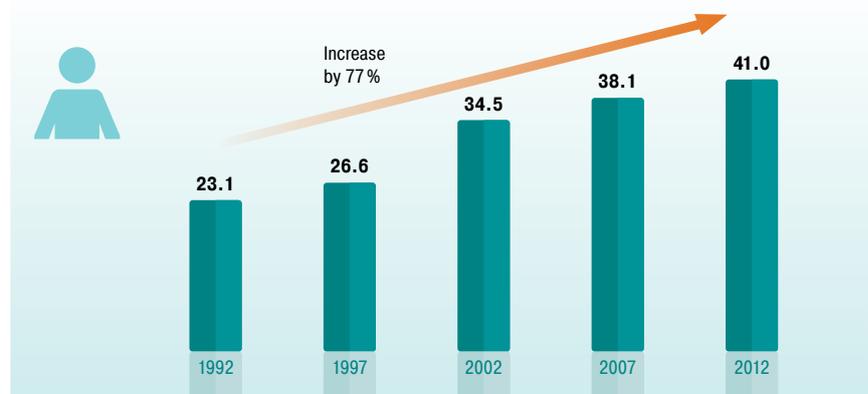
tions and simple food preservation. On the other hand, our performance oriented society has developed a greater demand for quality food. Today's frozen products are quality goods that are rich in nutrients, always fresh and score with fast and easy cooking. On top of this, this trend is accentuated by the widely accepted convenience concepts.

The following figures provide evidence for this trend:

- > The per capita consumption of frozen foods continues to grow
- > Turnover has almost tripled in ten years

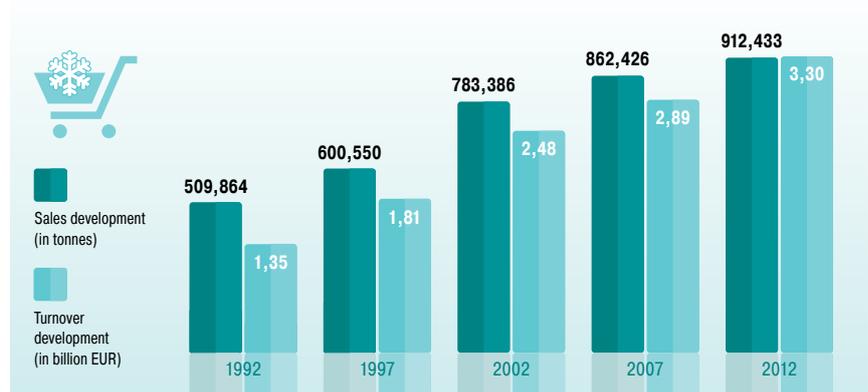
Per capita consumption

Frozen food market
in the Nordic countries 1992-2012
(in kg, without ice cream)



Development of sales/turnover

Frozen food market
in the Nordic countries 1992-2012



TREND:

The market for frozen foods continues to expand

Implications of this trend

- > Rising need for cost-intensive cold stores
- > Escalating energy costs
- > Growing operating costs in the cold store sector (energy costs account for 25 % of the operating costs)
- > Increasing margin pressure in the frozen food sector

Logistics requirements

- > Storage solutions need to be compact in size to allow optimum utilisation of the cold store volume
- > Semi-automated storage solutions to reduce cost-intensive manual labour in deep-freeze environments
- > Warehouse and picking facilities must be fully functioning in cold temperatures

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**“BITO PROmobile pallet racking
perfectly suits our needs.”**

Gerhard Ecker, Brezel Ecker

Frozen foods

Case study: BREZEL ECKER

Company

For more than 80 years, Brezel Ecker GmbH in Homburg-Erbach has been distributing a large range of deep-frozen products such as pretzels, pizzas and pastries in compliance with the International Food Standards (IFS). The products are supplied to 45 company-owned bakery outlets and also to private bakeries, industrial bakeries, wholesalers and to gastronomy.

Capabilities

The range produced by Brezel Ecker features an enormous product variety and huge batch sizes. All products must be stored in an energy-intensive cold store which imposes the following logistics requirements:

- > The large product range and huge batch sizes must be managed efficiently
- > As energy costs account for a considerable part of the operating costs, the floor surface occupied by shelving and racking must be kept as small as possible
- > All product lines must nevertheless remain in direct access



Situation

The increasing demand for frozen foods clearly shows in the sales figures of Brezel Ecker. In the past, the company was able to continuously increase production and storage capacities for frozen foods. With an annual output of 85,000 pieces of raw pastries, Brezel Ecker counts among the ten biggest soft pretzel producers in Germany. Presently, production is running three shifts on 5 days a week and generates an output of more than 12,000 pieces an hour.

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Solution

- > **The company opted for BITO PROMobile pallet racking to meet all these requirements**
- > **All product lines can be directly accessed**
- > **The compact configuration of the facility saves a lot of valuable space**

Customer benefits

- **Space utilisation increased by 90 % as compared to the traditional static racking solution**
- **Shorter travel routes for product replenishment and retrieval**
- **The facility can be extended as and when required**

BITO PROMobile
pallet racking

TREND:

Growing product diversification in the food and beverage industry

Trend

In the past years, the food trade recorded considerable changes affecting all sectors of the industry and all food groups. It is expected that these trends will continue. While demand for meat, sugar and alcoholic beverages is steadily reducing, there is a rising demand for fruit, vegetables and cereals. At the same time, product categories that represent a cross section of all food groups

such as convenience products, functional food, novel food, genetically modified, exotic as well as ecologically and regionally grown foods gain increasing importance. This enormous diversification entails the need for substantial modifications in the structure of food supply on the one hand and cause consumers to change their behaviour on the other hand. An average household buys convenience

goods some 190 times a year. With every purchase, the consumer decides whether to buy a trade or a manufacturer's brand, a product in the premium price segment or the market introduction price segment, a full fat or reduced fat product. Consumers also like to choose between various packaging sizes. In short, they want to find the product that suits their life style, eating habits and mood.

Growth markets in the food sector

Convenience - Wellness - Gourmet



TREND:

Growing product diversification in the food and beverage industry

Implications of this trend

- > Increasing number of products and product varieties
- > Smaller batch sizes are ordered per product variety
- > Reduced packaging sizes in response to the rising number of one-person households as compared to multi-person households
- > Rising complexity of storage and order picking processes due to a larger product variety which involves handling of products with slow, medium and fast turnover

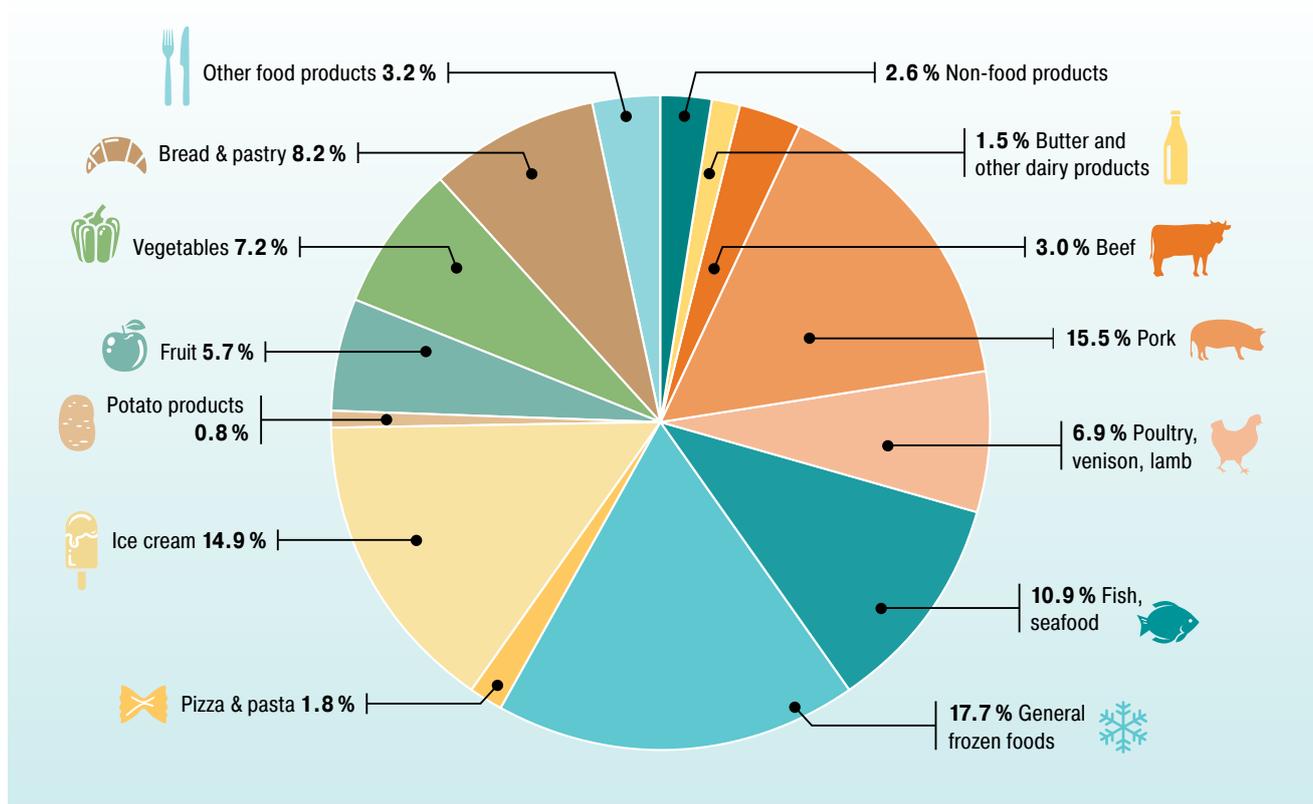
Logistics requirements

- > Efficient storage of an extremely wide product range and permanent accessibility of all products on stock
- > Customised picking solutions to increase productivity

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Type of goods stocked on pallets

January - June 2013



Volg



“The BITO solution helps us to efficiently manage our wide product range.”

Erich Ackermann, VOLG

Product diversification

Case study: VOLG

Company

The consumer goods distributor Volg Konsumwaren AG supply their products to some 550 Volg countryside markets, 290 privately owned retailers and to more than 70 petrol station shops in Switzerland. Depending on shop size, the countryside shops offer 2,500 - 5,000 products – mainly fresh produce such as fruit, vegetables, bread, milk and other dairy products as well as meat from certified producers. The range also includes provisions as well as a wide range of household and body care products. A distribution centre in Winterthur supplies all sales points with a full range of food and nonfood products, whereas the fresh produce centre in Landquart is the hub for fresh supplies.

Capabilities

- > Picking and delivery of small volume orders in line with delivery schedules
- > Coping with a large product range: 1,550 fresh produce references with different turnover frequencies
- > 1,050 picks per operator a day
- > Maximum stock duration of 2 days for fresh produce
- > Different storage areas are to be equipped with the optimum storage and picking solution:
 - Buffer stock for fruit, vegetables and flowers
 - Solution for buffering and picking meat, fish, eggs and bakery products
 - FIFO storage solution for unit loads

Situation

Volg organises shipment to their customers 7 days a week. 750 roll containers are shipped on 22 trucks every week. In order to enlarge their capacities, the distributor decided to invest into a new distribution centre in Oberbipp which is to stock fresh produce.

Solution

- > **According to their specific turnover frequency, fresh produce is stocked in different picking areas**
- > **Goods are picked as individual products (single position storage) or as packaging units (off-pallet picking)**
- > **Easy access of goods on all storage levels**

Customer benefits

- **Reliable handling of deliveries from 80 suppliers, unhampered and secure in-feeding and retrieval of goods in separate loading and picking aisles**
- **Optimum utilisation of the storage facility is a decisive factor in increasing productivity and efficient processing of small quantity orders**
- **The number of customers served by the site at Oberbipp has risen by 25 %**



Product diversification

Case study: GETRÄNKE ESSMANN

Company

Getränke Essmann, a provider of logistics services for the beverage industry, supplies customers from gastronomy, food trade, beverage retailers and wholesalers with a comprehensive range of beverages. Customers can choose from more than 2,000 beverage types and varieties with or without alcohol in single use bottles, deposit bottles and drums.

Capabilities

- > Individual product picking has to be made more efficient
- > Fast movers must be permanently accessible
- > Expansion of storage capacities in line with growing variety of products
- > Compensation of seasonal peaks
- > The daily pick quota to be met is 15,000 beverage crates (A-items)



Situation

- > Growing variety of products due to the rising number of mixed beverages and diversified packaging options
- > The trend moves away from on tap serving and glass bottles to small-sized bottles and PET bottles
- > Increasing number of individual product picks due to higher order frequencies along with smaller batch sizes

Solution

- > **Picking installation with buffer levels**
- > **A picking tunnel provides direct access to fast movers (A-items)**
- > **Goods move gravity-driven to the picking face**

Customer benefits

- **The customer is now able stock a larger product range on the same storage surface**
- **Separate loading and picking aisles**
- **As goods move gravity-driven to the picking face (FIFO supply), picking is not interrupted by waiting times**

Efficient picking
of fast moving
products

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FOCUS:

■ Sell-by date management

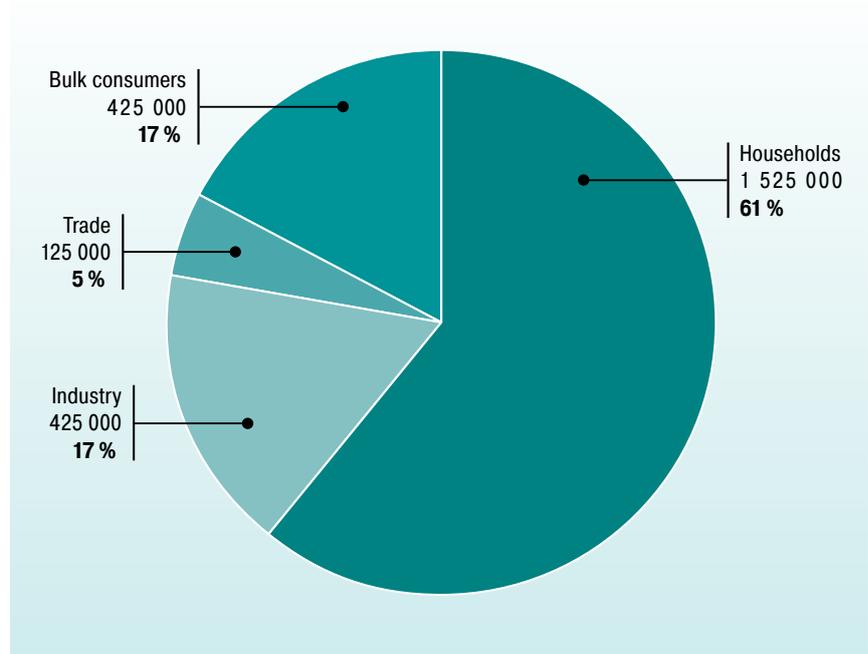
Spotlight

An often discussed issue in the food and beverage industry is that too much food is thrown away

> **Roughly one third (some 1.3 billion tonnes a year) of foods produced for human nutrition is thrown away worldwide**

> **The Nordic countries records 2½ million tonnes of food waste from any stage in the value added chain.**

Food waste split up by economic sector (tonnes/year)



Sell-by date management is a key requirement in food logistics

The sell-by date on food packages tells grocers how long to keep items on shelves and tells consumers how long properly stored product can be consumed without loss of taste and quality and without risk to their health. The time span during which a product meets customer expectations is also determined by other criteria such as visual

appearance, smell and consistency of fruit and vegetables for example. The length of this time span is primarily influenced by material handling & logistics along the value added chain with the appropriate storage temperature and an unbroken cold chain as the most important factors. Maintaining the cold chain can be difficult as different

products have different temperature requirements. The risk of a broken cold chain poses another challenge for handling logistics, i.e. to distribute foods and beverages as fast as possible or, if ideal temperatures cannot be provided, to keep the time span with suboptimal temperatures as short as possible.

FOCUS:

■ Sell-by date management

Logistics requirements

- > Compact storage and transport of goods in compliance with product specific temperature requirements
- > Temperature-controlled FIFO in-feeding and out-feeding of goods
- > Easy control of sell-by dates, production batches and product lines
- > Permanent access to all reference lines on stock
- > Speeding up order collation to support distributors

Future outlook: Dynamic sell-by date management

- > Target: Maximum shelf life at optimum temperature conditions
- > Temperature measurement and documentation: RFID transponders combined with measuring devices to record external conditions along the value added chain such as temperatures, exposure to light and other indicators of product deterioration (i.e. gases allowing conclusions about the degree of fruit ripeness)
- > Result: sell-by dates will be adjusted downward – i.e. if products have been subject to unfavourable temperatures at any point of the logistics chain – and special handling as a follow-up measure

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Food shelf life



Sell-by dates will be adjusted downward if a product has been kept at inadequate temperatures or if other negative influences have occurred during storage and transport

bio
Express



■ Sell-by date management

Case study: BIO EXPRESS

Company

The South Tyrolean farmer co-operative bio express put their heart and soul in organic fruit and vegetable cultivation. The cooperative takes pride in providing their products, to the greatest possible extent, directly to the final customer. Apart from personalised relations between the producer and the consumer, this distribution system benefits both sides: consumers will appreciate lower producer prices and pro-

ducers can rely on fair sales prices. Special attention is given to local products. bio express provides a wide variety of fruit and vegetables according to season. A carefully established production plan allows to extend the periods of availability. The cooperation with selected organic farms in all regions of Italy allows bio express to offer their comprehensive range during the winter months as well.

Situation

- > Direct delivery of fresh produce from the producers to the central warehouse
- > Direct supply of fresh produce to the consumers by bio express

Capabilities

- > Fresh produce is to be stocked in FIFO order to ensure control over sell-by dates
- > The goods are to be stored in chill stores at temperatures between 2 and 7 °C and delivered on the same day or on the following day at the latest

Solution

- > **Implementation of FIFO storage of all crates and cartons filled with fruit and vegetables**
- > **A warehouse management system informs the operators which goods are to be picked directly in bio express boxes**
- > **Empty boxes move back to the loading side on return levels**

Customer benefits

- **Easy control of sell-by dates**
- **Continuous supply to final customers with fresh produce**
- **Ergonomic order picking by making use of the natural reach curve of order pickers**
- **Separate loading and picking aisles contribute to an increased operator performance**
- **Pick quantities have been tripled with this new solution**

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FOCUS:

Temperature controlled, compact storage

Spotlight

Keeping products at the required temperature during the entire supply chain from production to the final consumer is one of the key demands in food and beverage logistics. Basically, three temperature zones can be distinguished for processing, storing and transporting foods.

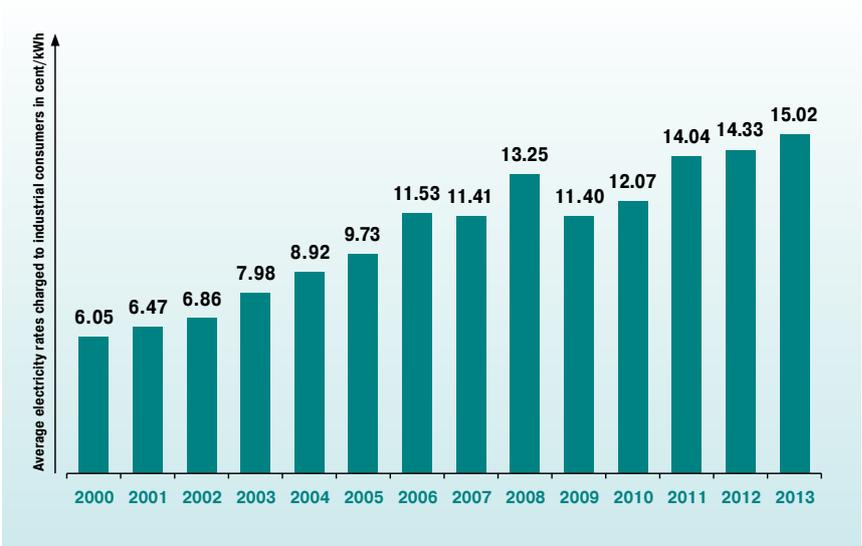
Temperature ranges	Temperature zones	Examples
Cold storage	-28 °C	Deep-freeze products, vegetables, potatoes, pizzas, bakery products, fish, meat & poultry, milk products, fruit, etc.
Chill storage	+2 °C to +7 °C	Dairy products, salads & vegetables, sausages and cold cuts, instant meals, etc.
Normal temperature storage	+12 °C to +18 °C	Dry foods

Energy costs

Demand for cold store and deep-freeze products has been constantly on the rise in the food industry. The trend also shows an above average need for warehouses that provide the required conditions for these products. Constantly rising energy costs are a challenge for food logistics, as efficient storage despite unfavourable conditions is a must. At present, energy costs account for as much as 25 % of the operating costs.

Source: VEA (German Federal Association of Energy Consumers), BDEW (German Federal Association of Energy & Water) - Results 10/2013

Electricity price for industrial consumers (including electricity tax)



Compact storage is a key requirement

While making full use of the warehouse volume in chill stores and deep-freeze facilities through compact storage, easy access to the goods on stock must be guaranteed at all times.

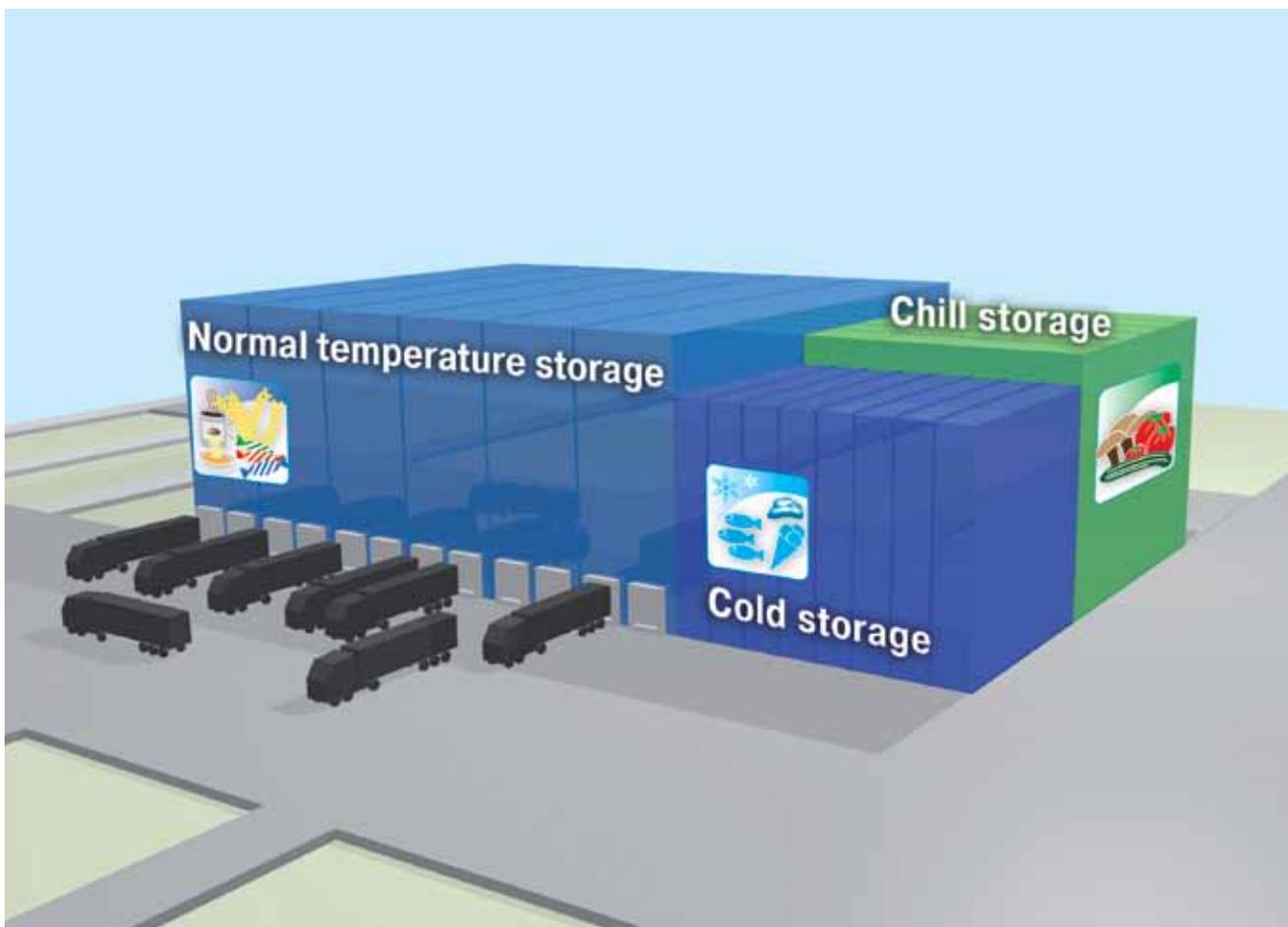
FOCUS:

Temperature-controlled, compact storage

Logistics requirements

- > Compact storage allows optimum utilisation of storage volume in cold storage and deep-freeze areas
- > Permanent access to all reference lines on stock
- > Semi-automated storage solutions to reduce cost-intensive manual labour in cold stores and deep-freeze environments
- > Warehouse and picking facilities must be fully functioning in cold temperatures

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“Space at our site is very limited. The compact BITO solution fits in perfectly.”

Andreas Gerloff, Schwälbchen-creamery

Temperature-controlled, compact storage

Case Study: SCHWÄLBCHEN

Company

Since 1938, Schwälbchen is a recognised high-performance creamery running three sites – Mainz, Ilfeld und Korntal-Münchingen. Whereas only 4 million kg of milk were processed annually in 1938, today's processing capacity has risen to almost 150 kg a year. The "green" product range "Grüne Linie" provides fresh milk and products that have to be kept cool such as cream and cheese. The company which employs 385 people is known for its regional products and for catering size packs for gastronomy.

Capabilities

- > Planned capacity of 1,300 European size pallets for cold store products
- > Product buffer for palletised goods
- > Optimum volume utilisation in view of cutting energy costs at a storage temperature of 5 °C

Situation

- > The daily production of "green" products amounts to 500 - 600 pallets
- > Part of the pallets are stocked at the premises of an external service provider
 - As a result, access to stocks is time consuming and cost-intensive
- > Reacting to the strong growth in the past decades, a new cold store has been built to provide more storage capacity

Solution

- > **The mobile pallet racking facility BITO PROmobile accommodates 1,300 pallets on a small floor surface, thereby maximising volume utilisation**

Customer benefits

- **Compared to static racking with its broad service aisles, warehouse volume utilisation has now increased from 40 % to 75 % with this mobile facility**
- **The BITO PROmobile pallet racking provides 75 % more storage capacity than the previously used static racking**



Mr. Gerloff talking with BITO product experts Urban Gundlich and Alexander Lang

BITO



Temperature controlled, compact storage

Case study: WURZENER

Company

Wurzener is one of the most successful food producers in former East Germany. Their product range comprises 50 product lines for a healthy nutrition such as cereals, rice, pulse, convenience products, flour and snacks such as flips, potato chips, etc.



Situation

- > Each day, Wurzener has an output of 250 pallets of finished products which equals 3,000 truck loads a year
- > The products are stocked in bulk in the existing goods-out hall
- > There is an increasing demand for displayware in trade
- > As displays do not stack easily, the available storage volume for displayware is insufficient
- > Block storage causes damage to food packaging

BITO PROMotion shuttle in action

Capabilities

- > Compact storage solution to be realised in the existing goods-out hall
- > Increase storage capacity
- > Damage-free storage of displayware



A selection of Wurzener products

Solution

- > **The BITO PROMotion shuttle facility accommodates 2,000 pallets**
- > **Channel storage facility with three levels makes best use of the warehouse volume**
- > **Efficient handling results in an improved goods-out process**

Customer benefits

- **Good space utilisation as better use is made of the warehouse height**
- **No damage to displayware**
- **Improved product handling as goods are in direct access**

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Temperature controlled, compact storage

Case study: PILSNER URQUELL

Company

The name Pilsner Urquell alone is enough to inspire all beer lovers. Since the first Pilsner beer was brewed in October 1842, it has never lost its fascination. Today, the company with the time-honoured brewing tradition belongs to the second largest brewery in the world, the South Africa headquartered brewery group SAB, with an output of almost 240 million hectolitres in 2009. On the Czech sites, approximately 2,400 employees are busy with producing, bottling and distributing 10 million hectolitres of beer a year. 800,000 hectolitres are exported from the distribution centre located at Plzen which is charged with the entire export organisation. The breweries deliver their output in lorries to this export warehouse where the deliveries are picked and packaged to order.

Capabilities

- > Increase throughput to 120 trucks a day, 40 of which are to deal with export deliveries
- > All off-premises depots are to be merged into one central export depot
- > Cut down transportation costs, increase product availability and product throughput, improve delivery quality, reduce customer claims
- > Production batches are to be on stock no longer than 30 days
- > Compensation of seasonal peaks

Full pallet loads are being loaded for shipment



Situation

- > Storage, handling, packaging and shipment of entire pallet loads (glass bottles) and smaller packaging units (cans, non-returnable bottles)
- > Storage is outsourced due to high space requirement
- > Transportation to the central export warehouse is expensive in times of high turnover
- > The risk of damage to cans and non-returnable bottles is particularly high
- > Bad delivery quality and high costs for handling customer complaints

Solution

- > **Compact storage in a pallet live installation providing 2,000 storage locations**
- > **The lane length has been calculated for up to 29 pallets handled according to the FIFO principle**

Customer benefits

- **Storage capacity has tripled from 700 to more than 2,000 pallets**
- **Payback on investment within approximately 2 years**
- **Seasonal peaks can now be compensated easily, the product availability for delivery has been improved**
- **The increased delivery quality has reduced the number of customer complaints**

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FOCUS:

Order picking

Spotlight

Order picking is a key activity in any logistics centre. Efficient order collation has a decisive influence on a company's competitive-

ness. In the food and beverage sector order picking is of vital importance. Several factors complicate this task.

Product diversity

- > Product variety depends on season and region
- > Range includes products with slow, medium and fast turnover ratio
- > The industry must cope with a very large variety that continues to grow with cross-industrial trends such as the increasing popularity of convenience products, functional and organic food

Temperature zones

- > Special external conditions need to be fulfilled during storage, picking and transport to maintain product freshness
- > Temperature conditions must be adapted to product requirements, hence there is the need for chill stores, cold stores and normal temperature storage environments
- > Storage in different temperature zones puts special demands on operators and equipment



Sell-by date management & picking speed

- > Retail trade demands that processing, packaging, picking and delivery must be carried out in a very tight time frame
- > 90 % of the sell-by time span during which a product is recommended for consumption is claimed by retail trade and the final consumer
- > In view of the narrow time frame left for suppliers, picking must be done fast and accurately to ensure that no time is wasted

Ergonomics

- > Lifting and carrying loads during order picking exerts a high physical strain on the body
- > Health risks for operators are high
- > Picking environments should therefore meet ergonomic demands

FOCUS:

Order picking

BITO solutions
make order picking
easier

Logistics requirements

- > Permanent access to a broad range of product lines
- > Storage solutions to suit best-before product handling
- > Process reliability and processing/handling speed
- > Ergonomic picking solutions

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Order picking

Case study: THE GREENERY

Company

The Greenery offers their customers a full range of fresh fruit, vegetables and mushrooms. In addition, the Dutch-grown range is enlarged with import produce from all continents. The company is a supplier of super market chains, wholesalers, gastronomy and the processing industry. In order to optimise handling procedures in each market segment, The Greenery has subsidiaries in the Netherlands, Belgium, Spain, the United Kingdom, Poland, Italy, Russia, Romania, Brazil and the USA.

Tilttable roller conveyor segments allow easy cleaning

Situation

In the Netherlands, 276 supermarkets are supplied with up to 4000 pallet loads of fresh produce each day.



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Capabilities

- > Shorter travel routes to help optimise in-house logistics
- > Minimised lead times through more efficient order picking
- > Buffer store must be close to picking areas to allow immediate replenishment
- > High delivery reliability
- > Clean storage area in compliance with food safety HACCP principles and IFS standards

The order picking tunnel gives direct access to all product lines

Solution

- > Order picking store with integrated buffer
- > Picking tunnel reduces travel routes and provides a safe working environment
- > Tilttable roller conveyor lanes allow easy cleaning of racking facility and the floor underneath



Customer benefits

- Substantially reduced lead times as order picking can be done in a much shorter time in separate replenishment and picking aisles
- Automated replenishment according to the FIFO principle eliminates waiting times for order pickers

Order picking

The perfect match:

THE ERGONOMIC PICKING SOLUTION



Working in unsafe ergonomic conditions



Working in safe ergonomic conditions

Working in unsafe ergonomic conditions

Working in safe ergonomic conditions

BITO solution

Reduce the risk of injury to support operator health and increase performance!

Every second person is suffering from back pain, either regularly or sporadically. Straining moves in ergonomically unfavourable conditions pose a high risk to operator health and reduce picking performance.

Customer benefits

Our customers benefit from the following plus factors:

- Lower sickness absence rates
- Strain-free picking from three sides saves time and increases pick rates
- Ergonomic conditions ensure that unit loads remain undamaged during off-pallet picking and cut down the rejection rate

Order picking

The perfect match:

THE EFFICIENT PICKING SOLUTION

BITO solution

Benefit from ergonomic advantages to increase pick rates!

Efficient order picking also depends on the right level decking. Ergonomic working conditions make sure that as little effort as possible is spent when pulling a load forward.

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Customer benefits

Our customers benefit from the following plus factors:

- **Increased productivity as 50 % less effort is needed to achieve the same result**
- **Ergonomic picking brings down sickness absence rates**
- **Minimised lead times through more efficient order picking**

In addition, open surface level decking scores with:

- **Good light transmission**
 - Reduced damage to picking goods
 - Lower error rate
- **Water permeability and air circulation**
 - Ideal for food storage (hygienic design)
 - Ideal for use in storage environments with a sprinkler system

Convenient order picking versus high effort picking – Sample calculation with a load weighing 16 kg:

Pull-forward effort on chipboard decking		Pull-forward effort on BITO decking
10 kg		5 kg

FOCUS:

Flexibility: Preparing for the future today!

Spotlight

With globalisation creating increasingly volatile markets and ever more complex in-company processes, the demands being placed on intralogistics are continuously rising. The factors in focus are modularity, flexibility, efficiency, ergonomics, custo-

mised functional design and layout, 24-hour availability, cost effectiveness and sustainability. Supply chain optimisation is only possible if all hub nodes and work steps match perfectly and perform reliably. Customised solutions must therefore

feature technologies and systems capable of adapting to current demand and market situations within a short time in order to ensure that products are stored, picked and prepared for dispatch at a minimum of cost and time.

As the food and beverage market is particularly dynamic, the pressure to provide cost-effective product handling is even stronger than in other industries. It is not only the impressive variety of products to be handled which makes intralogistics in this field a challenge, but also the fact that this variety

spans various handling scenarios such as a different turnover frequency (slow, medium, high) and the need for different ambient temperatures (normal, chill or cold store). It is obvious that storage and picking facilities that are designed for only one handling scenario cannot be used efficiently over a

longer period of time. In order to maintain competitiveness, time-consuming and cost-intensive retro-fitting would be required. It is therefore advisable to make a sustainable investment into a flexible solution which can be adapted to changing customer needs without losing time and money.

FREQUENT ADJUSTMENTS
OF PRODUCT RANGE

LARGE BATCHES SMALL BATCHES

STOCK ROTATION FREQUENCY

FLEXIBILITY SEASONAL PEAKS

PRODUCT BUFFERING

DIFFERENT TEMPERATURE ZONES

CUSTOMISED PICKING SOLUTIONS

FAST MOVERS
SLOW MOVERS

FOCUS:

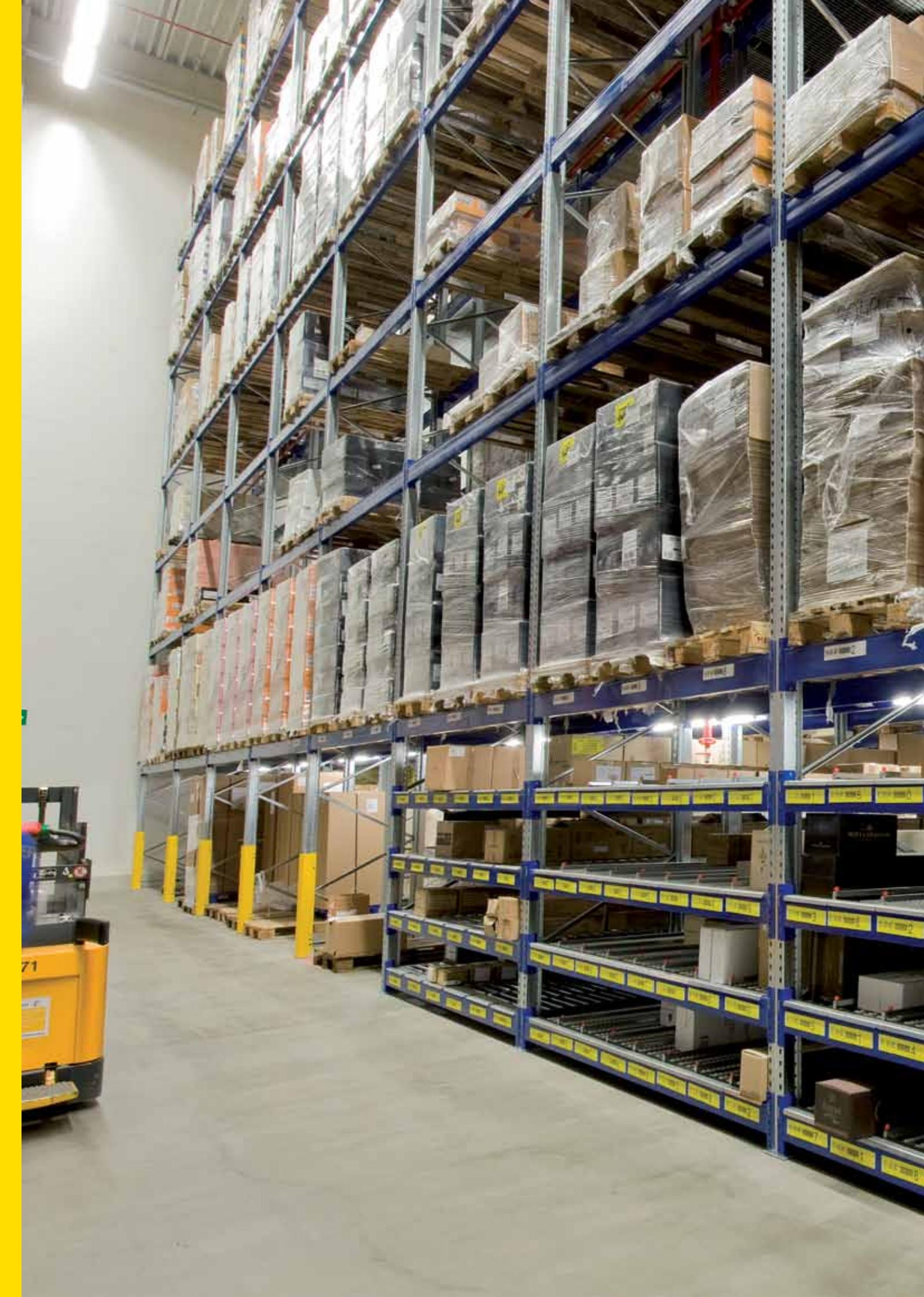
Flexibility: Preparing for the future today!

Logistics requirements

- > Modular storage solutions which can be adapted to changing requirements without spending a lot of time and effort
- > Easy-to-realise retrofitting or expansion of existing systems with Plug & Play solutions
- > Demand-oriented switch-over from order picking of entire pallet loads to picking of unit loads
- > Securing investment sustainability and capital amortisation



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Flexibility: Preparing for the future today!

Case study: DACHSER FOOD LOGISTICS

Company

DACHSER Food Logistics offer their customers a comprehensive service covering the entire food logistics chain by providing all logistics disciplines from trade logistics, procurement and distribution logistics to contract logistics with integrated multi-user warehouses at a large number of sites. DACHSER supplies meat and cold cuts to some 480 million consumers in 21 countries, dairy products, sweets, wine and spirits, convenience products, coffee, processed fish and canned foods. With an operating area of more than 100,000 m² and a workforce exceeding 400, the Nuremberg location is an important pillar of the DACHSER overland transportation network. In their business sector Food Logistics, DACHSER offer their customers a comprehensive service range accommodating any requirement in this field.

Capabilities

- > Demand-oriented storage solution to allow easy adaptation to changing circumstances
- > Long-term investment into storage equipment must be worthwhile and sustainable
- > Reliable supply of slow movers in small batch sizes in a minimum of space



Situation

- > Storage and stock management has to be organised for a very large range of product lines from many customers
- > In the DACHSER location at Nuremberg, an average of 2,800 pallets needs to be moved each day
- > Constant changes in product portfolio, special actions and seasonal variations lead to frequently changing proportions of slow movers and fast movers as well as of the amount of products to be picked as unit load or as entire pallet load

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Solution

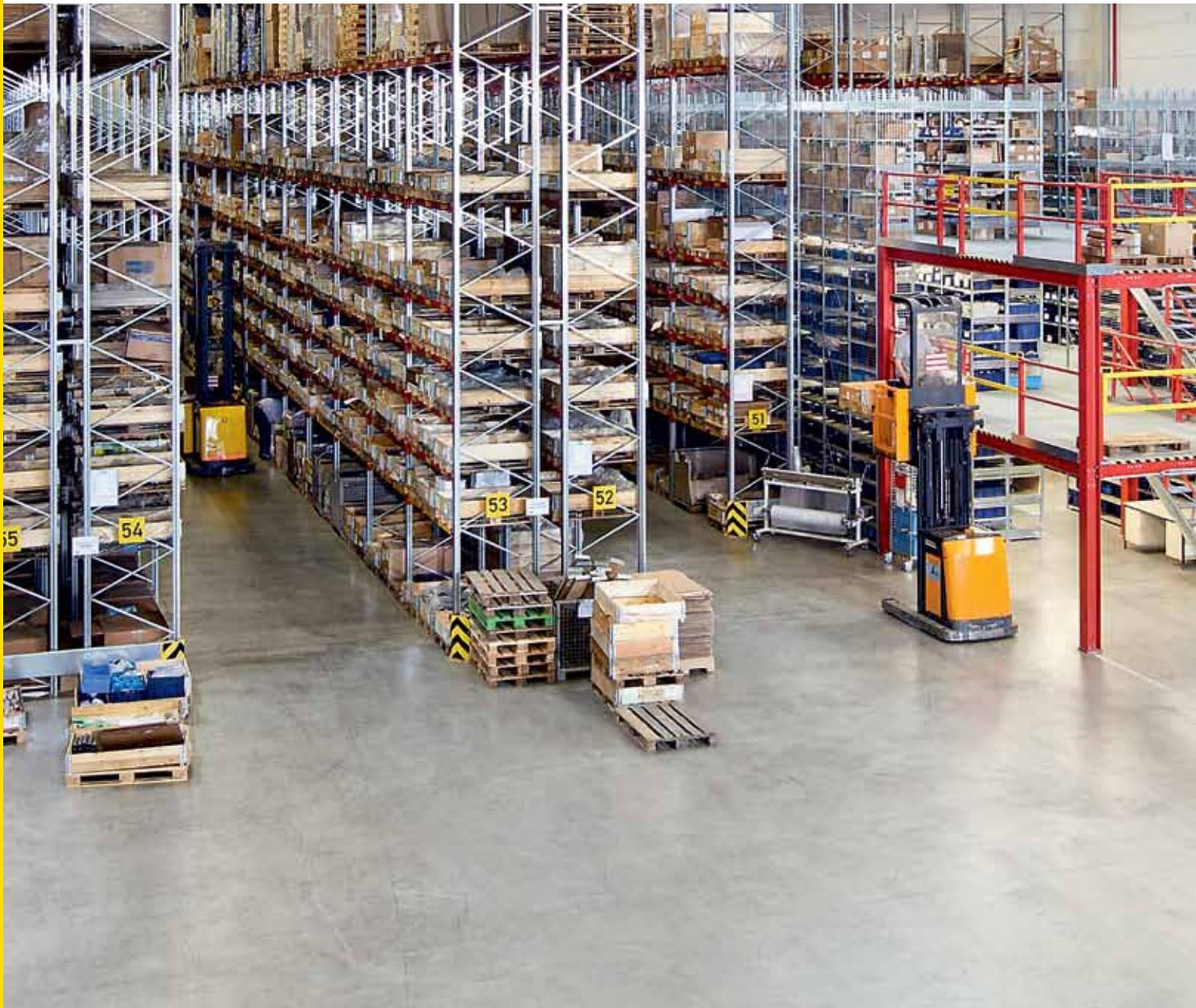
- > **Pallet racking which can be retrofitted for live storage according to the FIFO principle**
- > **Static pallet racking levels can be easily retrofitted with flow shelves for FIFO picking**
- > **The two racking levels at the floor can accommodate either 6 pallets or 50 live storage lanes supplying different reference lines**

Customer benefits

- **Very high degree of flexibility in adapting to changing requirements through fast and easy retrofitting of the storage installation**
- **Possibility of handling an even larger product range on the same storage surface**
- **FIFO storage ensures easy control of best-before dates**
- **Sustainable investment into a "life" warehouse**



“Your single source product and service supplier: from bins to high bay racking – from planning to installation start-up”



BITO invites you to the world of storage and handling

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BITO shelving & racking

Our shelving & racking range includes boltless and bolted shelving, shelving with extra large shelves, wide span and heavy duty shelving, pallet racking, cantilever racking, mobile shelving and racking, multi-tier facilities, carton and pallet live storage as well as automated storage installations. Whether you opt for a conventional solution or an automated live storage installation – the BITO team will be pleased to assist you in making the right choice for your application.

BITO bins & containers

BITO provides a huge range of bins and containers in any size and for any application. Discover our bins for storage, handling and order picking, our stacking containers in European standard sizes and our successful distribution container series. In addition, we offer bins and trays for automated small parts storage and containers in pallet size.

A broad range of accessories ...

... workbenches, transport dollies, order picking and shelf trolleys, bins and cupboards, steps, labels, label holders and safety equipment tops off our product range.



> Whatever you need for efficient storage – you can rely on BITO as your single source supplier!



“More than 5,000 products direct from the manufacturer”



We are at your service!

Fast track ordering



Catalogue and online shopping, a varied selection of special offers, instant advice provided on the phone by skilled staff, quick quotations, an attractive price performance ratio, short delivery times, and, if things should not be the way you want, the ability to handle claims fast and professionally – all this contributes to the success of a direct sales business. As a manufacturer of storage, order picking and handling equipment ‘Made in Germany’ for more than 50 years offering a range of more than 5,000 products, we know our business and are happy to share our know-how with our customers. On-going product and market research help us to continuously extend our range and our services to provide you with everything you would expect from your single source supplier.

Support & Planning



Fast material flow and lean procedures – these factors are key to any intralogistics process. They will only make their full impact if combined with storage and order picking systems that are perfectly adapted to the requirements of a specific project. When it comes to realising such systems, BITO has a clear advantage over other suppliers. At BITO, we design and manufacture all products in our own plants. On top of this, we assume all project-related tasks from layout planning to system commissioning. This ensures highest levels of transparency and efficiency. Even tight time schedules can be realised because there are no delays in the flow of information between the departments involved and there is no loss of information due to additional interfaces.



“We're wherever you are!”



The BITO group



Our subsidiaries:

- > Belgium
- > Bulgaria
- > Denmark
- > Dubai (Middle East)
- > France
- > United Kingdom
- > Italy
- > The Netherlands
- > Austria
- > Poland
- > Russia
- > Switzerland
- > Slovakia
- > Spain
- > Czech Republic
- > Ukraine
- > Hungary

Partners:

BITO maintains multiple sales partnerships worldwide.

Plants:

- > Meisenheim and Lauterecken
- > India

Plant
in India



BITO
Storage Systems
in the UK



BITO SYSTEMES
in France



BITO Lagertechnik
in Switzerland



BITO Systems
in Belgium





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...or how do you store?