

BITO PROflow

Pallet live storage - the new generation



BITO
...or how do you store?



Winfried Schmuck
Managing Director

The product name PROflow refers to the well-established and successful BITO pallet racking system PRO and the notion that in live storage, things are in motion. The PROflow system allows product handling in BITO live storage as well as in BITO push-back racking which both have decisive advantages over conventional pallet racking for a large number of applications. In this brochure, we will not only take a look at the conditions required for maximising your benefits with the BITO PROflow solution. We will also look at the benefits themselves and present some projects selected for their suitability to illustrate the value for our customers.

> **We hope that you will enjoy reading this brochure
and wish you many useful ideas for your next project!**

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
Lauterecken



Plant in
Meisenheim



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



»BITO PROflow – keeps going, and going ...«



BITO PROflow – for best results, check the following points:

BITO

In which circumstances should you consider PROflow?

- You need to stock several pallets of the same product?
- You stock a lot of items of the same reference line and you want pallets with the same product to be stocked in one lane in a specific order? (FIFO principle: first in, first out; LIFO principle: last in, first out)
- You want to (re-)structure your processes?
- You want to make sure that there are no disruptions in the supply of goods and that all product lines are in direct access?
- You want to make optimum use of your available warehouse space?

> Then PROflow is exactly right for you!

What are your requirements?

- You want to avoid running out of supplies for your production or picking area and have all product lines within easy reach?
- You need a buffer stock in order to prevent disruptions in your workflow?
- You need a product buffer in your goods-in department, manufacturing and/or order picking area or in your goods-out department?

> Then PROflow is exactly right for you!



»BITO PROflow – FIFO principle or LIFO principle«



BITO PROflow – The system

BITO Pallet live storage racking

> **FIFO principle: First in, first out**

Pallets are fed into the lanes of each racking block from the loading side and move gravity-driven to the opposite side for order picking. This ensures perfect adherence to the FIFO principle. The integrated load separator at the picking side ensures that pallets can be retrieved without lane pressure.



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BITO Push-back pallet racking

> **LIFO principle: Last in, first out**

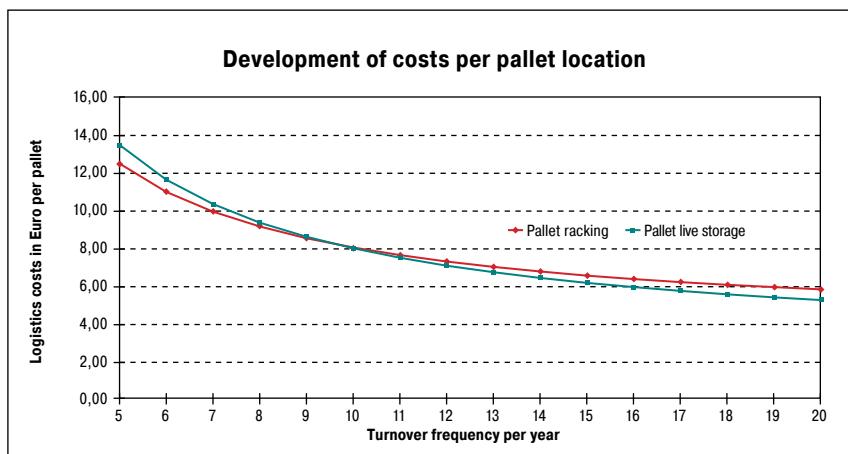
Push-back pallet racking is loaded by service vehicles pushing pallets into the lane against the incline. Although pallet unloading would be done cautiously by avoiding any sudden reversing with a lift truck, BITO additionally integrates braking rollers in order to prevent uncontrolled pallet acceleration and potential injury risks. To relieve additional friction, BITO also have an optional "one way" brake roller, ideal for installations with several pallets in the depth. Push-back racking operates according to the LIFO principle.



BITO PROflow – Benefits for our customers

- Compared to bulk storage, live storage provides direct access to all reference lines on stock.
 - > High degree of flexibility, fast order picking.
- Strict adherence to the FIFO principle (first in, first out)
 - > Easy control of sell-by dates, call-off quantities and production batches.
- No idle times
 - > The clear layout of the system allows immediate product viewing at the picking face which reduces process times and allows process predictability.
- Separate loading and picking aisles
 - > Truck operators cannot get in each other's way, undisturbed working increases work performance and operational safety in your warehouse. Also, depending on the design, it is possible to completely separate forklifts from order pickers.
- Elimination of unnecessary aisles, shorter in-house travel routes
 - > Gain in storage space of up to 60% compared to conventional pallet racking. Compact storage in a smaller place is less energy consuming; a 40% reduction in travel time reduces electricity/fuel consumption of service vehicles.

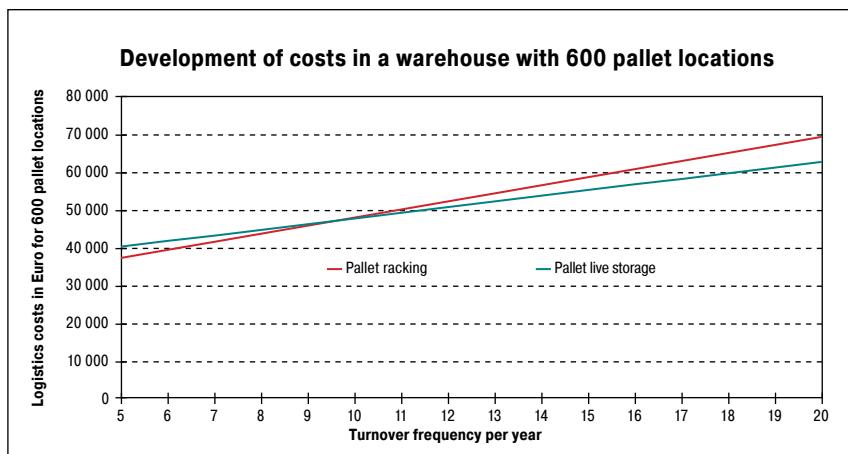
Economic evaluation of pallet racking versus pallet live storage as a function of turnover frequency



> Save money

Pallet turnover frequency has a decisive influence on logistics costs. Our example shows that cost saving starts from a turnover frequency of 9 pallets per pallet location per year.

If a warehouse with 600 pallet locations has a turnover frequency of 20 pallets per year, the cost benefit amounts to some 7,000 EUR per year. A turnover frequency of 50 will save approximately 25,000 EUR annually.



In this calculation, the gain in floor space compared to conventional pallet racking has been estimated very cautiously at 20%. If based on a more generous estimate of 50% - 60%, cost savings will be much higher. Our calculation includes occupancy, racking, truck and handling costs.

BITO PROflow – Benefits for our customers

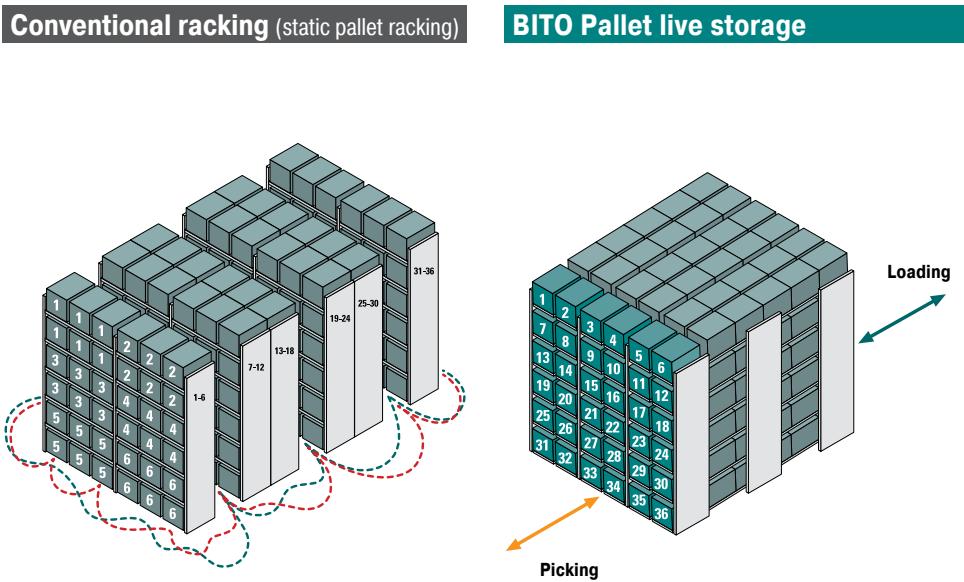
Evaluation

Our comparison presents two storage installations which both supply 36 different items.

It is obvious that the pallet live storage installation allows for more compact and organised storage.

All 36 reference lines are directly accessible at the picking face. Each item moves unassisted into the picking position. Sufficient replenishment quantities guarantee constant availability of goods.

Conventional racking (static pallet racking)



BITO

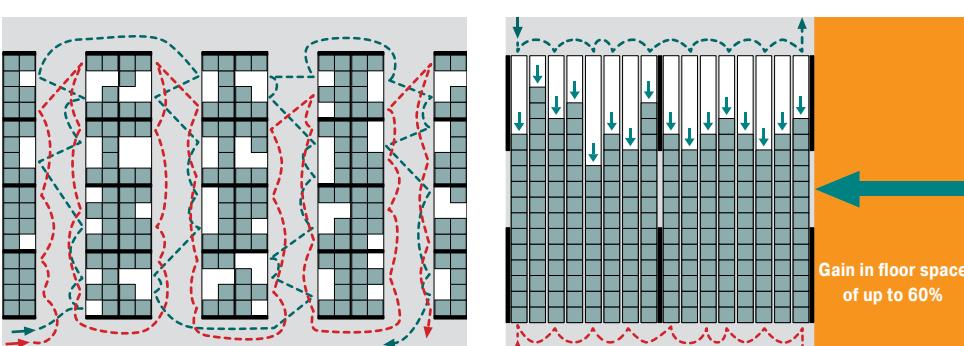
Conventional racking (static pallet racking)

Compact storage and the elimination of unnecessary aisles results in a gain in floor space of at least 60%.

Strictly separated working aisles prevent that replenishment interferes with order picking which increases staff productivity.

Short travel routes reduce order picking times – especially with despatch route related order picking.

BITO Pallet live storage

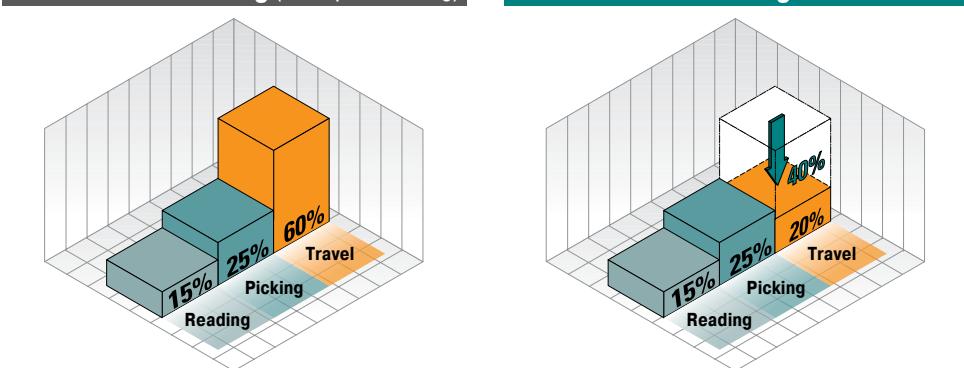


Conventional racking (static pallet racking)

Whereas reading and picking times remain the same for both solutions, travel times are drastically reduced.

This leads to an overall reduction of work time and to an increase in picking performance.

BITO Pallet live storage





»BITO FlowStop – multifunctional and modular«



BITO FlowStop – the unbreakable load separator

- Do the load separators in your pallet live storage facility fail to work properly?
- Are there disruptions in your workflow due to frequent load separator troubles and do you have to invest time and money into subsequent repair?

> **The BITO FlowStop load separator has been designed to reliably separate the first pallet at the picking face from the other pallets in the lane allowing fork lift trucks or operators to retrieve a pallet safely without lane pressure. The load separator components have been built for a long service and have been fitted out of reach of the truck forks. This means considerably lower repair costs for our customers and ensures safe and convenient loading and unloading.**



Find the BITO FlowStop load separator on the Internet

> Video »FlowStop – the
unbreakable load separator«
Scan this QR code:



> Video »FlowStop load
separator in action«
Scan this QR code:

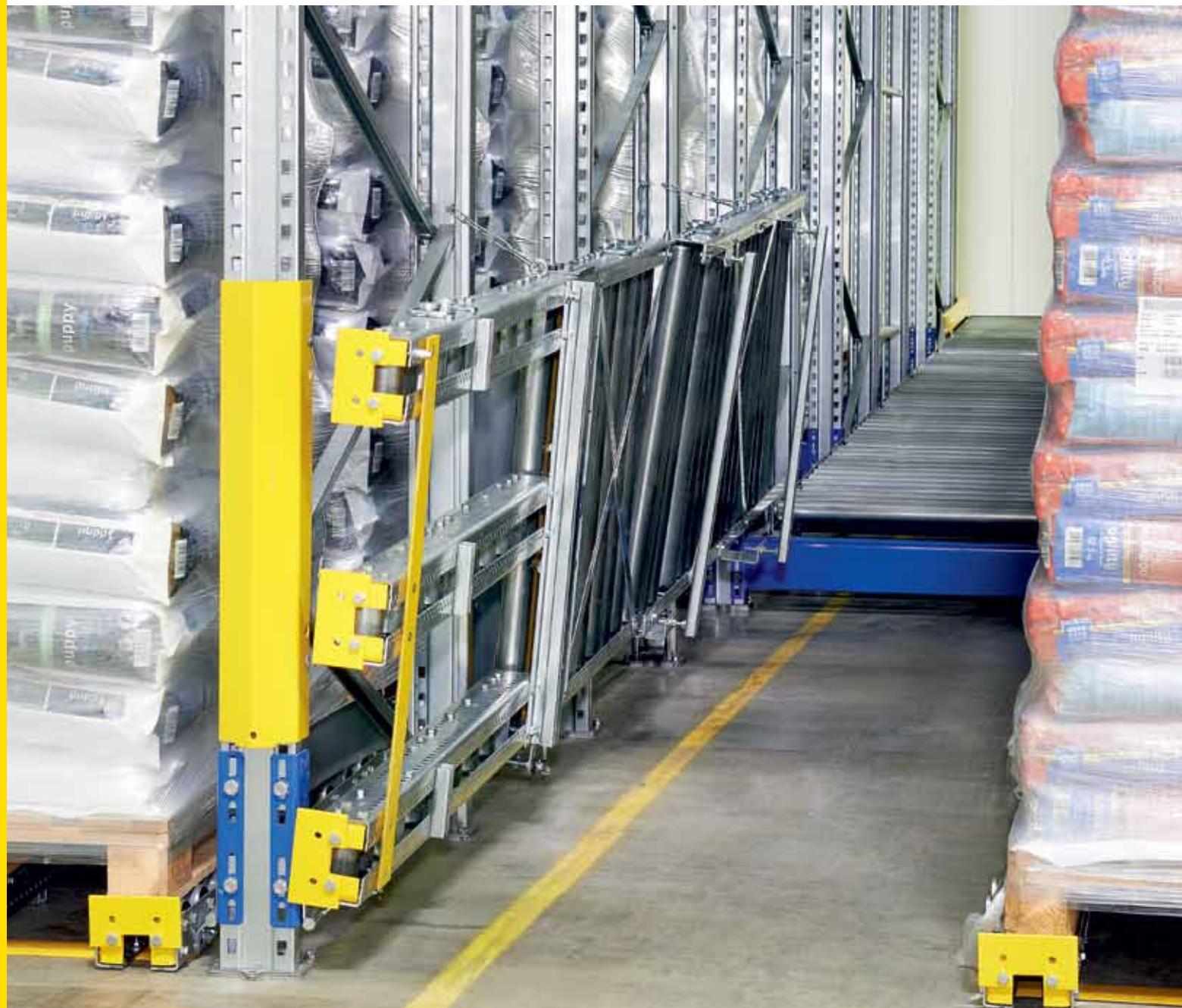


> Video on »Pallet separation with the
BITO FlowStop load separator«
Scan this QR code:





»Easy cleaning underneath the roller conveyor lane«



BITO PROflow – Tiltable roller conveyor lanes

- Do your products require compliance with hygiene regulations?
- Do hygiene regulations also apply for your warehouse?

- > If you can answer both questions with yes, tiltable roller conveyors are the best option to go for. Tilting up the conveyor module is easy and allows convenient cleaning of the floor underneath.
- > This solution is the easiest way to improve hygienic conditions in your warehouse and to comply with hygiene regulations.





Case study: BITO PROflow > ELECTROLUX

Requirements

- > The racking facility stocks B-items from 16 product lines.
- > Very good space utilisation.
- > The FIFO principle is maintained in the entire production process.

Company

Electrolux has been doing business since 1919. Established in Sweden, today's group is a leading global household and kitchen appliances manufacturer focusing on thoughtfully designed innovations. In 1925, the company started its activities on the German market and has a current staff of 2,000 in Germany, with 1,300 employees working at the plant Rothenburg ob der Tauber.



BITO

In-house transport
is based on the
milk run method.

Implementation

- > The PROflow live storage facility is used as buffer stock for the assembly area.
- > The assembly components are supplied in plastic pallet boxes sized 1200 x 800 mm.
- > At the assembly lines, the dishwashers are assembled from separate parts.
- > The PROflow live storage installation accommodates 16 product lines, each stocked in large quantities of some 60 pallet boxes per product line.
- > The assembly lines are supplied on a milk run basis. Starting from a supply area which is immediately adjacent to the PROflow live storage facility, a service vehicle takes boxes with the required components to start its round trip to the various assembly lines.

Benefits

- Only little floor space required.
- > **Proportionally reduced warehouse maintenance costs.**
- Fast and easy product handling.
- > **Short travel routes and low in-house transport costs.**
- Very safe operation of racking facility.
- > **Safety at work keeps job-related accidents at a low level.**
- > **Full compliance with Safety First demand.**
- PROflow live storage ensures constant availability of products.
- > **Process safety, no idle times at assembly lines.**

Find BITO PROflow on the Internet

- > **Video »Loading goods into PROflow«**

Scan this QR code:





Case study: BITO PROflow > THE GREENERY

Requirements

- > High turnover frequency and quantities: each day, 276 supermarkets are supplied with up to 4,000 pallet loads of fresh produce.
- > Maximum utilisation of available warehouse space along with optimum efficiency.
- > Food = hygiene.

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. On the import list are either products that cannot be cultivated in the Netherlands or products that cannot be grown

in the cold season. The Greenery has an in-house quality and environmental compliance department and is able to guarantee produce safety standards.



The order picking tunnel gives direct access to all product lines.

Implementation

- > Possibility to define order picking slots depending on the turnover frequency of goods.
- > Picking tunnel allows faster order picking.
- > The live storage lanes on top of the picking tunnel are used as pallet buffer.

Benefits

- > **Buffer store capacity is 60% higher as full use is made of the available headroom.**
- > **Increased work safety and efficiency: separate picking and loading aisles / lane allocation is not tied to specific products.**
- > **Increased storage capacity: 4,000 pallets on a surface of 25,000 m².**
- > **Compliance with hygiene regulations: roller conveyor segments can be tilted up for cleaning the floor underneath.**



Tilttable roller conveyor segments allow easy cleaning.



Case study: BITO PROflow > MERA TIERNAHRUNG (PET FOOD)

Requirements

- > The new racking is needed as picking buffer to accommodate palletised dog food from production.
- > As sell-by dates are equally important for pet food, the FIFO rule must be observed.
- > Maintenance-free storage facility.

Company

»Feeding Pets the Right Way« - for MERA Tiernahrung GmbH from Kevelaer on the lower Rhine in Germany, this is both a goal and an obligation. The family-run company has more than 60 years of experience in the production of high-quality pet food. A strict quality assurance system is being followed in the entire production process which is audited and certified by independent institutes.

Implementation

- > The pallet live storage facility stocks pet food according to the FIFO principle.
- > Finished products are stocked in cartons and bags on European standard pallets.
- > Goods are picked order-related from the live storage facility.

Tilttable roller
conveyor segments
allow easy cleaning.



BITO

PROflow
provides compact
pallet storage

Benefits

- > When space is limited, a compact size PROflow installation is a real plus.
- > An increase in storage capacity on the same floor area allows a higher throughput speed in your warehouse.
- > The FIFO storage method makes sure that products are retrieved in the order of expiry dates.
- > Floor cleaning is very convenient with tilttable roller conveyor units (compliance with hygiene requirements is a must the food industry).

Find the BITO FlowStop on the Internet

- > Video »FlowStop load separator in action«
Scan this QR code:





Case study: BITO PROflow > BENIAMINO SRL

Requirements	Company
<ul style="list-style-type: none"> > 3 roller conveyor lanes per bay. > Pallets on the ground level can also be retrieved with a hand pallet truck. > Loading and picking zones are linked to each other by a crossway. 	<p>BENIAMINO Srl was established in the 70s as family operated bakery in the hills around Verona, a region where healthy, home-made food is valued. Beniamino decided to keep up this tradition with modern technology and state-of-the-art machinery and equipment on a plant surface of 8,500 m².</p>

A crossway connects the loading zone to the picking zone.



BITO

Implementation	Benefits
<p>It was Beniamino's goal to make best use of the space in their dispatch buffer store and to link their storage area to the production area. As the finished goods are pressure-sensitive, it was not possible to stack loaded pallets. Another requirement was FIFO product handling which could best be met by a live storage facility.</p> <ul style="list-style-type: none"> > Direct accessibility of all product lines at the picking face at any required time reduces lorry waiting times. > Process structures are improved by buffering finished goods in the pallet live storage facility. 	<ul style="list-style-type: none"> > Decreasing proportionate occupancy costs by making optimum use of the available space. > FIFO storage guarantees that all products can be handled in the order of their sell-by date. > Truck waiting times are considerably reduced, because all goods to be shipped are in direct access at the picking side of the racking.

**Office
DEPOT.**



Case study: BITO PROflow > OFFICE DEPOT

Requirements

- > Substantial increase in storage and throughput capacity.
- > Reduction and optimisation of in-house transport routes.
- > Product handling according to the FIFO principle.
- > Maintenance-free storage facility.

Company

Office Depot celebrates 25 years of global leadership in the office supply and services sector.

With their products offered in 1,641 stores, with committed sales staff and their e-commerce business valued at 4.1 billion US\$, Office Depot serves millions of customers around the world, from small corner shops to Fortune 500 companies.

Office Depot has an annual turnover of 11.6 billion US\$ and employs some 40,000 people around the globe.



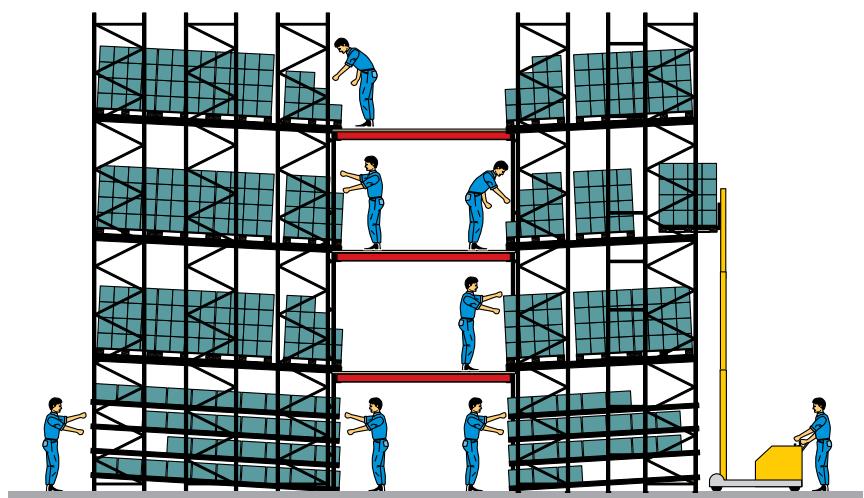
Implementation

- > The new logistics centre has been equipped with pallet racking and pallet live storage to guarantee constant availability of goods to order pickers.
- > Integrated mezzanine floors on three tiers provide generous space for storage goods and operators.



Benefits

- > **The BITO PROflow facility along with BITO carton live allows Office Depot to handle as many as 15,000 orders of any volume within a time span of 12 hours. Each day, up to 30,000 parcels leave the company.**
- > **High throughput speed as a result of efficient storage and picking methods**
- > **Short lead times, therefore fast order dispatch.**
- > **Substantially increased storage capacity as bespoke storage solution fits the purpose in an ideal way.**



Very good utilisation of warehouse height as orders can now be picked simultaneously on several tiers.



Case study: BITO PROflow > DE MATTEIS

Requirements

- > Products are loaded into single reference lanes with a shuttle.
- > The facility is used as dispatch buffer.
- > Goods are picked with fork lift trucks and hand pallet trucks.

Company

Campania-based De Matteis is specialized in the production of premium pasta products. The private label manufacturer – established in 1993 – was among the first Italian pasta manufacturers to be awarded the SA8000 standard for socially responsible employment practices. Their own brands, manufactured in compliance with very strict quality regulations on a plant surface of 65,000sm, are distributed to quality-conscious retailers and supermarket chains.

Up to 12 pallets
deep per lane



BITO

Implementation

- > The pallet live storage racking is 39 bays wide; each lane can accommodate as many as 12 pallets in the depth.
- > A facility with power-driven roller conveyor lanes for 500 pallets would have been extremely expensive. The BITO solution perfectly suited the needs of our customer who wanted a storage and picking facility that combines cost efficiency and a high throughput capacity. Another goal connected to a high throughput speed was to reduce truck waiting times.

Benefits

- > All product lines are ready for picking at any required time.
- > Separated loading and picking zones increase picking performance.
- > FIFO storage guarantees that all products can be handled in the order of their sell-by date.



Case study: BITO PROflow > PILSNER URQUELL

Requirements

- > All off-premises depots were merged into one central depot for export orders.
- > Reduce transportation costs.
- > Increase throughput: 120 instead of 100 trucks per day.
- > Compensation of seasonal peaks.
- > Required delivery times to be kept to a minimum.

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. The promising name was registered as international trademark

in 1898. 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.

Full pallet loads are being loaded for shipment.



BITO

Implementation

- > The new depot is used as order picking store. The operators will not only pick full pallet loads, but also smaller units such as packs with cans or bottles.
- > Smaller packaging units are picked from push-back pallet racking, full pallet loads are taken from the pallet live storage installation.
- > The pallet live installation provides 2,000 storage locations. The lane length has been calculated for up to 29 pallets in the depth. Products are handled according to the FIFO principle.

Benefits

- > **Storage capacity has tripled from 700 to more than 2,000 pallets.**
- > **Undisrupted handling without damage increases delivery quality and minimises customer claims.**
- > **Seasonal peaks can now be compensated easily.**

The compact layout of the facility allows Pilsner Urquell to store three times as many products in the same space.





Case study: BITO PROflow > VET CONCEPT

Requirements

- > The quality pet foods needed to be stored in the pallet buffer blocks until picked for delivery.
- > Strict adherence to the FIFO principle guarantees that all products are picked in the order of sell-by dates.
- > Especially space-saving racking layout in view of our customer's requirement to create 3,750 pallet locations.

Company

Since 2002, VET Concept manufactures a large variety of high-quality, wholesome pet food without harmful additives. Quality assurance and control systems guarantee that all required standards are maintained and even improved. The company has been expanding

continuously in recent years. In order to keep up with the growing demand, VET concept had already bought various shelving and racking solutions from BITO.



BITO

By combining several racking solutions from BITO, it was possible to meet all project demands.

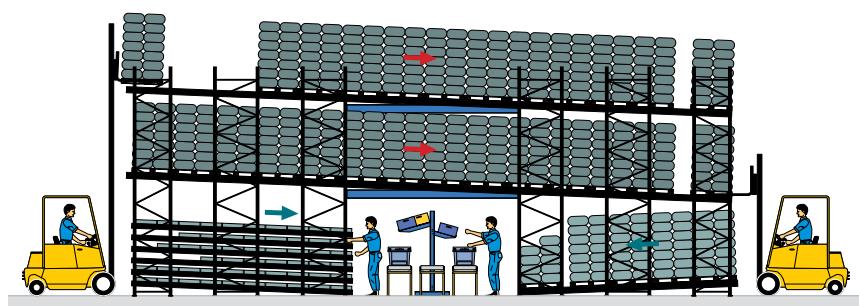
Implementation

- > Pet food is stocked in several live storage blocks according to the FIFO principle.
- > Incoming goods are stocked on Euro pallets in the buffer zone from where they are transferred into the order picking area as and when required.
- > In the picking zone with integrated picking tunnel, goods are repackaged and merged according to order for final customers.

Benefits

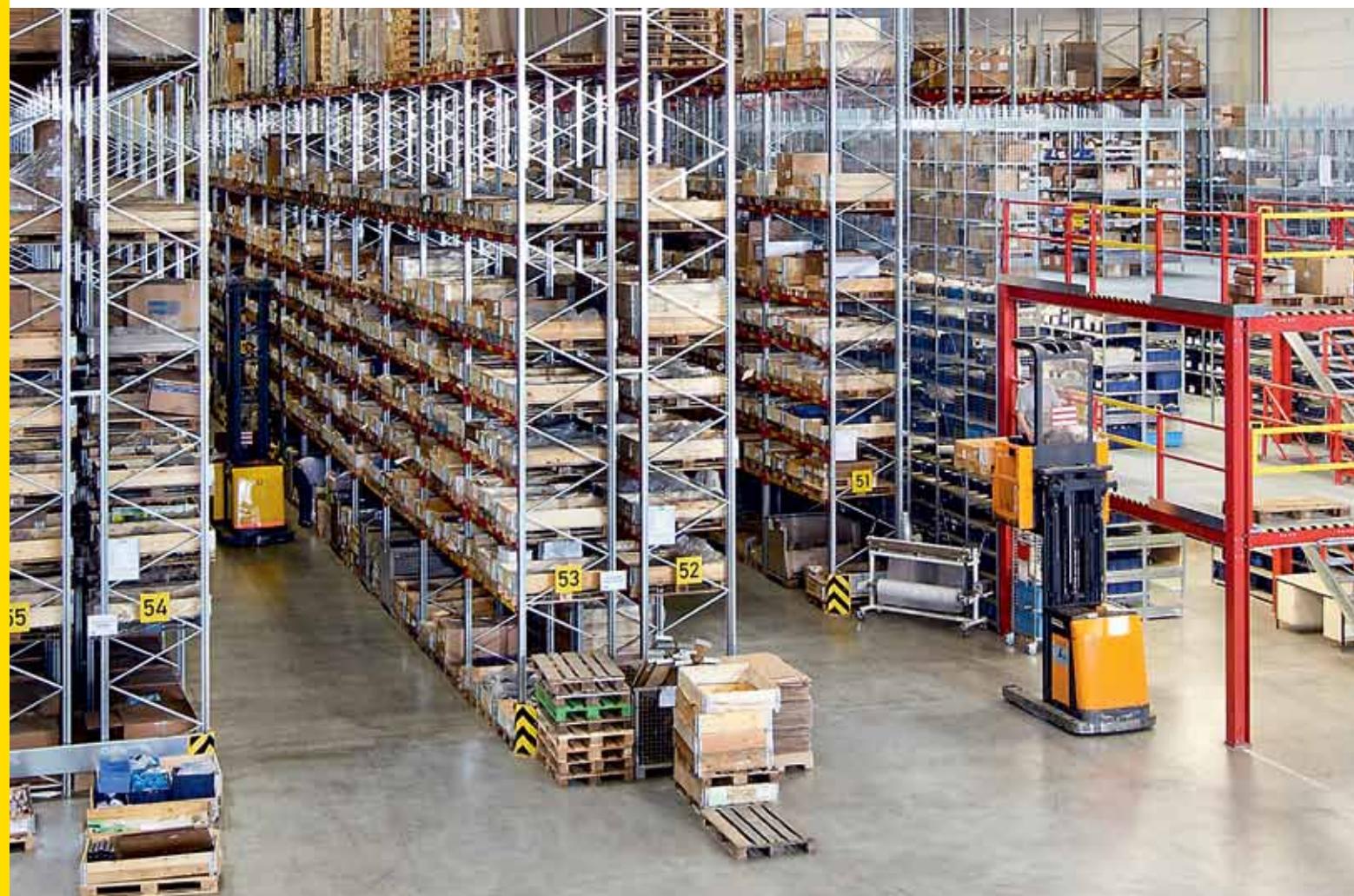
- > **Safe, undisturbed and organised working in the picking tunnel results in a substantial raise in picking performance and reduces order related picking time.**
- > **Lead times were cut down considerably by short travel routes and compact storage.**
- > **Undisturbed working in separate loading and picking aisles.**
- > **FIFO allows easy and error-free handling of products in the order of sell-by dates.**
- > **Tiltable roller conveyor segments at floor level height allow thorough cleaning of the floor underneath.**

Integrated picking tunnel





»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

BITO

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!"



Hauptverwaltung
Headquarters

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

BITO
Storage Systems
in the UK



BITO Systems
in France



Partners:

BITO maintains multiple sales partnerships worldwide.

BITO Lagerteknik
in Denmark



Plants:

- > Meisenheim and Lauterecken
- > India

BITO Systems
in Belgium



Plant
in India



BITO Polska
in Poland



dk.bito.com 

BITO Lagerteknik A/S
Hestehaven 21 I
DK-5260 Odense S
Tel.: +45 70 21 51 51
Fax: +45 65 90 52 41
E-Mail: info@bitodanmark.dk



se.bito.com 

BITO Lagersystem
Florettgatan 29c
SE-25467 Helsingborg
Tel.: +46 (0) 42 151910
E-Mail: info@bito.se

fi.bito.com 

BITO Varastotekniikka
Äyritie 12 B
FI-01510 Vantaa
Tel.: +358 9 8700 1150
E-Mail: info@bito.fi

www.reolteknikk.no 

Reolteknikk AS
Hellenvegen 22
NO-2022 Gjerdrum
Tel.: +47 6393 5200
E-mail: post@reolteknikk.no

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