

STOROJET REFERENCE PROJECT

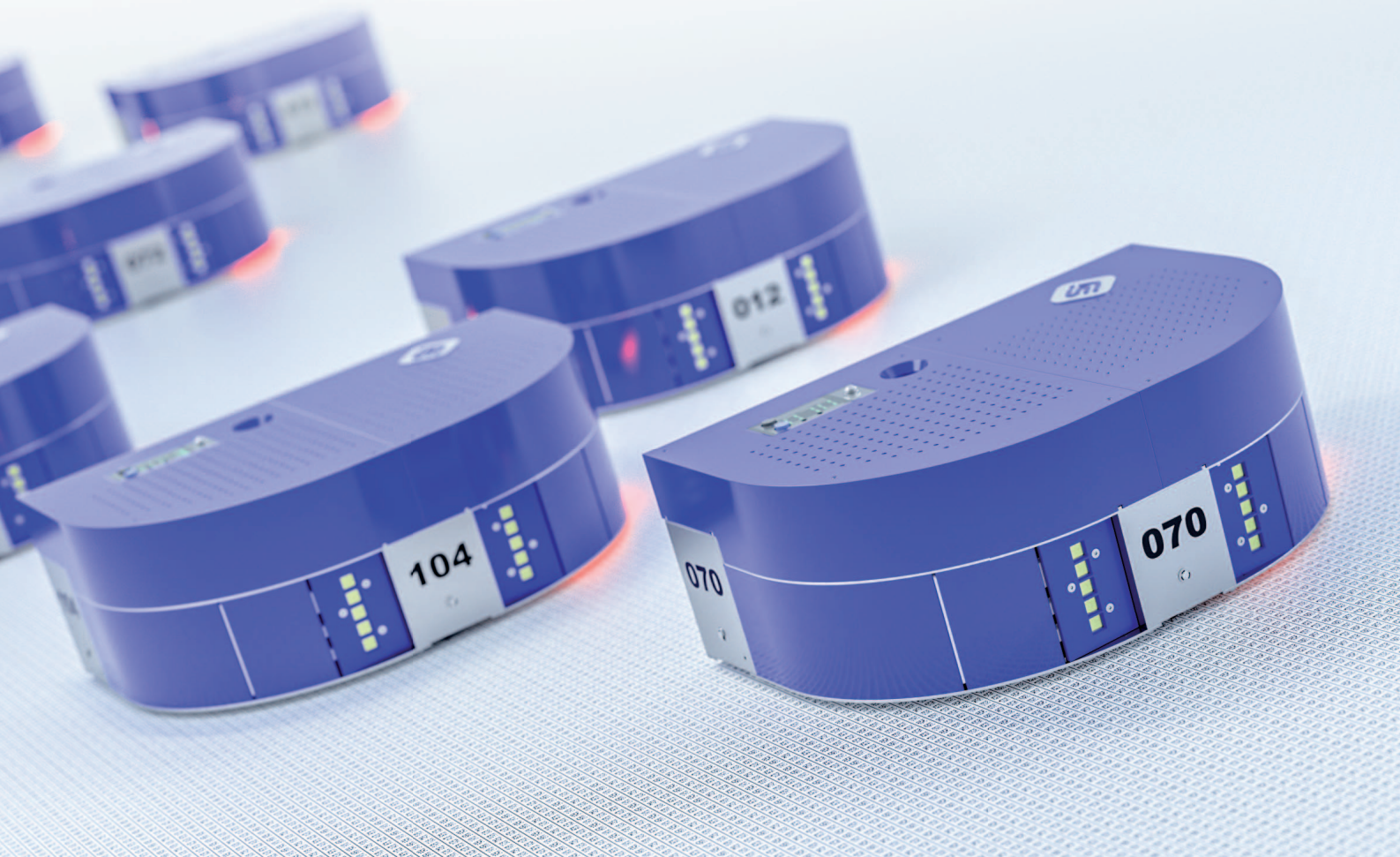
Futterplatz GmbH



STOROJET
NEXT LEVEL STORAGE

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Made in Germany

 **futterplatz.de**





Futterplatz.de: Storojet 's first commercial user and trendsetter

More storage space, faster delivery and fewer errors with constant growth in e-commerce

Accelerated order picking and the associated dynamic growth - this is made possible by the new automated Storojet multi-storey area shelving system. An ideal solution developed for the medium-sized mail order company, which also pays off in terms of investment! Shown here using the example of Futterplatz.de.

Background / Initial situation

Futterplatz.de, an established mail order company for pet food and accessories for over 13 years, can look back on a continuous growth. At the end of 2011, however, the existing storage area of 1,000m² proved to be increasingly too small for the by now roughly 8,000 articles and 400,000 individual objects.

Since further expansion at the old location was not possible, the company moved to a warehouse with 5,000m² of floor space. Soon, however, the company management, with plant manager Julius Schmidt, realised that despite, or precisely because of the increase in size, efficiency was being lost and that the 6 m height of the hall, with the exception of a small section with a high-shelving storage, was being completely underutilised.

Walkways and proximity to the picking stations had been optimised

for fast or slow rotating products but shelves, at a handling height of 1.70 m, meant pallet storage spaces were only built on the floor space. This resulted in excessively long distances and heavy transportation loads for the employees. The picking times increased disproportionately. The storage process was also unnecessarily time-consuming due to manual storage after depalletisation and the defining of an exactly suitable storage location.

During the search for a solution, various existing storage and order picking technologies were evaluated, but none were really convincing: too large in design and investment requirements, not flexible and not successively expandable, too high learning requirements for the workforce, downtime of day-to-day business during set-up and relocation.

New thinking for storage and order picking

Since existing technologies on the market did not fit or could not be represented in terms of investment, „storage and order picking“ had to be rethought! Here, the long-standing partnership with our sister companies ICO and Telejet paid off. The IT know-how of ICO and the strength of Telejet 's ideas led to a completely new type of warehouse automation.



The shelf remained the optimal basis for storing very heterogeneous products, which differ in size, shape, characteristics, haptics and other parameters.

A new tailor-made solution

Taking the above definition as a starting point, Telejet and ICO developed a fundamentally new approach based on a core: free-moving robots that orient themselves using codes on the ground. Roughly speaking, storage areas and paths can be built on the standardised floor slabs in a defined grid format.

In more detail, this means that in a shelving system with levels mounted one above the other, many product carriers are parked closely and moved, coupled and uncoupled with compact storage robots. Depending on the products to be stored, the shelves can be equipped with individual compartments and subdivided.

The various levels of the flexible shelving system are connected by several lifts and enable the robots to be both horizontally and vertically mobile. The robots are not rail-bound and can move freely. They orient themselves on the specially coated shelves using the codes and are coordinated by the central system via radio. The storage robots are the size of a domestic-use mowing robot but have far more power and achieve a considerable transport capacity.

A special feature is the optimum utilisation of the height of existing warehouses between 1.8 and 10m. The individual shelving surfaces of the self-contained system have a footprint of 1.2 x 1.6m and are connected by steel columns. Software is used to define which areas are considered to be paths and which are considered to be storage areas.



Putting the rule to the test

The idea that storage systems could be put into practice on the basis of the defined floor space and that could be adapted to the spatial conditions stood the test immediately at Futterplatz.de.

The Storobot storage area is located between the supporting columns of the hall, while the travel space, to the picking points, lead around the outside of the columns.

One picking station, which is primarily used for storage, is located near a hall gate, another near the previous packing line. For seasonal peaks, a third workstation was additionally set up to ensure the necessary output if required.

The storage area extends up to the ceiling girders, has a total height of approx. 5.2 metres and thus provides 5,000m² of storage and travel space over an area of 400m².

In addition, it was determined which products are suitable for storage in the system in terms of size and weight as well as call-off volume. The required scope of the storage system was selected so that additional levels are available for successive growth.

It is precisely this flexibility that makes STOROJET so interesting for medium-sized companies. For financial reasons, for example, the storage tower can be built just halfway up and then gradually equipped with additional storage levels. An expansion into the base area can also be carried out without any problems during ongoing operation. The daily processes do not have to be interrupted.





This was also the case with Futterplatz.de: construction and initial commissioning ran parallel to the previous operation; there was no classic standstill and relocation! Similar to a soft opening, the new storage system is continuously filled with goods and equipped piece by piece with more robots that move the goods carriers.

The user's respective merchandise management program can be informed as to whether goods are to be found and picked in the classic or automated Storojet area. At the same time, employees can acquire knowledge of the new technology and operation during the build-up and filling period - a real „learning-by-doing“ in the shortest possible time.

At Futterplatz.de, in the fully filled version, 80 robots will carry out the goods movements and enable up to 5 picks per station and minute in the delivery mode. The indicated picking performance always refers to the presentation of individual product carriers. If several articles can be removed from one shelf, the picking performance increases significantly.

Already with the current filling level, the processes can be easily identified: The picker sees the current packing list on his monitor. Several robots travel the distance to the lifts beforehand and are set down at the correct level. They then automatically navigate to the position of the respective goods carriers and dock to them. They use the goods carrier to steer their way back to the lift on their carriage-way and line up at hip height at the assigned output point. The fact that several picking lists are always processed simultaneously by the

system means a resulting uninterrupted flow of goods to people. The goods only have to be removed, scanned and then packaged. During the scanning process the article is, of course, checked for correctness and then booked out by the warehouse management program. With this information, the system knows which storage position is currently free and lets the robot return the goods carrier to the storage position and bring the next order. The procedure is the same for the re-storage of returns and saves time searching for free storage locations.

By continuously reading the codes underneath it as well as by using advanced navigation and coordination algorithms, the robot checks where it has to go and which route, warehouse position and picking station it has to take. The robots also autonomously recharge their long-lasting energy reserves during operation at permanently installed loading points and then report directly back to duty.

As several robots are constantly in use, a regular flow of goods is achieved that functions quickly and reliably and largely supports or relieves employees. At Futterplatz.de, the goods carriers only have one compartment at a time and therefore do not actually require picking assistance through Pick-by-Light. However, heavy and unwieldy feed bags are delivered on a lower level in order to make ergonomic working possible. In order to avoid confusion, the Pick-by-Light system only shows on which level the goods to be removed are delivered by the robots.

Good prospects

To the delight of Futterplatz.de plant manager Julius Schmidt, even in a partially filled condition, further advantages and an immense gain in flexibility can already be seen.

Each picking station can be used to store and retrieve the goods, so that personnel and operating times can be better allocated to the tasks at hand and can be more easily implemented in line with employee wishes. In addition, STOROJET enables a permanent inventory, which previously required a 2-day „delivery stop“ as well as the deployment of 30 people.

Julius Schmidt explains: „This will not only increase our storage capacity and enable us to deliver more products from stock but also our customers will benefit directly from this change. In addition to accelerated picking and thus faster dispatch, the error rate in deliveries is reduced to an absolute minimum at the same time. We also spare our employees from carrying heavy sacks of feed and from searching for articles in general, thus enabling them to work more comfortably.“



at the Storojet picking stations. This will provide additional benefits in terms of occupational safety and employee health. In combination with the simple scalability, we have thus taken an important step towards the future. Our Storojet can be visited by interested parties, it certainly also offers other medium-sized companies optimal solutions for their warehouse.“



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„After a short start-up phase it is really fun to work with Storojet! After a very short time, the selected products for storage showed a general increase in efficiency of almost 68% compared to manual order picking.“

Julius Schmidt
Manager
Futterplatz GmbH

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Advocatus Diaboli?

Despite all the positive trends, two factors should not be overlooked here: On the one hand, the employees of Futterplatz.de initially had a certain reserve about the new technology. It was something new to learn and there was a concern about job security. This proved to be unfounded because STOROJET has supported growth to such an extent that even more employees are to be hired in the future.

On the other hand, the economic question was whether the company’s own development would ultimately pay off in terms of investment. Apart from the advantages of being able to implement such a suitable innovation in the group of companies, it should not be more expensive than the alternative solutions available on the market. According to the company, the investment sum was around € 730,000, while the alternatives each started above € 1 million.

STOROJET’s forward-looking development not only contains the multidimensional flexibility that is so important for medium-sized companies, but also makes this possible at a reasonable price!

Conclusion

Plant manager Schmidt concludes: „After a short start-up phase it is really fun to work with Storojet! After a very short time, the selected products for storage showed a general increase in efficiency of almost 68% compared to manual order picking. We relieve the employees of the more than strenuous mileage during the day and we will also soon be making it easier to lift larger loads using suction cup lifts

Overview of data

STOROJET storage shelf

Height:	5,2m (plus 1m for the lifts)
Levels:	13 (clearance 380mm)
Footprint:	385m ²
Storage area:	5006m ²
Highspeed Lifts:	4
Robots:	80

Goods carriers

500x500mm (WxD):	2700
500x700mm (WxD):	1300
500x900mm (WxD):	1500

Workplaces

Storage and retrieval:	3
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Output

Daily operating time:	8 hours
Approx. Picks* - Day Hour:	7200 900

*The number of picks always refers to the presentation of individual product carriers. If several articles can be removed from the same rack, the picking performance increases significantly.