

Your autonomous transport system
BITO LEO



A **BIT** OF
PRODUCTS.



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LEO
LOCATIVE

BITO
STORAGE SYSTEMS
NORDIC

BITO LEO

Automation made easy

Many customers from a wide range of industries are already using AGVs of the **BITO LEO family**. **BITO LEO** handles transports between workstations throughout the internal supply chain. In manufacturing environments, LEO also acts as intermediate buffer store for products on their way to the next processing step or as non-stationary assembly line. The system is completed by LEO stations for automated product loading and unloading. All LEO variants can be adapted to customer requirements with a broad selection of accessories and special service options.



BITO LEO in use at BASF SE

Benefits of LEO AGVs:

- ✓ Efficient material and product transport around your premises
- ✓ Easy installation and operation
- ✓ LEO reduces in-house travel times and downtimes
- ✓ Automated material flow
- ✓ Improved workplace ergonomics
- ✓ Versatile, scalable system
- ✓ No WLAN or WIFI connection necessary
- ✓ Significantly reduced transport times contribute to cost efficiency

Quickly configurable navigation, flexible routing

LEO AGVs follow a path marked with adhesive tape or painted in a contrasting colour on the floor. Additional data matrix markers provide commands. **LEO transporters** are equipped with on-board camera sensors allowing detection of routes and LEO stations, commands and obstacles. The advantage of optical guidance is that LEO routes are visible to people.

- Easy system set-up
- Flexible routing and safe operation
- Low operating costs

1. Routing

The BITO LEO AGV family navigates by optical guidance, i.e. the transporters are equipped with a camera sensor that detects the travel paths on the ground.



2. Markers

BITO LEO markers provide driving commands and serve as "traffic and road signs". They are simply taped alongside the LEO path.

3. Smartbox

The Smart Box is a decentralised control unit specifically developed for the BITO LEO system. It enables the transmission of driving commands to the vehicle and can manage traffic at intersections. In addition, external systems such as a warehouse management system can be integrated through the Smart Box.



A **BIT OF** YOUR LIFE.

The all-in-one solution that suits a wide range of applications

LEO custom

LEO custom is a self-guided autonomous transport unit designed for accommodating customised on-top load carriers. These are fitted onto the perforated mounting plate and can be adapted to your needs. The on-top carrying frame for bins, boxes or packaging units can be adjusted in height. LEO custom can also be used as tugger vehicle.

- Load capacity / towing capacity of up to 55 kg
- Electronic interface
- 7-inch display



LEO locative

LEO locative moves bins, cartons and trays without human intervention. The system requires no IT connection and can be implemented and extended by the customer without external help. One of the special features of the system is that LEO will pick up and deliver loads while passing through a station - without any loss of time.

- Load capacity of up to 35kg
- No IT connection required
- Patented transfer system for load pick-up and drop-off



LEO flow

LEO flow consists of a standard LEO custom body which is “roofed” by a loading platform with powered rollers allowing the lateral pick-up and delivery of bins and cardboard boxes. This makes LEO flow an ideal addition to existing conveyor systems or automatically operated workstations. In addition, LEO flow can act as a link between different conveyor systems. The loading platform can be adjusted in height to perfectly match the height of a wide range of conveyor systems.

- Load capacity of up to 35kg
- For loads sized 800 x 600mm
- Can be adjusted in height



LEO locative helps with the conversion to Industry 4.0

About the customer:

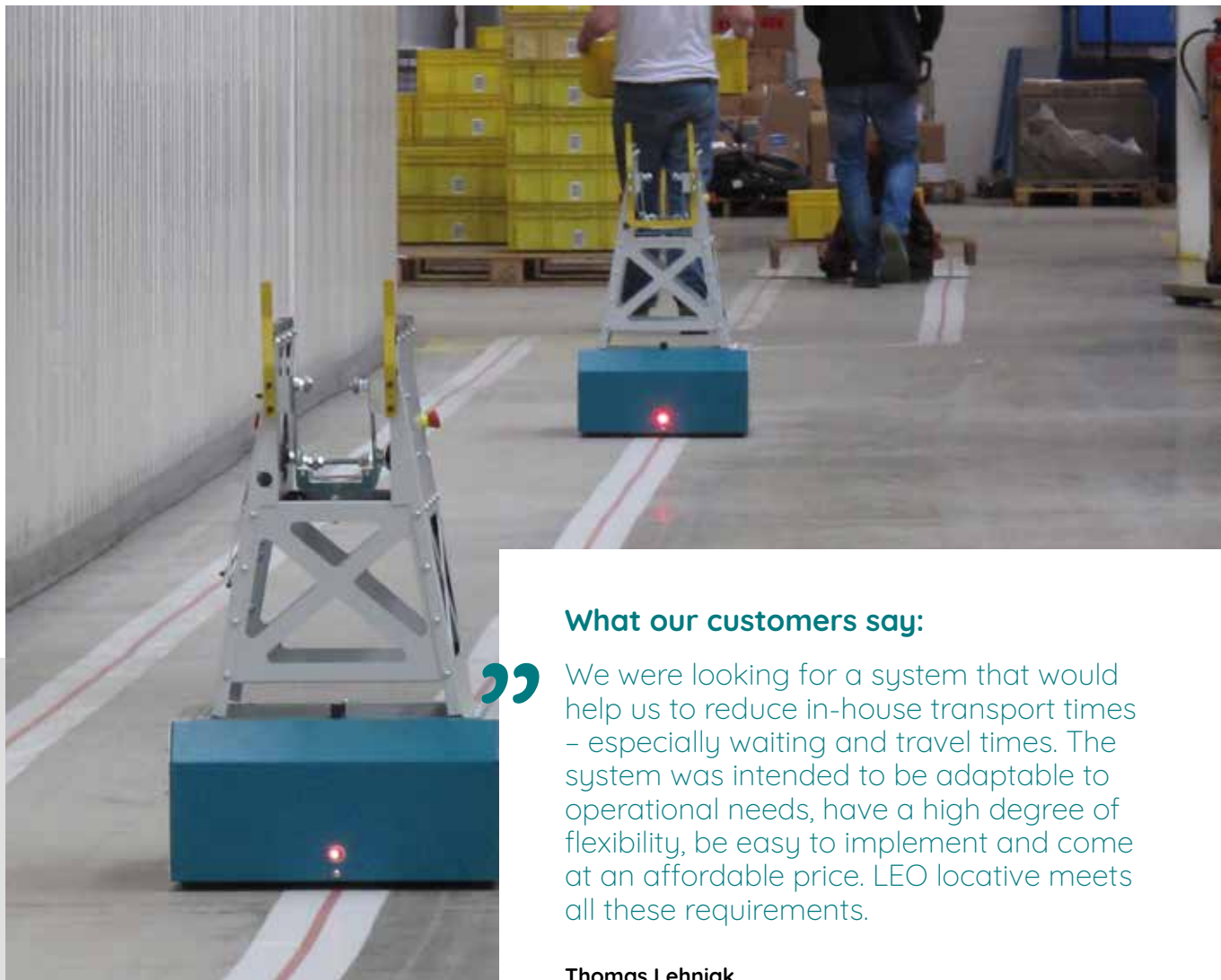
SKF Lubrications Systems GmbH in Berlin, a division of SKF, builds customised centralized lubrication systems. A wide variety of components are required for production. Around 70,000 active master data sets for vendor parts have to be managed at SKF. There are approximately 19,000 items in stock. Parts that are not in stock or that are missing needed to be reordered again and again.

Customer requirements:

In the past, incoming missing parts were collected on pallets in the goods receiving department. Only fully loaded pallets were delivered to the assembly stations. It would usually take some time until there was enough material to fully load a pallet. Consequently, the pallet waiting time in the goods receiving area was rather long.

- Targeted further development in the direction of Industry 4.0
- Fast supply of assembly workstations with small parts
- Optimize value-added processes
- Reduce idle times and travel times
- Find a cost-efficient solution





What our customers say:

” We were looking for a system that would help us to reduce in-house transport times – especially waiting and travel times. The system was intended to be adaptable to operational needs, have a high degree of flexibility, be easy to implement and come at an affordable price. LEO locative meets all these requirements.

Thomas Lehnigk

Manager Logistic Plant Berlin, a division of SKF

BITO Solution

Several LEO transporters and transfer stations complete with accessories are now serving a circuit of about 300m.

Customer benefits

- **Substantial time savings:** With LEO locative, parts arriving at the receiving area are now brought directly to the assembly area in three-minute cycles.
- **Short travel times and reduced waiting times:** Both AGVs circuits are serviced every six minutes. Each LEO locative transporter travels approximately 40 km per day, at a speed of one meter per second.
- **Quick and easy supply of assembly stations:** LEO collects bins filled with parts and components at the pick-up stations and delivers them to the designated drop-off station.

WE TAKE THE TIME
TO GIVE ADVICE.



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