

## Automated Transportation with Laserguided Vehicles

More and more, driverless transportation systems are becoming a key element in an economical automation solution. They take over, for example, the fully automatic transportation of pallets between production and storage areas.



The laser orientation sensor which is mounted on an AGV (manufacturer: Götting KG)

### Standard Solution: Inductive Guidance System

Induction loops can be embedded in the ground so that the vehicle can follow a pre-given route. However, if there are any new production processes or the route is changed or new, then the induction loops have to be re-embedded.

### Laser Navigation with LASSO: the Flexible Solution

A laser sensor (LASSO), mounted on the vehicle, detects fixed reflection tags which are mounted on, for example, the walls of the warehouse. This results in the constant determination of the current position of the vehicle and the yaw angle.

The newest generation of the laser sensor LASSO-SI is equipped with simple serial interfaces. As a result, LASSO-SI can be adapted to any vehicle control system.

### Areas of Application:

- determining the position of driverless vehicles
- stand alone operation without a vehicle control system,
- e.g. transmitting or determining the position of fork lifts
- a general purpose position sensor for all surveying tasks

Fraunhofer-Institut für  
Materialfluss und Logistik IML  
Dipl.-Ing. Thomas Albrecht  
Joseph-von-Fraunhofer-Straße 2 - 4  
44227 Dortmund  
Phone +49 231 9743-423  
Fax +49 231 9743-77 423  
thomas.albrecht@iml.fraunhofer.de  
[www.iml.fraunhofer.de](http://www.iml.fraunhofer.de)