

FLEXUS

Your SAP Intralogistics Partner

FLX-TLS

Integration of AGV
into FLX-TLS

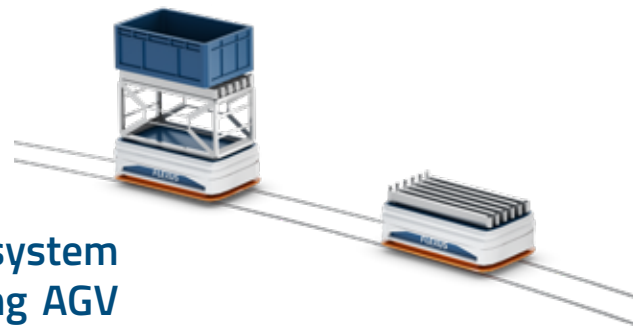
Optimize your automated
guided vehicle systems
directly with SAP®

SAP® Premium Certified
Integration with SAP Applications



Integration of AGV into FLX-TLS

- ✓ Full SAP integration
- ✓ Cross-process integration
- ✓ Standardized interfaces to supplier and sensors
- ✓ Addons for Still, SSI Schäfer, Crown, and Jungheinrich
- ✓ AGV as an extension to the FLX Transport Guidance System
- ✓ Interactive dashboards and visualizations



The FLX-TLS – scalable from forklift call system to complex Industry 4.0 platform including AGV integration

Simple integration & control of automated guided vehicles in SAP®

In production and warehouses, the new Industry 4.0 processes require a degree of automation with self-regulating systems supported by sensors, flexible units and a high degree of integration.

The new automated guided vehicle systems are an example of such complex elements.

AGV – what is it about?

According to the VDI manual (VDI2710), automated guided vehicles (AGV) are internal floor conveyor systems with automatically controlled vehicles whose primary task is the transportation of materials. They are used inside and outside of buildings and consist of the following components primarily:

- One or more automated guided transport vehicles of a master controller
- Mechanisms for position determination and position detection
- Mechanisms for data transmission
- Infrastructure and peripheral mechanisms

AGV versus forklift

As part of the ever increasing digital networking posed by industry 4.0 and the ever stronger expansion of the technological foundation, autonomous moving transport systems are becoming a real alternative in the logistics process and are already replacing traditional forklifts in practice and in planning.

The higher initial investment costs have to be weighed against these positive core aspects:

- lower maintenance costs
- long service life
- operation without accidents
- reduced personnel costs
- high availability and continuity
- Individual scalability and flexibility

Integration of technology and process

The IT integration into the existing SAP® ERP or SAP S/4HANA poses a frequently occurring problem. The FLX-TLS Material Guidance System developed by Flexus has set the course for integration of these systems early on.



The FLX-TLS Material Guidance System not only enables an easy and transparent control of automated guided vehicle systems („AGV“) and the fleet of forklifts - the system takes into account all resources that are present within a company and are necessary for the material flow.

The functions include the optimization of forklifts, tigger trains, employees with mobile devices and the internal truck traffic. The FLX-TGS represents a holistic approach for a cross-section control and route optimization of the material flow.

The technology is based on SAP standards and in complex systems on SAP Leonardo.

In general, two parties communicate with one another: the Material Guidance System, integrated in SAP®, and the AGV control system, which is completely dedicated to the optimization of orders, status management and routing.

The communication between AGV providers and SAP® takes place via FLX-TLS by Flexus. There are three scenarios for AGV integration, each differing in terms of responsibilities and areas of responsibility:

FTS-Integration

» **Scenario 1: Quick-Connect**
FLX-TGS transfers the transport tasks

» **Scenario 2: Guided-Connect**
FLX-TGS optimizes the transport tasks

» **Scenario 3: Full-Integrated-Connect**
FLX-TGS handles all functions including tracking and routing

The FLX-TLS enables an easy and transparent control of the automated guided vehicle systems.

Control and monitoring

With the unique dashboard, based on SAP Fiori technology, transports from SAP PP (production), SAP WM (warehouse management) or EWM (extended warehouse management) are coordinated, optimized and assigned to the AGV systems or tigger trains.

Confirmations and malfunctions are entered and analyzed in the dashboard in a well-structured way, and they are visualized in 2D via map-layout visualization and as highlights also in 3D.

Fields of application:

- Transports for great distances
- Transport between work centers in production
- Pickings
- Special transports of tools and QM samples

FLEXUS – Your SAP® Intralogistics Partner

Flexus AG is your competent consulting and development company for the process-oriented implementation of SAP® logistics solutions.

As certified SAP® partner, we have a long-standing expertise in the field of intralogistics. The Flexus solutions for SAP® intralogistics range from FLX-Yard Management, the FLX-Material Guidance System and the comprehensive portfolio for mobile apps with innovative technologies.

FLEXUS

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