UNIWARE
WAREHOUSE MANAGEMENT SYSTEM

Unitechnik
PERFECTION AUTOMATED.

SOFTWARE MODULES
ROBUST & FLEXIBLE

Logistical core functions, completed by project-specific plug-ins, strengthen your in-house processes in the distribution and fulfillment center
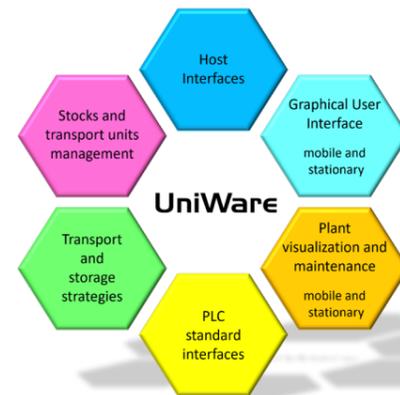
UniWare

UNIWARE - MAXIMUM TRANSPARENCY FOR YOUR INTRALOGISTICS

UniWare is a modern, operating system neutral software for tailor-made intralogistics processes. The flexible modular system offers versatile and ready-to-use solutions for all typical warehouse management requirements.

Customer-specific requirements are implemented in a clearly structured functional framework. In this way, the individual logistics processes are mapped very efficiently and transparently in UniWare.

Due to its integrated approach, UniWare is particularly predestined for automated logistics systems, but also for manual ones. Depending on the project requirement, UniWare can be used as a material flow control system and/or as a warehouse management system.
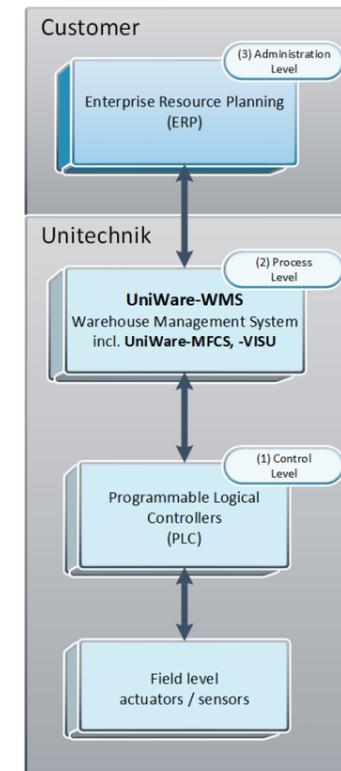
Modules of the warehouse management system UniWare

The system is built around a standardized structure throughout. The internal and external interfaces are defined in accordance with a uniform principle. The external interfaces are adapted to the internal processing structures by task-specific routines. This opens up the possibility to adapt different peripherals without changing the core processes.

Modern methods of design, software development and testing with special emulation tools guarantee a reliable software system.

Unitechnik programs in Java Standard Edition (Java SE) based on the OpenJDK. The Oracle Database and Microsoft SQL Server are supported.
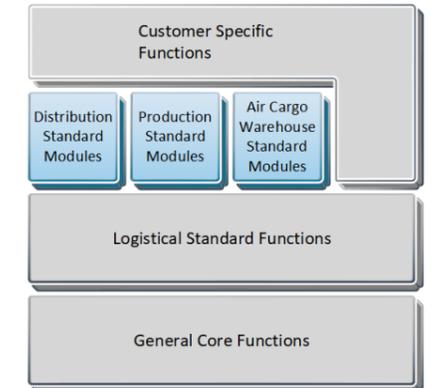
IT-Hierarchy

The information flow in an automated logistics system can be structured in several levels. The following diagram shows UniWare in the context of the overall IT hierarchy. Unitechnik scope of supply covers the levels 1 and 2.

The integration of all levels enables perfect interaction between computers and controllers. We achieve this through our expert knowledge, efficient software structures and comprehensive testing options for the entire system. The result is a gain in quality and availability.

From the control center, for example, the stock of an item in the warehouse can be retrieved in the same way as the condition of a sensor on the conveyor system.

The configurable user interface for each user completes the integration.

Function modules

The extensive modular system of basic functions includes database access objects, standard dialogs, user management, logging/tracing and plant visualization.

Based on this, there are the basic logistic functions, such as warehouse structure, master data, inventory and transport management. Industry-specific modules include special functionalities that are required in distribution centers, production plants or air freight facilities. Customer-specific requirements are effectively and securely integrated into the top layer of this architecture.

ERP/MES/AMR interfaces

UniWare enables the connection of file- or telegram-based interfaces. Supported protocols include FTP (File Transfer Protocol) and TCP/IP (Transmission Control/Internet Protocol). In addition to traditional message interface, UniWare supports interfaces based on JMS (Java Message Service). SAP IDoc, OPC-UA or Web Services are also possible and have already been successfully implemented.

Life-Cycle-Support

From the detailed specification for the warehouse management software to the after-sales service, Unitechnik ensures competent support.

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BUSUBESS PROCESSES
IN THE CENTRE

UNIWARE – THE BUILDING KIT FOR THE COMPREHENSIVE WAREHOUSE MANAGEMENT

Incoming Goods
- Master data
- Advanced shipping note
- Receipt of goods
- Deconsolidation
- Quality inspection
- Storage
- Return of goods
- Cross docking

Warehouse management
- Storage strategies (e.g. net/gross weight, hazardous substances, ABC base on access frequency)
- Inventory management
- Load unit management
- Warehouse optimization / relocation
- Stock-taking (e.g. permanent, sampling)
- Replenishment orders
- Retrieval strategies (e.g. FIFO, LIFO, part-pack quantities, best-before date BBD)

Order picking
- Goods-to-person / Person-to-goods
- With / without paper
- Consignment creation
- Partial order creation per picking area
- AI-based prediction of demand and reduction of overload situations
- Pick & Pack
- Calculating the optimal shipment unit
- Weight control after each pick
- Calculating the optimal shipment unit
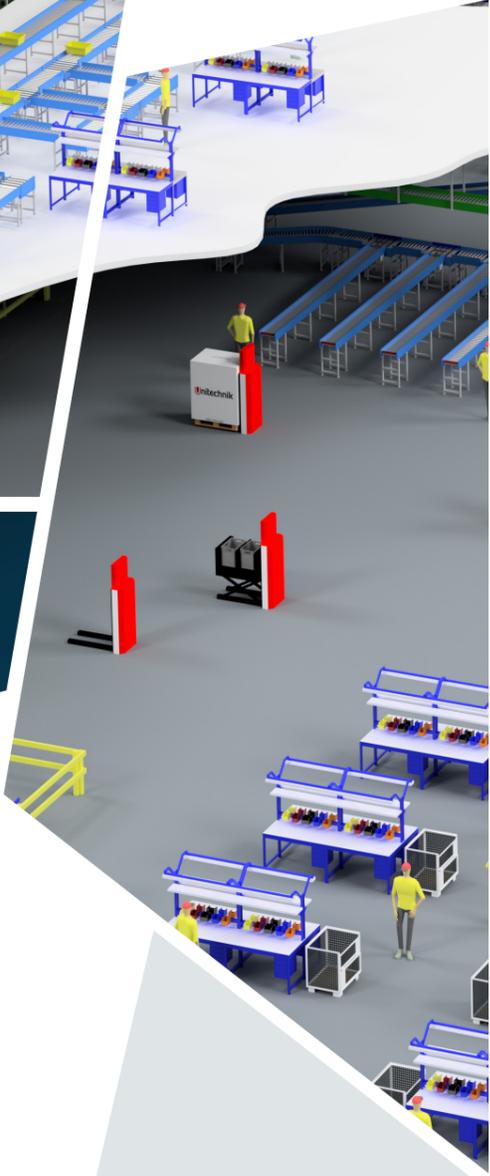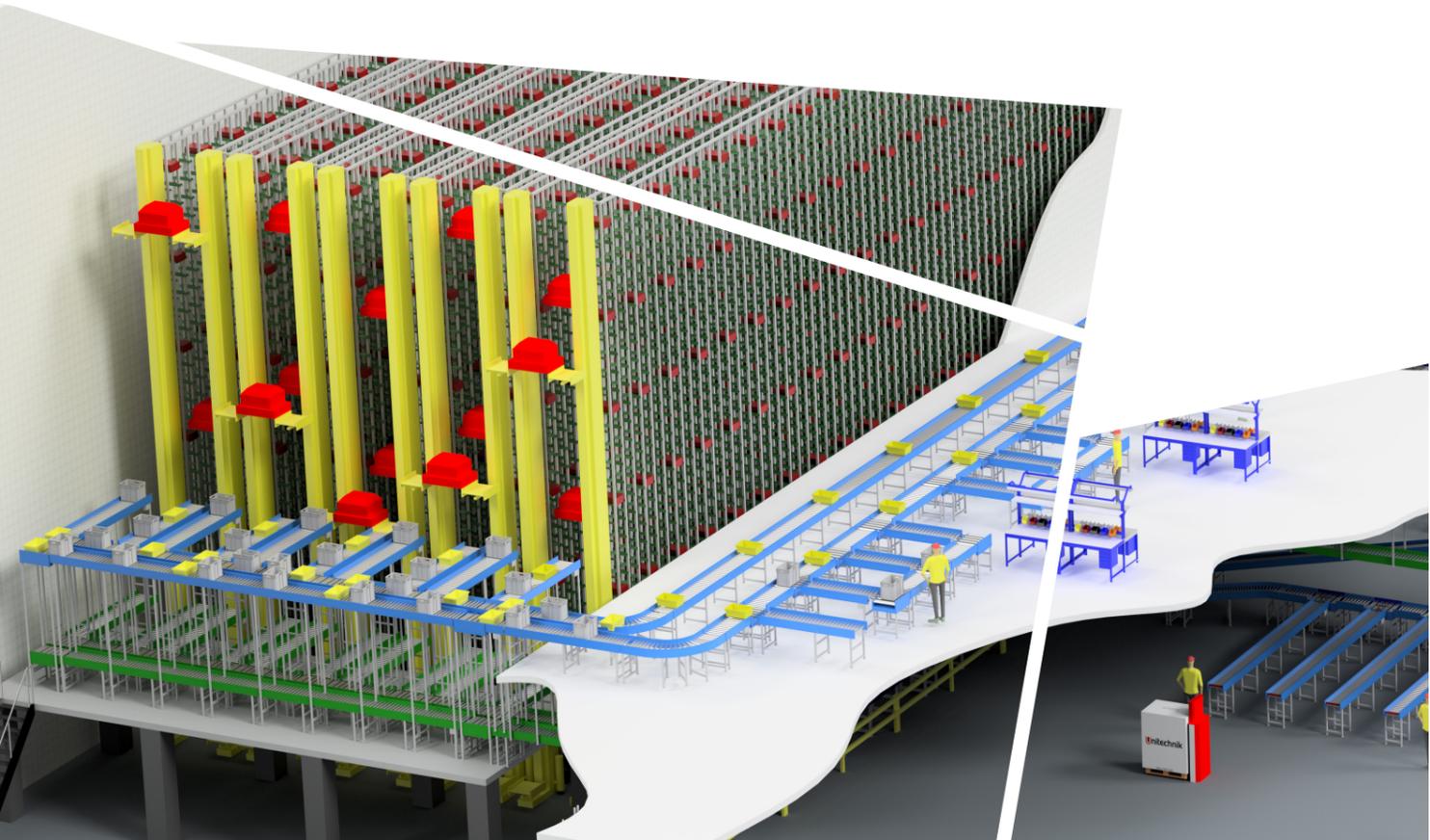- Weight control after each pick

Packing / Dispatch
- Consolidation of orders
- Tour planning
- Photo documentation
- Automatic labeling
- Loading sequence
- Dock Management
- Definition of dispatch service provider
- Courier-Express-Parcel (labels, mani-fests)

Material flow control system
- Automatic materials handling systems
- Multi-deep storage
- Combinations of loading aid types
- Forklift guidance system
- Transport route optimization
- Capacities and Priorities
- Tracking
- Emulation Tool
- Standard PLC interface

Control center / Visualization
- Configurable User Interface
- Workflow control
- KPI monitoring
- Statistic and information system
- Integrated plant visualization
- Graphic plant illustration
- Animated and zoomable
- Messages and alarms
- Mobile control center

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TECHNOLOGICAL
UP TO DATE

Continuous innovations are our driving force for future requirements

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UNIWARE - QUALITY ASSURANCE FOR DEVELOPMENT AND OPERATION

Individual adaptation to business processes

We always focus on the customer's business processes. Existing processes and systems are analyzed and aligned with the customer's wishes and objectives. The design of the new logistics system develops holistic solutions that are efficient, cost-effective and future-proof. The UniWare warehouse management system plays the central role in this.

A logistics center thrives on the constant optimization of its processes. The clear structure of UniWare makes it easy for us to add future functions and change requests. So you are well prepared for the requirements of tomorrow.
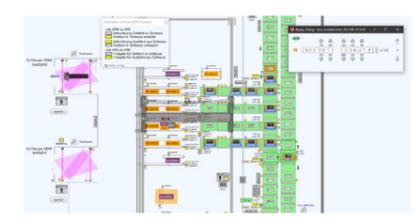
Integrated plant visualization

Plant visualization is fully integrated into UniWare – background processes and GUI. Transport systems, transport units, sensors, emergency-off and operating modes are displayed in real time.

This means you can keep an eye on all transport movements at all times. A status bar in all dialogs immediately provides information about all system parts, no matter in which mask the operator is currently working.

Fault reports can be forwarded by UniWare directly to the smartphone of the responsible maintenance officer. Other useful tools facilitate daily work, such as the replay function and quick zoom.

The advantage of the integrated system is that all information of the logistics system like transport unit data, transport order status, error messages are condensed in one system.
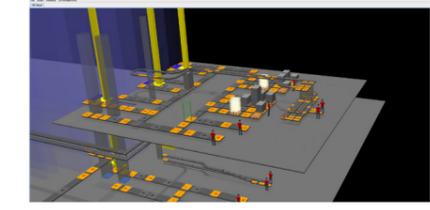
Internationality

UniWare is used in many countries around the world. The complete software is multilingual. This allows UniWare to be configured for any language, including Chinese, Arabic or Russian. Multiple languages can be used in an installation of UniWare. The language is set for each user. This increases the acceptance of the system in multi-cultural regions and avoids mishandling.

Fast commissioning due to emulation

Control systems and warehouse management system are subject to intensive laboratory testing before the systems are installed at the customer's site. As part of these tests, the real system is reproduced by emulation. Even the operators and their inputs are modelled on reality.

In this virtual logistics center, test cases are defined, which can then run automatically. After each software change, the tests run again and ensure the stability of the entire program.

Validated system

UniWare is listed in the database of the Fraunhofer Institute for Material Flow and Logistics (IML). This listing requires an annual validation of the software system by the Fraunhofer IML.

Scalable server hardware

We design a server solution tailored to your security needs to operate your UniWare system - from a local server system to cloud support. The WMS and PLC network (LAN / WLAN) is also included in the Unitechnik scope of supply. It is also possible to run our software on a customer's existing IT environment.

Retrofit – fast and secure

In cases of plant modernization UniWare plays to its strengths particularly well. The emulation of the system and intensive testing ensure a high degree of maturity of the software, so that the changeover on site is fast and stable. Another advantage of emulation is that the customer's staff can already be trained in the virtual environment. This also facilitates the rapid restart of the logistics system after the changeover. Unitechnik has experience with various conversion scenarios. Together with the customer, we find the best way for a smooth transfer to a modern warehouse management and automation system.

UniWare Everywhere

Gone are the days when a control room must be permanently occupied. UniWare can be operated with a commercially available tablet PC. Booking and information masks can be called up as well as the system visualization. The control station will be location-independent. It is available in the logistics center, in a meeting or on the way home.

To control maintenance staff, messages can be assigned specifically to individual persons. Of course, a variety of operational tasks are also carried out via mobile devices, e.g. handhelds, scanners, forklift terminals or pick-by-voice devices.

Energy management inside

Our logistics systems are characterized by high energy efficiency. A variety of measures reduce energy costs to a minimum. Intelligent driving strategies reduce peak load. Brake energy is fed back into the grid. In low-operational times, the operating modes of the transport systems can be adjusted.

The logistics center thus contributes its share to „Green Logistics".

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Solution Partner

Automation

SIEMENS

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Unitechnik is an owner-managed family business in its second generation. We have been one of the leading providers of intralogistics solutions for more than five decades.

We plan and implement customized systems for in-house logistics and production. We operate worldwide as a complete supplier of warehouse technology, transport systems and IT.

Our quality management system is certified according to ISO 9001 since 1995.

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