



UNIWARE
WAREHOUSE MANAGEMENT SYSTEM



SOFTWARE MODULES *ROBUST & FLEXIBLE*

Logistical core functions, completed by project-specific plug-ins, strengthen your logistical processes.

UniWare

UNIWARE - MAXIMUM TRANSPARENCY FOR YOUR INTRALOGISTIC.

UniWare is a modern operating system neutral software for tailor-made intralogistic processes. The ingenious module system provides extensive, immediately operational functions for standard tasks.

Custom-designed intralogistic requirements are realized in a clearly structured function framework. In this way, UniWare depicts the individual logistic processes very efficiently. UniWare's integrated approach makes it eminently predestined for automated logistic plants. The UniWare system can be deployed as required in the project as a material flow control system, as a warehouse 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 matched to the internal processing structures through task-specific routines. This opens the possibility of adapting different peripherals generally without altering the core processes. Modern methods of design, software development, testing with emulation aids and the documentation guarantee reliable software systems.

Unitechnik programs in Java SE (Java plat-

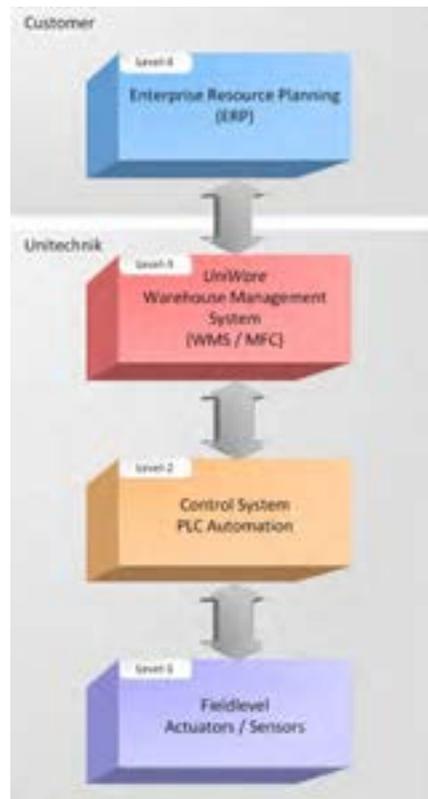
form, standard edition). Microsoft Windows is the preferred operating system and Oracle is deployed as the database system.

IT-Hierarchy

The information flow in an automated logistic system can be structured in several levels. The following diagram shows UniWare in the context of the overall IT hierarchy of such a system. Unitechnik scope of supply covers the levels 1 to 3.

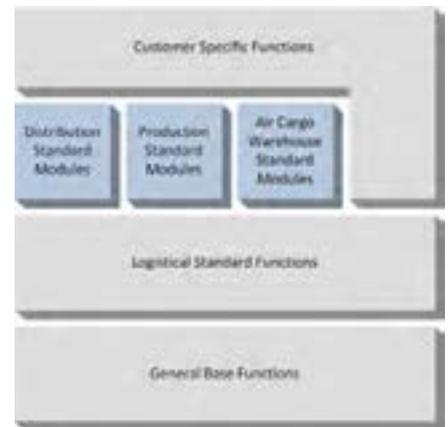
The integration of these three levels enables perfect interaction between computer level and PLC (Programmable Logic Controller). By this means we achieve a very efficient software structure, good testing options for the entire system and a gain in functionality.

From the control center, for example, the inventory of an article in the warehouse can just as easily be called up as the state of a sensor in the conveying system. That's what we understand by an integrated system!



Function modules

Included in the comprehensive modules on the basic functions are, among others, database access objects, graphical user interfaces, user administration and plant visualization.



Building on this are the logistic base functions such as loading unit management, transport orders and reports. Branch-specific modules contain special functionalities which are necessary in distribution centers, production plants or air freight facilities. Individual customer requirements are integrated efficiently and securely into the uppermost layer of this architecture.

Host interfaces

UniWare provides the connection by file- and message based interfaces. Supported protocols are FTP (File Transfer Protocol) and TCP/IP (Transmission Control/Internet Protocol). Furthermore UniWare covers interfaces, which are based on JMS (Java Message Service). SAP IDoc and WebServices are also possible and implemented already successfully.



BUSINESS PROCESSES *IN THE CENTRE*

UNIWARE - THE CONSTRUCTION KIT FOR THE COMPREHENSIVE WAREHOUSE MANAGEMENT.

Goods-in

- Advanced shipping note
- Receipt of goods
- Master data
- Loading aids
- Storage units
- Quality inspection
- Return of goods
- Cross docking

Warehouse management

- Storage strategies
- Inventory management
- Load unit management
- ABC classification
- Warehouse optimization / relocations
- Inventory procedures (e.g. permanent, sampling)
- Retrieval strategies (e.g. FIFO, LIFO, part-pack quantities, best-before date (BBD))
- Replenishment orders

Order picking

- Goods-to-man
- Man-to-goods
- With / without voucher
- Shipment generation
- Pick & pack
- Picking order generation
- Calculating the optimal shipment unit
- Weight control after each pick



Packing facility / dispatch

- Consolidation of orders
- Trip planning
- Photo documentation
- Automatic labeling
- Shipping (loading lists, gate lists)
- Definition of dispatch service provider
- Courier-Express-Parcel (labels, manifests, ...)

Material flow control system

- Automatic materials handling systems
- Multi-deep storage
- Fork lift guidance system
- Transport route optimization
- Capacities & Priorities
- Tracking
- Emulation of material flow
- Own & foreign PLC interfaces

Control center / Visualization

- Configurable User Interface
- Work flow control
- Statistic and information system
- Integrated plant visualization
- Graphic plant illustration
- Animated and zoomable
- Messages and alarms
- Mobile control center



TECHNOLOGICAL *UP TO DATE*

Continuous innovations are our drive for the future requirements.



UNIWARE - QUALITY IN DEVELOPMENT AND OPERATION.

Individual adaptation to business processes

The customer's business processes always stand central to a Unitechnik project. Existing processes and systems are analyzed and compared with the wishes and objectives of the customer. With the conception of the new logistic system, integrated solutions are developed which are powerful, economical and future-proof. The UniWare Warehouse Management System plays a central role in this. A logistics center lives from the perpetual optimization of its processes. UniWare's clear structure makes it easy for us to supplement and combine functions and to alter processes. This means you're equipped for the demands of tomorrow.

Integrated visualization

Plant visualization is integrated into UniWare. The visualization is likewise programmed in Java. As a rule, therefore, no third party software is used. The advantage of the integrated system is that all information on the logistic facility is compressed into one system. The operator not only sees where a specific container is en route within the mechanical handling system, he can also look at which article is lying in the container and what the current stock of this article is. A status line in UniWare gives information on the status of all parts of the plant regardless of which booking mask the operator is currently working with. Fault messages can be forwarded from UniWare directly to the Smartphone of the maintenance staff responsible. Some useful practice functions alleviate the daily maintenance work, for example: the auto-replay function.

Internationality

UniWare is being deployed in 37 countries around the globe. The complete software is configured multilingually. Thus UniWare can be set up for user-defined languages, even Chinese, Arabic or

Russian. Several languages can be used in one installation. The language is set for each user. This increases the acceptance level of the system in multi-cultural regions and prevents erroneous operation.

Rapid commissioning through emulation

Control engineering and warehouse management system undergo intensive tests prior to the system being installed at the customer's facility. Within the scope of these tests, actual plant is recreated by an emulation process. Even the operators and their data entry mimic reality. In this virtual logistic center, test cases are defined that can then be run automatically. After every software change the tests take place once more and guarantee the stability of the programs.

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. We are happy to place the validation document at your disposal.

Scalable server hardware

We conceive a server solution tailored to your security needs for the operation of your UniWare system: from a basic server with cold standby system to a cluster with spatially distributed servers. The complete network (LAN and WLAN) is also included in the Unitechnik scope of supply. The operation of our software on servers provided by you is just as possible.

Retrofit – fast and secure

In cases of plant modernization UniWare plays to its strengths particularly well. The flexible structure makes it easy for us to illustrate the existing logistic processes. Emulation of the plant and intensive testing guarantee a high level of software maturity so that the conversion is implemented very quickly. A further advantage of emulation is that the customer's personnel can already be trained up in the virtual

environment. This also facilitates rapid restarting of the logistic plant after conversion. Unitechnik has experience of various conversion scenarios. In collaboration with the customer, we find the best route for a smooth changeover to a modern warehouse management and automation system.

UniWare Everywhere

Gone are the days when a control center had to be manned constantly. UniWare can be operated via a normal commercial Tablet-PC. Booking and information screens can also be called up in the same way as can plant visualization. The control center is location-independent. It can be in the logistic center, in a meeting or on the way home: UniWare Everywhere!

Active messages are, of course, forwarded instantaneously. For supervising maintenance, messages can be selectively assigned to individual persons.

Being of course a variety of operative tasks taken care of also over a mobile equipment, e.g. handhelds, scanners, fork lift terminals or pick-by-voice devices.

Energy management inside

Our logistics systems are characterized by their high level of energy efficiency. By a variety of measures the energy costs are reduced to a minimum. Peak loads are avoided due to intelligent driving strategies. Braking energy is fed back into the network. Powersaving options are activated during periods of lower operating levels. One mode of operation which is internationally significant is the emergency power operation. This is utilized to sustain the operation of the logistics center during severely limited capacity.



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Since the last four decades **Unitechnik** is considered to be among the leading suppliers of industry automation and informatics. We plan and realize tailored systems for the in-house logistics and production.

We operate on a worldwide scale. Our solutions endow the customers with long term benefits: efficient, durable and operator friendly. In this process, our professional project management lays the foundation for the project success.

We aim at long term business relations based on partnership. This applies to both suppliers and customers. We consider the expert support for the realized systems by our service department as very important.

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