



INCONSO LOGISTICS SUITE Software, technology and services from a single source

The intralogistics and supply chain platform for optimizing your processes

The inconso Logistics Suite is a platform for intralogistics and supply chain tasks. It provides you all functionalities you need for planning, controlling and monitoring a perfectly functioning logistics network. In the suite, you find software solutions for Warehouse Management with inconsoWMS, Transport Management with inconsoTMS, Yard Management with inconsoTMS as well as the Logistics Network Planning and Control with inconsoSCE.

With the inconso Logistics Suite, you are able to optimize your logistics processes. It gives you the transparency needed to assess current situations and provides comprehensive tools to develop and simulate effective strategies as well as to plan, carry out and control the operative processes.

The inconso Logistics Suite supports you in fulfilling your logistics tasks on all levels – on the planning, operative and control levels.

The cooperation with your business partners and a coordinated planning, execution and operative controlling of the entire procurement and delivery networks are are ensured through this comprehensive, integrated system for logistics tasks. In this way, you can benefit from this extraordinary scope of integration both in the organization and in the controlled processing of internal and external processes.

Modern Technology Platform

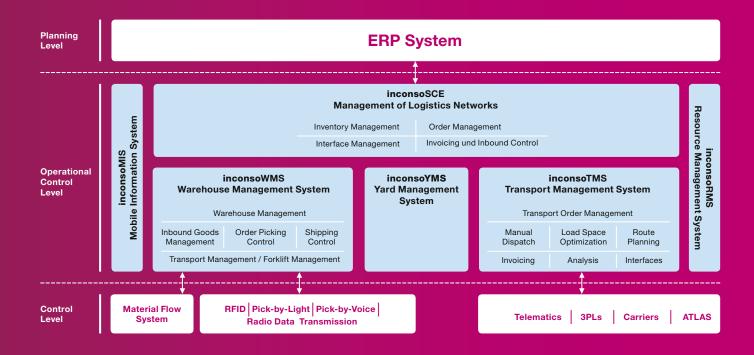
The uniform and open technology platform of the inconso Logistics Suite provides the users with an excellent operating comfort and is also available as web application. It provides web services, which enable an integration into your own IT landscape and to make it accessible to your business partners. The components are platform independent and can be variably assigned.

Full Managed Services

In this context, inconso not only provides software, but it also offers a wide range of complementary services and system technology. inconso supports its customers with complex migrations, change management processes and performance optimizations; carries out radio frequency site surveys and provides the hardware required for using the software. Based on its service portfolio and comprehensive experience, inconso takes over the complete IT works as a general contractor. In addition to the software maintenance of licensed products, inconso offers support for ensuring trouble-free processes. inconso supports its customers in all issues concerning the IT operations for the logistics control - from the process control and monitoring, via the uniform control of the compliance with the Service Level Agreements, through to the end user support and assistance with logistics terminals.

inconso AG supports its customers in making full use of their market, quality and service potentials. In other words: with our solutions, we help our customers enhance the satisfaction of their customers in the long run. Every day, highly motivated IT and logistics experts do their best in order to reach that goal. inconso AG is DIN EN ISO 9001 certified – our guiding principles are professionalism in project implementation and a proven method competency.

INCONSO LOGISTICS SUITE AT A GLANCE



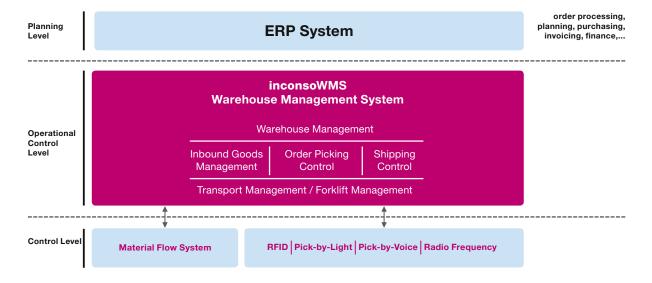
Warehouse Management with inconsoWMS

inconsoWMS is based on a modern architecture and technology as well as on process-based components that ensure flexibility, multi-client capability, transparency and an individual extensibility

Short delivery times, adherence to schedules and high delivery quality are decisive competitive factors. And if you want to be a leader, your service must be convincing: in all areas – goods labeling, packing, returns processing, kit building or other services. The magic word here is: customer specific. Everything should happen quickly both with special processing as well as in the running operations. These demands make logistics processes more and more complex. The motto for the control of your warehouse and material flow logistics is: the more flexible, the better. And for that purpose, we provide inconsoWMS for Warehouse Management and Control.

Modern architectures and technologies as well as process based building components that ensure flexibility, multi-client capability, transparency and individual extensibility are the basis of inconsoWMS. Proven and highly developed procedures for the optimization of processes are performance features that make the difference!

The result: faster reaction times, lower error quotas, optimal use of resources and shorter processing times. These factors contribute in a sustainable way to increase the efficiency and guarantee the quality.



Information technology tier approach



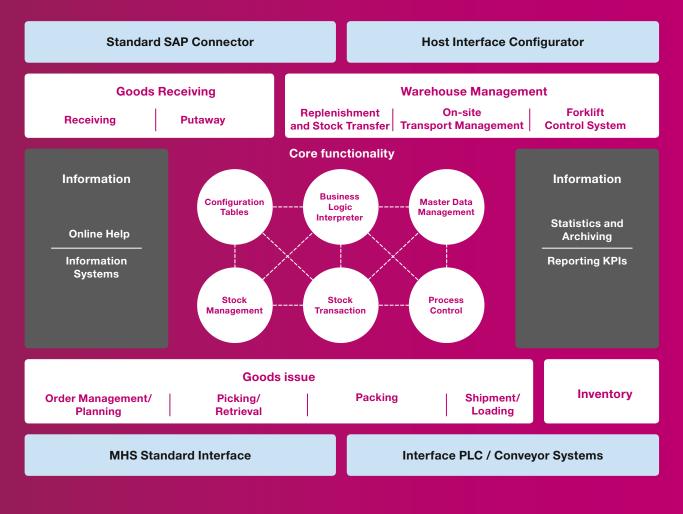
Standard connectors enable an easy integration with the existing system landscapes and facilitate the exchange of information among the partners within the network. In addition, they guarantee a smooth connection of subsystems such as Radio Frequency (RF) solutions, Pick-by-Voice systems, RFID, Pick-by-Light systems, scale systems, paperless picking systems and automatic conveyor technology components.

The highest efficiency is reached not only through the best supported processes, but also thanks to the optimal interaction of all software and hardware components in use. With inconso, you choose a special partner who provides you all the necessary solutions – from the consulting, concept design and definition of specifications, through to the software, hardware and data transmission systems – all from a single source.

The essential features of inconsoWMS are the complete coverage of the intralogistics functions, high flexibility and transparency as well as the guarantee of performance. inconsoWMS has a variety of preconfigured business processes, which enable it to handle the demands in a standardized way.

The BLI (Business Logic Interpreter), which is developed according to the design of a workflow generator, provides the inconso software with the highest flexibility in the development and adjustment of application software to changing processes. These are not programmed, but only configured or parameterized. Benefits: reduced expenditure of time and a resulting high cost effectiveness, as well as high software stability since no program error can occur. The inconsoBLI module is developed in such a way that the customers themselves can adjust strategies after a short training.

inconsoWMS modules at a glance



Warehouse Management with inconsoWNS

Highlights & Functions

Highlights of inconsoWMS

Future oriented technology

- Modern web-capable server architecture
- Authorization concept down to field level
- User-dependent multilingual capability
- User specific setup of surfaces

Flexibility

- Multi-customer/Multi-client capable
- Multi-location/Multi-site capable
- Multi-language
- Differentiated inventory management
- Configurable setup of workflows and strategies
- Integrated forms generator

Transparency

- Logistics monitor and key performance indicators (KPI)
- Integrated resource management
- Management information system also in app technology
- Documentation of booking transactions and movements
- Traceability such as tracing batches and serial numbers

Scalability in functionality, throughput and degree of automation

inconsoWMS functions (excerpt)

- Inbound goods
- · Quality control
- Replenishment control
- Transport control system
- Forklift control system
- Order Management/Planning
- Order Picking/Store-Out
- Packing/Shipment Preparation
- Shipping/Loading
- Returns Management
- Inventory
- Empties Management
- Control Monitor
- Statistics/Key Performance Indicators

In order to meet the different demands on warehouse management systems completely – from simply manual and radio frequency controlled warehouses up to highly complex and automated distribution centers – the inconsoWMS includes two different forms, the inconsoWMS Standard and the inconsoWMS extended.

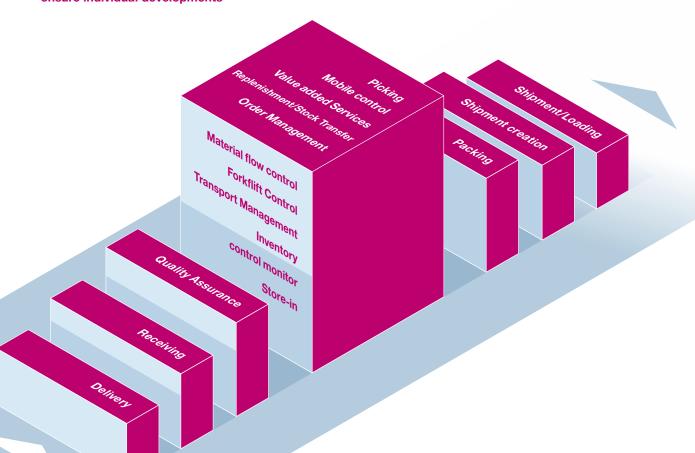
inconsoWMS Standard

The **inconsoWMS Standard (S)** is designed for small and medium-size warehouses and goods distribution centers which typically have manual and forklift controlled processes serving one or more clients. Thanks to the component-based structure, the system is free from any set organizational and technical environment. This enables a quick and flexible configuration of different business processes as well as a simple adjustment of processes to changing demands.

inconsoWMS: Process-based components ensure individual developments

inconsoWMS eXtended

A warehouse is not just a warehouse and we are prepared for this. Building on the inconsoWMS core system, the inconsoWMS eXtended (X) provides you a warehouse management solution, which is able to grow to meet your increasing demands. The inconsoWMS X offers the largest variety of configuration and customizing options for complex and varied processes and a high throughput, which are, for example, common in highly automated distribution or picking centers. In this context, individual adjustments and extensions of the function scope as well as the screen interface and their underlying data structures are also possible. As a result, the user receives a software system that, on the one hand, has the same degree of maturity, stability and user friendliness of a standard software and, on the other hand, is equivalent to an individual solution in terms of functionality and specific problem orientation. Communication modules for the connection of automation components with the corresponding transport control up to an integrated material flow control complete the function scope of the inconsoWMS X.





Add-ons to inconsoWMS

You have the perfect Warehouse Management System integrated or control your transports professionally. Now, you need additional functionality?



inconsoSDS

Seamless Shipping Process

inconsoSDS (Shipping & Dispatch System) enables the complete shipment processing for the most different freight carriers. These can be parcel service providers or forwarding agents. The inconsoSDS also facilitates a quick setup of new clients as well as an easy addition of new carriers. Basic functions are the master data management, the carrier specific routing, the shipping label creation as well as the automatic printing of source lists and the (electronic) advance notification of shipments to the carriers. Additional functions are the shipping mode and the freight cost determination, routing data updates, information and statistics analysis, manual shipment processing and label reprinting, control routines to release or cancel packages and Track & Trace functions. The shipping system can not only be integrated in inconsoWMS, but also to third party systems via interfaces.



inconsoVMS

Pick-by-Voice

The **inconsoVMS** (Voice Management System) ensures the high-performance processing of voicecontrolled picking processes as well as the flexible handling of the most different voice-controlled processes in goods receiving, goods issue, inventory and transport. Thanks to the hands-free and eyes-free functionality, the employee is able to concentrate exclusively on the handling of goods. The result is a considerable gain in productivity and quality during the processing of logistics processes. In addition to the voice input and voice output, inconsoVMS enables the parallel use of scanners and mobile terminals within a process step without any switchover. In this way, for example, serial numbers can be processed within voice-controlled processes by additionally scanning a serial number.



inconsoMFS

Efficient Material Flow Control

Modern distribution centers with automated warehouse and conveyor technology systems require high investment volumes. In order to ensure a maximum Return on Investment, the performance capabilities of the technical systems must be used to the fullest. This is where the inconsoMFS (Material Flow System) comes into play. Optimization strategies such as dynamic selection of optimal transport paths, interleaving tasks or dynamic transport destination assignment and sequence building of partial orders are standard functions of inconsoMFS and ensure an efficient and high-performance material flow in highly automated systems.



inconsoSIM

Exact Material Flow Simulation

The simulation of the material flow reduces the go-live risk for automation projects. Shorter project durations and increasing complexity in warehouse and material flow systems lead to a strong increase in risk of systems not being fully functional at the planned go-live time. If the combination of different systems with the warehouse management software is not tested under real operational conditions and at nearly full capacity, problems often show up first in the go-live phase or at the beginning of operational use by the customer. Only early interface and performance tests under near-real operational conditions achieve the help needed through a complete simulation of the exact total system in a test environment not requiring the conveyor or warehouse technology to be physically installed.



Industry solutions

inconsoWMS Automotive:

for automotive suppliers

On the basis of the inconsoWMS, a Best Practice variation specific for the requirements of supply and distribution logistics for automotive suppliers and logistics services providers operating in this area was created. inconsoWMS Automotive offers all the functions of a modern automotive solution.

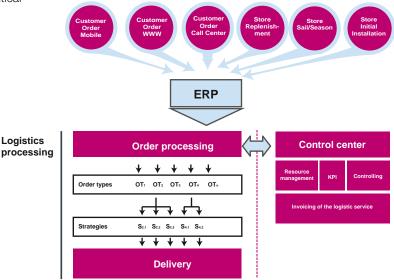
- Representation of N-N relationships to presuppliers, logistics service providers, suppliers and OEMs
- Interface manager for communication with customers, suppliers and in-house systems – in the formats VDA, ODETTE and EDIFACT
- Pre-supplier management for monitoring the supply chain and representing the entire procurement management
- Container management
- · Management of delivery call-offs
- Just-in-Time/Just-in-Sequence delivery (JIT/ JIS)
- Delivery and range forecast

In addition, inconso offers industry specific configurations for the chemical/phamaceutical and beverage logistics.

inconsoWMS E-Fulfillment: system for omni-channel requirements

The internet trade is a growth driver in retail. In combination with ever-shorter product life cycles and rapidly succeeding collections, worlds, etc. with simultaneously smaller quantity reordering demands, an interesting logistics challenge results. The "desired" goal: A uniform logistics platform for all sales channels and a crosschannel planning, dispatching and control of the logistics.

- Representation of different requirements in one system
- The largest possible configurability of the system is an absolute prerequisite
- Most important characteristics: highly configurable order processing



Order processing in a omni-channel Warehouse Management System

Control of logistics networks with inconsoSCE

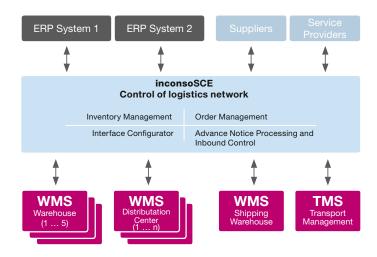
inconsoSCE offers a transparent view of the entire logistics network

As soon as the logistics neworks are more complex; as soon as suppliers, service providers and customers must be involved in the view of goods flows and inventories; as soon as you have several distribution levels and warehouse locations that must be monitored and efficiently controlled, a gap opens up between the ERP systems on the one side and the systems for operational control of the warehouse and distribution locations and the transports on the other side.

The solution for you is: inconsoSCE (Supply Chain Execution & Visibility). As a logistics control instrument between the warehouse, transport and ERP, the Supply Chain Management system inconsoSCE offers you a comprehensive view of the actual inventories at the sites and in-transit stock, availabilities of stock and utilization in warehouses and transport area. Using monitor dialogs, a status tracking of the logistics process is possible in every required differentiation.

An inbound flow control orientated on the capacities, a central order management and an optimization of the replenishment supply build the functional basis for the cross-network optimization of warehouse, handling and transport resources in order to fulfill the deadline and service agreements with your customers.

At the same time, a high-performance and crossoperations logistics controlling is realized since uniform key indicators are collected and can be evaluated from the entire network. The function of the central interface management ensures that the standardization of the master data and the distribution to all the participating network partner systems takes place.



Modeling, Planning and Simulation as well as operative control of various partner systems through inconsoSCE



Monitoring and operative control of national and global distribution networks



Highlights

Inventory Management

- Inventory management on the level of logistic units
- Control of stock transfers and replenishments between warehouse sites with automatic preadvices
- Management of in-transit stock
- Unique handling unit identification across the complete logistics network
- Comprehensive empties management

Order Management

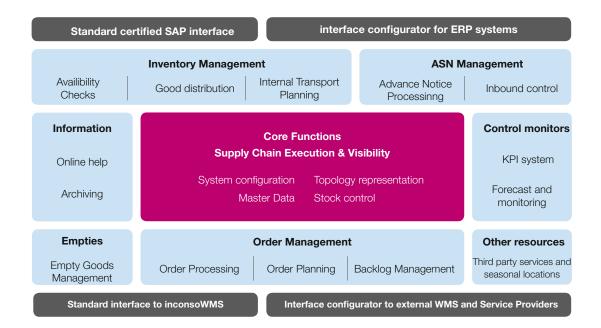
- Takeover of orders from ERP systems
- Availability Check Available-to-Promise
- Order assignment on basis of logistic units
- Order split across multiple warehouses
- Transparent tracking of order status
- Report back to ERP Systems

Interface Management

- Distribution function for master data
- Aggregation, sorting, filtering of movement transactions
- Standardized interfaces to ERP and to all WMS and TMS systems
- De-coupling of booking logic ERP-WMS
- Realization of interfaces to suppliers and service providers via standard connectors

Advance notices and inbound control

- Takeover of advance notices (pre-advices) from ERP systems
- Specification of advance notices through direct supplier connections
- Dispatching possibilities for reversal of inbounds according to logistic aspects
- Control of distribution of buffer stock in distribution centers
- · Freight optimization
- Connection to freight forwarders



Transport Management with inconsoTMS

inconsoTMS for shippers, Logistics Service Providers and classical transport companies – modular and individually configurable functions

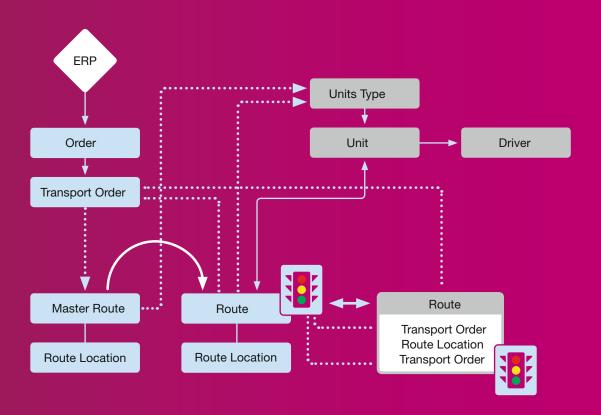
This modular designed and individually configurable application is set up for the shippers, Logistics Service Provider as well as for the classical transport companies. It is integrated into existing landscapes and processes through standard connectors.

inconsoTMS (Transport Management System) supports different shipping modes and contains functions for manual and automatic planning of orders on transport capacities. For the automatic planning, orders are planned in cost-effective way using geographical aspects and under consideration of restrictions. Plans can be completed for both procurement and distribution. The results are represented in table, graphic and map formats.

The **inconsoTMS** consists of a comprehensive functional scope including such functions as:

- Order entry and management
- Delivery day determination
- Resource management
- Dispatching
- Route optimization
- Load space optimization (3 levels)
- Tracking & Tracing
- · Logistics monitoring
- Freight cost calculation
- Controlling
- Document Management





Process flow of the automatic dispatching in inconsoTMS

TRANSPORT MANAGEMENT

IN COMPLEX LOGISTICS NETWORKS

The inconsoTMS combines algorithms for logistics network planning, master route planning and dynamic route planning and is suitable for use in single level as well as large multi-level transport networks. On the basis of the complexity, dynamic optimization algorithms normally lead to the relative goal. Today, large networks are normally planned only in segments.

inconsoTMS enables you to also consider large networks as a whole.

Based on the actual and historical data, forecasts or call-ups – if needed, also a rolling horizon -

the tactical network planning delivers the new master routes as a result. Using algorithms, the actual orders are planned into the master routes in the operative planning. If required, editing can be done on the results in the fine planning. Both manual planning adaptations and a dynamic route optimization are available as editing/optimization options.

Via logistics monitoring with table and graphic elements, the continual transparency about the status and conditions of the transports in the network is displayed. This allows the user more than ever to act instead of reacting to situations.

Comprehensive planning of warehouse and transport processes

Through the use of master routes, the possibility of backwards scheduling exists for the entire network. Information and key performance indicators for the planning of adjacent processes such as the procurement of transport capacities or the planning of picking waves are therefore available early.

Use of the processes - individual or combined

The processes for manual planning, set route planning, dynamic route planning and load space optimization can be combined or used in individual processes. Based on rules, the planning relevance for each order is determined. Through this approach, inconsoTMS can be used in parallel for different shipping modes.

Added Values

- Combined use of the logistics network planning, master route planning and dynamic route planning
- Integrated load space optimization for determining the number and type of the shipping units as well as planning and optimization of the goods in load spaces
- Integrated route optimization for planning orders onto vehicles
- Processing of large data quantities through scalable optimization engines
- Central platform, which allows both a central and decentral use of inconsoTMS
- Maximum transparency over the entire network through comprehensive monitoring functions
- Easy integration into existing system landscapes through standard connectors

Load Space Optimization with inconsoLSO

Three-dimensional optimization of loading units and spaces



Load Space Optimization with inconsoLSO

With the load space optimization inconsoLSO, processes for the three-dimensional optimization of cartons, pallets and load spaces are available. With inconsoLSO using high-performance algorithms, the appropriate shipping cartons are utilized, trading units and boxes stacked on pallets and handling units loaded into truck load spaces and containers.

The processes can be used individually or in three-steps. For the optimization, restrictions such as stack factors, stackability and allowed combinations are considered along with parameters such as nesting and compartments. The results are displayed both in table and graphic format and can be adapted in editing mode. Various reports - such as the loading instructions - can be printed out. In addition, the information from the route optimization (loading sequences, etc.) flows into the calculation.

The load space optimization is available in two variations:

- Stand-alone solution:
 Full version, which operates as a standalone and communicates with other systems via interfaces.
- Engine Version:
 With the engine version, the algorithm is
 decoupled from the User Interface. The engine
 communicates through internal interfaces
 and extends the functional scope of the
 inconsoWMS and inconsoTMS as a module.

In addition, the engine is available as an integrated Add-On in the SAP environment. There are also further industry specific configurations like, for example, chemical/pharmaceutical and beverage logistics.

Functional Highlights

- Multi-level optimization of cartons, pallets and load spaces
- Consideration of material dimensions and orientation restrictions
- Consideration of the load space properties
- Consideration for material nesting
- Display of different packing and loading strategies
- Editor for the editing of load results
- · Consideration of many restrictions

Application areas

The Load Space Optimization can be used in many different situations. Examples would be:

- · Selection of the loading containers to be used
- Determination of the quantity and conditions of the shipping units
- Calculation of load plans
- Optimization of the load space utilization (proactively and retrospectively)
- · Customer consulting

Yard Management mit inconsoYMS

More transparency and efficiency in on-site traffic



Yard Management with inconsoYMS

Yard Management Systems optimize the traffic within plants and sites and allow the synchronization of the often independently planned processes. With inconsoYMS (Yard Management System), you plan and control the loading and unloading traffic. Within the planning, resources are booked and time windows assigned for loading and unloading. Measurable indicators of efficiency increases are the improved resource utilization, shorter processing times and reduced waiting times for the vehicles. The transparency achieved also enables the user to recognize disruptions early and to initiate the required measures.

Loading locations, resources and materials with specific characteristics and dependencies are described via the master data. The transports to be planned are electronically taken over via the standard connectors, manually entered or recorded in a web portal. These transports are then prepared for the planning and controlling. The planning and control occurs via a central monitor – optimized through algorithms and routines. The display of the actual situations takes place in table and graphic formats.

- Inventory Management of swap bodies and containers
- Integrated, freely configurable process management for the flexible control of the handling
- Planning and booking of resources and time windows (slots)
- Automatic call-ups of swap bodies and trucks for loading/unloading by times, priorities and capacities
- Connection to RF / Voice-Over-IP mobile systems for controlling the site traffic
- Connection of transponder systems for automatic identification and optional localization
- Connection of video systems for in/outbound gate controls
- Full transparency over the entire site traffic using functions



Well informed with monitors inconsoLIS and inconsoMIS



Logistics Information System

Optimal monitoring of logistics processes

The automatic preparation of the actual and adequately consolidated information from the business processes is of essential interest for the optimal management and continual performance increase in the warehouse and for transports. Monitors offer transparency about the current situation of all logistics processes. User friendly and easily interpreted displays of the different situations make an early recognition of disruptions and bottlenecks possible. The system is developed using the most modern technology and is freely configurable.

With the logistics monitor inconsoLIS (Logistics Information System), the visualization of the current situations, conditions and timing of logistics processes is ensured. With the help of operative monitors, you can intervene directly in the process thanks to the use of graphical designed IWF dialogs.

In addition, inconsoLIS offers a retrospective view of static data and KPIs. With the possibility to call up all monitor information at any time, the transparency of logistics processes is significantly increased.

Mobile Information System



The rapid development of the information technology - especially the increasing use of more efficient mobile devices - enables short reaction times and makes it necessary to quickly have an overview of processes and KPIs. While robust handheld devices and specially developed vehicle terminals are preferred for mobile IT applications in the warehouse, the employees outside of the warehouse usually choose multifunctional smart phones and tablets. Making an informed decision at any time and from anywhere requires an operationally efficient solution, which has a direct access to the relevant information at any time. Just switch it on and the user already has a clear overview on all relevant indicators. This is the inconso Mobile Information System or inconsoMIS.

inconsoMIS makes your KPIs mobile

With inconsoMIS, you can easily call up and visualize all the data from products of the inconso Logistics Suite such as inconsoWMS from anywhere. In this way, your logistics processes become even more transparent and efficient.

The benefits of inconsoMIS

- Visualization of logistics KPIs from the inconso Logistics Suite or other third-party systems
- Multi-language capability (i.e. German, English and French)
- Different dialog types such as column diagrams, Gantt charts, table displays
- Connection to different warehouses
- Filtering of data using intelligent, dynamic filters
- Logistics KPIs can be shown based on different attributes: i.e. quantity, weight, and volume
- Drill-Down possibility to view the data from different detail levels (i.e. from the weekly to the daily and hourly view or picking performance per week, with a specific view on the day, hour, zone and location).



inconsoMIS makes your KPIs mobile



Invoicing of services with inconsoLSA

Individual process designcomfortable invoicing



Invoicing of services with inconsoLSA

inconsoLSA (Logistics Service Accounting) is a solution design based on the special requirements of logistics service providers. The Add-On does a comprehensive automatic invoicing of the handling and warehouse services completed for third parties. The basis for the invoices is individual tasks and inventory information that can be taken over in any differentiation from the operative systems and/or manually entered. The data is consolidated on the basis of configured invoicing intervals and algorithms to invoice data for handling services and storage fees/insurances and transferred to an accounting system via an interface.

The benefits of inconsoLSA

Internal transparency

 Saving of the relevant individual process information for the invoicing in any definable differentiation and referencing

Quality, efficiency increase and cost reduction

- Automatic takeover of logistics service information from operative systems
- Automatic pricing and invoicing on the basis of master data settings
- Easy creation with subsequent manual editing possibilities on total/partial credit notes and correction calculations from the original

documents while maintaining the original conditions

External transparency

- Freely configurable client and service specific consolidation levels for itemizations to the invoiced logistic services
- Creation of credit notes and correction invoices with reference to the original document and the corresponding itemizations

Flexibility

- Freely parameterizable client and service specific invoicing cycles
- Any additional description possibilities for services
- Integration of invoicing for special services without master data setup
- Easy document layout design through integrated standard print tool and comprehensive parameterizing possibilities for sorting, control of itemizations and document shipment.

Resource Management with inconsoRMS

Optimal planning of employees and operations resources



Resource Management with inconsoRMS

For the optimization of logistics processes, the planning of resources, i.e. of employees and operating equipment, plays an important role. The central question is whether the existing resources can handle the existing order pool in the predefined time.

The system for resource planning inconsoRMS (Resource Management System) indicates if the working tasks can be executed in a freely selectable period of time. It considers the quantity of resources and available personnel. Factors such as work times and capabilities of the workers are also considered here.

inconsoRMS groups the processes to be represented into process steps, for example picking or loading. The actual order pool is then represented for the defined timeframe in work tasks and the resources are assigned. A work task has a set execution time and this is assigned

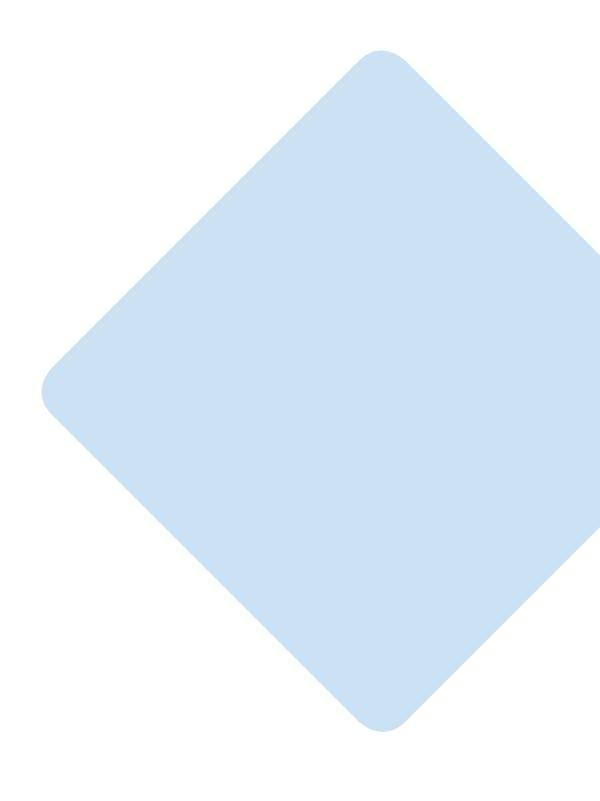
to the specific resource. Resources are defined as the following: persons, workstations, equipment and devices that are needed to complete a defined work task.

Via forwards and backwards scheduling, the work tasks are represented on a time axis. A standard value is first used for the duration of the work task. inconsoRMS determines the actual duration after the completion of the work task and adapts the value used for the planning on this basis continually.

The planning and simulation results can be displayed as utilization diagrams about individual resources or as a total utilization of the resources across the process steps and warehouse areas.



Schematic representation of Resource Management processes



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