



/// inconso LOGISTICS SUITE

The Software for managing and monitoring of your logistics networks



/// Content

The inconso Logistics Suite	4
Warehouse Management with inconsoWMS Product Suite	6
Powerful Add-ons to inconsoWMS	9
Transport Management with inconsoTMS	10
Load Space Optimization with inconsoLSO	12
Yard Management with inconsoYMS	13
Management of logistic networks with inconsoSCE	14
Logistics Monitoring with inconsoLIS	16
Invoicing of services with inconsoLSA	17
Product and services scope of inconso AG	18



/// inconso AG

COMPETENCY IN LOGISTIC SOLUTIONS

With more than 400 employees on nine sites in Germany and one site in France, inconso AG is the leading consulting and software supplier for logistics solutions in Europe.

Our operations oriented and efficient logistics systems are successfully used by numerous large and medium-sized companies over several years. We have a comprehensive understanding of the processes of retail, industry and Logistics Service Provider companies. With this knowledge, we tailor the solution to meet your needs - on-time and optimally integrated in your operations.

The project scope goes from analysis and consulting, designing, realization, implementation, change management to support and Lifetime Partnership.

Our focus for the optimization of customer specific logistics processes is on Warehouse Management with the **inconsoWMS Product Suite** and Transportation Management with the **inconsoTMS** and the three-dimensional Load Space Optimization **inconsoLSO**, the Yard Management with **inconsoYMS**, the monitoring and controlling of distribution networks via **inconsoSCE**, the logistics control with **inconsoLIS** or special extensions for **SAP EWM** and **LES**.

This is an overview of the software solutions and services for logistics offered by inconso.

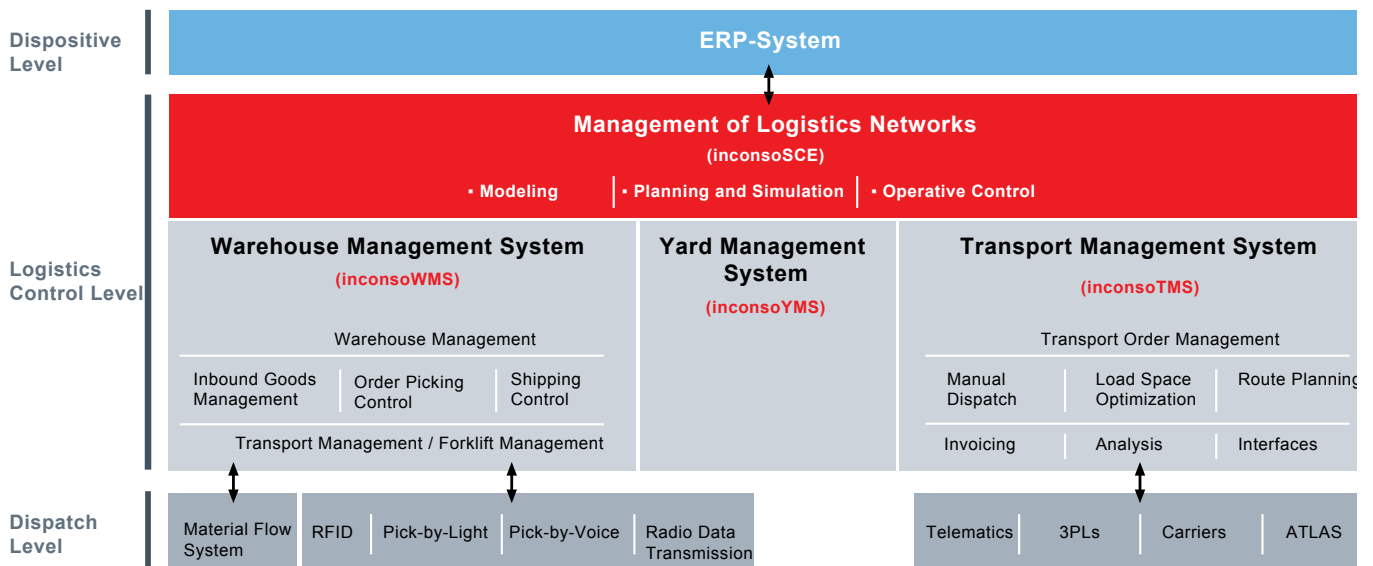
//// The inconso Logistics Suite



THE INTRA- AND EXTRALOGISTICS PLATFORM FOR OPTIMIZING YOUR PROCESSES

The **inconso Logistics Suite** is a platform for intra- and extralogistics tasks. It makes all functions available which are needed to steer, control and monitor a perfectly functioning logistics network. This suite consists of software solutions for

the logistics network planning and controlling, the Warehouse Management, Transport Management and Yard Management.



The inconso Logistics Suite at a glance.



inonso Logistics Suite – Software, technical equipment and service from a single source.

The **inonso Logistics Suite** offers customers an excellent user-friendliness and is available as a web application.

With the **inonso Logistics Suite**, you are able to optimize your logistics processes. The suite guarantees transparency to be able to evaluate the current situation. It offers comprehensive instruments for developing effective strategies and to make simulations. And it plans, executes and controls the operative processes. The **inonso Logistics Suite** supports you in fulfilling your logistics tasks on all levels - on a tactical, operative and control level.

The collaboration with your business partners and a coordinated planning, execution and operative controlling of the entire procurement and delivery networks are secured through the use of this integrated complete system for logistics tasks. With this unprecedented integration scope, you profit both from the organizational aspects as well as the controlled completion of internal and external processes.

//// Modern Technology Platform


The uniform, open technology platform of the **inonso Logistics Suite** offers customers an excellent user-friendliness and is also available as a web application. It offers web services which make it possible to integrate into your own IT landscape and have it accessible to business partners.

The components are platform independent and can be variable arranged.

//// Comprehensive Service

inonso delivers not only software, but also a large range of services and system technology. inonso supports the customer with complex migrations and change management processes, optimizes databases, executes radio transmission site surveys and delivers the required hardware for use with the software. On the basis of this service scope and extensive experience, inonso can take over the complete IT project as a general contractor.

inonso AG supports its customers in optimally utilizing their market, quality and service potentials. Or stated another way: With our solutions, we help our customers keep their customers satisfied for the long term. To achieve this goal, over 350 highly motivated IT and logistics experts work together with the customer to make this happen. The inonso quality management is DIN 9001 certified. Professionalism in project execution and proven method competency are the leading principles in our actions.



//// Warehouse Management with inconsoWMS Product Suite

WAREHOUSE MANAGEMENT AND CONTROL THE MORE FLEXIBLE – THE BETTER

Short delivery times, deadline reliability and high delivery quality are decisive competitive factors. And: Who wants to lead must convince through service. In all areas - labeling of goods, packing, returns processing, kit building or other services. The magic word is: **customer specific**. Everything should happen quickly with special processing as well as in the running operations. These demands make the processes increasingly more complex within the logistics. For the control of your warehouse and material flow logistics, the motto is: the flexible, the better. And this is where we come in with our **inconsoWMS Product Suite** for Warehouse Management and Control.

Modern architectures and technologies as well as process based building components, flexibility, multi-client capable, transparency and individual scalability create the basis for the **inconsoWMS Product Suite**. Proven, highly developed methods for the optimization of processes are features which make the difference!

The result: Quick reaction times, lower error quotas, optimal resource utilization, shorter processing times. These factors contribute to the sustainable efficiency increases and quality assurance.

Standard connectors enable a simple integration into existing system landscapes and allow for information exchanges with partners in the network. Furthermore, they guarantee an easy connection of subsystems such as RF solutions, Pick-by-Voice systems, RFID, Pick-by-Light systems, scale systems, paperless

order picking systems and automatic conveyor components.

Maximum efficiency is reached not only through optimally supported processes, but also through optimally supported interaction of all software and hardware components in use. With inconso, you have decided for a partner who provides - from the consulting, concept development and software specifications through to the software, hardware and data transmission systems - all from a single source.

//// Highlights of inconsoWMS Product Suite

- **Future oriented technology**
 - Modern web-capable server architecture
 - Authorization concepts down to field level
 - User-dependent multi-lingual capabilities
 - User specific setup of surfaces
- **Flexibility**
 - Multi-client / Multi-customer capable
 - Multi-site / Multi-location capable
 - Multi-language
 - Differentiated inventory management
 - Configurable setup of workflows and strategies
 - Integrated forms generator



The **inonsoWMS Product Suite** is based on modern architectures and technologies as well as process based modules which guarantee flexibility, multi-client capability, transparency and individual scalability.

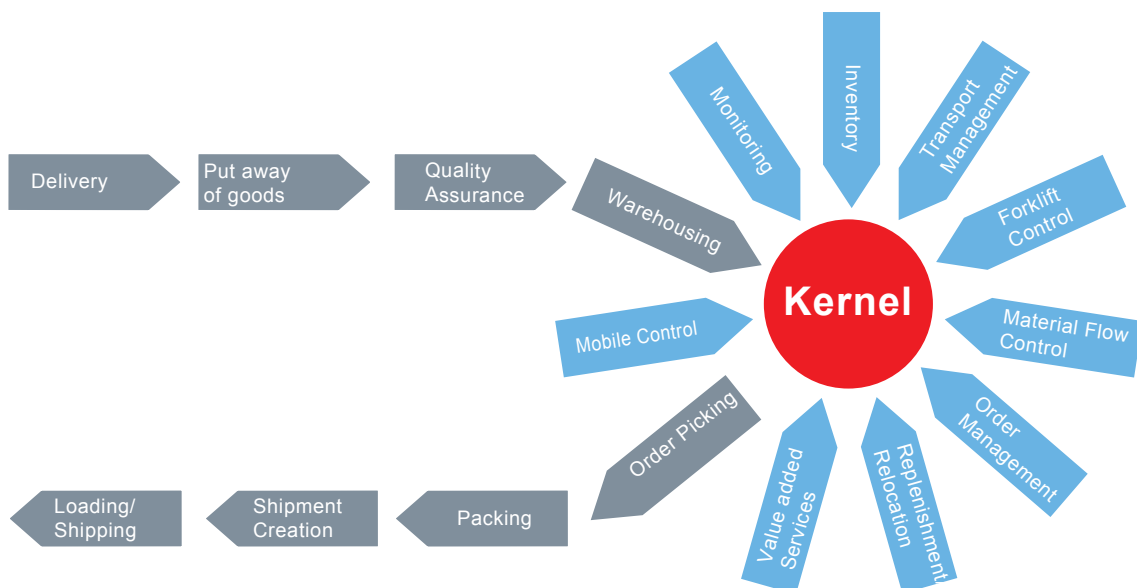
▪ **Transparency**

- Logistic monitor and key performance indicators (KPI)
- Documentation of booking transactions and movements
- Traceability such as tracking batches and serial numbers

▪ **Scalability in functionality, throughput and automation degree**

▪ **Functions (Excerpt)**

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



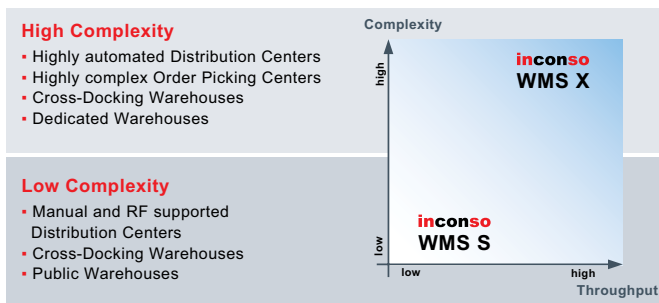
inonsoWMS Product Suite: Process based modules secure individual extension



In order to cover the different demands on a Warehouse Management Systems – from simple, manual and even RF supported warehouse through to the highly complex and automated distribution centers – the **inonsoWMS Product Suite** consists of a core system with two variations: **inonsoWMS Standard** and **inonsoWMS eXtended**.

//// inonsoWMS Standard

The **inonsoWMS Standard (S)** is designed for the use in small to medium sized warehouse and distribution centers in which one or more clients are served from. Through the modular construction, the system is largely free of stipulations on special organizational and technical environments. It allows a quick and flexible configuration of different business processes as well as an easy modification of processes to changing demands. **inonsoWMS S** was set up for the typical demands in a manual or forklift driven warehouse.



//// inonsoWMS eXtended

The **inonsoWMS eXtended (X)** offers the maximum in configuration and individualization possibilities. In the environment of complex and multi-faceted processes and high throughput normally found in highly automated distribution and order picking centers, **inonsoWMS X** is the first choice!

//// Industry solutions – inonsoWMS Automotive

On the basis of **inonsoWMS eXtended**, a Best Practice variation specially designed for the demands of procurement and distribution logistics for automobile suppliers and Logistics Service Providers. **inonsoWMS Automotive** offers all the functions of a modern Automotive solution:

- Representation of n-n relationships to sub-suppliers, Logistics Service Providers, suppliers and OEM
- Interfaces Manager for communication with customers, suppliers and in-house systems – in the formats VDA, ODETTE and EDIFACT
- Sub-supplier control for monitoring of delivery chains and for representation of total procurement management
- Container Management
- Management of delivery call-ups
- Just-in-time / Just-in-sequence-supply (JIT/JIS)
- Supply and range forecast

Further industry specific solutions are available for the Chemical, Pharmaceutical and Beverage industries.



//// Add-ons for insonsoWMS

//// Multi-mode Radio Frequency with inonsoVMS

In addition to voice input and output, **insonsoVMS (Voice Management System)** enables the parallel use of scanners and mobile terminals within a single process step without having to switch between modes. For example, this allows the processing of serial numbers within a voice controlled process to be supported with additional scanning of the serial number.

The **insonsoVMS** guarantees the high-performance processing of voice controlled order picking processes as well as the flexible handling of various voice controlled processes in inbound goods, outbound goods, inventory and transport. Through the hands-free and eyes-free approach, the time for reading the pick instructions from a list or a mobile terminal is dropped. The concentration of the worker is focused exclusively on the handling of the goods. The result is a substantial productivity and quality increase in the execution of the logistics processes. **insonsoVMS** is fully integrated in the **insonsoWMS Product Suite** and can be operated also with every other environment (e.g. SAP).

//// Material Flow Control with inonsoMFS

Modern distribution centers with automatic warehouse and conveyor systems require high investment volumes. In order to secure a maximum Return on Investment, the performance of the technical systems must be fully utilized. This is where the Material Flow System **insonsoMFS** comes into play.

Optimization strategies such as dynamic determination of optimal transport paths, the creation of double cycles or the dynamic transport assignments and sequence creations of partial orders are standard functions of **insonsoMFS** which guarantees an efficient and high-performance material flow in highly automated systems.

The integrated visualization system gives a precise overview of the situation in the location and shows the critical location statuses and disruptions early allowing for rapid reactions.

//// Simulation of the material flow with inonsoSIM

The simulation of material flows reduces the operative start risks in automation projects. Short project timeframes and increasing complexity in the warehouse and material flow systems allow the risk of „non-fully functional“ systems at the planned operative start to increase tremendously. If the coordination of the different systems with the Warehouse Management Software not tested under realistic conditions and volumes, the problems will first occur in the start-up phase or the beginning of the operative use by the customer. Only early and realistic site conditions based interface and performance tests achieve the help through a test environment which represents the planned total system completely without requiring the physical provision of the conveyor and warehouse technology



//// Transport Management with inconsoTMS

TRANSPORT MANAGEMENT

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.

The **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 cost optimally using geographical aspects and under consideration for the restrictions. Plans can be completed for both the 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

//// Transport planning in complex logistics networks

The **inconsoTMS** combines algorithms for logistics network planning, set 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 planned only in segments.

inconsoTMS puts you in the position to consider the large networks also 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 set routes as a result. Using algorithms, the actual orders are planned into the set 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.



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

//// Comprehensive planning of warehouse and transport processes

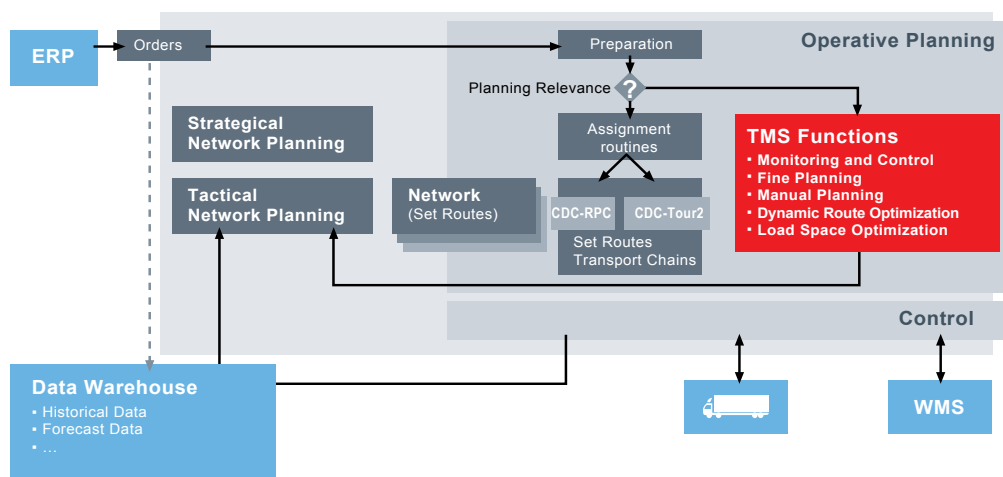
Through the use of set routes, the possibility of backwards scheduling exists for the entire network. Information and key performance indicators for the planning of adjacent processes such as the procurement of transport capacities or the planning of picking waves are therefore available early.

//// 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, set 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

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

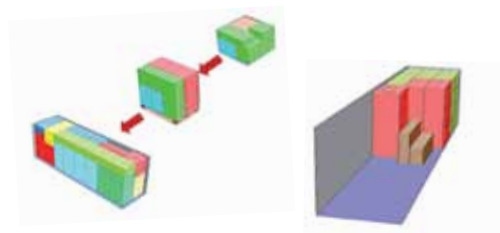
The processes can be used individually or in three-steps. For the optimization, restrictions such as stack factors, stackability and allowed combinations are considered along with parameters such as nesting and compartments. The results are displayed both in table and graphic format and can be adapted 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 stand-alone and communications 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 Product Suite** and **inconsoTMS** as a module. In addition, the Engine is available as an integrated Add-On in the SAP environment.

//// 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 space(s) 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 with inconsoYMS

MORE TRANSPARENCY AND EFFICIENCY IN ON-SITE TRAFFIC

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 for the loading and unloading assigned. Measurable indicators of efficiency increases are improved resource utilization, lower processing times and shorting waiting times for the vehicles. The transparency achieved also puts the user in the position 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 occurs in table and graphic formats



Example shows a graphical Display of a Transport Situation

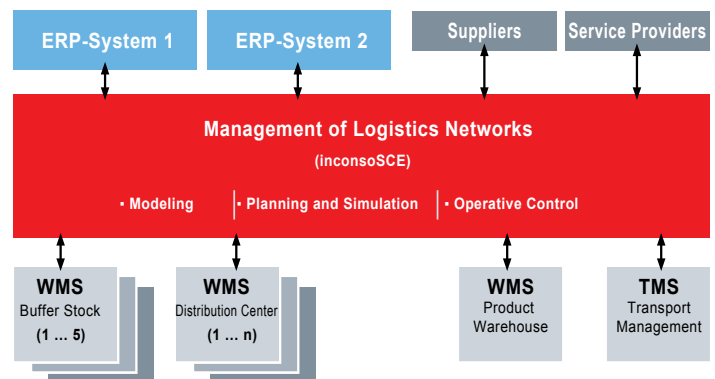
- Inventory Management of swap bodies and containers
- Integrated, freely configurable process management for the flexible control of the execution
- Planning and booking of resources and time windows (Slots)
- Automatic call-ups of swap bodies and trucks for loading/unloading by times, priorities and 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 monitor functions

//// Management of Logistics Networks with inconsoSCE

MONITORING AND OPERATIVE CONTROL OF NATIONAL AND GLOBAL DISTRIBUTION NETWORKS

As soon as logistics networks are more complex; when external partners such as suppliers, service providers and customers need access to the view of goods flow and inventories; in order to monitor and efficiently control several distribution levels and warehouse sites, there is a gap between the Enterprise Management Systems on the one side and the systems for operative controlling of the warehouses, distribution sites and transports on the other side. This is exactly where **inconsoSCE (Supply Chain Execution & Visibility)** is used: **inconsoSCE** offers the required transparent views on the logistics network.

inconsoSCE is the logistics control instrument between the warehouses, transports and enterprise resource planning which offers a comprehensive view of all the actual inventories on the sites, in-transit inventories, the availability of stock and the utilization of the warehouse and transports. Various monitoring dialogues provide a differentiated status tracking of the logistics processes.



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

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 cross-operations 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.



inonsoSCE offers a transparent view across the entire logistics network.

//// Highlights

▪ Inventory Management

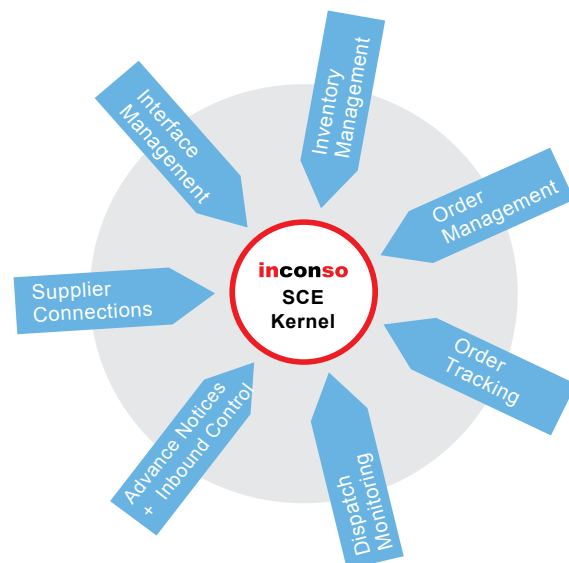
- Inventory management on the level of logistic units
- Control of stock transfers and replenishments between warehouse sites with automatic pre-advices
- Management of In-Transit stock
- Unique handling unit identification across the complete logistics network
- Comprehensive Empties Management

▪ 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
- Accumulation, sorting, filtering of movement transactions
- Standardised 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



Highlights of **inonsoSCE** at a glance

▪ 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

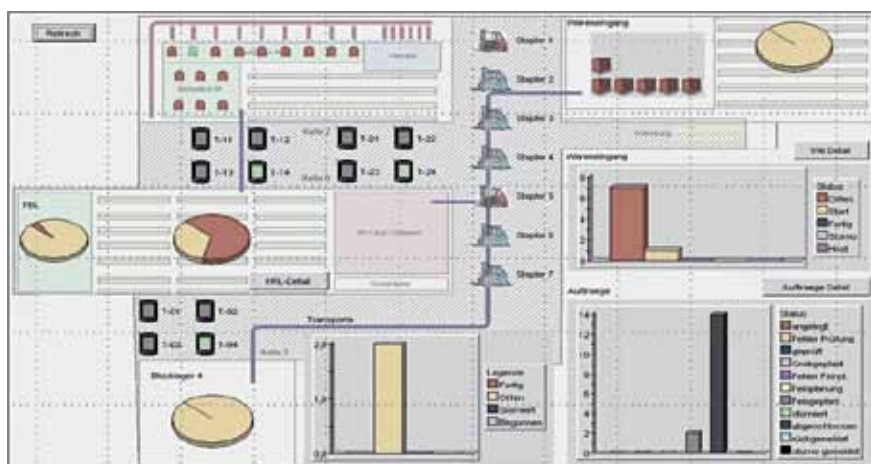
//// Logistics monitor with inconsoLIS



OPTIMAL MONITORING OF LOGISTICS PROCESSES

With the logistics monitor **inconsoLIS (Logistics Information System)**, the visualization of the actual situations, conditions and process times of the logistics processes is shown. 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.

inconsoLIS offers transparency about the actual conditions of all the logistics processes. User-friendly and easy to interpretate displays of various situations make an early recognition of disruptions or bottlenecks possible. The system is developed in the most-modern technology and is freely configurable.



The graphic shows the application of a monitor situation

//// Invoicing of services with inconsoLSA



INDIVIDUAL PROCESS DESIGN - COMFORTABLE INVOICING

inconsoLSA (Logistics Service Accounting) is a standard product directed towards the demands of Logistic Service Providers for the most comprehensive, automatic invoicing of the handling and warehouse services completed for third parties. The basis for the invoicing is individual process and inventory information in any differentiation which is taken over via pre-defined interfaces from operative systems and / or manually recorded. They are automatically consolidated to invoices for handling services and storage charges/insurances based on the set invoicing rhythm and invoicing algorithms and transferred to the accounting system via interfaces.

//// The benefits of **inconsoLSA**

- **Internal transparency**
 - Saving of the relevant individual process information for the invoicing in any definable differentiation and referencing
- **Quality and efficiency increases and cost reductions**
 - Automatic takeover of logistic services 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 steps and correction calculations from the original documents while maintaining the original conditions
- **External transparency**
 - Freely parameterizable 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
 - Free document layout design through integrated standard print tool and comprehensive parameterizing possibilities for sorting, control of itemizations and document shipment

//// Product and services scope of inconso AG

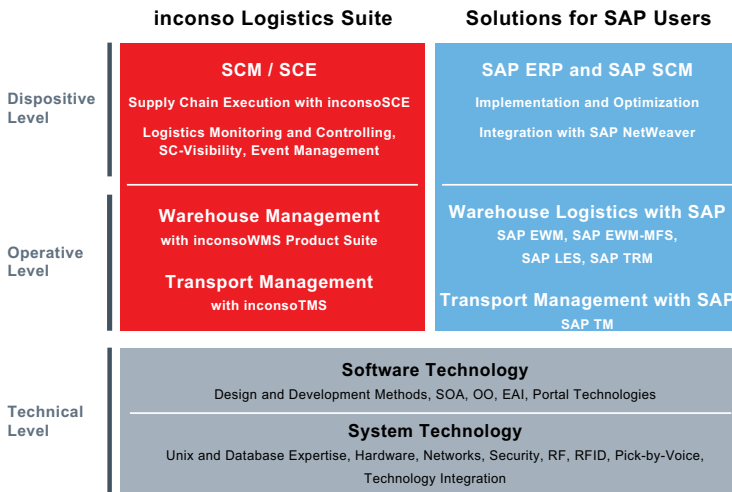
inconso – the leading consulting and software company for logistics solutions in Germany

inconso stands for competent, professional project execution - from the analysis and consulting, designing, realization, implementation, change management and the support and Lifetime Partnership.

//// Services

Our service offering – a short overview

- **Logistics and IT consulting**
 - **Supply Chain Execution and Visibility Solutions**
Logistics monitoring and controlling of logistics networks with inconsoSCE, consulting, individual developments
 - **Warehouse Management with the inconsoWMS Product Suite**
 - **Transport Management with inconsoTMS**
- **Solutions for SAP Users**
 - **Intralogistics Solutions with SAP**
SAP EWM + MFS, SAP LES + TRM
 - **Transport Management with SAP**
SAP TM, SAP LE-TRA
 - **SAP ERP Solutions**
SAP Business All-in-One for LSP
- **Complete solutions from a single source**
 - Process consulting, Software and Technology, RFID, RF, Pick-by-Voice, Pick-by-Light



inconso service offering at a glance



inconso AG

The leading consulting and software company for logistics solutions in Europe.

//// Excerpt of our references



Over 300 customers in 20 countries on 4 continents trust the solutions of inconso AG.
Use our experience to achieve your project's success

BAD NAUHEIM //// BREMEN / DRESDEN / ESSEN / KÖLN / MÜNSTER / STUTTGART / TOURS (FR)