zedas®cargo

zedas

Logistics software
for rail freight transport

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Logistic challenges in rail freight transport - specialized solution from ZEDAS

Service specifications
Transport calculation
Calculation variants
Target costs
Contract management

Market situation in rail freight transport

Increased competition in rail freight transport and with other modes of transport force railways to always keep the profitability of transport services in view and improve it. The cost pressure resulting from this, continuously increasing expenditure from energy and infrastructure use and government requirements are the challenges of the market. In order to be competitive in the long term, rail freight transport, whether local or long distance, must be handled efficiently and profitably.

The following questions arise in day-to-day operations:

» What margins can I achieve?

» Am I aware of the fulfilment status of my orders at all times?

» How are my resources used and can I cover additional orders?

» Can deviations from the plan be detected promptly?

» How can I quickly and reliably supply my customers and partners with information?

» How can I invoice the services exactly?

» Can I always provide information to the authorities and institutions?

» How can I get reports, key figures and statistics, easy and quickly?

zedas®cargo: The solution for rail freight transport

With zedas®cargo, you have a tool which optimally supports you in answering these questions. Optimise your planning processes, simplify the management of operations and invoice exactly for services. zedas®cargo interlinks all processes in the value chain, both operational and commercial.

Advantages of zedas®cargo:

» optimal usage of resources

» smooth operational processes

» seamless collaboration with customers and partners

» reliable processing of orders

» outstanding management information

Calculating transport capacities

The zedas®cargo solution supports you in the calculation of rail transports for mainline and shunting transport. Train journeys, shunting movements, carriage inspections, weighing jobs, etc. are calculated and bundled within products on the basis of estimated service components. The target costs determined can be directly compared to the actual costs following order processing.

The comparison between calculation variants helps you to see various alternatives in the sales phase and to identify the best possible variants for the realisation of transportation. For the quick processing of comparable requests, data from existing calculations can be adopted. As a result, the costs for the desired product can be simply and reliably determined and profitable offers can be submitted.

Managing contracts

Manage all relevant information for contracts transparently in the zedas®cargo system. The contract management shows both regular railway and shunting traffic and short-term spot contracts. Calculations can easily be transferred into contracts and can be supplemented with further parameters and agreements.

These include, for example,

» the production plan agreed with the customer (days of running, times),

» agreed supply quantities, conditions for internal and external services and

» agreements for cancellations, additional services and quality targets.

Fulfil your customers' information requirements by configuring a set of rules in the contract for the automatic sending of messages and documents, such as for carriage supply, train departure, delay information or upon the acquisition of a carriage damage report (e.g. in accordance with the General Administrative Regulation).

Simplify your controlling! Calculate the required transport services and transfer them directly into planning and operations. Thus establish the basis for a simple and accurate target-actual comparison for the services rendered in zedas®cargo.
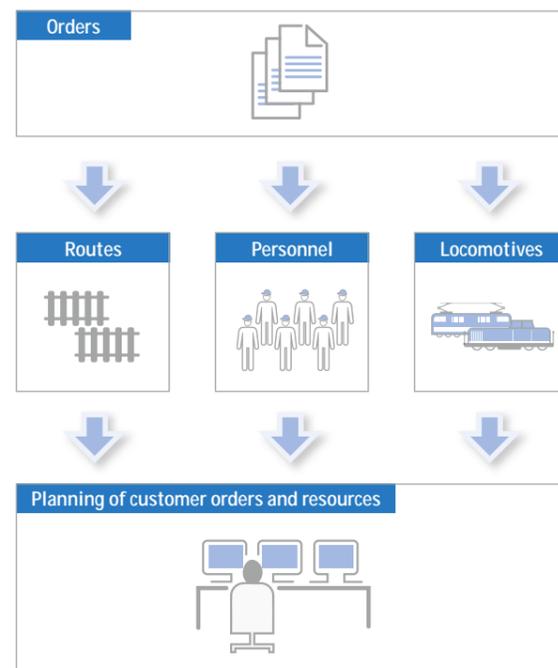
Planning

- Sample plans
- Locomotive tours
- Services / personnel tours
- Conflict checking
- Absence
- Rules on working times
- Qualifications

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Regular railway and shunting services are as easy to plan as ad hoc services. Clear Gantt diagrams support resource planning. Planning elements for required resources are generated on the basis of contract, order and route data and are organised automatically or using drag & drop.

Orders

Routes **Personnel** **Locomotives**

Planning of customer orders and resources

The planning levels are derived from each other. This allows the step-by-step refinement of planning results, beginning with studies on the annual and weekly planning all the way down to daily planning. Recurring manual entries are no longer required. Likewise, orders placed at short notice can be quickly integrated into the daily operations with

the help of order templates. Particular advantages for railway and shunting traffic: Standard services can be rolled out quickly and easily to the calendar based on sample plans. As a result, the majority of the volume of orders is already „pre-planned" and does not have to be newly scheduled.

All planning elements are linked so that any changes, e.g. owing to route cancellation, illness, delay, etc. are identifiable in all views. Planners and dispatchers always have an overview of planning conflicts, free capacities and outstanding services. This is the foundation for the best possible usage of resources and for cost-effective, competitive overall operations.

Routes

zedas®cargo manages all required basic data for routes, such as timetables, validities and operational and technical data throughout the entire journey. Routes and timetables can be imported automatically using interfaces with infrastructure operators. The data contained within these flows directly into order planning for train journeys.

Personnel

The foundations for tour and shift planning are the personnel requirements which arise from the order specifications (e.g. train run, shunting services, service master). Personnel requirements are supplemented with planning elements such as work travel, changeover times, etc. and form tours or shifts. Whether long-term or operative: the allocation of personnel adjusts to your planning

process. Design optimal personnel tours and keep the applicable rule for working times, labour agreements and qualifications, such as special knowledge or class approval, in view. Trips or services which do not conform to the regulations are represented to the planner. Absences such as holidays, sickness, etc. and the employees' requests can easily be recorded in the system.

Image: Personnel planning

Locomotives

Locomotive tour planning occurs on the basis of locomotive requirements from order specifications, which can be linked using drag & drop. The allocation of tours to the specific vehicles occurs during the course of weekly planning or daily planning.

Particular benefit: zedas®cargo takes the maintenance periods, leasing, etc. into account in the planning. Location conflicts and suitability of the locomotives (e.g. locomotive type, train control system, approvals, etc.) are checked automatically.
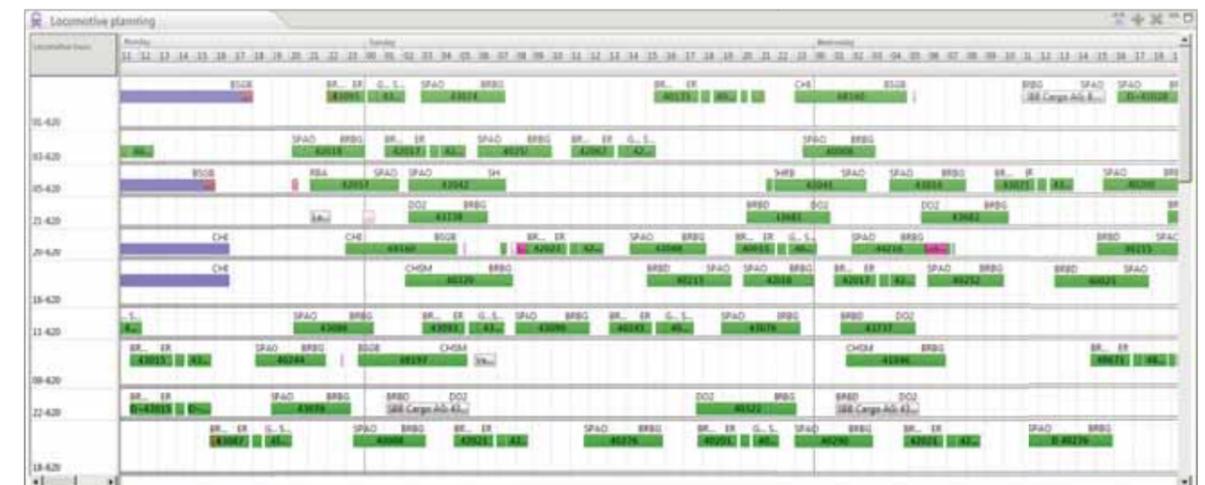

Image: Locomotive turnaround planning

6 ›› **Controlling**

The solution provides a coherent database: from calculation and contract through planning and operation to invoicing.

Controlling gains a high-performance tool for the identification of cost drivers and potential for improvement throughout the entire value chain for rail freight services.

1 ›› **Calculation**

All parts of the services for shunting and railway transports can be calculated based on cost items.

As a result, calculations can be quickly and easily processed and compared, and attractive and profitable offers can be submitted in this way.

5 ›› **Invoicing**

The services rendered are automatically matched with the order data. Transports and services which are not or not fully recorded can be completed manually.

Invoices can be generated quickly and efficiently. All services rendered are also charged.

2 ›› **Contract**

All contract and order information is managed and made available in the solution.

This central database forms the basis for further applications: resource planning, operation, invoicing and controlling.

4 ›› **Operation**

The central graphic user interface is the basis for operative control and clearly displays the current order and train movement situation as well as deviations from the planning.

Operational management is supported through the processing, monitoring and documentation of shunting and railway services and can start correction measures promptly in the event of deviations.

3 ›› **Planning**

The planner is optimally supported in the allocation of suitable and available resources as well as the verification of free capacities by means on clear Gantt diagrams.

Optimally designed services, personnel and locomotive tours permit the best possible usage of resources and cost-effective and competitive overall operations.

zedas®cargo

zedas®cargo combines and supports operational and commercial processes. Costs and services, as well as „plan-actual" differences, are transparent. Resources are used efficiently, alternatives are shown.

Operation

Scheduling of trains & train movements
Assignment of locomotives and personnel
Shunting scheduling
Train departures & arrivals
Actual track occupancy

A wide variety of views with useful filter options are available in zedas®cargo for the optimal handling and documentation of operative activities in shunting and train service. The dispatcher constantly has up-to-date information about the situation as regards resources and vehicles and can look at the degree to which customer orders have been fulfilled. The user can flexibly plan additional ad hoc services, changes to orders or cancellations in the daily operations. In the event of delays or unexpected operational events, the dispatcher is supported in the consideration of alternatives, the implementation of measures and the documentation of events. All operational services rendered are registered in the appropriate transport order.

Transport order / bill of lading / information

Order data can be transferred via interfaces with shippers, forwarders and partner railways. The order contains all operationally and commercially necessary information about transport handling incl. the rolling stock, container, shipment and hazardous goods.

Shunting scheduling

The supplying and documentation of rolling stock to loading and unloading points occurs through the scheduling of shunting orders and the allocation of locomotives to these. The zedas®cargo solution allows a variable formation of individual orders, order chains or distribution orders (M to N). In order to minimise manual inputting, processes and status changes can be flexibly automated in zedas®cargo. The dispatchers can see all of the necessary information, e.g. order status, rolling stock location, ranking, rolling stock status, load or container, as well as all technical information at any time.

Useful interfaces in the shunting process

Standard interfaces automatically deliver important data for shunting events, automate processes and avoid unnecessary manual inputs. Examples:

» Acquisition/delivery of order, train and rolling stock data for incoming and outgoing trains at shunting locations

» Integration of collection orders at the loading point and delivery of selected rolling stock information upon rolling stock delivery

» Control of dynamic and static weighbridges from a wide variety of manufacturers and acquisition of the weighing results

Graphic track diagram

A central element of operations management is graphic display. With the track diagram, the dispatcher always has an overview of the actual track occupancy. It it possible to visualise different track areas and territories. All the important information about trains and positions, cargoes and hazardous goods, as well as the level of load on the track can be seen at a glance. With one click the dispatcher can call up a multitude of detailed information and can access selected functions. The properties and status of objects can be configured with colours.
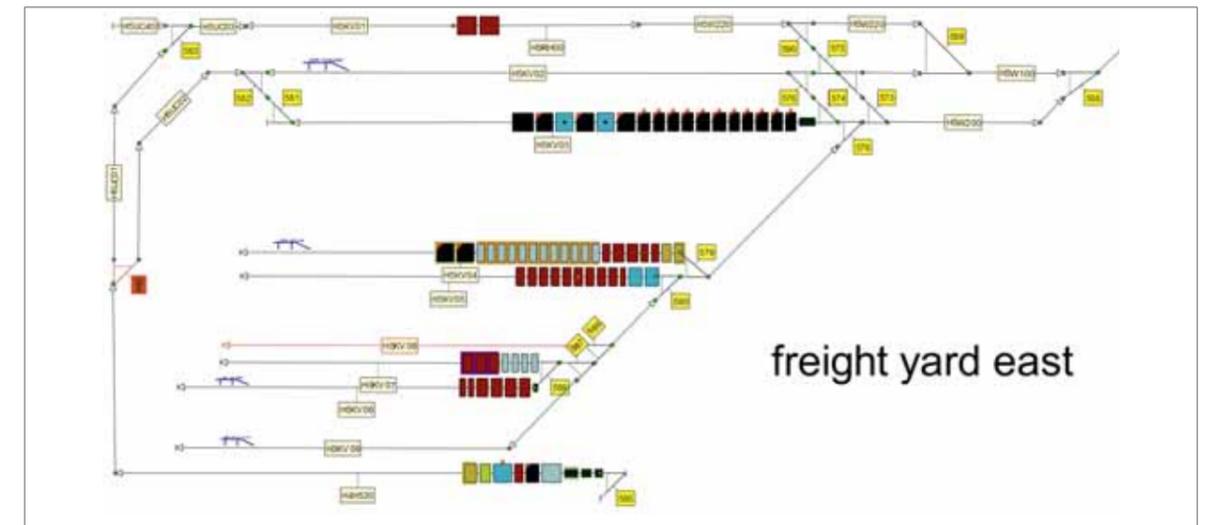

Image: Graphics of track occupancy

Train scheduling

Within train preparation, zedas®cargo supports the allocation of rolling stock, the formation of outbound trains and the creation of the documents required under the applicable regulations. Control mechanisms monitor the use of personnel and locomotives, visualise conflicts and violations of the regulations and allow for prompt and targeted intervention. Using available interfaces with the network infrastructure operators, you can track national and international train movements in real time and are always informed about the status of your transports. It is also optionally possible to automatically send up-to-date order, train and status reports to transport partners and customers.

Image: Routes and orders

Invoicing & controlling

Invoicing for internal/external services
Billing
Personnel time and payroll accounts
Target-actual comparison
Post-order calculation
Reports & statistics
Key performance indicators (KPI)

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zedas®mobile

optimised for shunting and railway transport
information on site at any time
Smartphone, tablet, hand-held device
browser-based solution
usable online & offline

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Invoicing

The contracts managed and the conditions and objects allocated to the accounts for those contracts form the basis for the invoicing of orders and for cost accounting.

All actual data collected during operations regarding the internal and external services rendered is allocated to orders and is automatically transferred into the invoicing module. Services which are not or not fully recorded can be completed manually. Billing, incl. cancellations and credit entries, occurs after approval. In addition, it is possible to exchange data with the systems for finance and accounting.

Reduce your billing expenditure, avoid errors and account for all services rendered exactly and systematically!

Configurable personnel time and payroll accounts can be administered for payroll accounting for staff. Prepared accounting data can be delivered via interfaces with the payroll system.

Reports & statistics

With zedas®cargo, rail companies have comprehensive options for calling up standardised and individual analyses.

A few examples:

>> Plan/actual cost comparison

>> Staff time sheets

>> Rolling stock running controls

>> Stock overview (rolling stocks, cargo types, etc.)

>> Locomotive and axle kilometre verification

>> Destatis reports

>> Punctuality reports

Reports can be created according to a time schedule and can be automatically send to an email distribution list in PDF format. Data exportation to Microsoft Excel is also part of the standard functionality. The customer can also call up and continue to work on selected data independently using the zedas®cargo Data Warehouse.

Controlling

All results for target-actual comparisons, post-order calculations, statistics and KPI´s are available automatically and immediately after service provision. Evaluation of the profitability of the shunting and train services rendered is thus possible at any time. Cost drivers can be identified and opportunities for improvement can be recognised. Billing of customers and partners remains transparent and verifiable.

Mobile logistics management for rail freight companies

Mobile applications are an integral part of the zedas®cargo solution and have the potential to reorganise business processes and design them significantly more efficiently. Employees can use information for their activities in any location and are integrated directly into the workflows.

zedas®mobile expands the zedas®cargo central logistics solution and is specially designed for the mobile requirements of shunting and railway traffic. The application optimises the flow of information and data and provides up-to-date operating data as well as precise billing information. The browser-based solution makes the relevant information available quickly and easily via smartphones, tablets or hand-held devices suitable for industrial use. You can minimise extensive communication, writing things down or any errors associated with these. Locomotive drivers, service masters or control personnel can immediately deal with their tasks on site independently from the central control centre. The design and operation of the software are optimised for mobile applications and ensure a high degree of user-friendliness.

Typical applications:

>> Handling of shunting and train services

>> Train arrival and departure processing

>> Informing employees of duty rosters

>> Documentation of working hours

>> Management of damaged rolling stock

>> Controlling rail weighbridges

>> Sending information to employees

>> Collection of operating data

The integrated offline functionality ensures the continuous availability of data – working autonomously without a consistent data connection with the head office.

Data synchronisation occurs automatically and can be carried out using a wide range of communications technologies. The interface to zedas®cargo ensures seamless integration without media disruptions and with no need for further coordination.

zedas®mobile is modern, high-performance and field-tested and consistently displays the key processes of mobile workflows in shunting and railway traffic.

About ZEDAS GmbH

ZEDAS GmbH develops software products for rail-bound logistics management and for maintenance management for vehicle fleets and technical systems. The utility and handling of the standard solutions are specially designed for these selected industry requirements. With more than 25 years of experience and a specialised, high-performance network, we serve customers worldwide.

Experienced consultants are available to our customers, bringing excellent know-how to the implementation of your projects. We achieve a quick return on investment for you through industry expertise and standard product strategies.

A 24/7 support and update service ensures reliable operation and guarantees you a state-of-the-art product for the long term with high investment security.

zedas®cargo at a glance

http://railfreightsoftware.zedas.com

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