Optimisation and automation of the entire personnel deployment

Efficient solutions thanks to rail logistics
Staff scheduling at the touch of a button

Coordinating the efficient deployment of personnel is a special challenge for every company in the logistics sector.
In rail freight transport, this task is many times more extensive. Complex regulations, timetable changes due to construction sites and unexpected staff absences have so far meant that personnel managers have needed a lot of time for the planning process. Time that is lacking elsewhere. A new module from zedas®cargo, the specialist for rail logistics management, ensures optimisation and automation of the entire personnel deployment.

Monday morning at a container railway yard: it's busy because the goods in the large containers have to be loaded onto freight wagons quickly. Here, one gear meshes with the next to keep the train rolling. If delays, staff absences or timetable adjustments occur, quick action must be taken and personnel deployment adjusted. Up to now, this has been a time-consuming task for those responsible. Availability and suitability have to be checked quickly and the personnel services have to be revised. This can now be done much more effectively because Opti Planner, a new standard plug-in for zedas®cargo, the software product of ZEDAS GmbH for rail freight transport, now offers personnel planning at the touch of a button. The

planning rules on the basis of which the shift schedule is automatically created are already defined in the standard system. However, the set of rules can be individually configured at any time. Experiences from optimisation projects show that the number of rule-compliant rotations and services is higher through automation than with manual planning.

Automatic rostering

Complex automation tasks and decision-making processes can only be effectively solved with the help of IT and mathematics. Therefore, the Opti Planner focuses on intelligent algorithms that solve quantitative optimisation tasks, especially in the area of resource planning. The planning tasks

in rail freight transport are very complex due to the many rules that have to be taken into account. In addition, the plans have to be adapted quickly in the event of unexpected outages or changes.

With the new zedas®cargo solution, the planning process for staff deployment is not only automated, but also optimised. This is a real gain in efficiency. All services are independently determined and assigned by the software in accordance with the legal and tariff regulations. The software calculates alternative planning proposals for a quick response to operational events. Schedulers demonstrably benefit from a reduction in time. All resources are balanced and efficiently deployed, taking into account their interdependencies. In addition, the staff's satisfaction is significantly increased by the uniform scheduling.

In the demanding optimisation of personnel deployment, a large number of resources must be allocated to shifts within a short time. In the process, all hard and soft suitability factors, such as availability, rest periods, qualifications and route

knowledge must be taken into account. These are all things that schedulers today often look for in several sources or simply have in mind.

Staffing schedule can be called up at any time

One advantage of Opti Planner is that solutions are available at any time and not just at the end of an optimisation process. You can thus follow changes directly on the screen. But how does it work in detail? First, Opti Planner takes the data from zedas®cargo and starts the desired staff scheduling. The programme tries to improve the scheduling continuously. If a result is called up in between, the software displays the best solution at that time. If the intermediate result is already suitable, the optimisation process can be stopped. All plans and results can also be edited manually after the staff schedule has been calculated. A simple user interface displays the results clearly. With historical data, the change in effect of individual rules and rule combinations can also be simulated and evaluated.

Thanks to the automatic and optimised planning of personnel deployment, employees are deployed more economically and more evenly. Unscheduled changes, such as the absence of a train driver, can thus be reacted to calmly and at short notice.

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