



INCREASED EFFICIENCY IN MARITIME AND INLAND PORTS THANKS TO INTELLIGENT LOGISTICS

SyncroTESS – Optimization Modules: the most sophisticated
IT solutions for optimized maritime and inland container terminals



SIMPLIFYING LOGISTICS PROCESSES IN COMPLEX SITUATIONS WHERE TIME AND SPACE IS CRITICAL

SMOOTH HANDLING IN MARITIME AND INLAND CONTAINER TERMINALS

SyncroTESS – Optimization Modules for maritime and inland container terminals optimize container movements as well as the deployment of corresponding equipment in real time. They allow an optimized utilization of all resources and an on-schedule transshipment of transport units. As the software combines various optimization modules, it can be individually adjusted to the needs of terminal operators and seamlessly integrated with an existing TOS. From fully automated terminals to terminals using straddle carriers – via intelligent optimization algorithms, as well as through efficient use of space, each of the individual optimization modules contributes to gaining the competitive edge:

YARD OPTIMIZER

The Yard Optimizer provides an optimized allocation of load units within the premises of a container terminal. The module controls all different storage areas or types of yards as well as different container types (e.g. empties, reefer or hazardous goods) and centrally balances the utilization of yard capacity.

Advantages:

- minimized re-handlings of containers,
- minimized distances between delivery and loading point,
- best possible utilization of available storage area.

CRANE OPTIMIZER

The Crane Optimizer assigns crane work orders dynamically among all available cranes and sequences these for each crane on duty in an optimized way. Each optimization run takes specific events into account, e.g. a completion of a load unit move, new available work orders or status changes of a crane. A special handling of the rates at which the cranes operate (velocity, acceleration etc.) and the distribution of ready and upcoming work orders enable the module to cope with peak scenarios while still meeting schedules.

Advantages:

- minimized crane empty travel,
- minimized crane equipment changes,
- minimized external truck waiting times at the crane area.

VEHICLE OPTIMIZER

The Vehicle Optimizer assigns each transport order to the best suitable vehicle in real time. It considers all ready transport orders and the available fleet (straddle carriers, reach stackers, tractors, trailers etc.) while proposing an optimized sequence of these orders among the vehicles on duty. Both, the optimization of manned and of automated vehicles involve travel minimization and pooling of equipment. Above all, optimizing automated equipment does not only mean job allocation. It also takes route planning into account.

Advantages:

- minimized empty travelling of vehicles,
- increased capacity by pooling of vehicles.

TRAIN LOAD OPTIMIZER

The Train Load Optimizer provides an optimized slot for load units that have to be loaded onto an outgoing train and determines the pin configuration while minimizing the operational burden of the terminal. The module supports the train load process both at its initial planning phase and during the execution phase in real time.

Advantages:

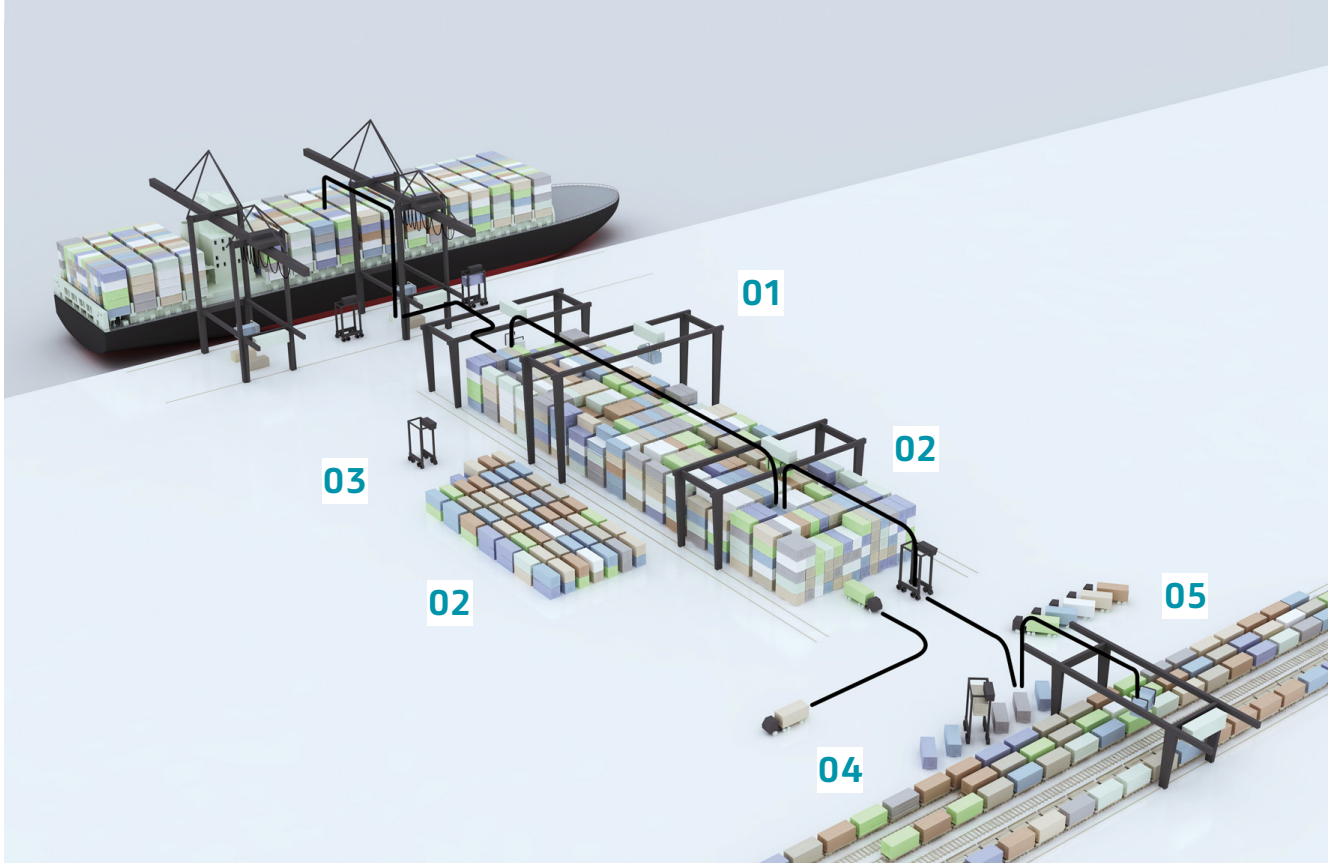
- maximized number of load units loaded onto a train,
- minimized load distances,
- minimized number of pin configuration changes.

TRUCK SCHEDULER

The Truck Scheduler provides optimized sequences of handling points for each truck arriving at the terminal. It is called upon at the arrival of a truck at the terminal's entry gate. Physical constraints, such as unloading a slot before loading it again, are taken into account.

Advantages:

- minimized truck cycle times by
- minimized truck waiting times and
- minimized location changes for trucks.



Added value with **SyncroTESS – Optimization Modules**: extraordinary customer service and low costs in one package, regardless of whether handling ULCS or smaller vessels.

01 INCREASE EFFICIENCY

Automated CHE (Container Handling Equipment): Optimized job assignment and routing leads to higher performance.

02 LOWER OPERATING COSTS

Container storage: Through the intelligent selection of storage areas, resources and storage positions are used more efficiently. Rehandlers will be minimized by optimized stacking.

03 ACHIEVE MORE WITH LESS

Manned CHE will be more evenly loaded thanks to the optimized handling of orders in real time. The distance travelled will be reduced significantly. Pooling of vehicles will release extra capacity.
Environmental benefits: CO₂ emissions will be reduced by using CHE more efficiently.

04 INCREASE SPEED

Staging area: Transport chains will be optimized via intelligent linking from staging and waiting areas to storage areas.

05 SAVE TIME AND MONEY

Shipment by rail: Planning of train loads is optimized.
Shipments by rail and sea: Handling orders for loading and unloading trains and ships are optimized in real time.

SYNCHRONIZING INSTEAD OF ORGANIZING

ADVANCED OPTIMIZATION

INFORM specializes in Advanced Optimization Software to improve planning and operational decision making. Integrating with almost every existing IT landscape, these systems render a wide range of business processes more productive, agile, and reliable.

Globally, more than 500 business analysts and software engineers, originating from more than 30 nations, provide systems to more than 1,000 customers. Solution deployment is turn-key, including individual customization, on-site consulting, go-live assistance, and perpetual 24/7 support.

REFERENCES



More information

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