SOLVO
THE SMARTER ALTERNATIVE

TRANSPORT EVENTS

Cost-effective management of container, break-bulk, Ro-Ro terminals and warehouses using information technologies

Dan Pershin,
Head of Marketing, SOLVO

About SOLVO

Who we are:

SOLVO – one of the leading providers of high-end supply chain execution solutions to help optimize port, terminal and warehouse logistics .

Years active:

20

Number of employees:

145

Number of completed projects:

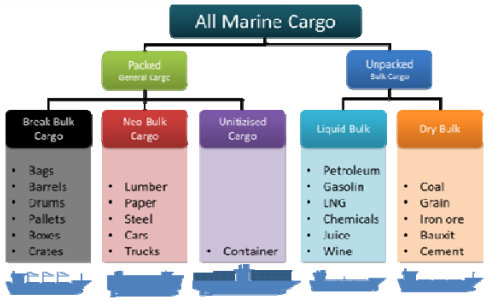
207 (end of 2015)

Among customers:

About SOLVO

Developed first WMS and TOS in the Pos-Soviet space in the 1990s

70% of all container in Russia is processed by Solvo.TOS



Solutions for container, break-bulk, Ro-Ro and multi-purpose

International certification

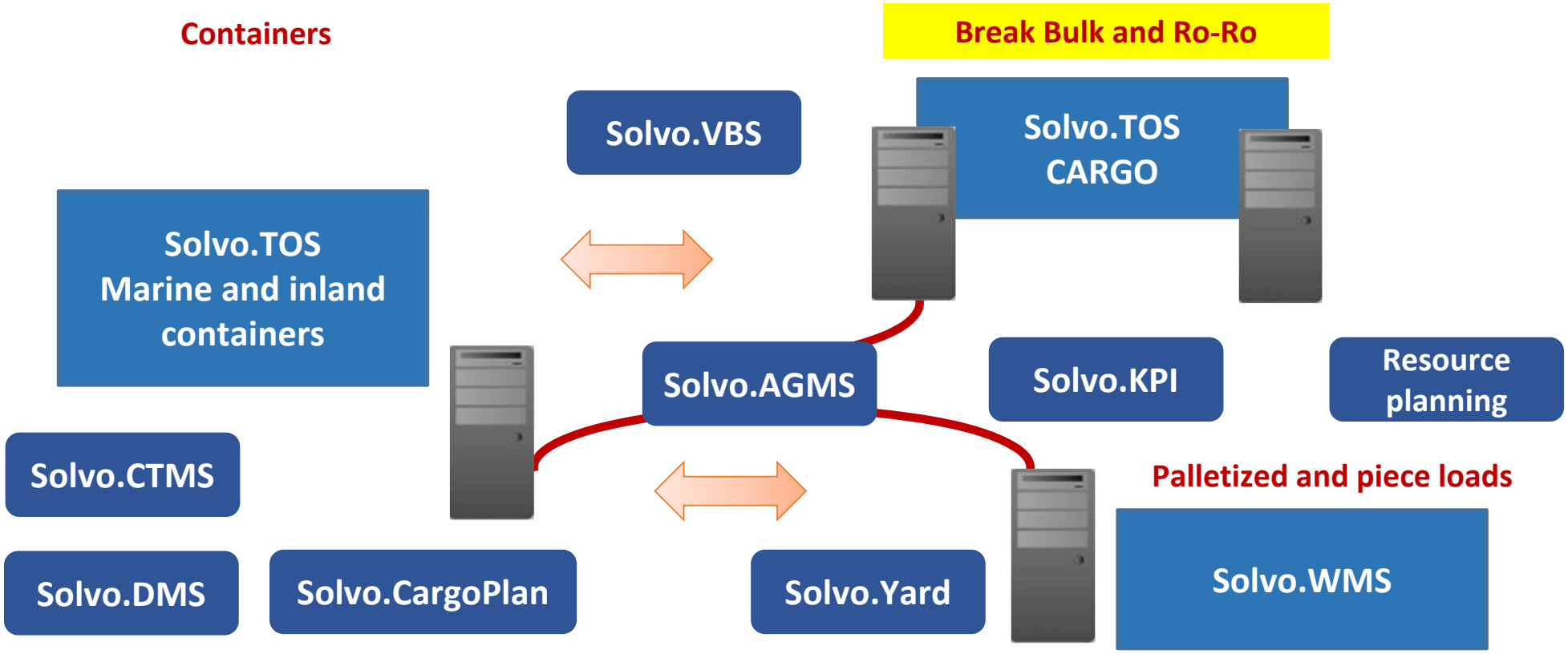
+

20 years

200+ projects

50+ worldwide partners

Our solutions



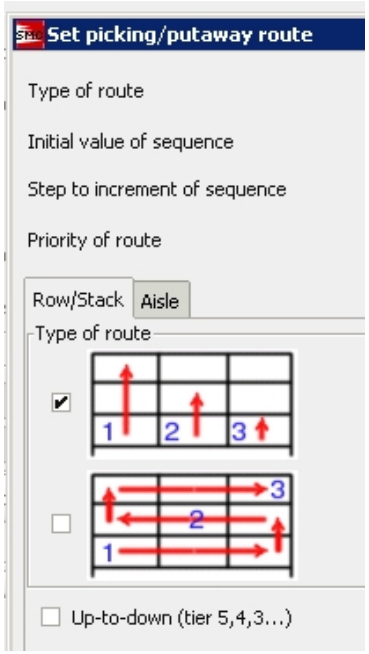
Core technologies

Automatic identification

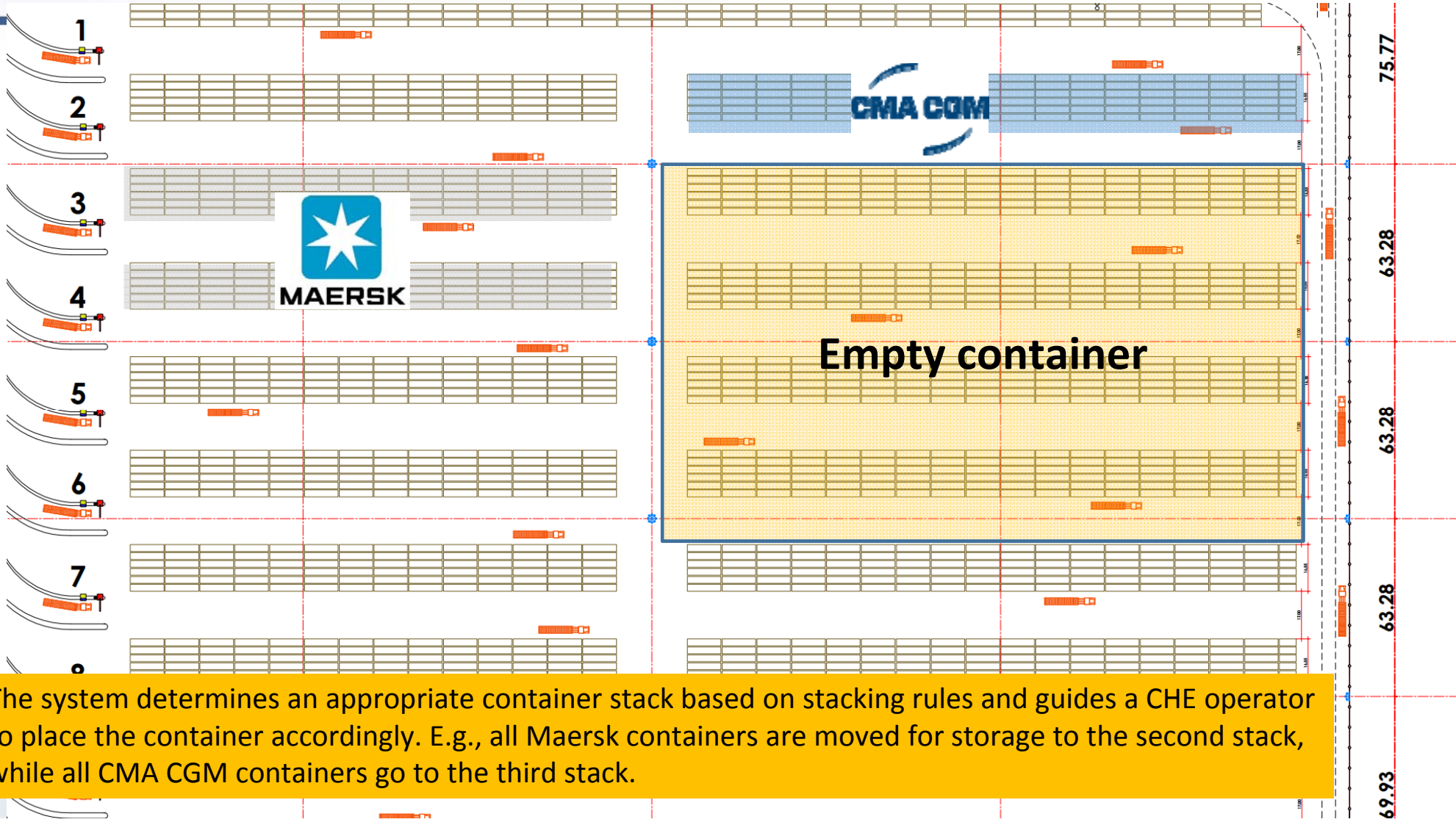
Address-based storage

Remote management of personnel

Business intelligence



BI: dynamic stacking rules

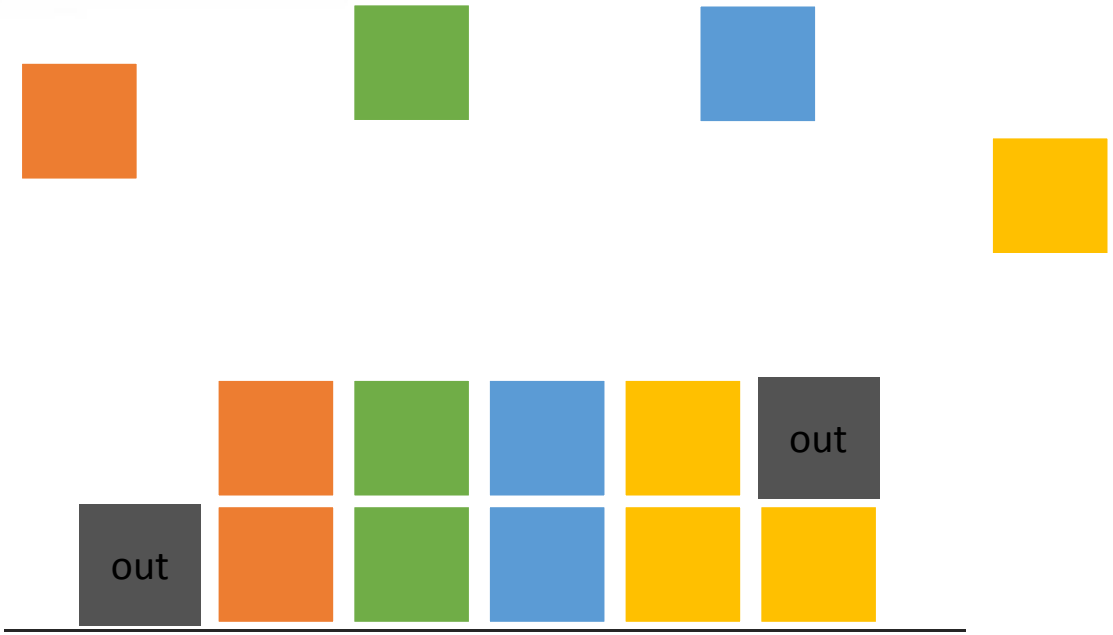


The system determines an appropriate container stack based on stacking rules and guides a CHE operator to place the container accordingly. E.g., all Maersk containers are moved for storage to the second stack, while all CMA CGM containers go to the third stack.

Dynamic stacking strategies

The specific location in a stack is chosen by the system in accordance with stacking strategies. For example, unoccupied locations at the lowest tier are taken first.

Housekeeping and reduction of rehandles

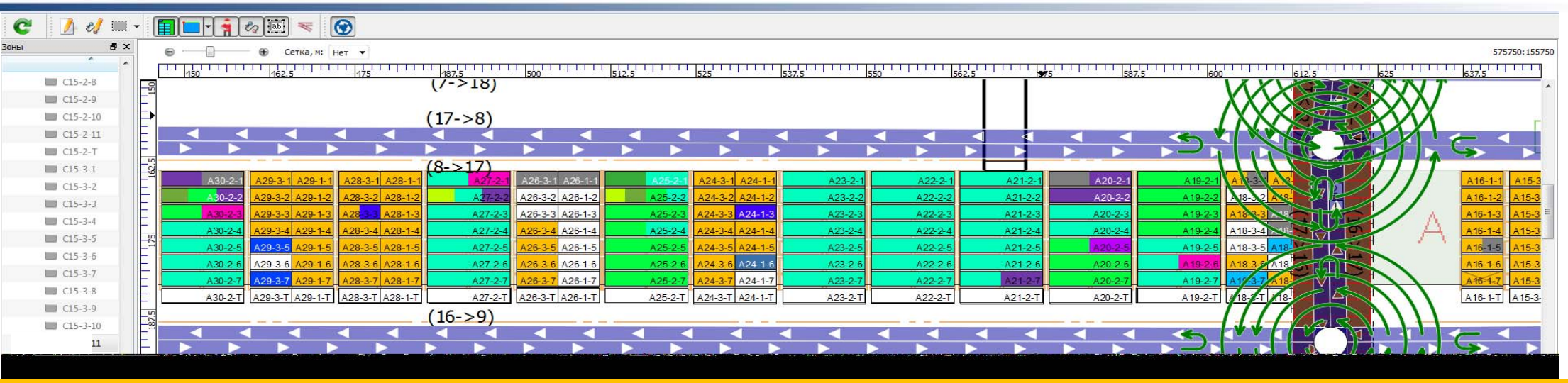


Number of rehandles reduces on average by 25%

A reduction in the amount of moves is achieved thanks to:

- Address-based storage at the yard
- Dynamic stacking rules and strategies.
- Forecasting of container arrival/departure
- Housekeeping instructions

Layout viewer and editor

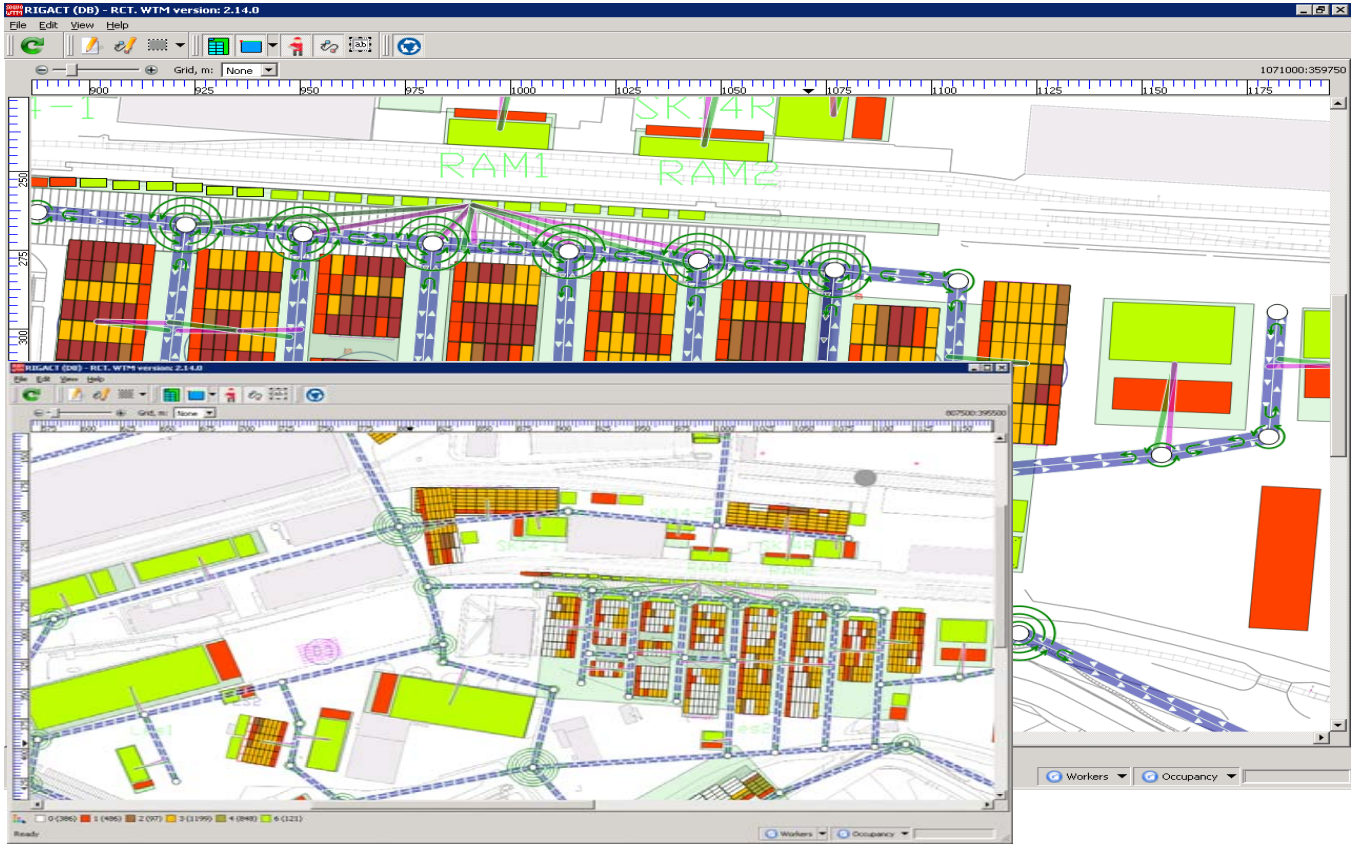


The container terminal layout can be viewed and managed in real time using a built-in interactive layout viewer and editor allowing to:

Fully describe the multilevel topology: establish a tree of terminal location, group and zone occupancy

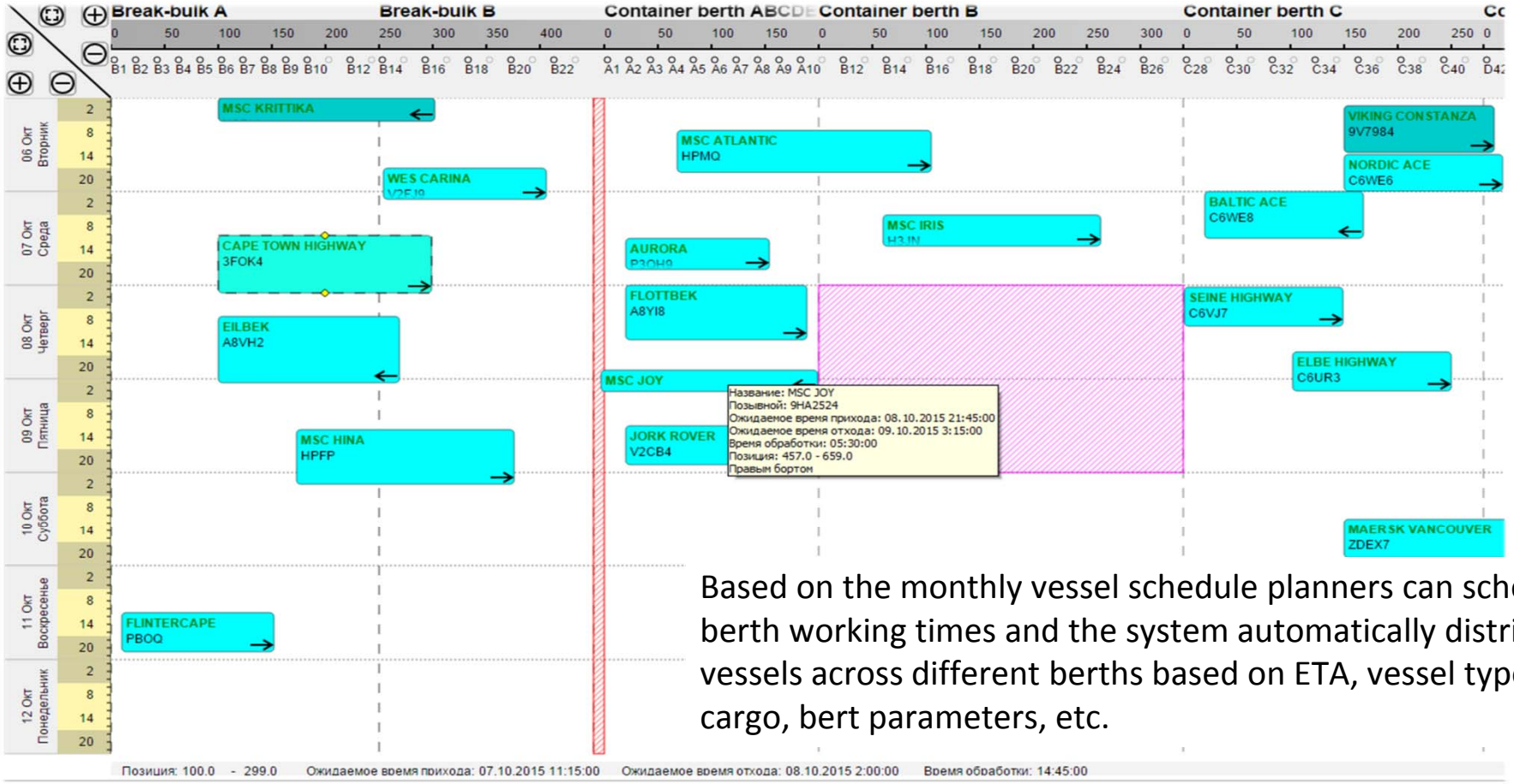
- Display, edit the position of terminal objects
- Monitor the actual level of terminal occupancy in real time
- Monitor worker movements in the terminal in real time
- Find various objects in the terminal layout and much more

CHE/MHE routing and pooling



- The system analyzes the available data about the road network of the terminal and builds the optimal route for a CHE;
- The entry of road data is carried out through the roads editor function - part of the Real-time terminal layout viewer and editor;
- The user defines the key check-points, permitted turns and delays.
- The user can also then set the availability of a stack for processing from a selected road.

Berth planning



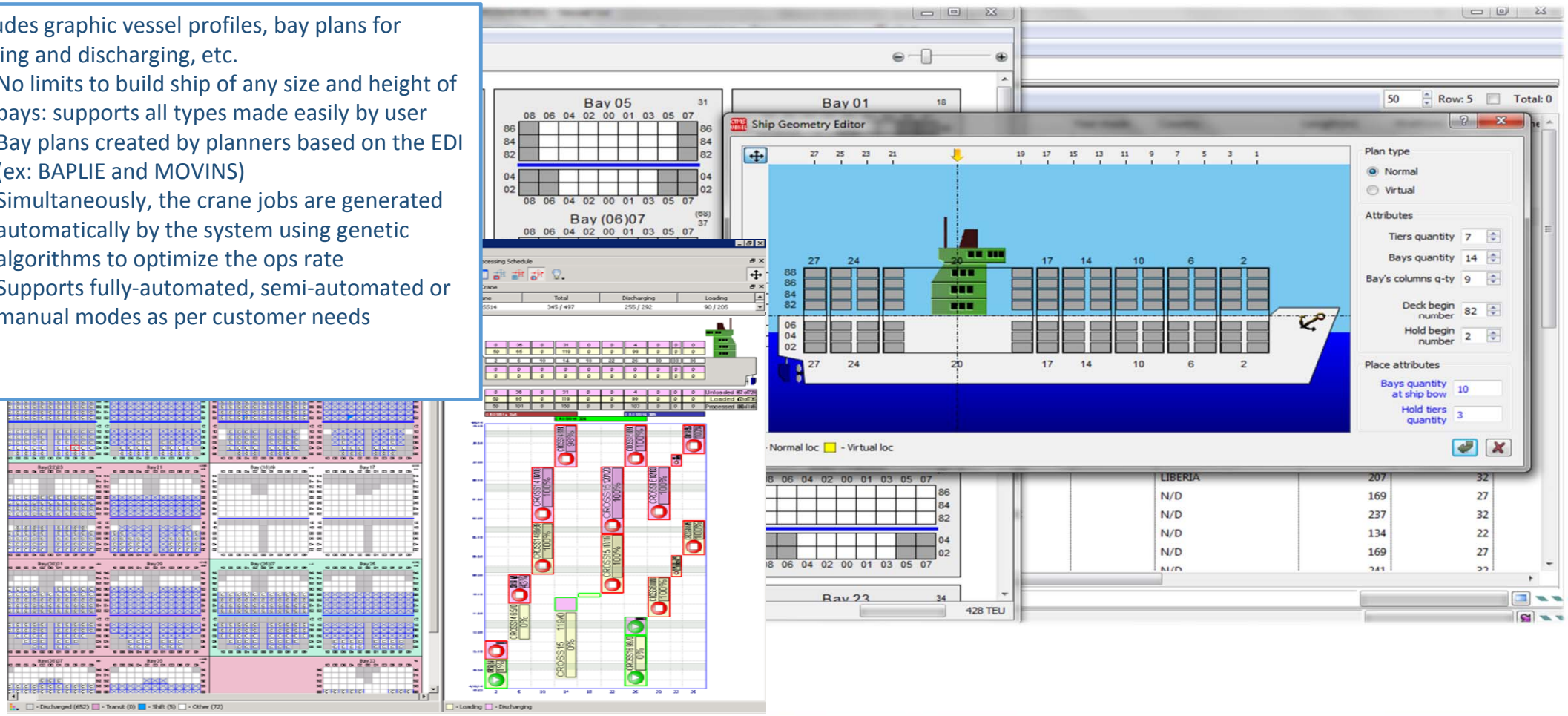
Based on the monthly vessel schedule planners can schedule berth working times and the system automatically distributes vessels across different berths based on ETA, vessel type, cargo, bert parameters, etc.

Forwarder send an EDI message to the terminal operator which is automatically processed by TOS.
E.G COPARN - transport order booking. The message contains preliminary info about the arriving containers and vehicles.

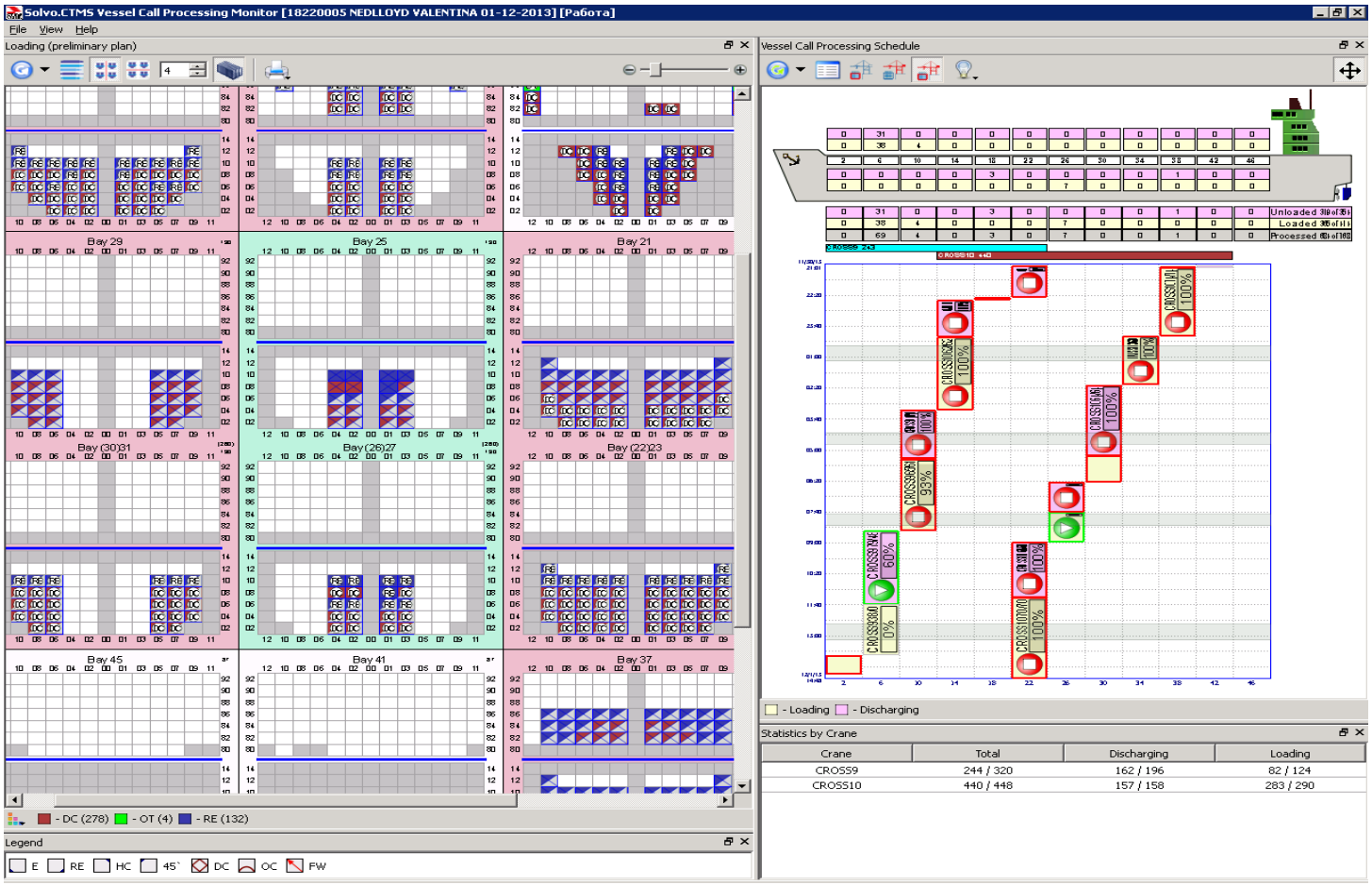
Integrated load/discharge planning applications

Includes graphic vessel profiles, bay plans for loading and discharging, etc.

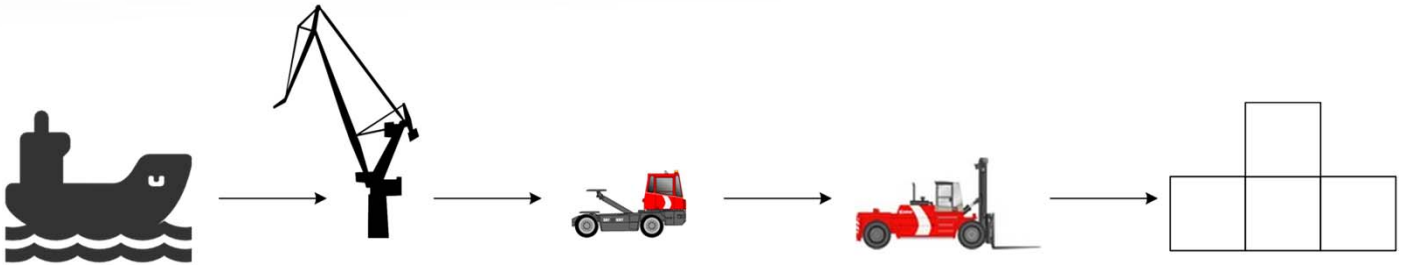
- No limits to build ship of any size and height of bays: supports all types made easily by user
- Bay plans created by planners based on the EDI (ex: BAPLIE and MOVINS)
- Simultaneously, the crane jobs are generated automatically by the system using genetic algorithms to optimize the ops rate
- Supports fully-automated, semi-automated or manual modes as per customer needs



Integrated load/discharge planning applications



Resource planning

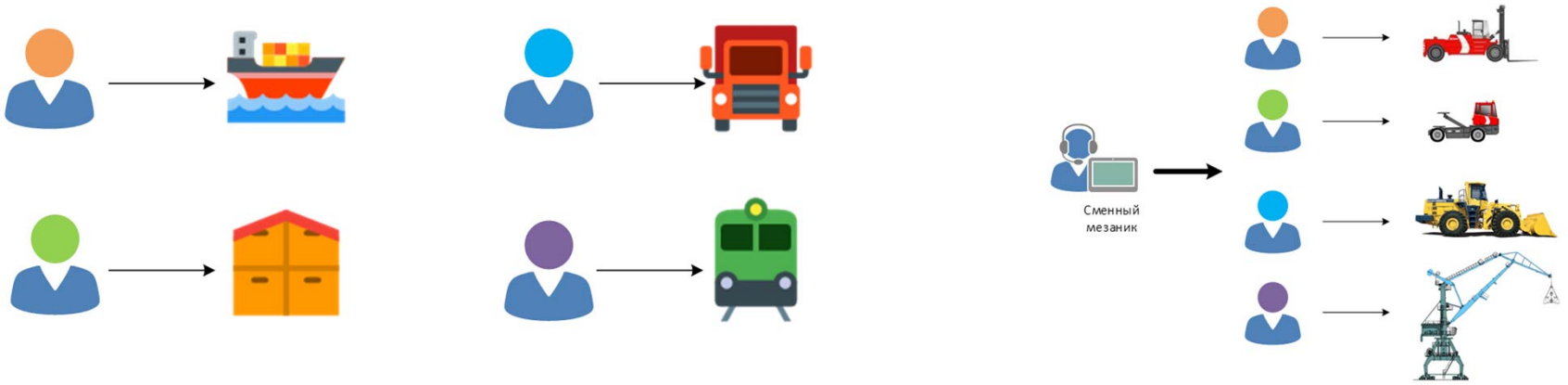


Day-shift planning

Shifts

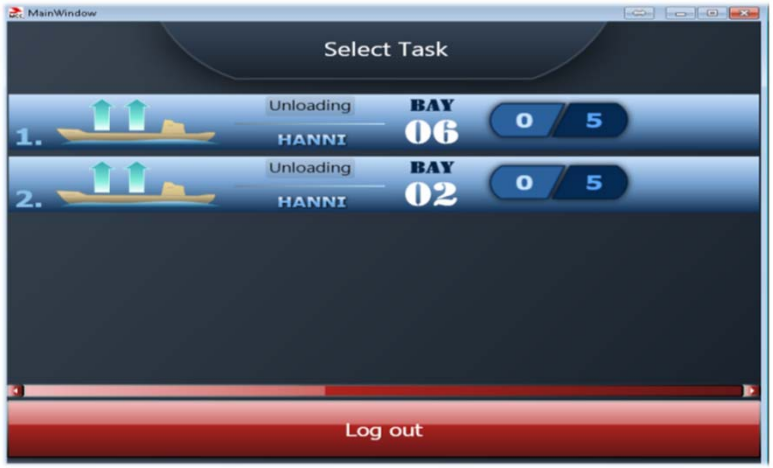
Work-orders

Resource allocation and control



Workstations for CHE operators

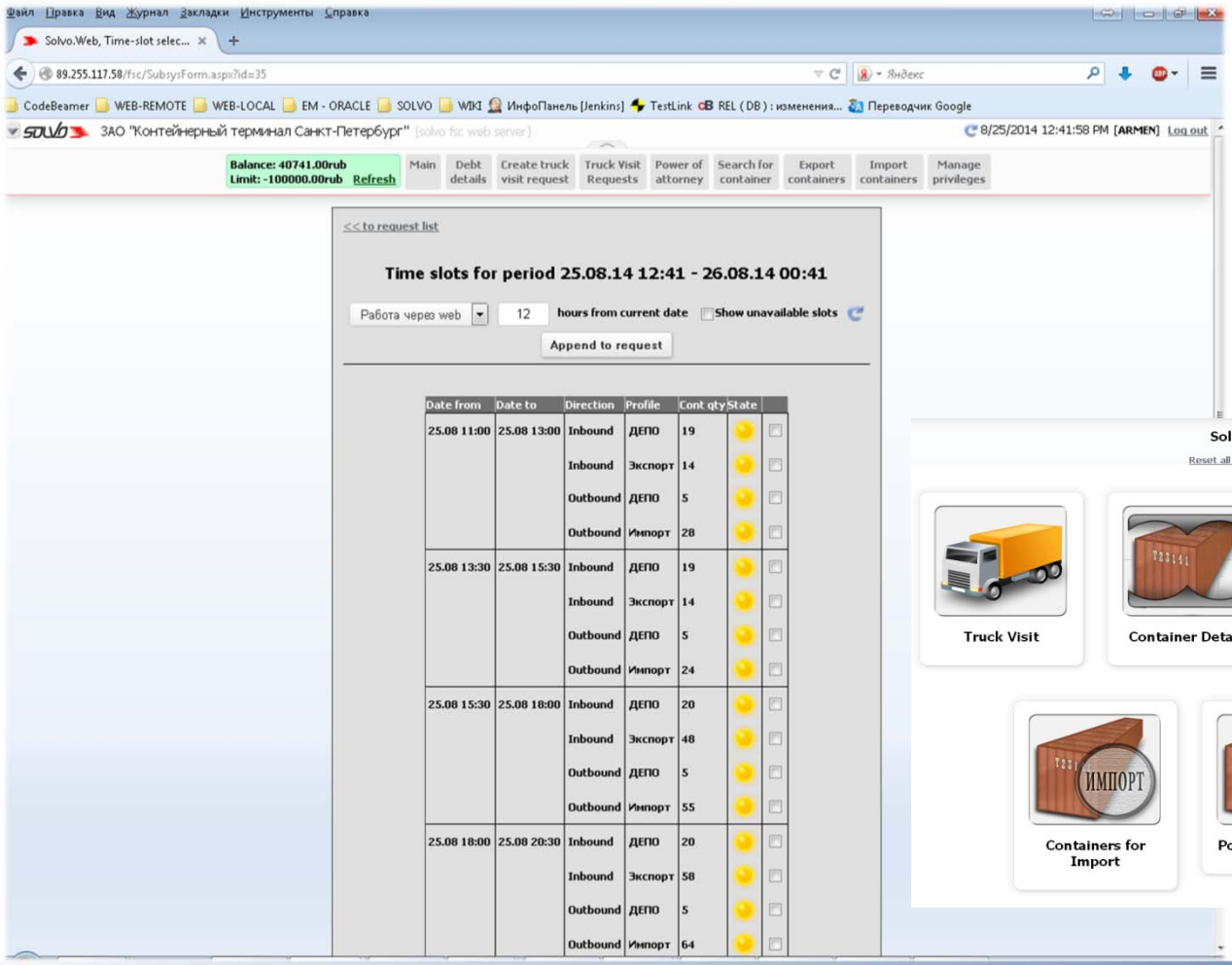
STS operator's workstation



Increased productivity for STS

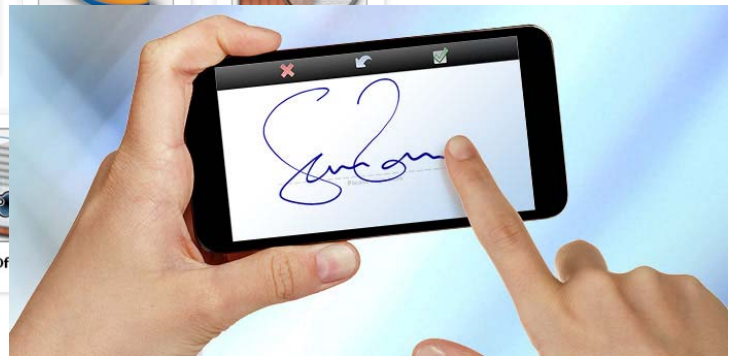
5%

VBS: Truck scheduling and truck visit requests



The system automatically creates time slots (duration - 2 hours) available for truck visits.

Via Solvo WEB portl cargo-forwarders can send truck visit requests to the terminal and select the available slot. Each time slot is determined by the maximum number of trucks (by category), which can be processed during the time assigned.



Gate optimization

MainWindow

CONTAINER TERMINAL SAINT-PETERSBURG

11:52

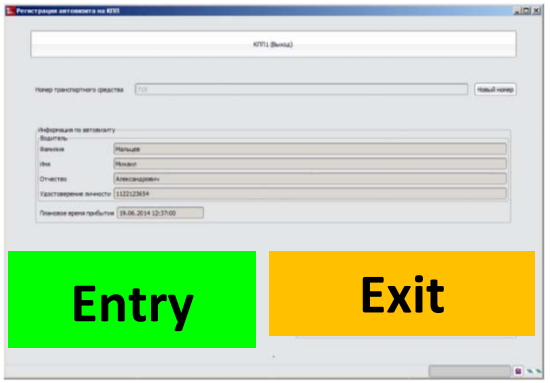
Processing

Time slot	Status
11:00 - 13:00	Processing
13:30 - 15:30	Standby

plate number	window	Status
B088PK98	2	Processing
B351PT178	3	Invitation

Standby

plate number	duration	plate number	duration	plate number	duration
B782OK178	4 min.	B638BO178	28 min.		
K499HT190	4 min.	A844CO35	32 min.		
B969MM178	8 min.	У027СР78	32 min.		
H790PP178	8 min.	B457TP98	36 min.		
M597MC178	12 min.	B072EO178	36 min.		
T706XY47	12 min.	O932PT178	40 min.		
K049TB178	16 min.	B806KA98	40 min.		
У687КЕ78	16 min.	P910KX47	44 min.		
B070OE178	20 min.				
H356TC178	20 min.				
B935BP178	24 min.				
B156CB178	24 min.				

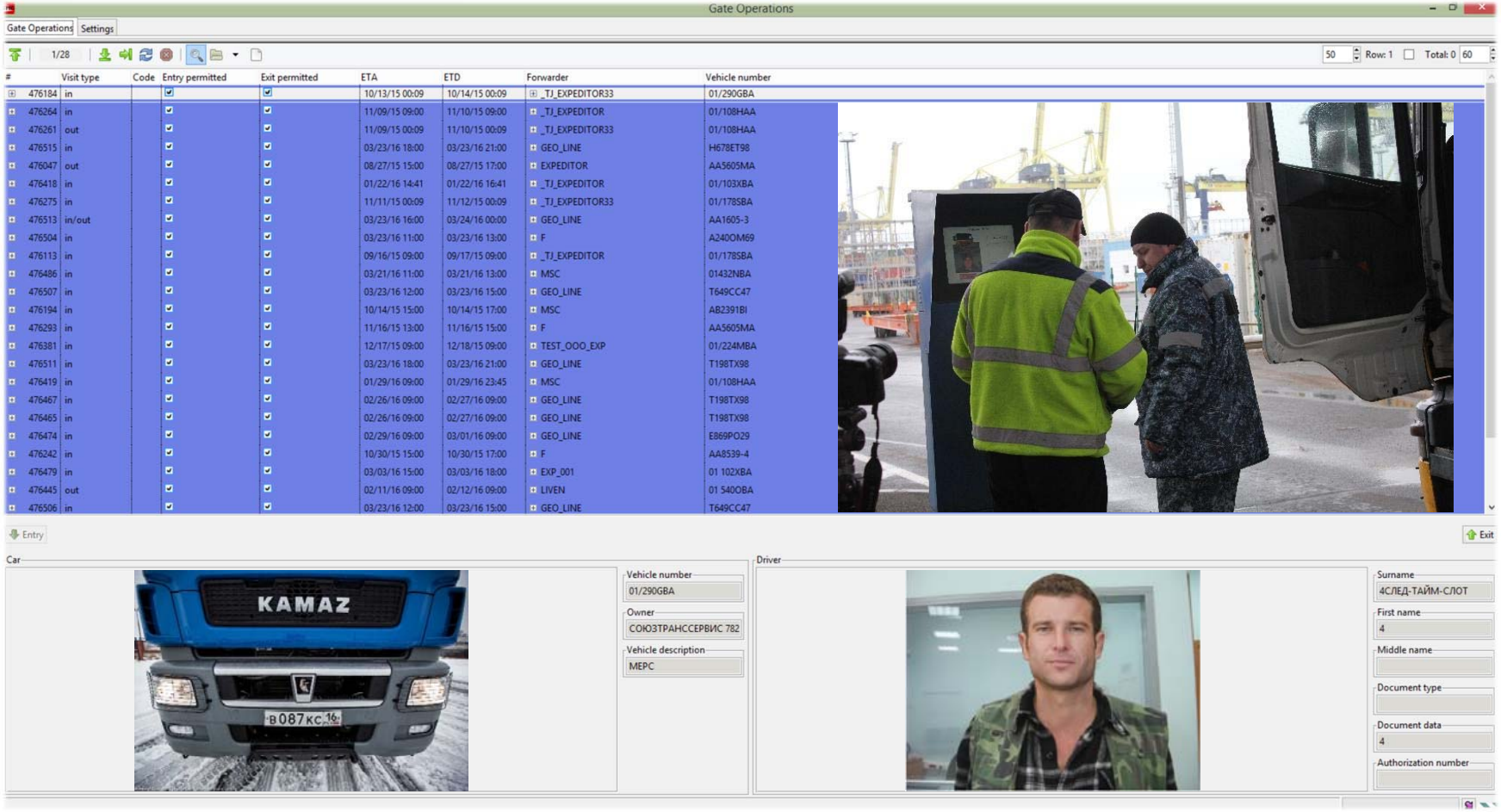


7% Reduction of rehandles

30% Truck turnaround time is reduced

Automated identification: containers

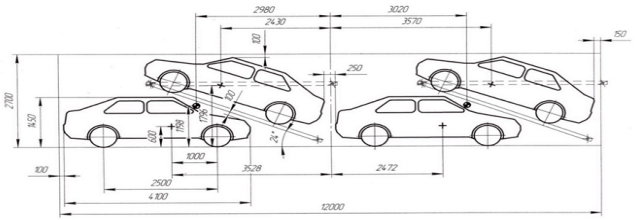
Gate security

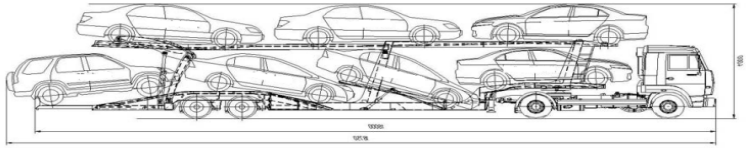


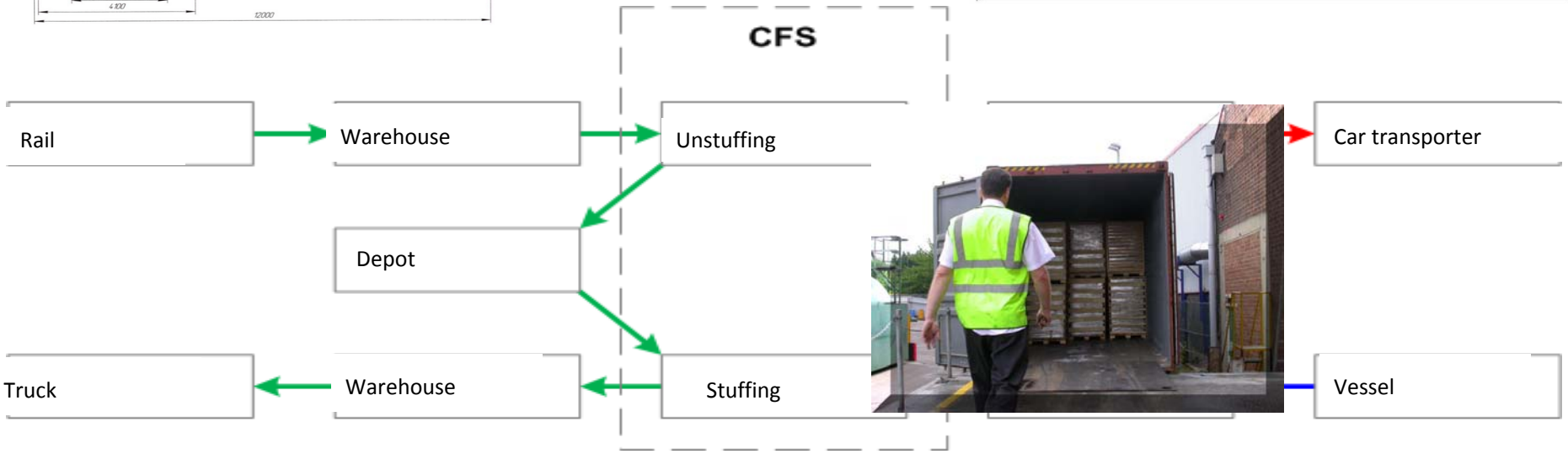
The gate security guard makes sure the truck driver's ID and plate number are sync with the initial info in TOS. If OK the driver is permitted to enter the gate. Data comparison can be done via RDT, PC or self-service kiosk.

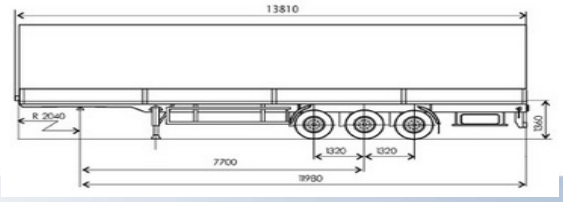
Load ID labels and RFID tags

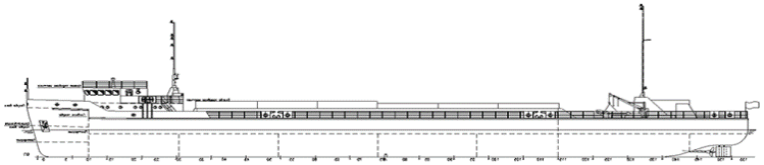
CFS operation







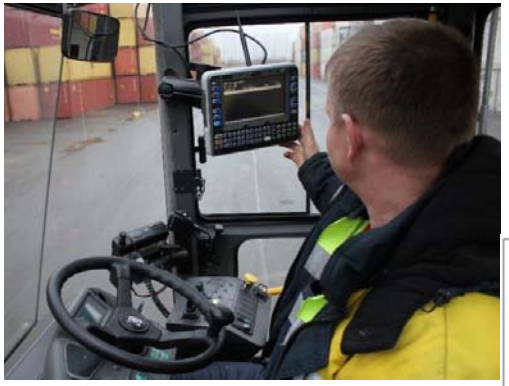




Container Weighing

Weighing management

Automated container delivery



Weighing registration

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Creation of weighing documents

TOS disables vessel container loading without VGM

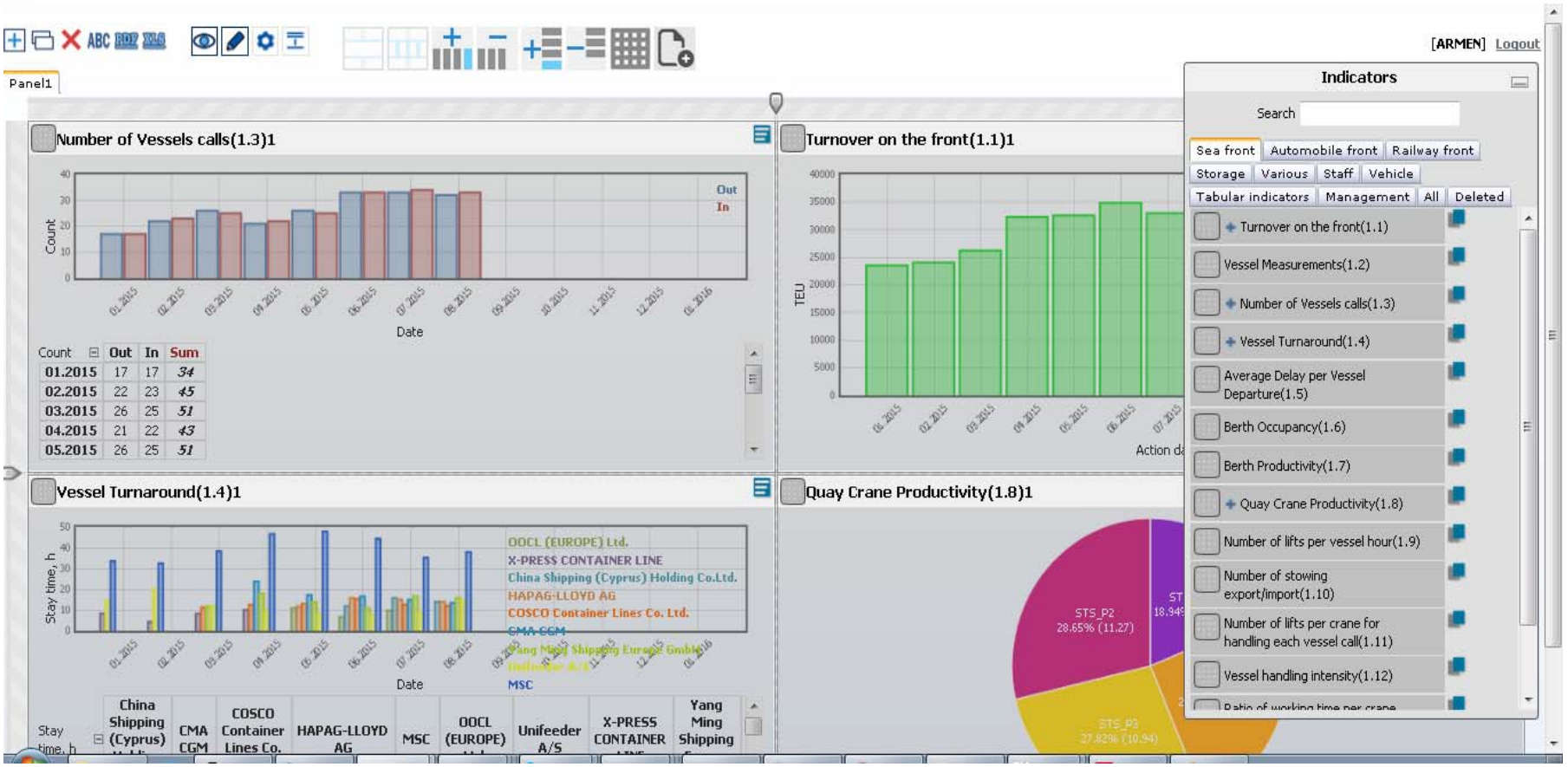
Solvo.TOS blocks delivery and loading of container onto the vessel without VGM data

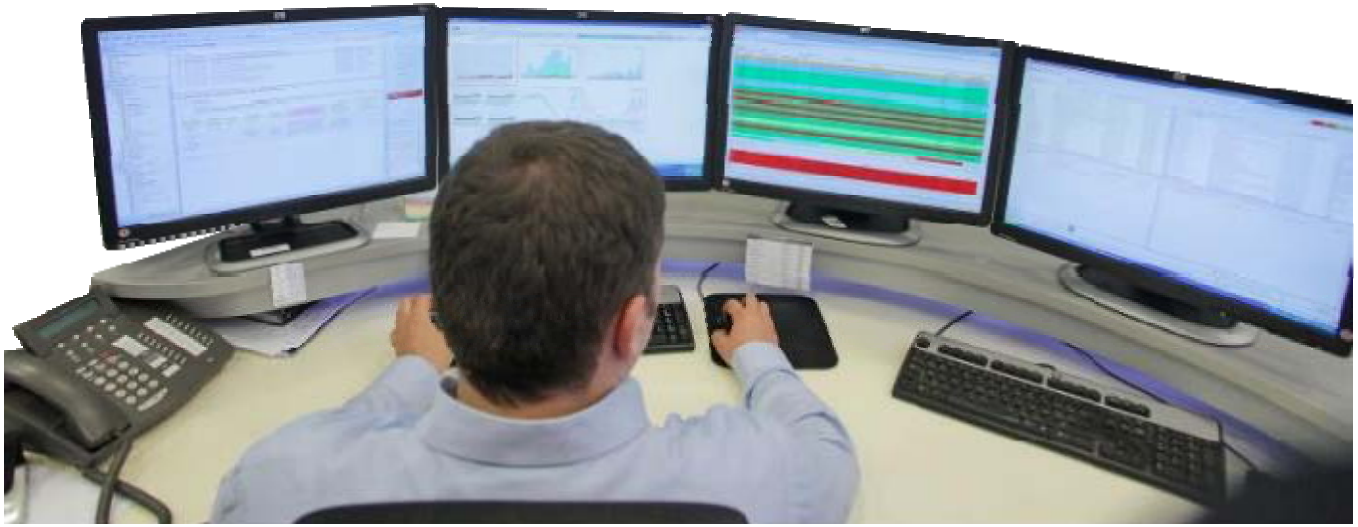
RFID: “Smart shelves”

“Smart shelves” or racks equipped with RFID antennas.

- Racks are made from a special dielectric material to shield from radio signals.
- **Smart shelf technology makes it possible to automatically record staging and load grabbing events in the WMS, while freeing up the hands of the operator.**

KPI dashboards





The smarter alternative

www.solvosys.com

Our stand: #9