SOLVO
THE SMARTER ALTERNATIVE

5TH BLACK SEA PORTS & SHIPPING 2016

Special aspects of terminal management using TOS and other technologies in certain Black Sea ports

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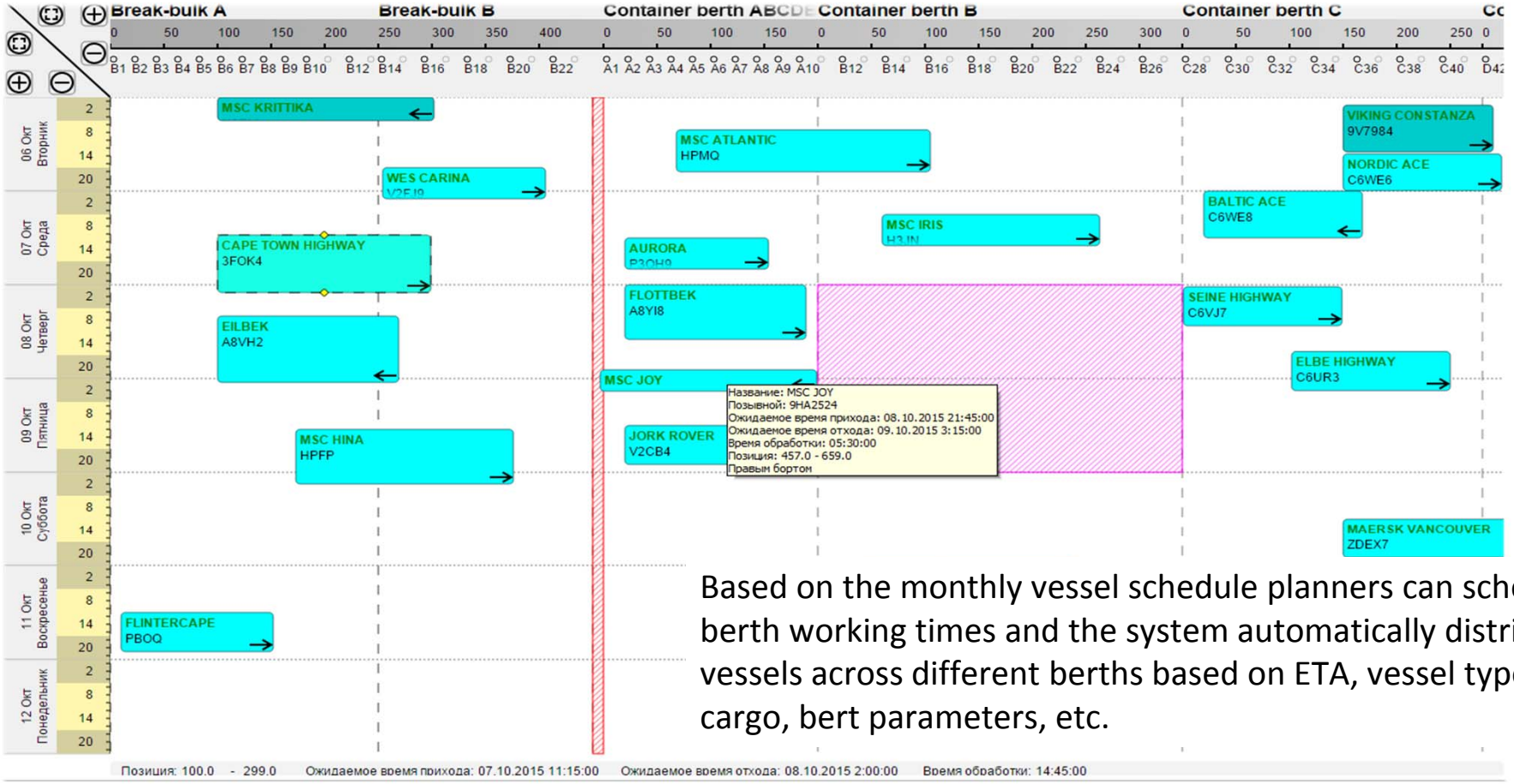
Russian Black sea port trends 2015

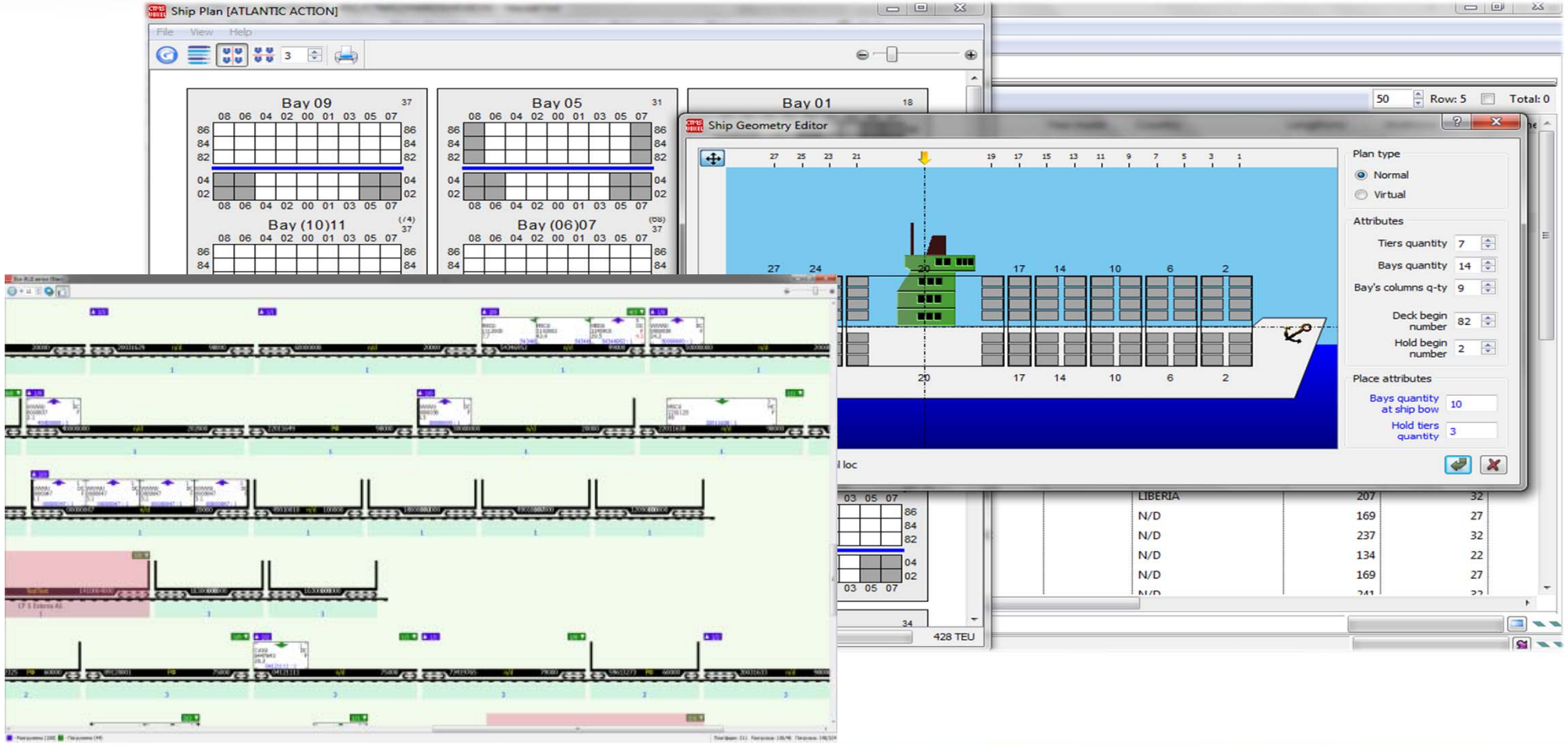
- **Container turnover in Russia decreased by 25,4% to 3,94 mln TEU**
- **Container exports fell by 28,4%, imports – by 28,5%**
- **Black sea region – 20% reduction**
- **Trend: 1/3 of all cargo turnover is handled by Black sea ports**
- **Future trend: by 2030 Black sea ports share will exceed 400 mln tonns per year (2 times increase)**

Berth planning application

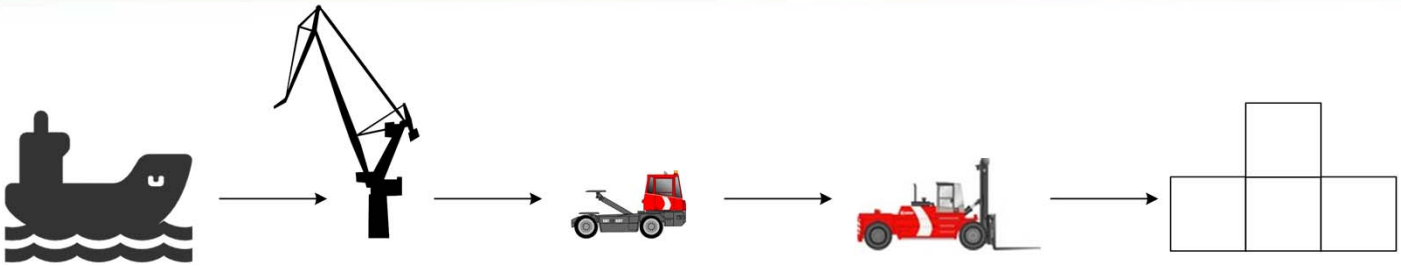


Based on the monthly vessel schedule planners can schedule berth working times and the system automatically distributes vessels across different berths based on ETA, vessel type, cargo, bert parameters, etc.

Integrated load/discharge planning applications



Resource planning

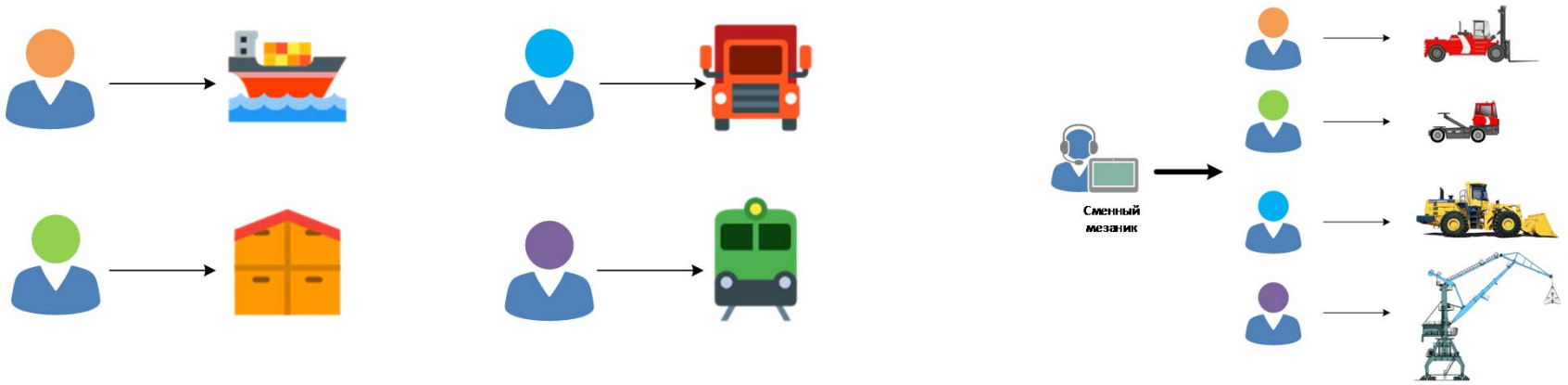


Day-shift planning

Shifts

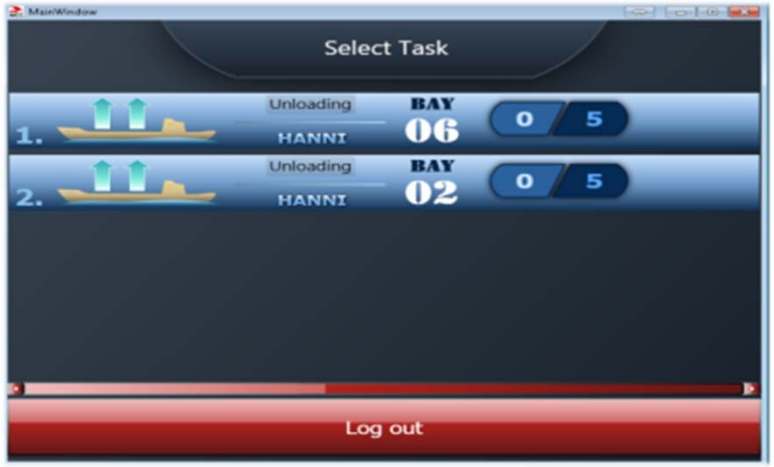
Work-orders

Resource allocation and control



Workstations for CHE operators

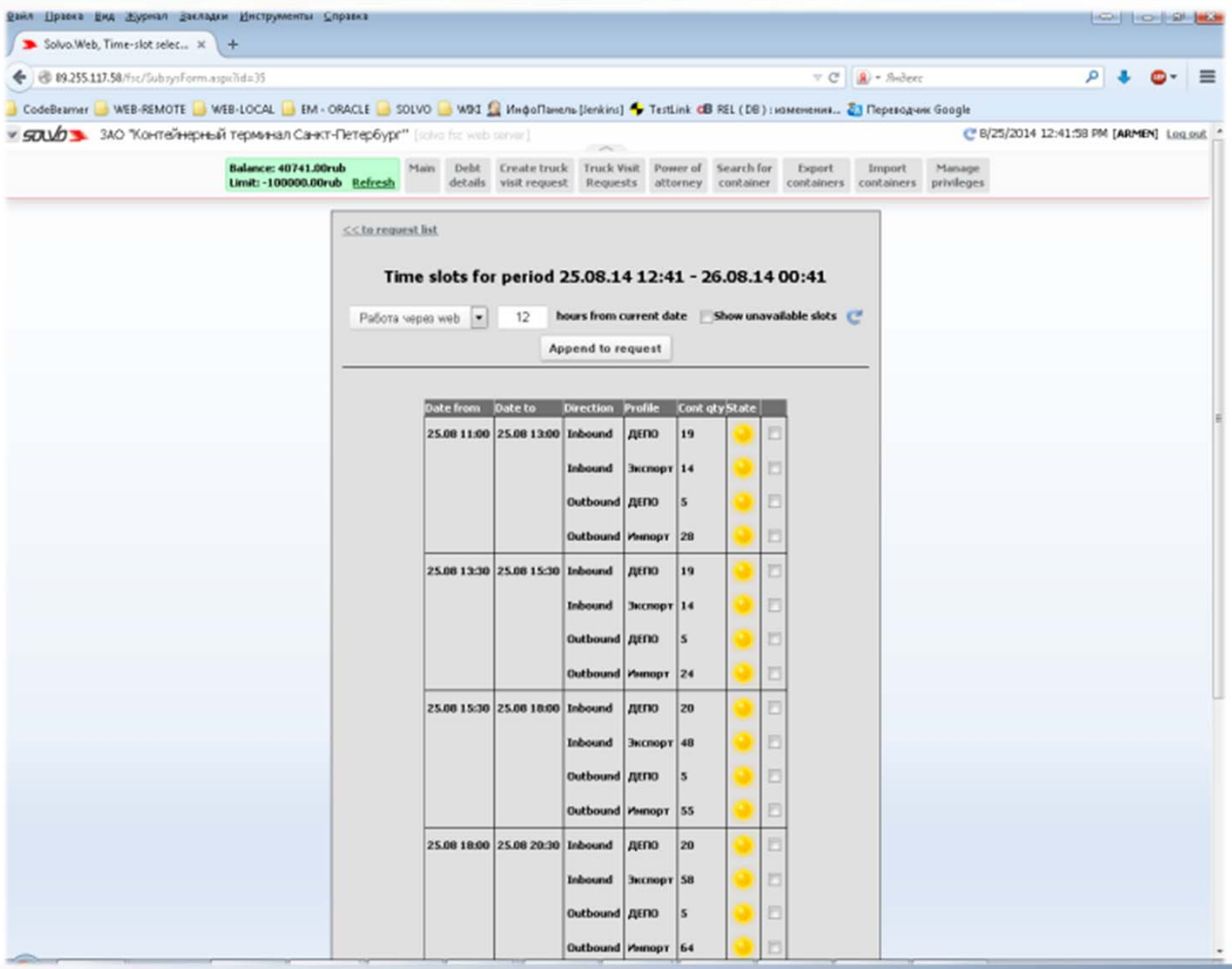
STS operator's workstation



Increased productivity for STS

5%

Truck scheduling and truck visit requests



The remote access allows to grant remote access to the System via the Internet (or local terminal network) e.g. for viewing reference information about terminal operations/ orders/vessel calls, etc. and is available to the shipping line agents and forwarders.

Gate optimization

MainWindow

CONTAINER TERMINAL SAINT-PETERSBURG

11:52

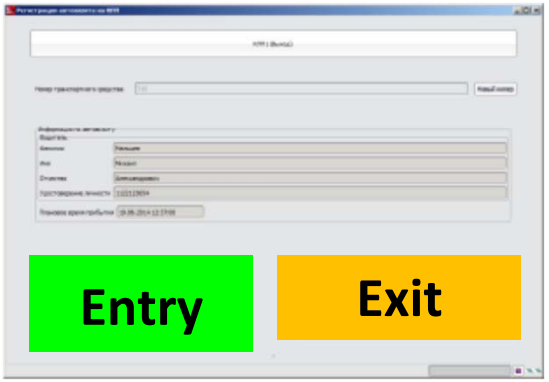
Processing

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.		
T706XУ47	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.				



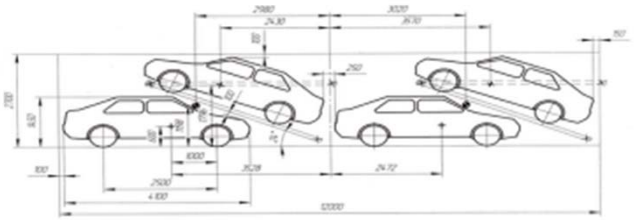
Automated identification: containers

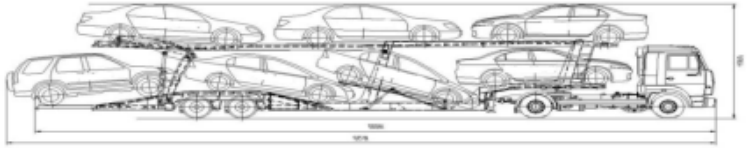
Automated identification: break-bulk and Ro-Ro

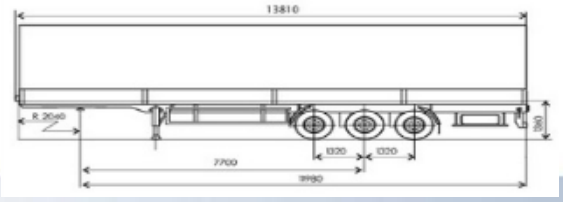
C2487

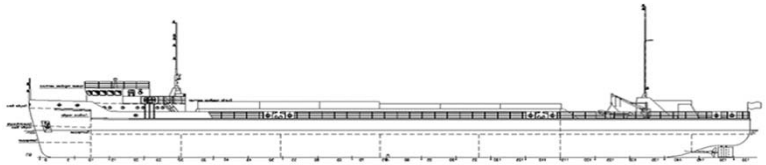
C2487

CFS operation









CFS

Rail

Warehouse

Unstuffing

Car transporter

Depot

Truck

Warehouse

Stuffing

Vessel

Container Weighing

Weighing management

Automated container delivery

Weighing registration

Creation of weighing documents

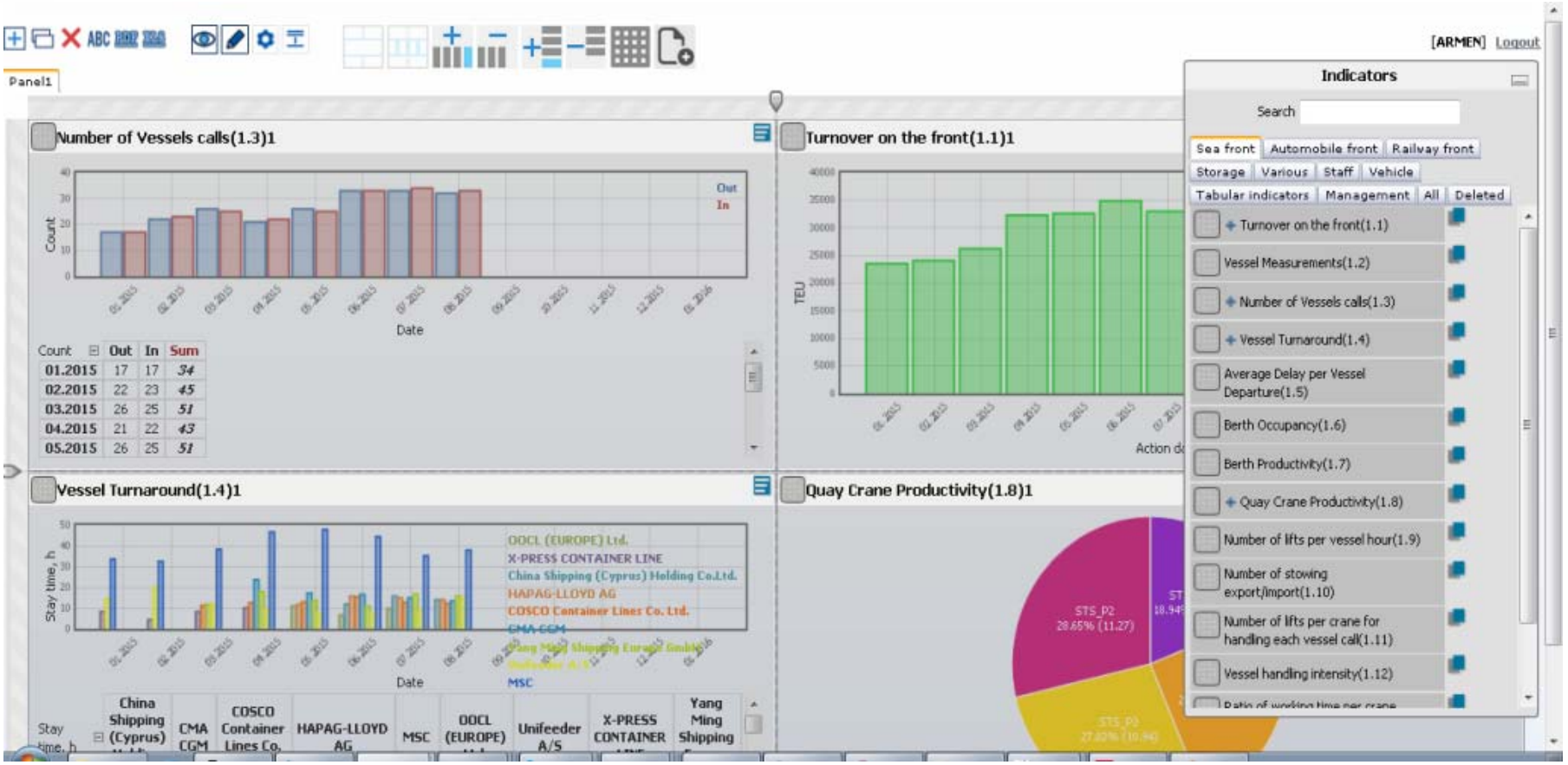
VGM Module

- Receiving and accounting of VGM data at container terminal;
- Automated VGM data check;
- Electronic exchange of VGM data with container transport parties;
- Automated weighing of containers at the terminal to determine VGM at various container processing stages;
- Creating vessel loading plans with consideration of VGM data;
- Blockage of loading containers onto a vessel without VGM data;

TOS disables vessel container loading without VGM

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

KPI dashboards



Case: Novorossiysk Container Terminal NMPT group

The total container flow in 2015 was **200,000 TEU**.

Infrastructure:

Area: 10 ha

Berth:

- Length – 200 m
- Draught – 9.5 m

Open-air storage area: 37,800 m^2

Equipment:

2 mobile cranes

TTs and reachstackers

Tally-clerk efficiency

Checks seals and registers containers via RDT interface.

- Real-time registration and elimination of errors
- Increased transparency.

Address-based storage

Time to find the required container reduced by

90%

- Address is appointed automatically
- Logging and history of all container moves
- Reduction of container theft risks
- Significant reduction in time for finding the right container
- Reduction of rehandles

Container tracking in the storage area

With introduction of dynamic stacking according to the configurable business rules and strategies the number of reshuffles and rehandles was reduced significantly.

Sorting volumes reduced on average by

25%

- Preliminary planning
- Optimized stacking to ensure maximum productivity
- Smart container grouping by type (empty, full, IMDG class, cargo type, shipping line, etc)

SOLVO.TOS at “Brooklyn-Kiev” Container Terminal, Odessa, Black sea

Case study:

Terminal Specifications

Length - 232 m (overall length of Berths No. 42, 43 - 480 m)
Throughput – 250 000 TEU
Draft at the quay- 13.5 m
Approach channel draft – 14 m
Terminal area – 45 000 m2
Yard capacity - 5,700 TEUs
Reefer container plugs – 328 x 40’

Equipment

- 2 loaders for empty containers
- 7 reach-stackers (45 T)
- 2 twin-lift RTG post-Panamax “ZPMC cranes
- 11 Terberg tractors equipped with semi-trailer

The challenge

- Need to increase overall competitiveness and terminal’s attractiveness for customers and investors
- Real-time access to all the data and ensure process transparency
- Global IT strategy to push the company further towards a full-scale process automation at the container terminal

Results

- Integration with the existing port management information system
- Automatic weighing support
- Large revolving workforce, specifically, operators – constant training
- Significant reduction in cargo, vessel and truck turnaround times
- Substantially minimized rehandles during storage

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

20 years

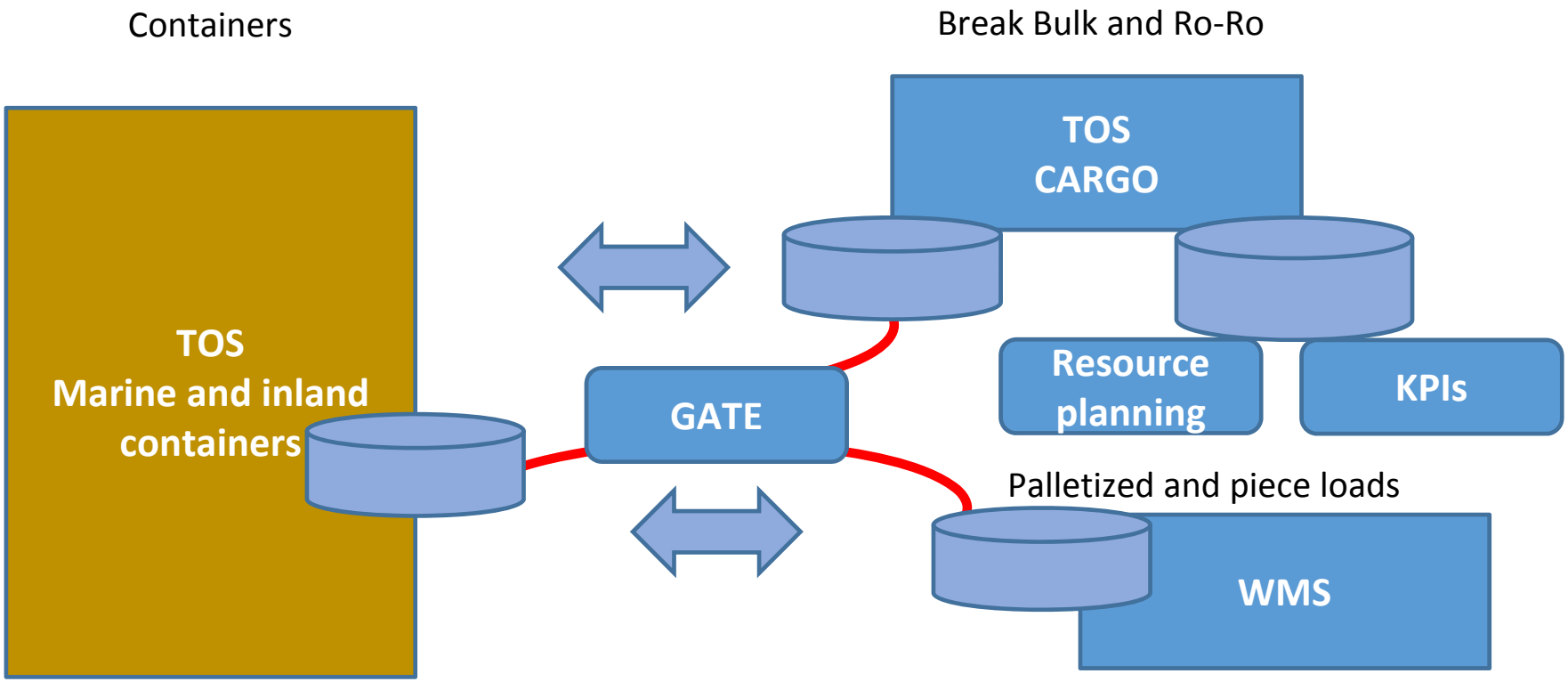
200+ projects

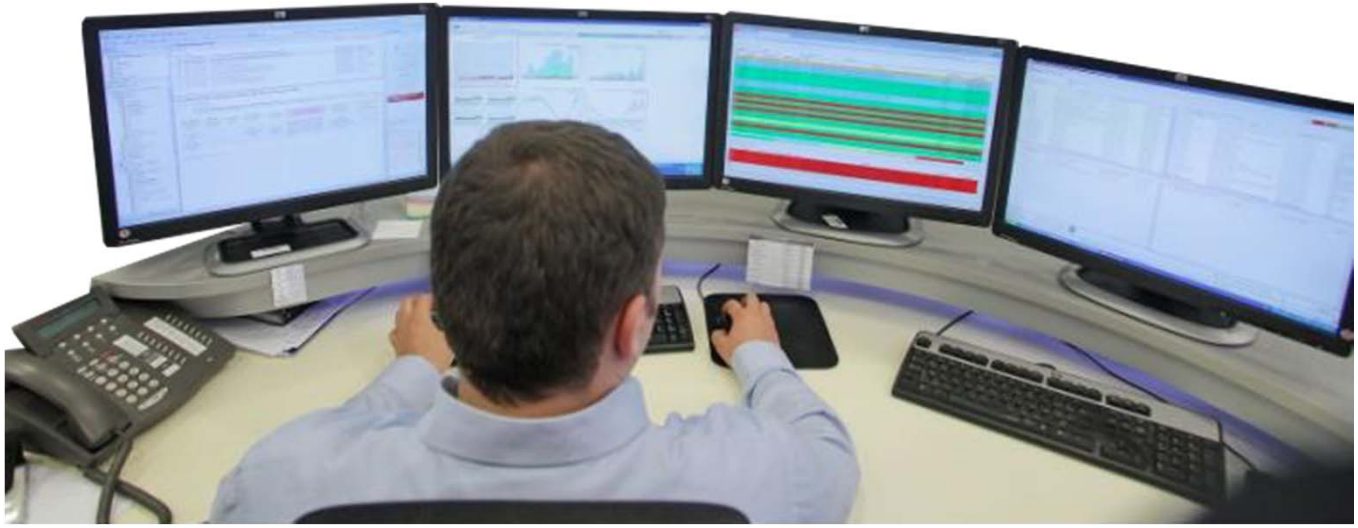
140+ employees

International certification

+

IT systems for port centric





The smarter alternative

www.solvosys.com

Our stand: 55