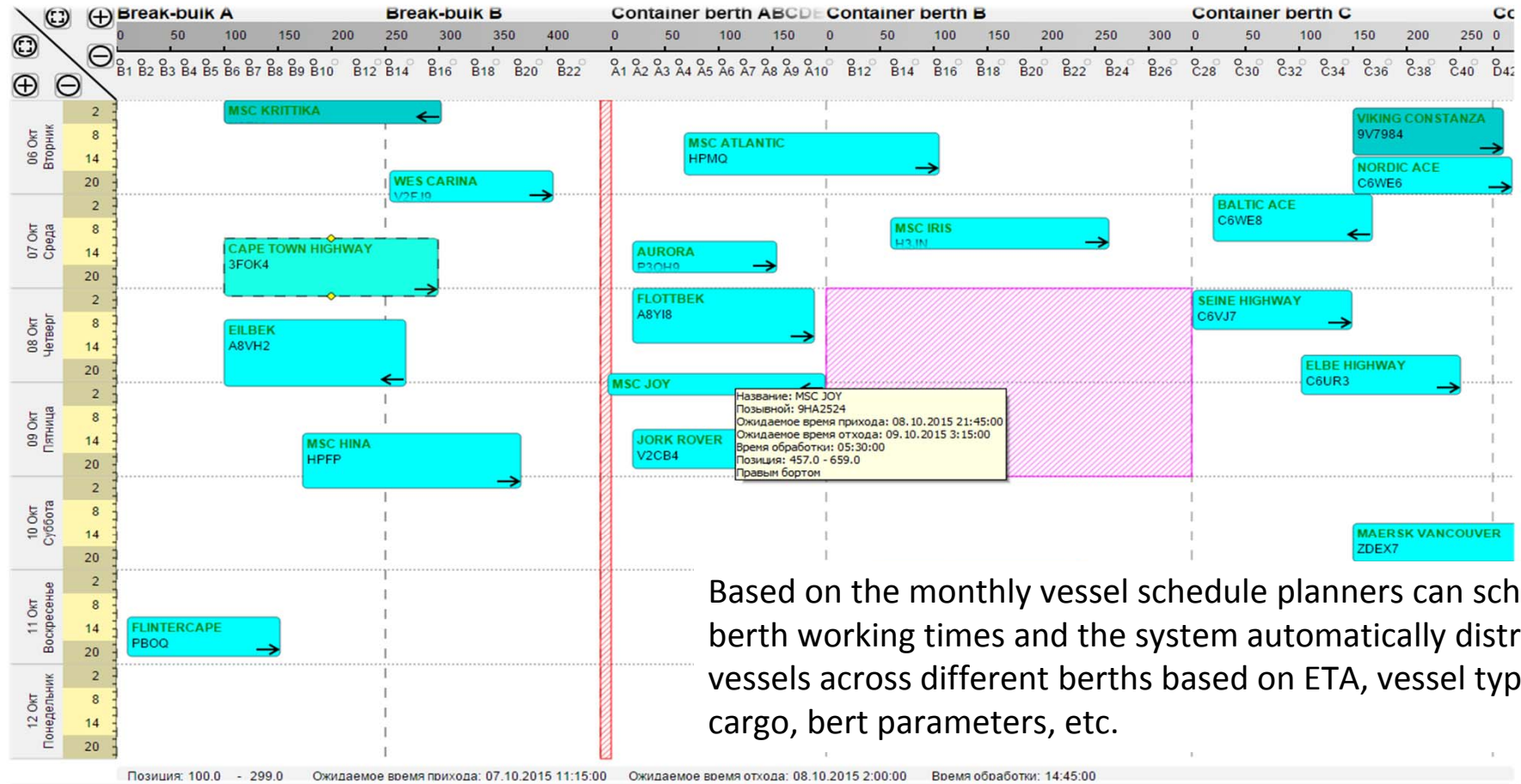


Special aspects of terminal management using TOS and other technologies in certain Black Sea ports

Dan Pershin,
Head of Marketing, SOLVO

- **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)**

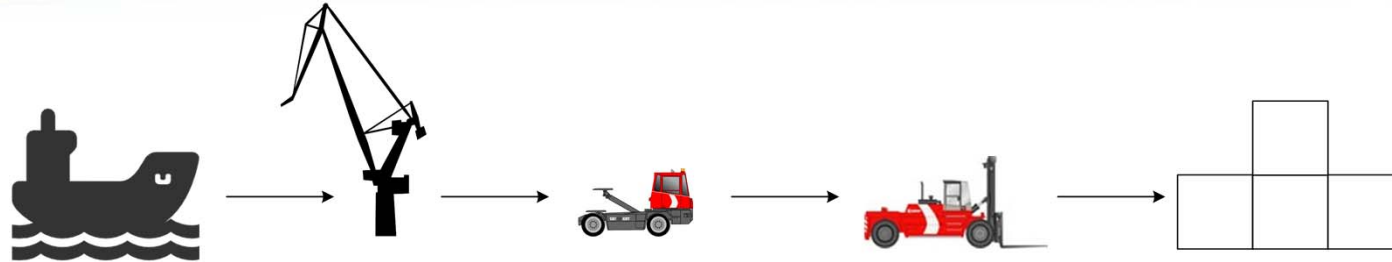


Based on the monthly vessel schedule planners can schedule berth working times and the system automatically distributes vessels across different berths based on ETA, vessel type, cargo, bert parameters, etc.

Integrated load/discharge planning applications

The screenshot displays the SOLVO Ship Plan [ATLANTIC ACTION] software interface. The main window shows a ship's deck layout with various bays (Bay 09, Bay 05, Bay 01, Bay (10)11, Bay (06)07) and a 'Ship Geometry Editor' window. A detailed view of the deck layout is shown in the bottom left, and a data table is visible in the bottom right.

loc	03	05	07		LIBERIA		207	32
	86				N/D		169	27
	84				N/D		237	32
	82				N/D		134	22
	04				N/D		169	27
	02				N/D		241	27
	03	05	07					

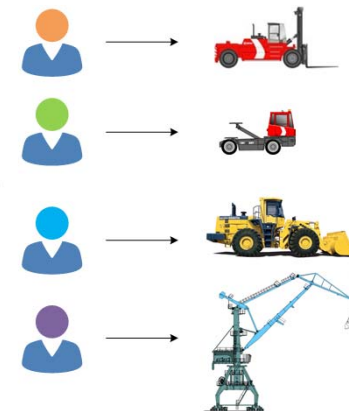
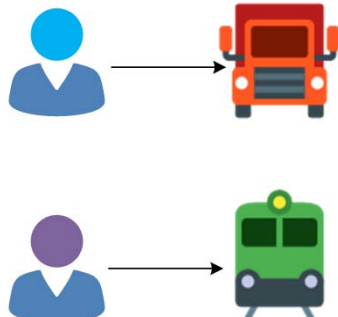
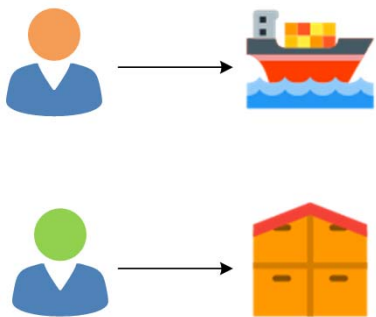


Day-shift planning

Shifts

Work-orders

Resource allocation and control



Cargo Explorer - demo license

المكان المقصود	تاريخ	وصف
K863EK35 09-24-T	09-24-35 (3)	FESU 655613 0 45G1 40' HC F
B067CT36 09-24-T	09-24-36 (4)	CXTU 906214 8 22G1 20' HC F
A574CE36 09-24-T	09-24-36 (2)	CXTU 362191 2 22G1 20' HC F
H738EM36 09-24-T	09-24-36 (1)	PONU 014906 9 45G1 40' HC F
T898ME36 09-24-T	09-24-36 (2)	CAIU 154908 0 45G1 40' HC F
M203ME37 09-24-T	09-24-37 (2)	PACU 160878 1 45G1 40' HC F





Increased productivity for STS

5%

Truck scheduling and truck visit requests

Balance: 40741.00rub
Limit: -100000.00rub Refresh

Main Debt details Create truck visit request Truck Visit Requests Power of attorney Search for container Export containers Import containers Manage privileges

<< to request list

Time slots for period 25.08.14 12:41 - 26.08.14 00:41

Работа через web 12 hours from current date Show unavailable slots

Append to request

Date from	Date to	Direction	Profile	Cont. qty	State
25.08 11:00	25.08 13:00	Inbound	ДЕПО	19	●
		Inbound	Экспорт	14	●
		Outbound	ДЕПО	5	●
		Outbound	Импорт	28	●
25.08 13:30	25.08 15:30	Inbound	ДЕПО	19	●
		Inbound	Экспорт	14	●
		Outbound	ДЕПО	5	●
		Outbound	Импорт	24	●
25.08 15:30	25.08 18:00	Inbound	ДЕПО	20	●
		Inbound	Экспорт	48	●
		Outbound	ДЕПО	5	●
		Outbound	Импорт	55	●
25.08 18:00	25.08 20:30	Inbound	ДЕПО	20	●
		Inbound	Экспорт	58	●
		Outbound	ДЕПО	5	●
		Outbound	Импорт	64	●

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.

Solvo.Web Functions
Reset all filters and settings for tables



Truck Visit



Container Details



Vessel Visit



Containers for Export



Containers for Import



Power Of Attorney



Account Management

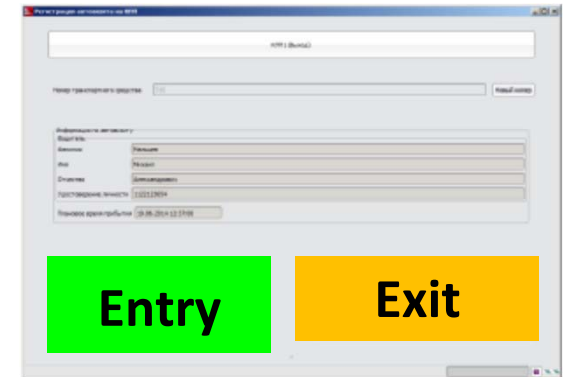


MainWindow

11:52

CONTAINER
TERMINAL
SAINT-PETERSBURG

Processing			Standby					
Time slot	Status		plate number	duration	plate number	duration	plate number	duration
11:00 - 13:00	Processing		B782OK178	4 min.	B638BO178	28 min.		
13:30 - 15:30	Standby		K499HT190	4 min.	A844CO35	32 min.		
plate number	window	Status	B969MM178	8 min.	Y027CP78	32 min.		
B088PK98	2	Processing	H790PP178	8 min.	B457TP98	36 min.		
B351PT178	3	Invitation	M597MC178	12 min.	B072EO178	36 min.		
			T706XY47	12 min.	O932PT178	40 min.		
			K049TB178	16 min.	B806KA98	40 min.		
			Y687KE78	16 min.	P910KX47	44 min.		
			B070OE178	20 min.				
			H356TC178	20 min.				
			B935BP178	24 min.				
			B156CB178	24 min.				



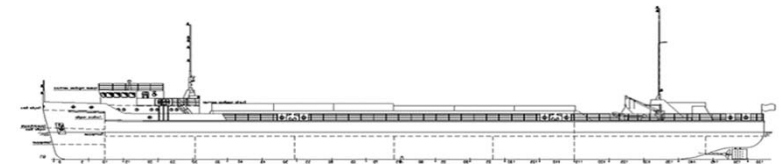
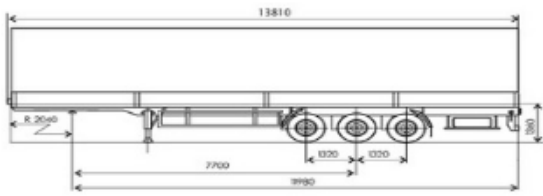
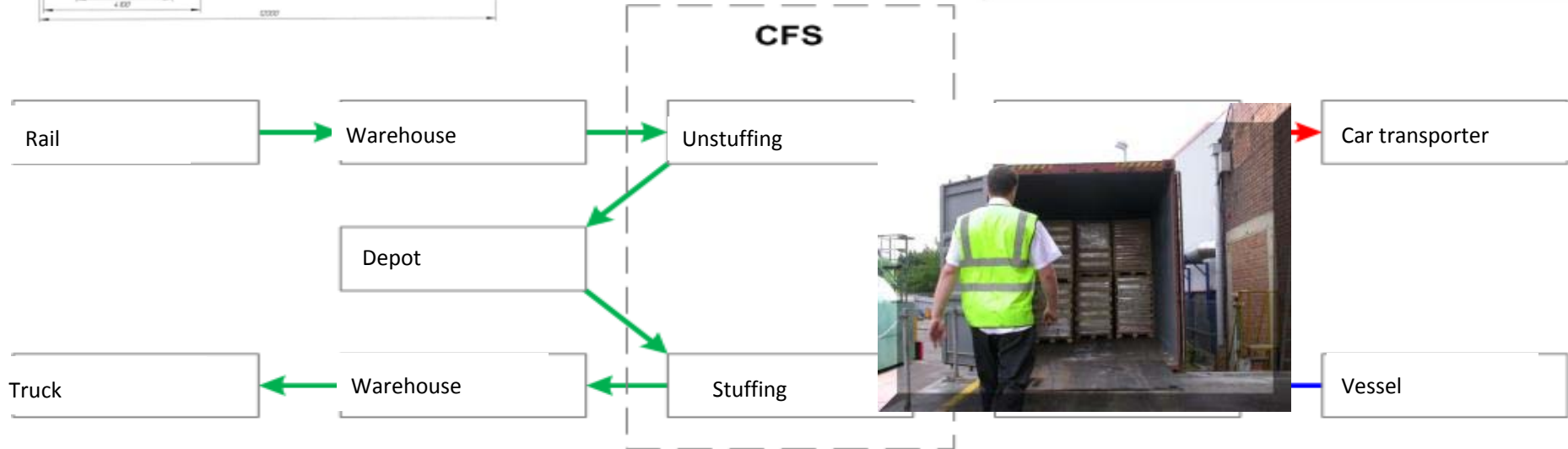
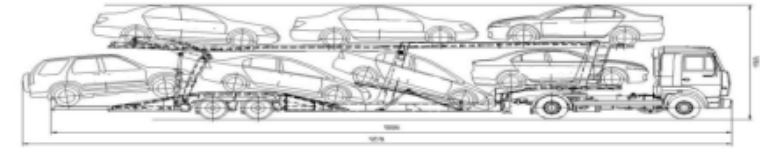
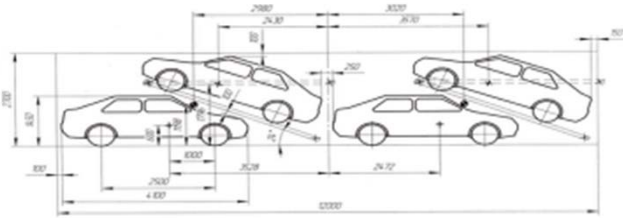
Automated identification: containers



Automated identification: break-bulk and Ro-Ro



CFS operation





Weighing management



Automated container delivery



Weighing registration



Адрес: 2347 2014 10 48 20		
Телефон:		
Факс:		
Акты		
Акт взвешивания N WGT000055 от 10.12.2014 20:09		
Клиент: ООО «Авдас»	Документ № АКТ-00011 от 02.01.2011	Заказ № SH 1170411 от 11.04.2011
Кодировка: SUDC0211248	Тара: 4500 кг	Помещение: 00794872
Тип тары: 40 ББ	Привез на весовы 04.12.2014 г., на платформе ВМ12064 (проездной пропуск)	
Общая масса контейнера с грузом: 32 140 кг.		
Взвешивание произведено на весах ВЗ 104		
Присутствие ОАД «Ивановский карьер» торг. зап.:		Присутствие получателя:

Creation of weighing documents

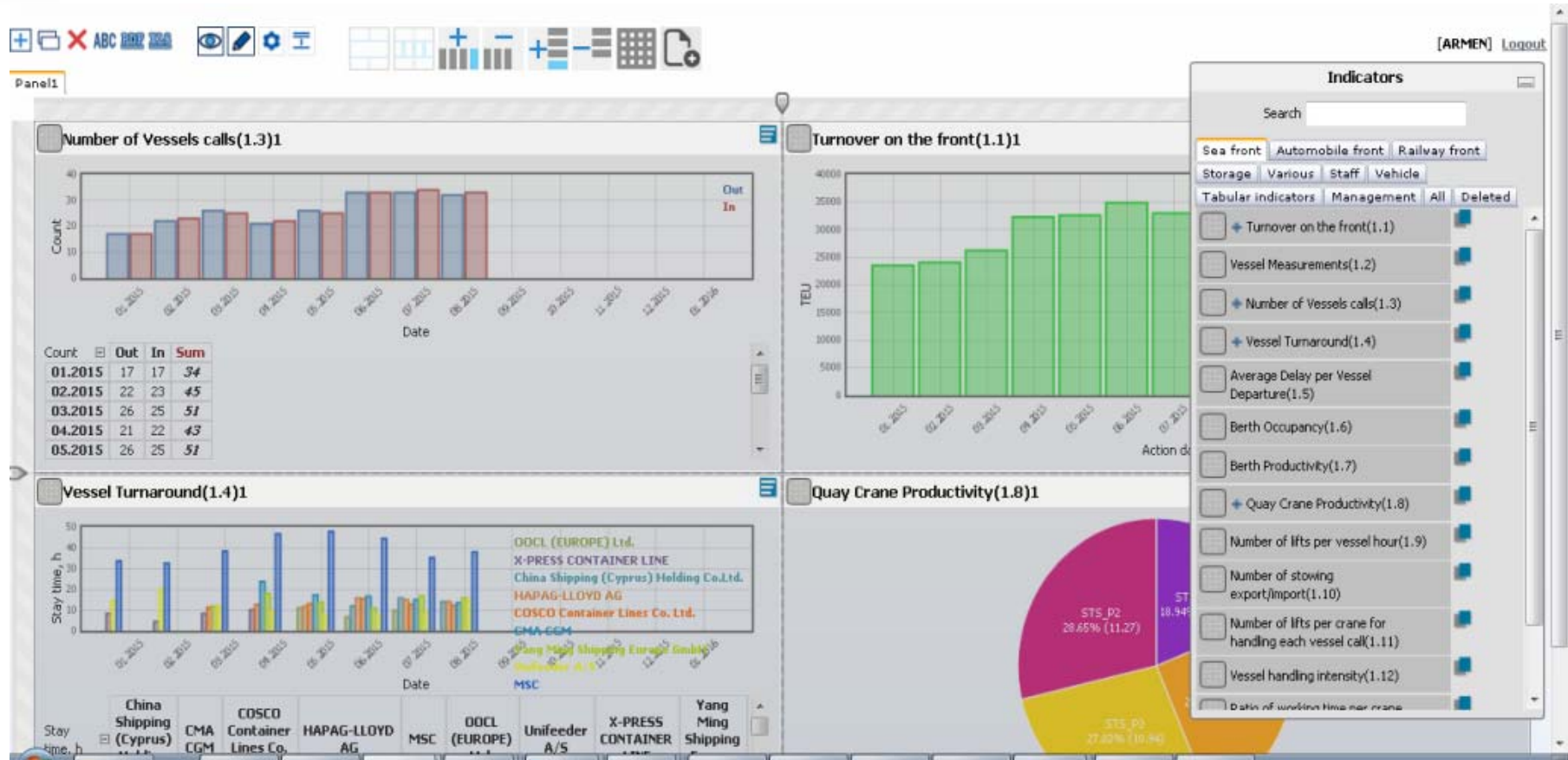
- Receiving and accounting of VGM data at container terminal;
- Automated VGM data check;
- Electronic exchange of VGM data with container transport parties;
- Automated weighing of containers at the terminal to determine VGM at various container processing stages;
- Creating vessel loading plans with 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





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 m²



Equipment:

2 mobile cranes

TTs and reachstackers



Checks seals and registers containers via RDT interface.

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

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

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)

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'



- 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



- 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

- 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





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

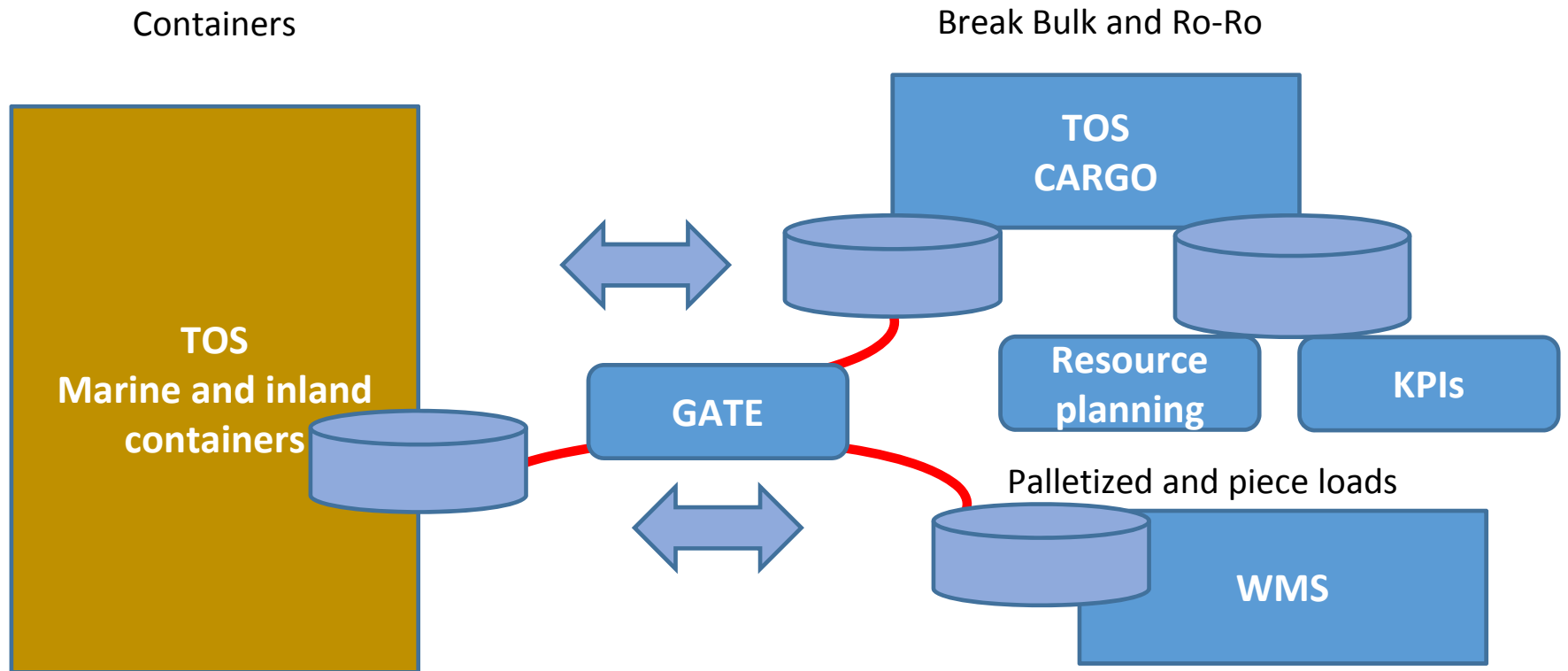


International certification



+







The smarter alternative

www.solvosys.com

Our stand: 55