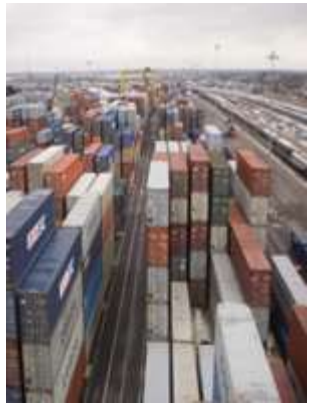
SOLVO
IT solutions for logistics
A Single Digital Ecosystem for Terminal Management as Part of the Global Information Environment Connecting All the Elements of the Supply Chain
Giovanni Migliaccio,
Vice President Sales & Marketing, Solvo Europe B.V.
26 years of success
www.solvosys.com

SOLVO's business core areas



Solutions for ports and terminals

A leading Terminal Operating System for ports and terminals. An ultimate set of solutions for managing just any type of cargo: container, break bulk, Ro-Ro, general cargo, etc., including extra solutions as the VBS, AGMS, VGM.

Solutions for warehouse logistics

One of the leading software providers of SCE software. Solutions range from WMS to WCS, Yard, Billing, KPI and more for all verticals: production, retail and distribution, 3PL and pharmaceuticals.

Solutions for yard management

YMS helps to manage all the operations at the yards, including allocation and storage of different types of cargo, housekeeping, reefer and empty containers management, CFS management etc. Providing procurement of gate-entry/ cargo pick-up permits for truck-drivers, trucks and cargo forwarders/ transport companies.

Consultancy in logistics

Logistics and Management consultants, including specializations for Project Management, Optimization, Engineering, Design and Procurement.

As well as training, seminars, webinars and other educational events. Own competence center based on a 30 000 m2 3PL warehouse.

Achievements, Facts and Figures

Technology Pioneers

Developed first WMS, TOS and Introduced the very 1st RDT in Russia in the 1990s

Leader of cabin mounted mobile computers sales in Russia

ISO 9001:2015 certified

26 years of success
400 projects
200 employees

International certification

American Chamber of Commerce in Russia

RUS•SOFT

АПКИТ

Member of leading software and international trade associations

70% of all containers in CIS countries are processed by Solvo.TOS

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Multinational brands – SOLVO customers

400+ projects

Lifting Global Trade.
APM TERMINALS

msc
MEDITERRANEAN SHIPPING COMPANY

Russian Railways

CMA CGM

موانئ دبي العالمية
DP WORLD

globalports

الشركة القطرية لإدارة الموانئ
QATAR PORTS MANAGEMENT CO.

GRIMALDI LINES

Trans Container

مشروع الميناء الجديد
NEW PORT PROJECT

HHLA

MARS

ABInBev

Carlsberg

PEPSICO

NORNICKEL

ROYAL CANIN

Pfizer

dpdgroup

GRUPO INDUKERN

ULS
UNIVERSAL LOGISTICS SERVICES

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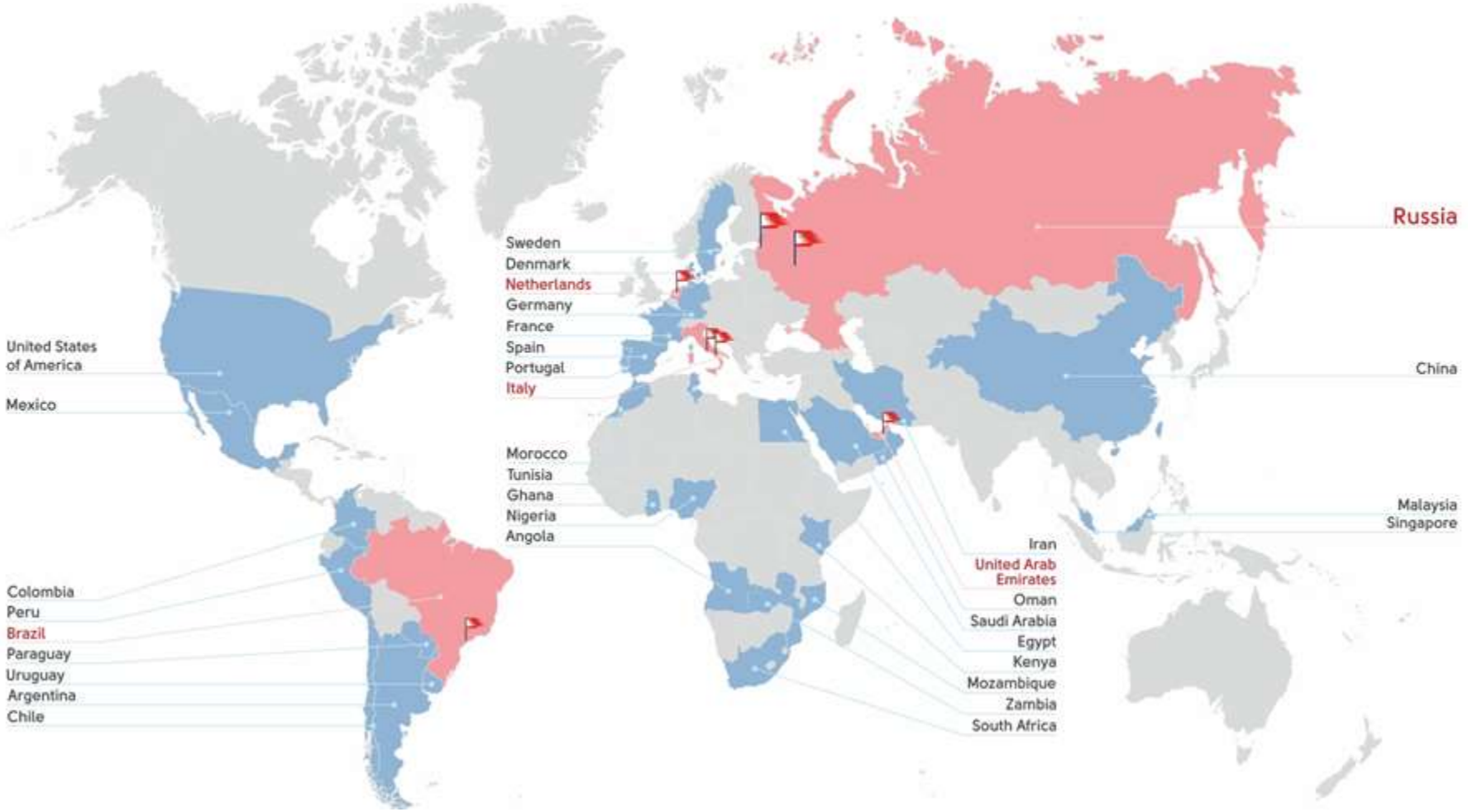
SOLVO international offices and partners



SOLVO partners

SOLVO offices:

HQ: Saint-Petersburg, Russia

International office for Europe: The Hague, The Netherlands

International office for Middle East: Dubai, UAE

International office for Mediterranean: Naples, Italy

Representative office: Moscow, Russia

Representative office: Rome, Italy

Representative office: Brazil, Sao Paulo

Modern ports are moving to Extended Supply Chain

Moving to Global Supply Chain
Global Information Environment Connecting All the Elements of the Supply Chain
End to End visibility - to final customer

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Modern TOS as a full Supply Chain solution and an integration platform

Support of complex technological chains

Vessel operations

3PL

Breakbulk

Bulk

Ro-Ro on MAFI

Vehicles

Containers

Rail operations

Gate operations

Challenges to be solved using a Single Digital EcoSystem

- The different document format leads to problems with information exchange between various stakeholders in the supply chain;
- Poor planning cause delaying with the cargo delivery time and confusions due to lack of required information;
- Inability to track the status and current location along the extended Supply Chain ;
- Manual planning of personnel and equipment operations not feasible due to the increase of task and works, impacting into the processing time significantly.

SOLVO solutions portfolio

Containers

Solvo.TOS
for Marine and Inland container terminals

Break Bulk and Ro-Ro, mixed cargo

Solvo.TOS.Cargo
for Multipurpose terminals

Solvo.TOS platform

KPI Module

VBS Module

GOS Module

Yard Module

Palletized and piece loads

Solvo.WMS
warehouse management

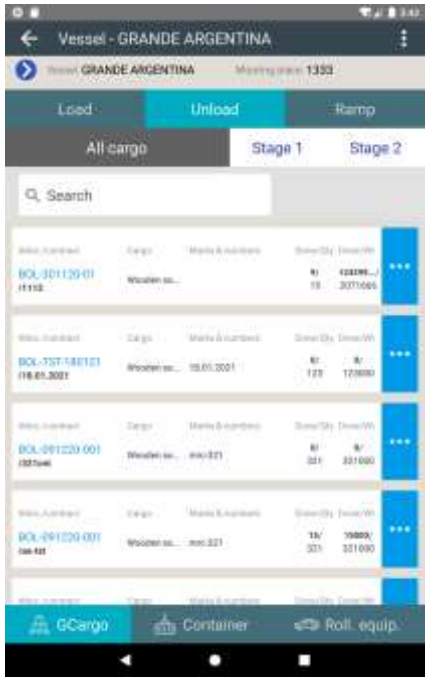
Solvo.TOS can manage the handling of various types of cargo

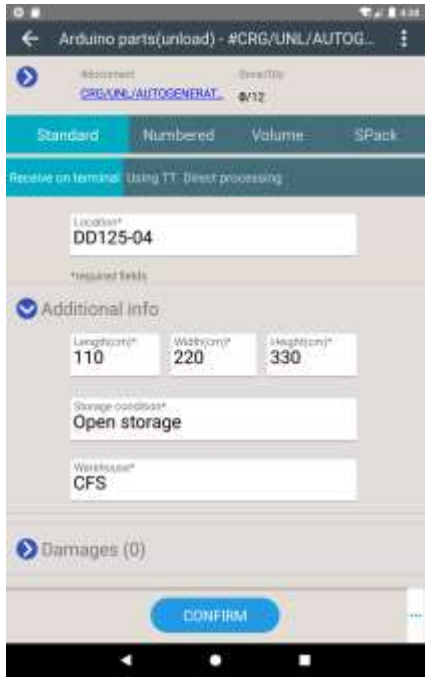
Solvo.TOS is able to handle a wide variety of cargo types, including:

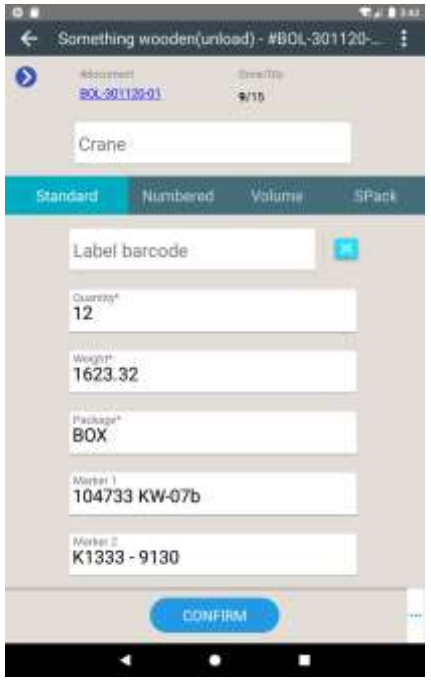
- Containers
- Bulk goods (fertilizers, grain, pellets, etc.);
- Ro-Ro
- Goods packed in bags and boxes (cacao, sugar, rice);
- Construction materials;
- Sawn material, round timber;
- Metals (ferrous and non-ferrous);
- Food, including perishable food (meat products, fruits);
- Paper (in rolls and on pallets) and pulp;
- Metal waste, machines;

The system is creating for every cargo type dedicated business rules, with precise definition of what can be done with them, by whom and when.

Cargo characteristics processed by Solvo.TOS







Among cargo characteristics processed by Solvo.TOS:

Package type, weight, quantity, dimensions (length, width, height), marking (label), markers.

For each cargo type the system can have specific characteristics, for example, cars:

VIN number, color, mode, dimensions (length, width), weight, type.

Use of the system on different devices

Server components:

- *Java SE as main language;*
- *C++ for time critical parts*

Desktop GUI clients:

- *Declarative XML Forms;*
- *Native C++ runtime for Windows and Linux*

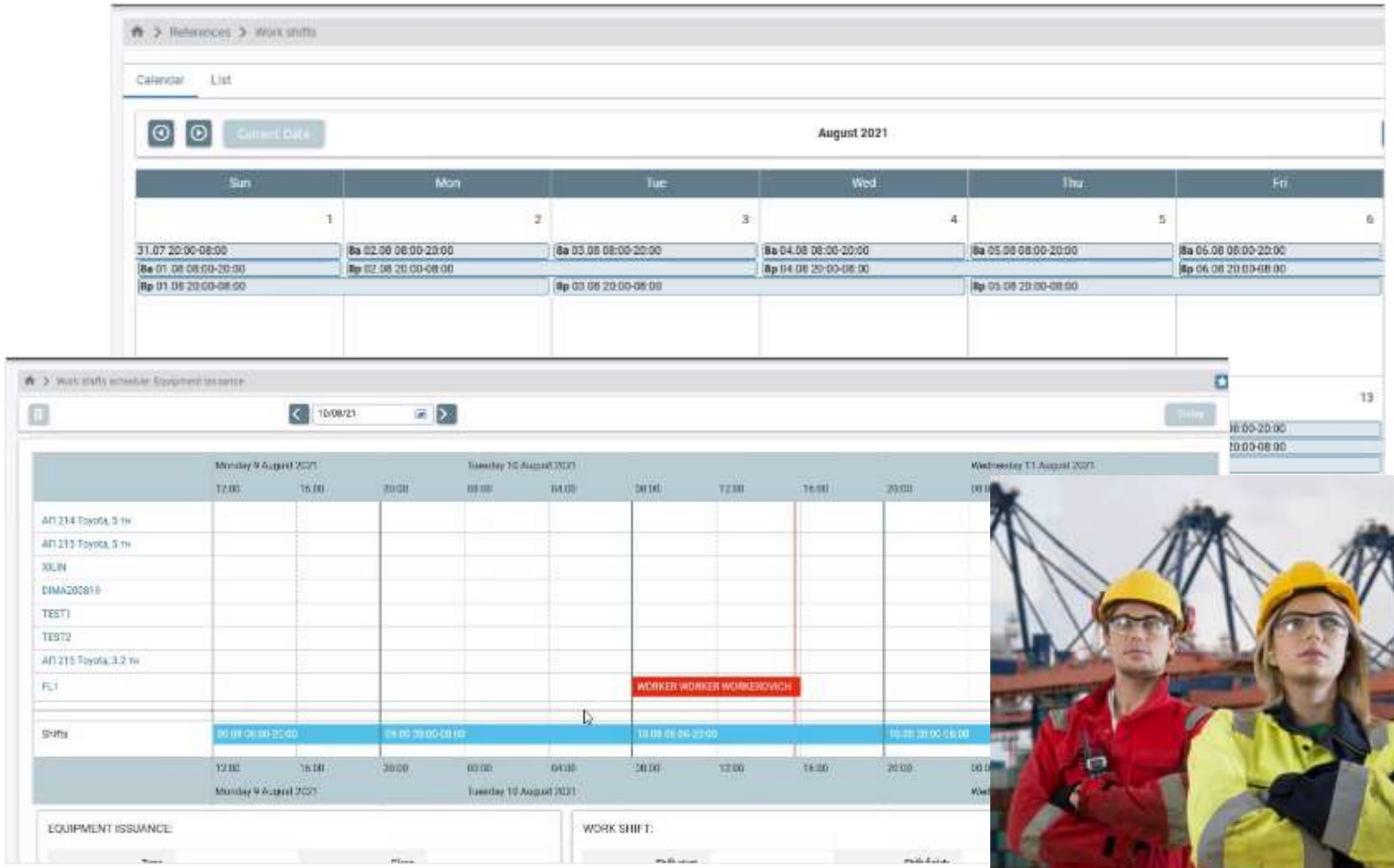
Web clients:

- *Declarative XML, SOAP, WSDL;*
- *Program web-server based on Apache httpd.*

Mobile clients:

- *Declarative XML Forms;*
- *Text based VT100 compatible*

Equipment and personnel management



Thanks to aggregating data and reports on employee productivity—either individually or for groups— the system provides visibility where terminals are allocating their labor budgets and help them to optimize human assets.

The typical scenario is that the daily shift plan is calculated in advance and created ad hoc reports at the end of each shift, including information by: job function, operator and equipment, tasks and time of day. Each work order is analyzing the throughput and productivity rates by associating these values

Time slotting and schedules

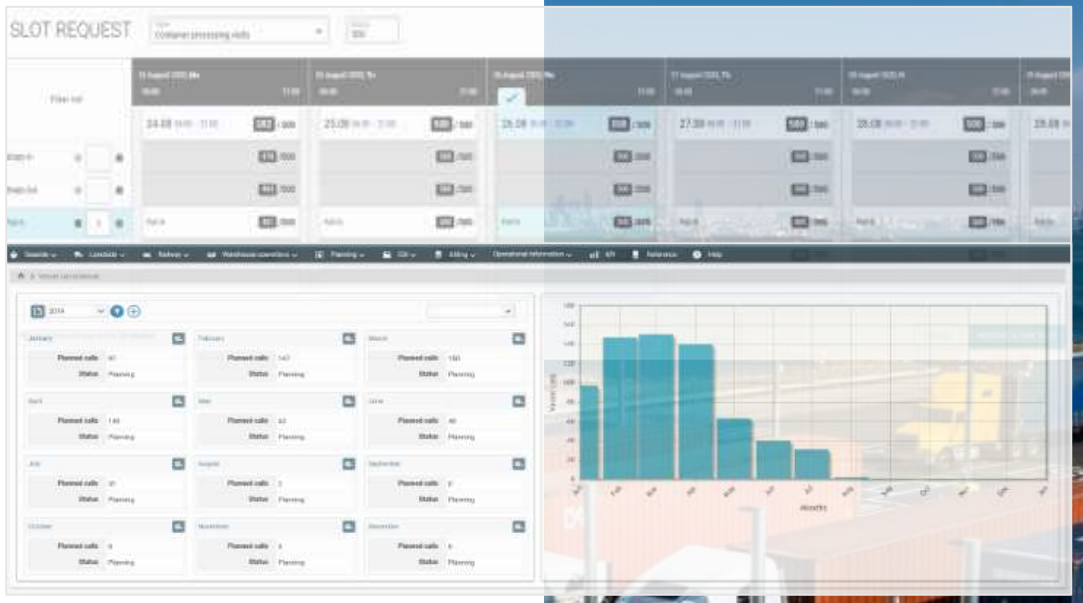
Solvo.TOS creates TA using time slotting technology, means that it is possible to choose convenient date and time for transport vehicle and get a guarantee that truck will be processed within a chosen time window.

It allows to plan, manage and monitor the progress of cargo loading / unloading based also on ETA / ETD

Truck appointment is created by forwarders or other external users through the Web portal using time slotting technology;

Allows to avoid long queues at the terminal gate.

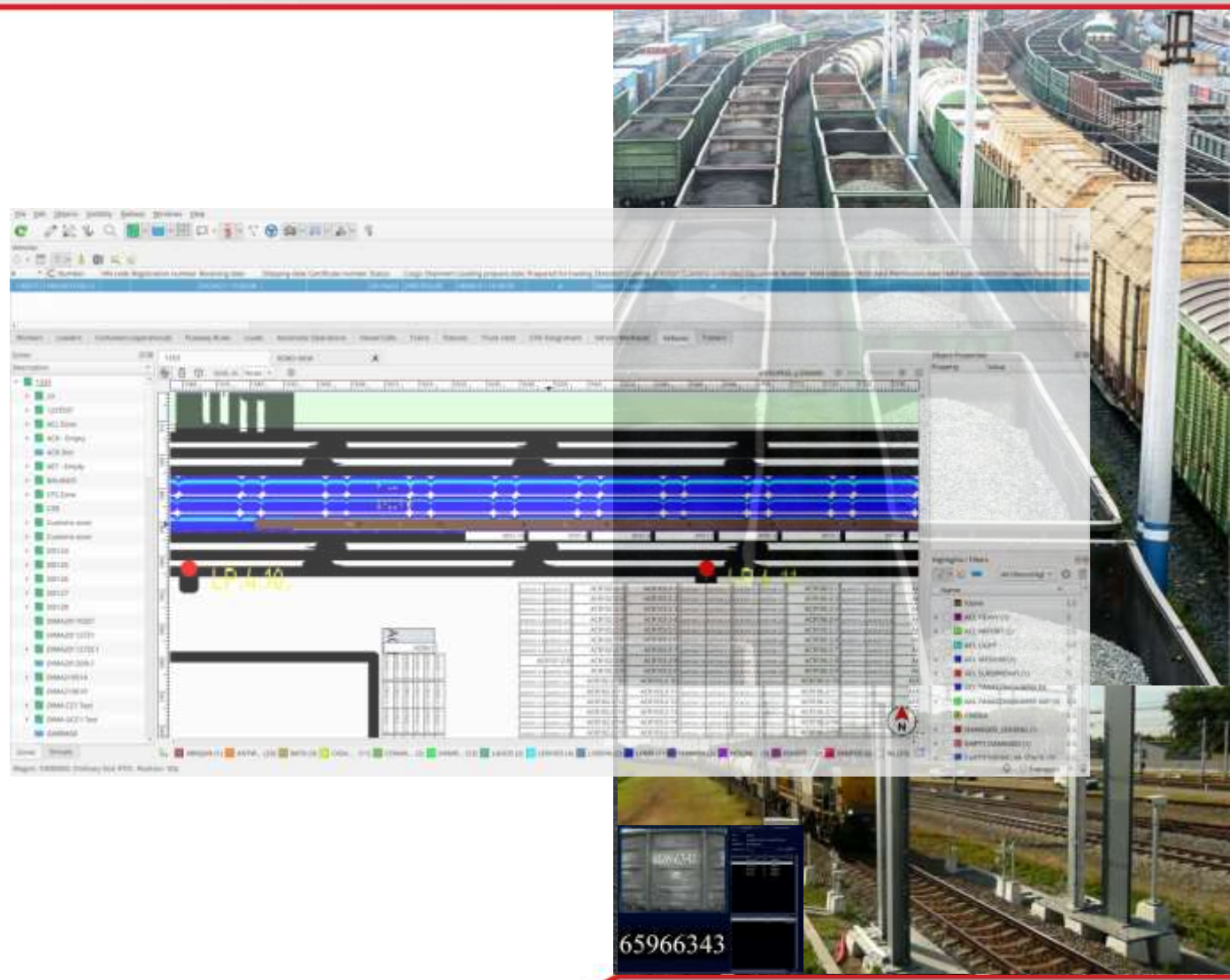
Always possible to check the visit status.



Train Visits and cargo operations planning

The system can perform automatic scheduling on the railroad, operating such data as:

- Cargo information;
- Railcars parameters:
  - *Railcar Reference - Determines railcar length, owner, time to scheduled repair, etc.;*
  - *Railcar parameters: loaded from an external system, or filled in by the tallyman via RDT during registration;*
  - *Cargo putaway specifications;*
- Various types of documents, based on which loading and unloading of railcars is carried out;
- Planning, managing and monitoring the progress of loading / unloading trains based on ETA / ETD (estimated time of arrival / departure).

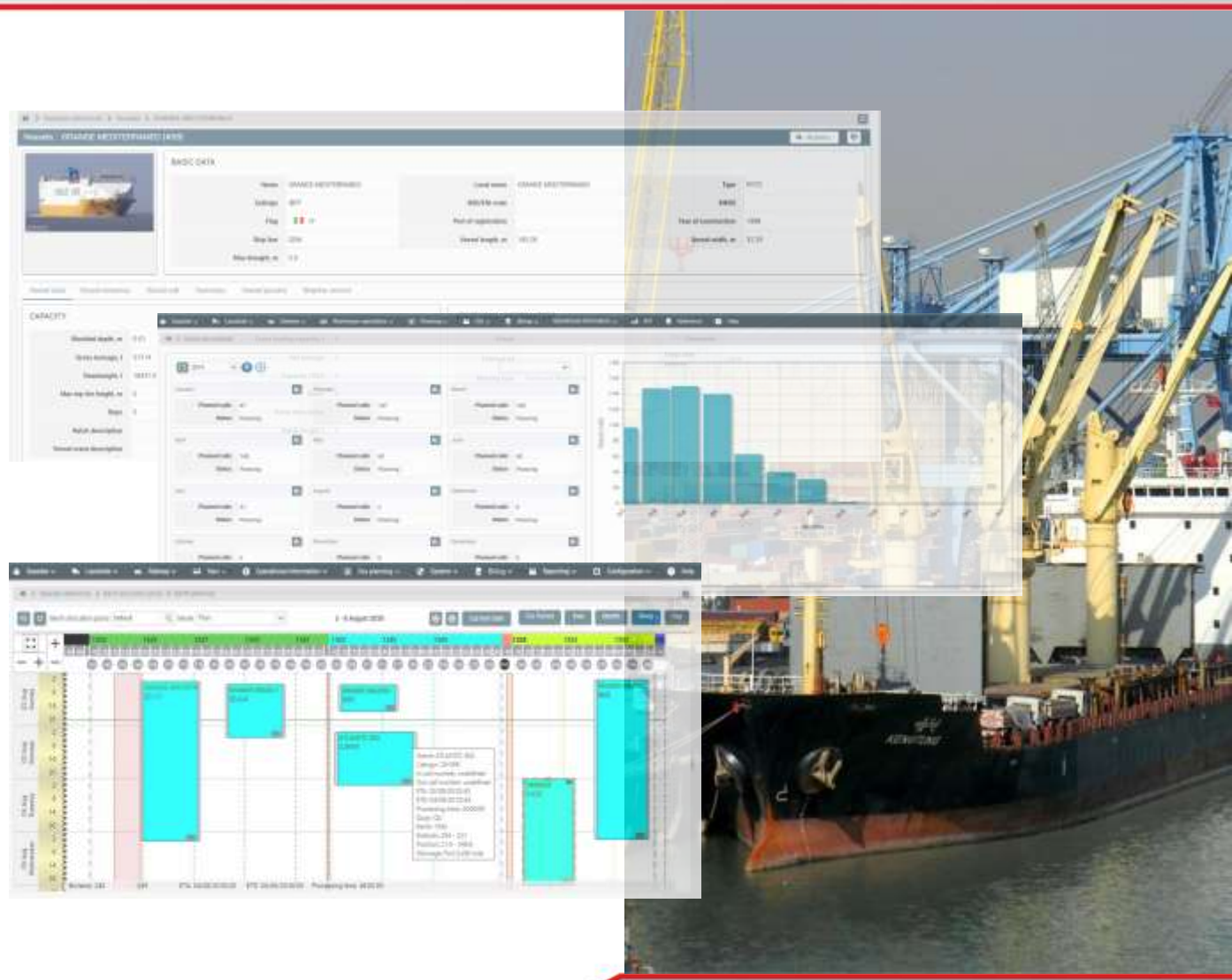


Vessel Visits and cargo operations planning

Vessel operations management starts with vessel calls registration, including detailed information about the technical specifications and unique vessel structure. The information is added just once, during 1st vessel call and used for the future visits.

After vessel calls are registered Solvo.TOS creates the monthly/weekly work schedule based on notices sent from Ship Agents; Vessel calls can be created manually by the planner or automatically based on the data from external systems and notices.

The TOS keeps track of all vessel calls and displays their status in real time, e.g. berthing, discharging, loading, departure.



WEB portal

Web portal is created to provide possibility for external terminal users to interact with the TOS system

Improved quality of service without increasing the number of personnel:

- The client creates a visit for a specific time;
- The client selects the date, time-slot and cargo specs;
- The client can independently monitors the cargo status;
- Ability to charge for visit requests and additional services via the web-portal.

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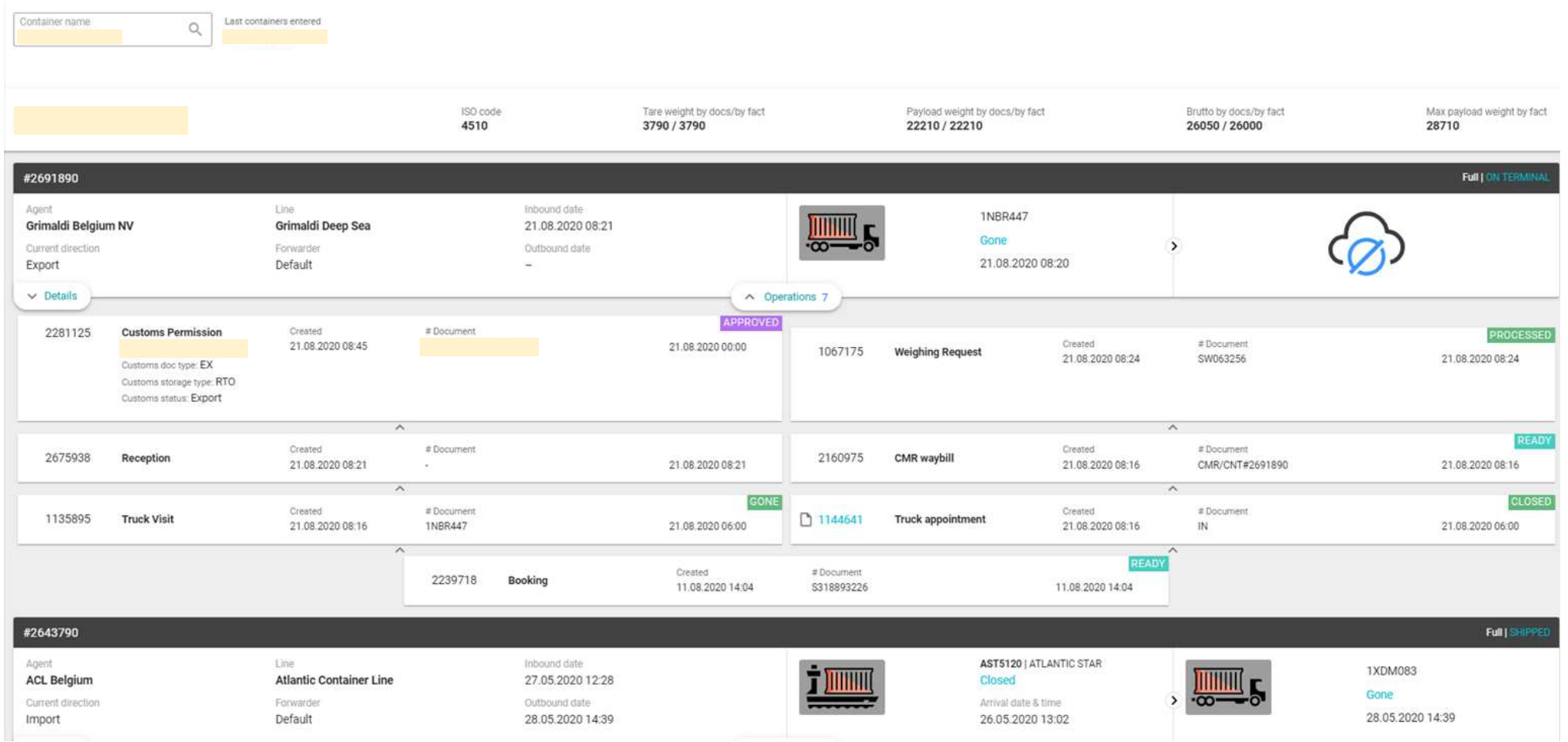
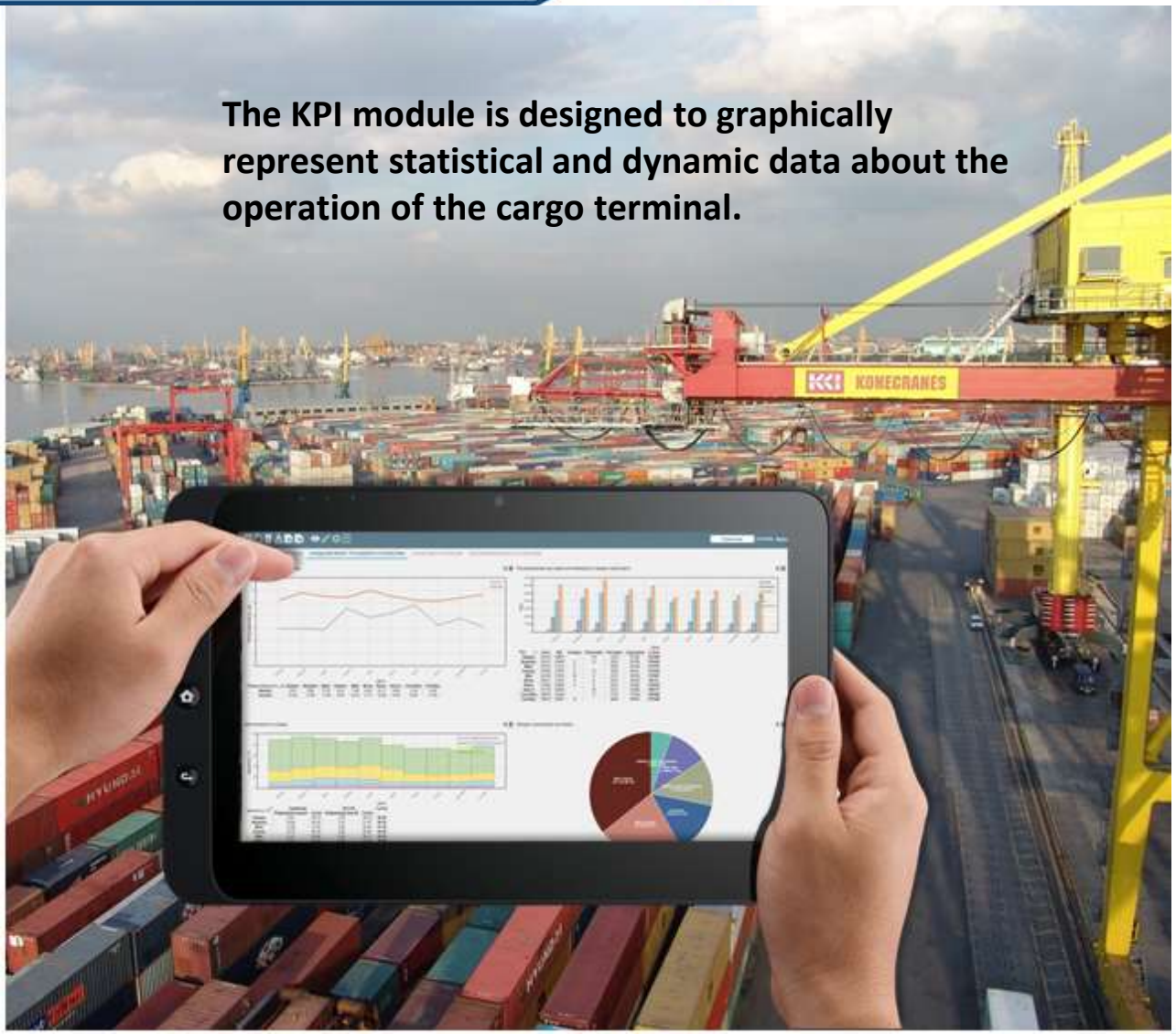
WEB portal



Solvo KPI Module



All indicators can be divided into two types according to the frequency of data updating:

Operational - reflect the current state of the terminal, require a high update rate (minute, performed operation);

Statistical - reflect the state of the terminal for a certain period of time (data is updated at the user's request).

Groups of indicators for a cargo terminal:

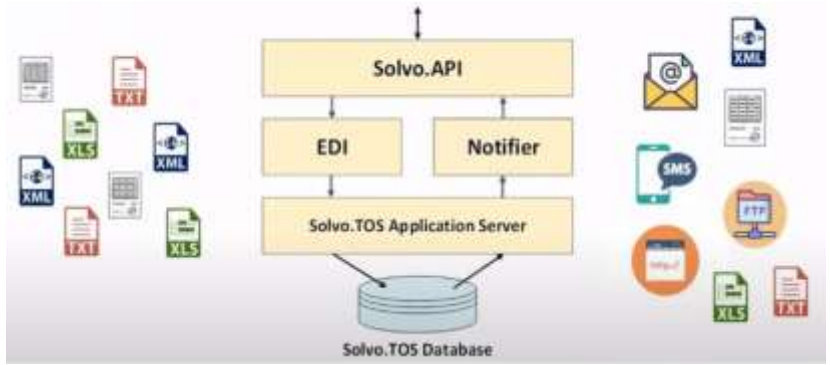
- General indicators of terminal performance (such as total cargo turnover, terminal turnover);
- Indicators of the efficiency of the cargo fronts: ship, road, rail;
- Indicators of the efficiency of the warehouse area;
- Staff work efficiency;
- The effectiveness of the use of technics.

Data exchange between cargo terminals and ports

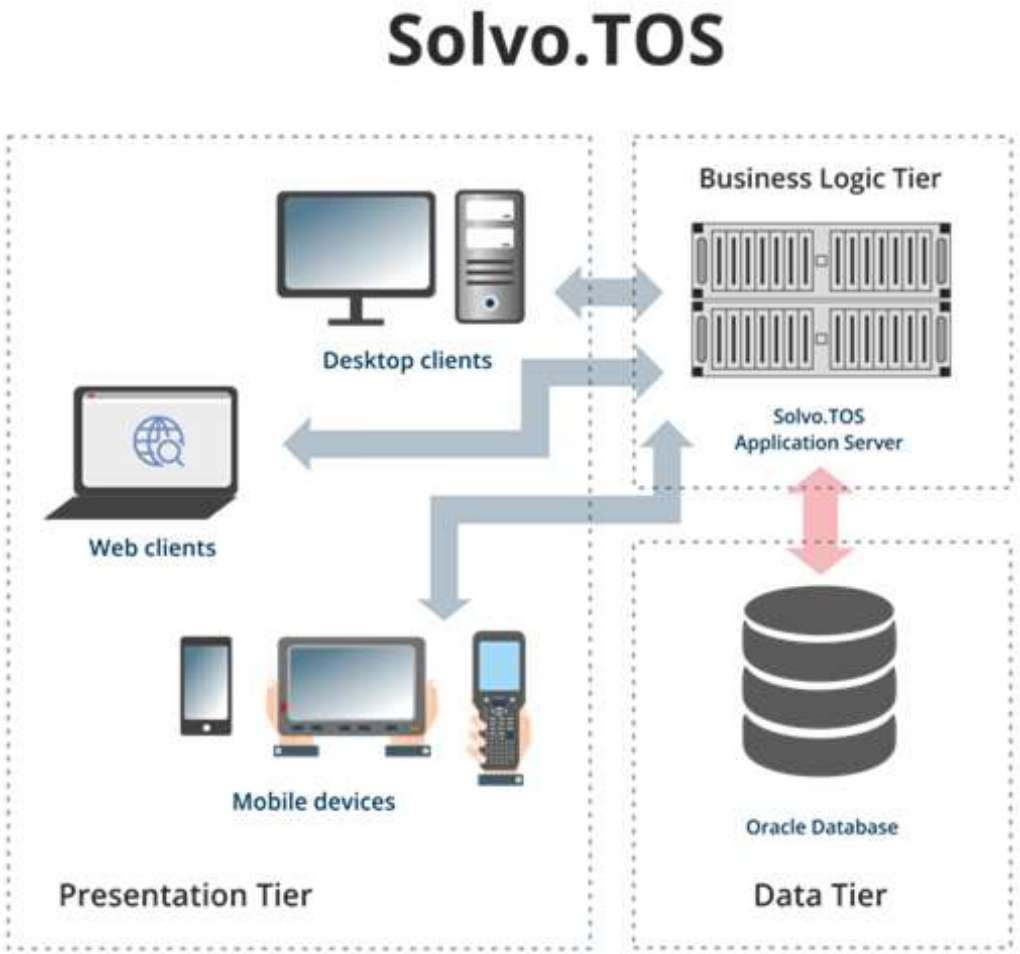
A unified communication system between representatives of the Caspian region and the so-called new Silk Road was proposed in October 2020 and successfully implemented in 2021.

The main advantage of the unified information system for logistics operators is one-stop communication, which allows quick and easy exchange of information, timely receipt of necessary data for carrying out logistics operations, saving time and resources.

Solvo.API is responsible for data exchange, which has two modules of its own: EDI module is used to receive and convert data from external information systems, Notifier module prepares messages in the right format for external information systems when certain events occur.



Data exchange between cargo terminals and ports



Solvo.TOS transmits into a single digital space the vessel data and their characteristics, information about passengers, containers, general and rolling cargoes.

- Communication between ports has become easier;
- No additional human resources are required to transfer information into the system;
- Reduction of the human errors in data exchange;
- Simplification of the planning of daily tasks.

The joint solution of SOLVO and DBA Group as result increased the efficiency of vsl planning, passenger flow and related security services, accelerating drastically the processes of document flow.

Automation results

- ★ Increase cargo handling efficiency & terminal throughput;
- ★ Increase personnel & equipment productivity;
- ★ Improve transparency of technological and commercial processes;
- ★ Increase in load handling speed in the storage zone;
- ★ Reduction in re-handles (nonproductive container moves);
- ★ Eliminating human factor;
- ★ Improving health and safety ops;
- ★ Finding efficiencies in processes and logistics;
- ★ Improving margins;
- ★ Reducing operating costs.

Thank you for your attention!

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