Latest IT Solutions to Manage Various Cargo Operations
in Ports and Terminals
of Any Type

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About Solvo

28+ years experience

24/7/365 support

5 offices worldwide

400+ projects

Who we are

SOLVO is an international leading vendor of TOS, WMS and YMS solutions and systems integrator on the global markets.

We are a leading provider of high-end supply chain solutions to help and optimize the logistics and all cargo handling.

Our approach
Not just development and implementation. We have the largest expertise in automating storage logistics and are ready to work on a turnkey basis, taking risks. We are a leading firm in providing quality and value to our customer.

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Certificates

# Business core areas

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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 managing yard

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.
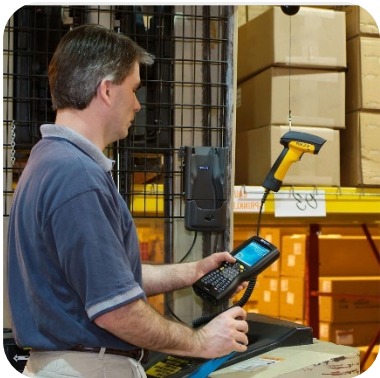
Solutions for warehouse logistics

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.

Consultancy in logistics and system integration

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

As well as training, seminars, webinars and other educational events.

Modern ports are moving to Extended Supply Chain
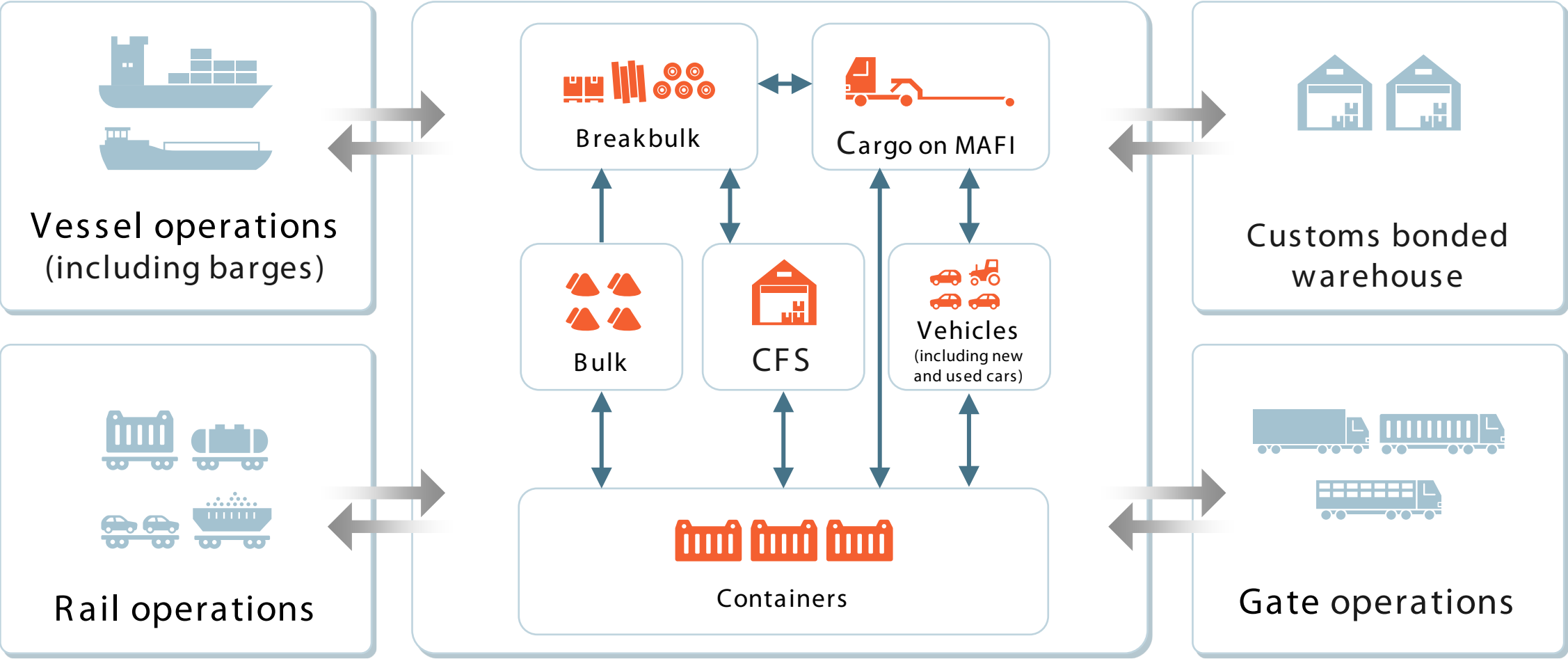
INTERNATIONAL TRADE SUMMARY

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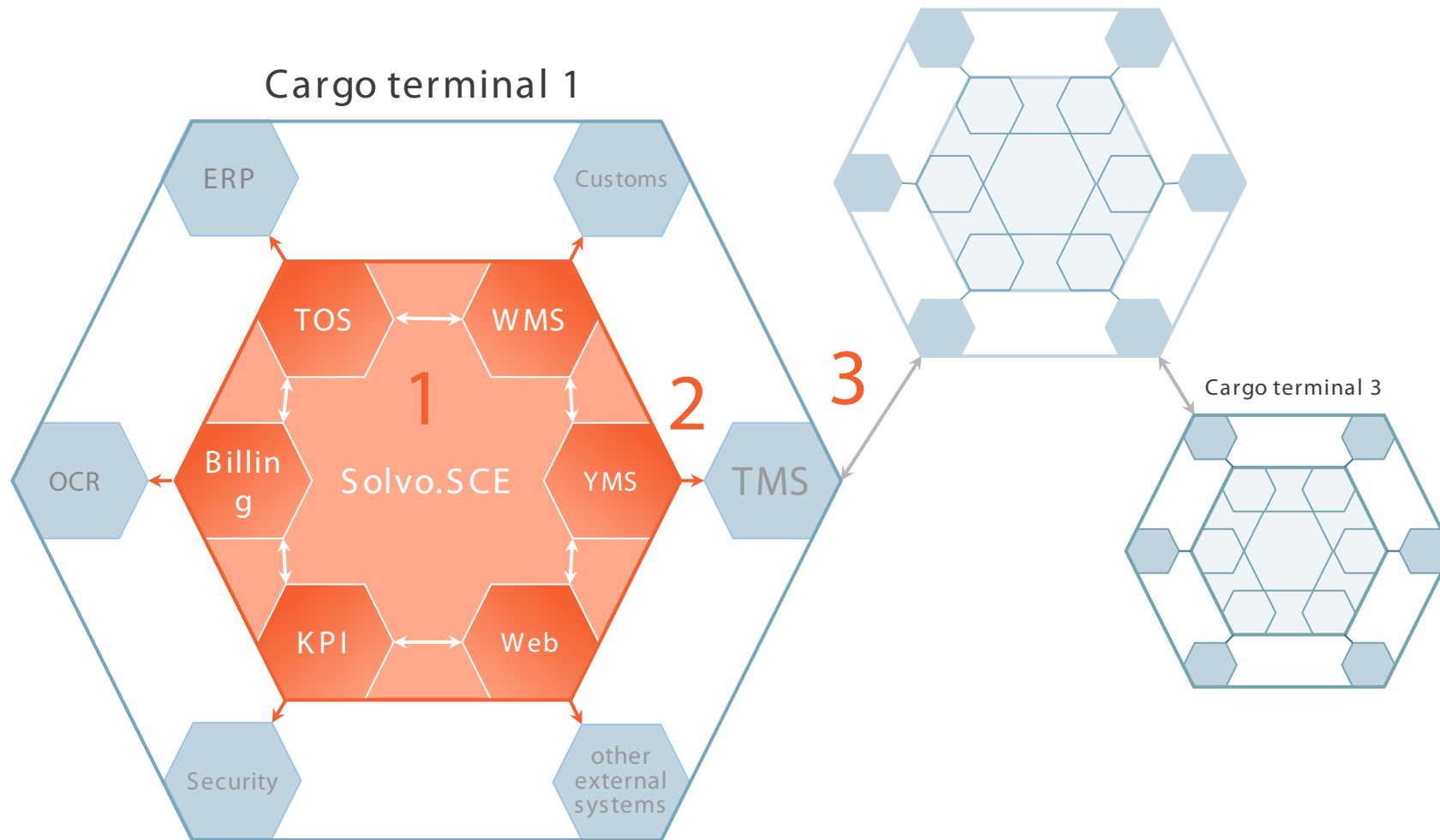- End to End visibility —to final customer

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Modern TOS as a full Supply Chain solution and an integration platform
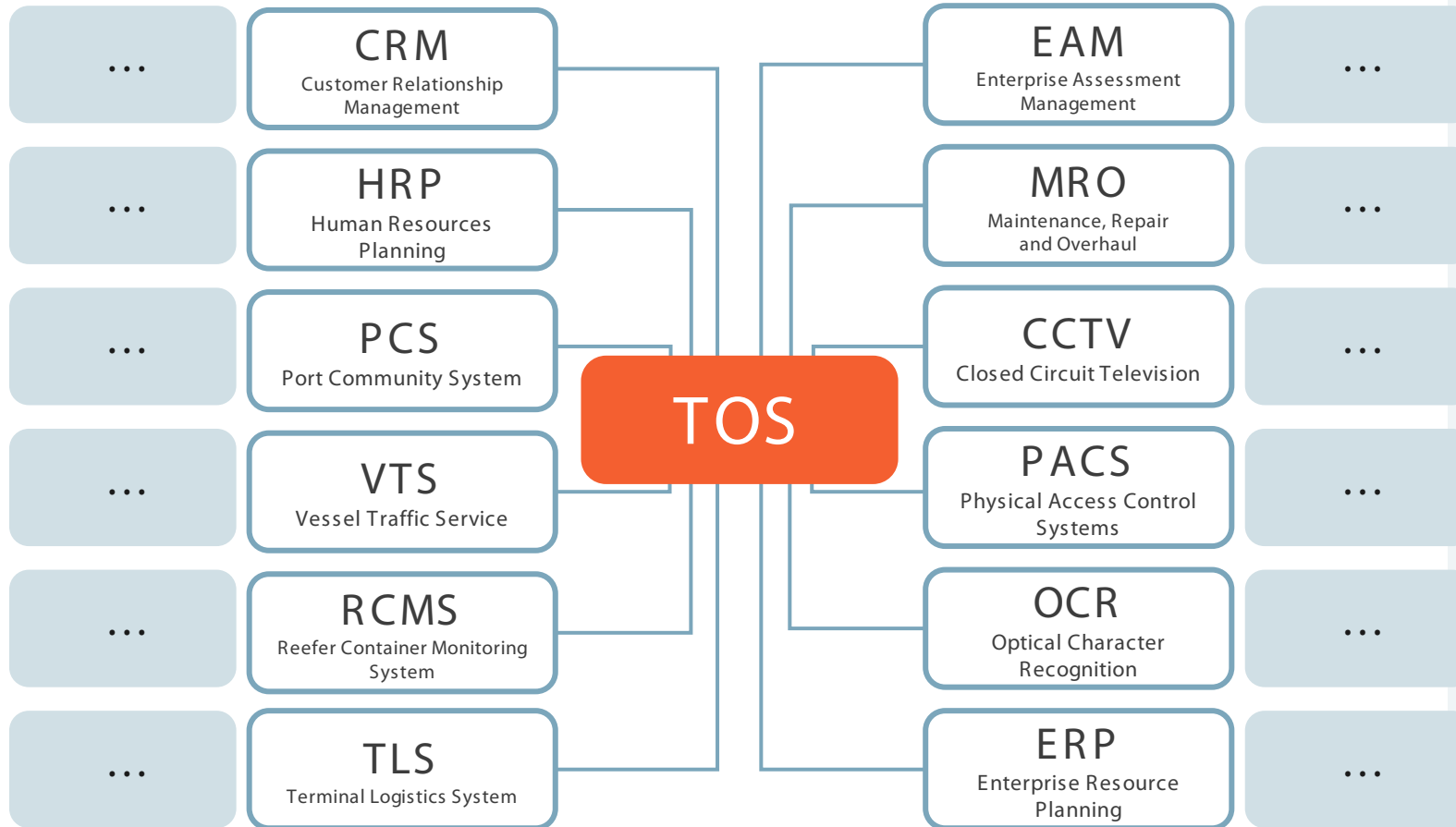
Support of complex technological chains

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Vessel operations
(including barges)

Breakbulk

Cargo on MAFI

Customs bonded
warehouse

Bulk

CFS

Vehicles
(including new
and used cars)

Rail operations

Containers

Gate operations

System Integration Levels

Cargo terminal 1

ERP

Customs

TOS ↔ WMS

1

Billing

Solvo.SCE

YMS

OCR

TMS

KPI ↔ Web

Security

other external systems

2

3

Cargo terminal 3

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1. Solvo.SCE Platform based solutions (integration between Solvo products).

2. Integration between Solvo solutions and external software.

3. Integration between different logistics facilities or participants of the Global Supply Chain

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Solvo.TOS Integration Opportunities

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...	**CRM** Customer Relationship Management		**EAM** Enterprise Assessment Management	...
...	**HRP** Human Resources Planning		**MRO** Maintenance, Repair and Overhaul	...
...	**PCS** Port Community System	**TOS**	**CCTV** Closed Circuit Television	...
...	**VTS** Vessel Traffic Service		**PACS** Physical Access Control Systems	...
...	**RCMS** Reefer Container Monitoring System		**OCR** Optical Character Recognition	...
...	**TLS** Terminal Logistics System		**ERP** Enterprise Resource Planning	...

Solvo.API (Application Programming Interface) is devided into two modules: EDI (Electronic Data Interchange) for receiving and transformation data from external information systems and Notifier for preparing messages in the required format for external information systems when certain events occur.

System receives a document with a message from the port system —integration platform —transfer it to the EDI module in various formats, which are then converted into the format required for the Solvo.TOS database. As a result, the user receives all this information online.

Solvo.TOS overview

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Solvo.TOS

- Gate management
- Yard management
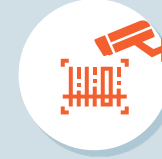- Truck operations management
- Screening zone management
- CFS (stuffing/restuffing)
- Vessel planning
- Repair zone management
- OCR-systems (Gate, crane, rail)
- Empty container depot management
- Berth planning
- Rail operations management
- Remote control of automatic equipment
- Customs systems
- Data capture terminals
- CHE management
- EDI
- KPI
- Web
- Automatic reefer monitoring
- Global positioning systems (DGPS, RTK, GNSS, RTLS)
- External ERP systems
- Crane systems STS,RTG/RMG, RTLS/DGPS

EMERSON RTE

SYMEO RADAR NEXT LEVEL
Trimble

SAP
Microsoft Dynamics

ZPMC
LIEBHERR
CARGOTEC
KONECRANES

Solution highlights

Modular framework

All-in-one solution that enables scalability: add new functions and add-ons as the port grows

Multi-lingual

By default supports major languages
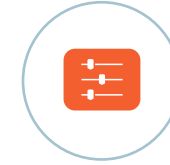
Easily-adjustable

The architecture allows extensive parameterization and customization

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EDI and simple integration

Can easily be integrated with any ERP, TMS or other special software

Single database
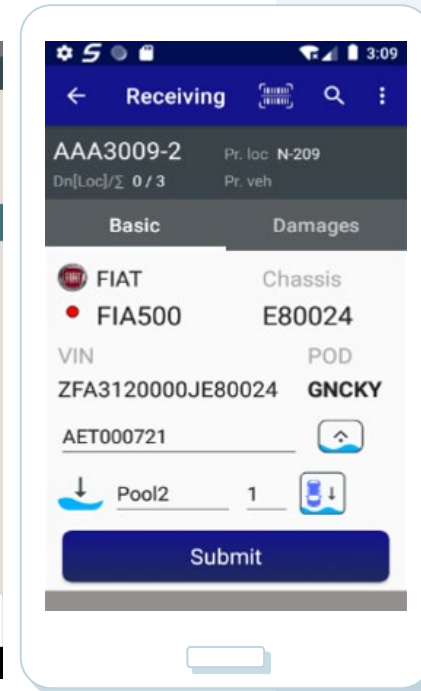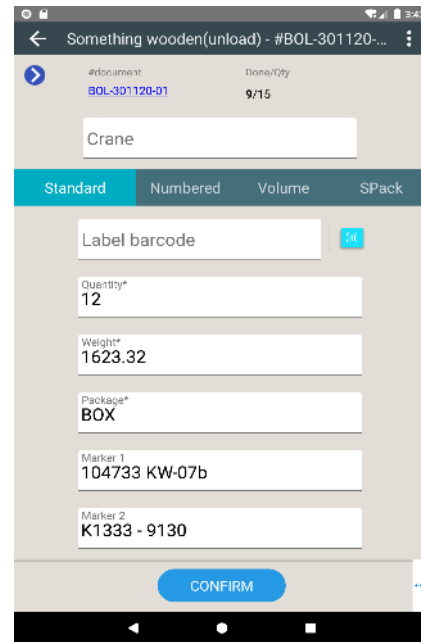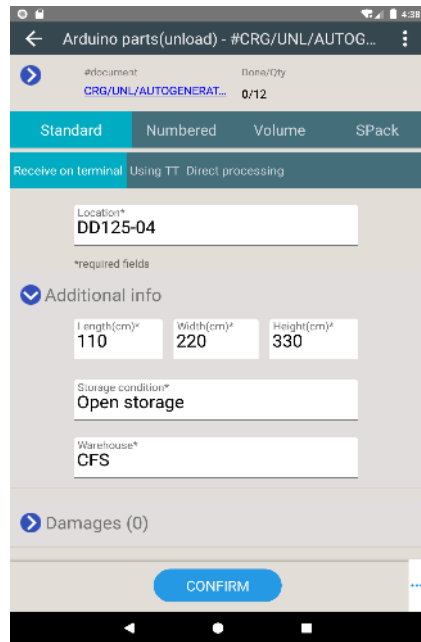
The latest version uses a single db both for process management and document automation

GUI

The application has a graphic, simple, comfortable, fast-and-friendly user interface which facilitates rapid learning

Cargo characteristics processed by Solvo.TOS

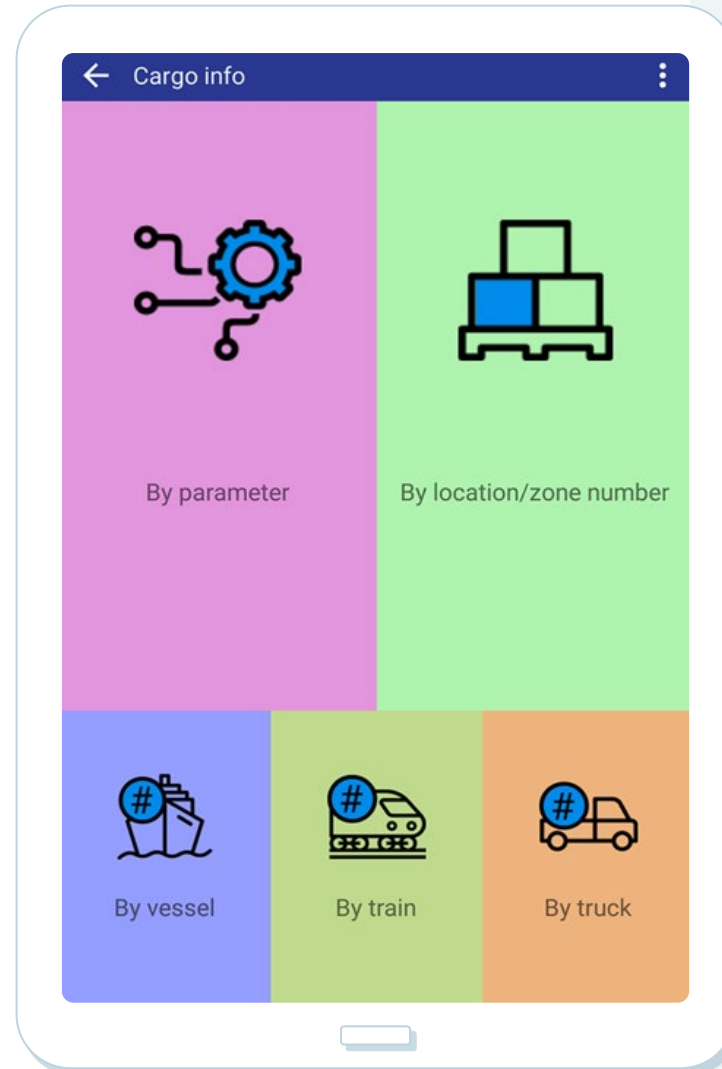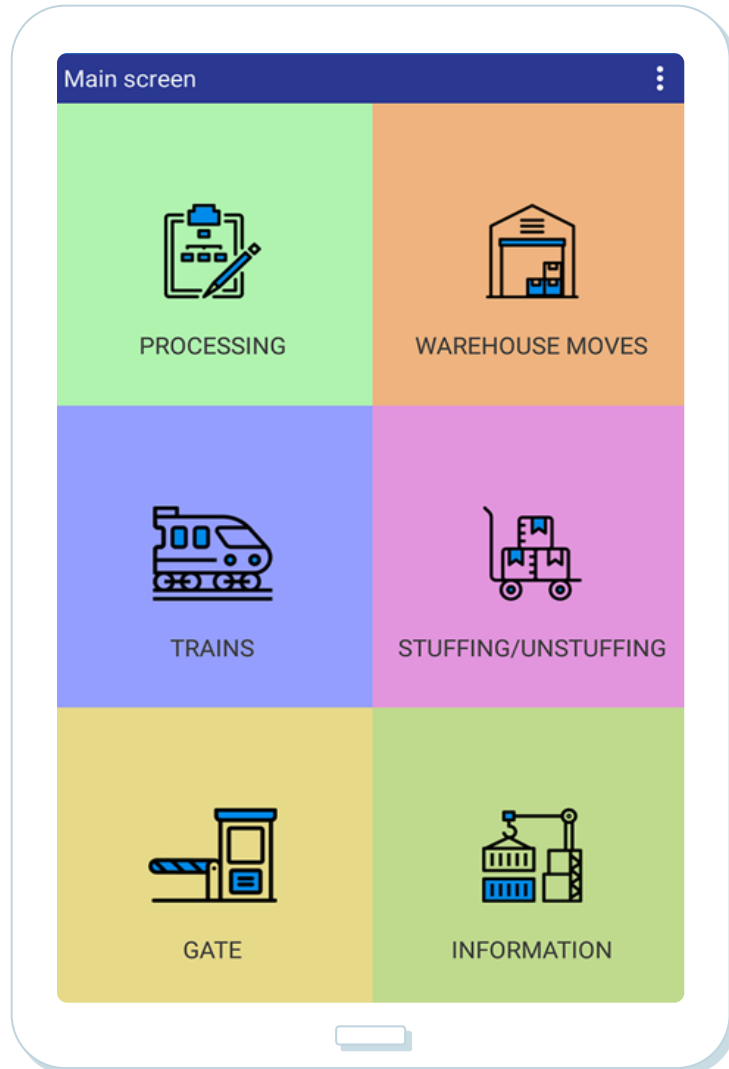<10>
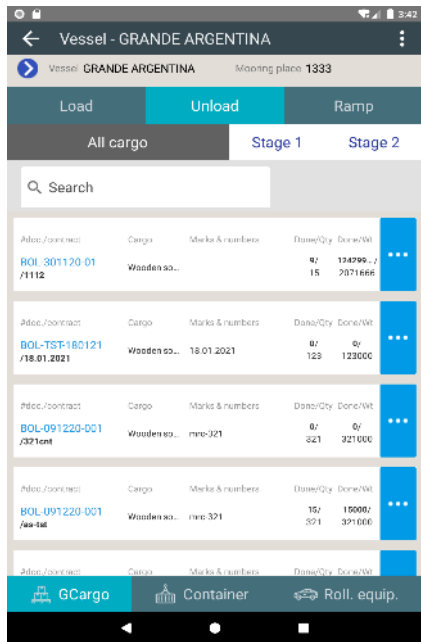
Among cargo characteristics processed by Solvo.TOS:

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.
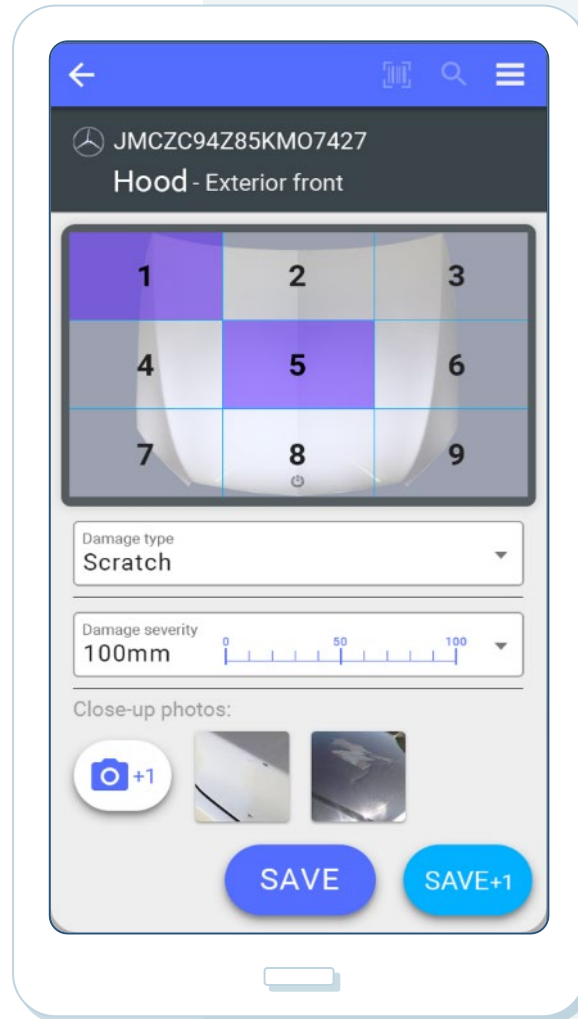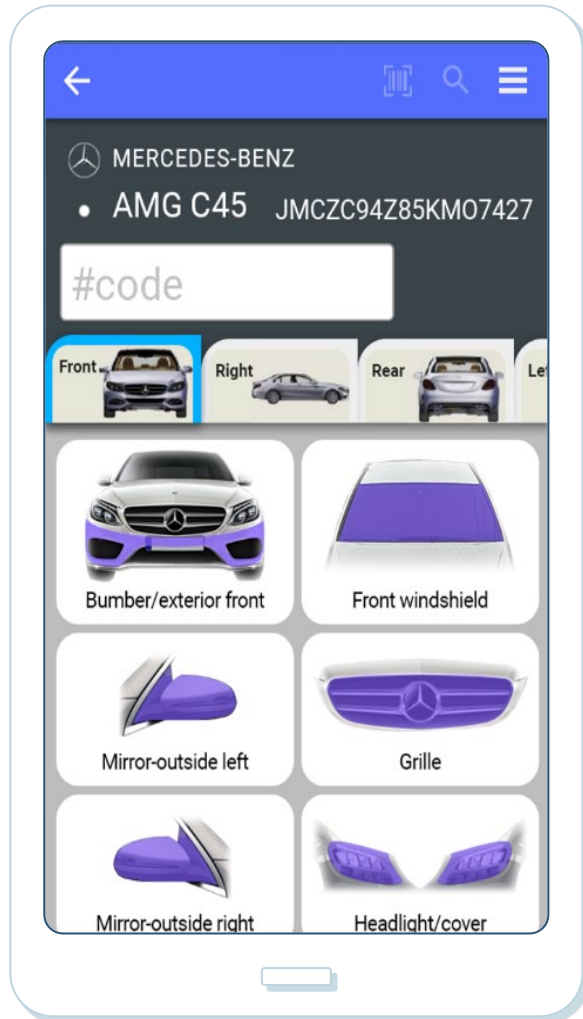
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Interfaces for mobile devices

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- Acceptance of different types of cargo from vessel, truck and rail

- Registration of truck visits, vessel calls, train visits

- Registration of different yard operations

- Photo-fixation of damages, choosing the type of damage from the list, adding comments

- Scanning features

- Registration of internal operations (Inspection, Repairs, Customs operations)

Survey Mobile application

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Log-in	Enter survey conditions	Choose surveying zone/ mode	Scan/ enter VIN	Enter survey	View history

The application is based on the AIAG international standard.

The application has flexible settings and according to the weather conditions of the surveyor: before starting the shift it is necessary to set such parameters as time of day, weather conditions and vehicle condition: soiled, clean, snow/ice covered.

The main screen is divided into 3 parts: as the instructions for the surveyor, that can be created for individual types of vehicles, for different models of cars and for each brand of car.

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# Speeding up document flow processing
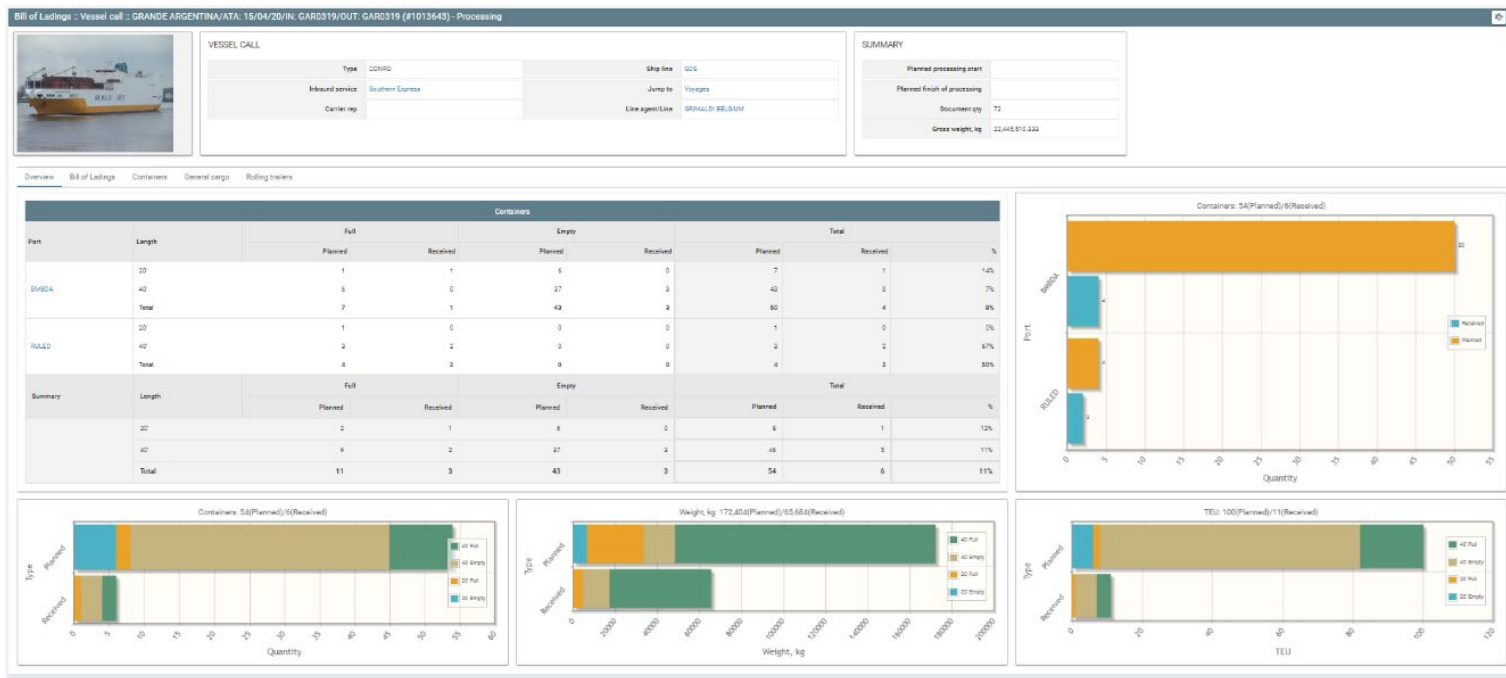
Information about the cargo is taken from documents uploaded in advance, such as bills of lading, bookings and service orders.

Further work on loading and unloading is based on the data obtained from these documents.

The system also allows to visualize statistical data and present them as graphs and charts.

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Yard Management
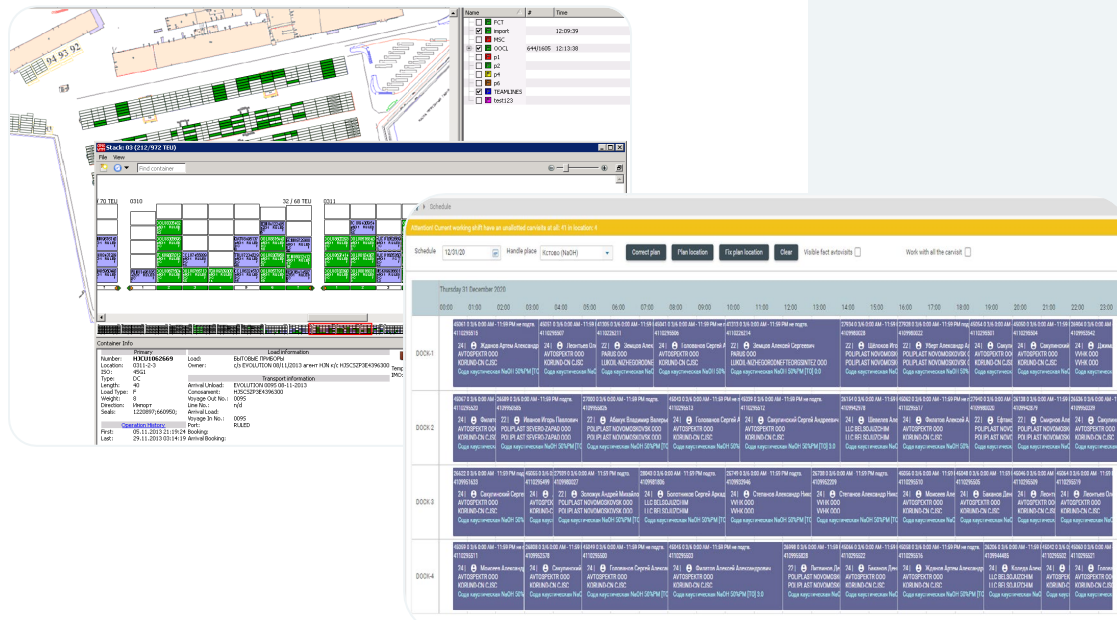
WTM: Graphic terminal layout viewer and editor is used to manage CHEs in the yard and plan routes. The port layout can be viewed and managed in real time allowing to establish a tree-like structure of terminal locations, groups and zone occupancy: Display, edit positions of terminal objects; Monitor the actual level of terminal occupancy in real time; Monitor CHEs and workers in real time; Plan loads and much more.

Dynamic stacking based on rules and strategies The core technology that the system uses to manage operations is automated work order generation based on predefined rules and strategies.
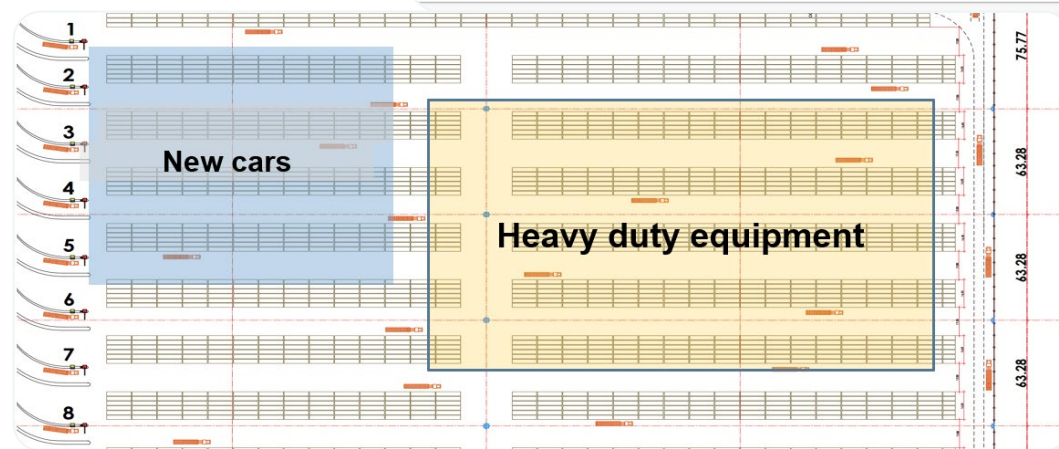
Dock scheduling The system also supports the automatic dock assignment function But before docks can be assigned, planning must be completed. For this purpose, Solvo has developed a graphical interface, visually user-friendly, with which the operator can conduct planning, using drag and drop, and simply move the icons with the booked timeslots, by that optimizing the work of the yard.

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Realtime visibility —yard assets
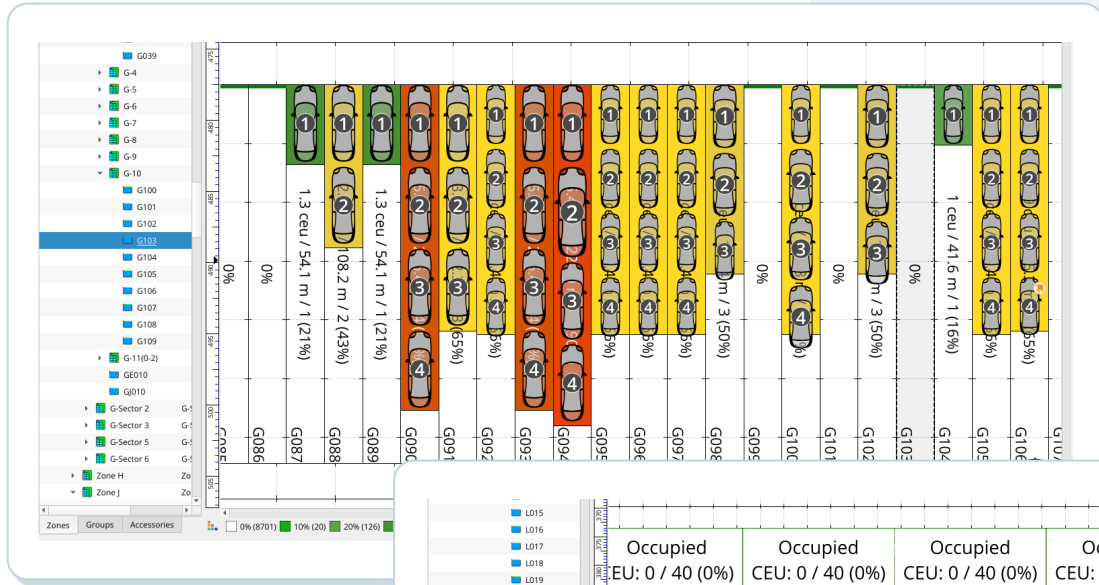
The graphical terminal layout offers a real-time bird's eye view, yard section and yard block views and helps dispatchers monitor all terminal operations in real time and take immediate action if needed.

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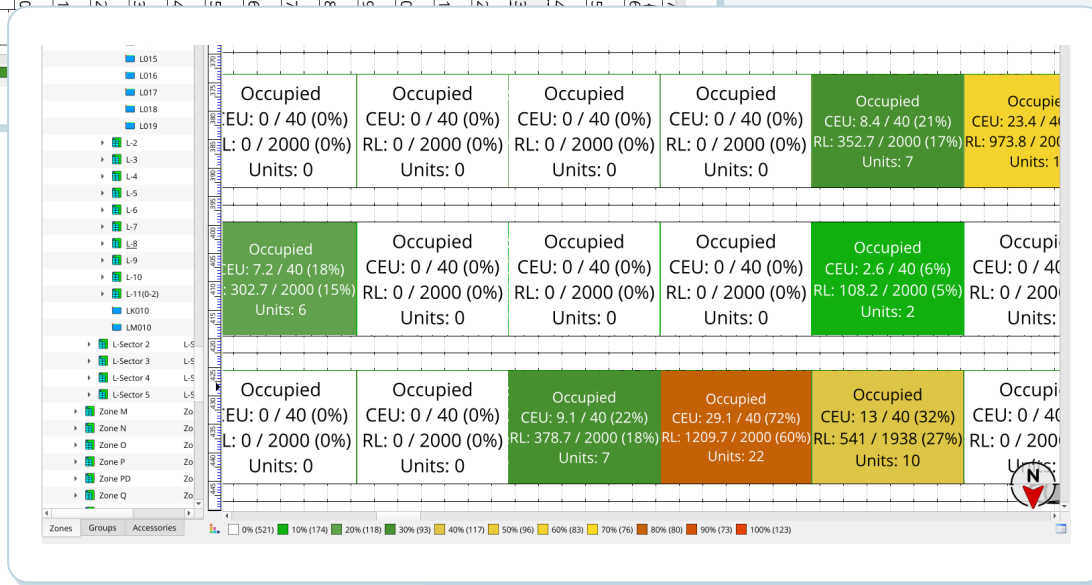
This is especially effective whenever yard equipment units such as RTGs use GPS transmitters. In this case dispatchers can monitor all actions as they actually take place with no delay. The GUI is customizable with regard to displayed information and design

Personnel & Equipment productivity
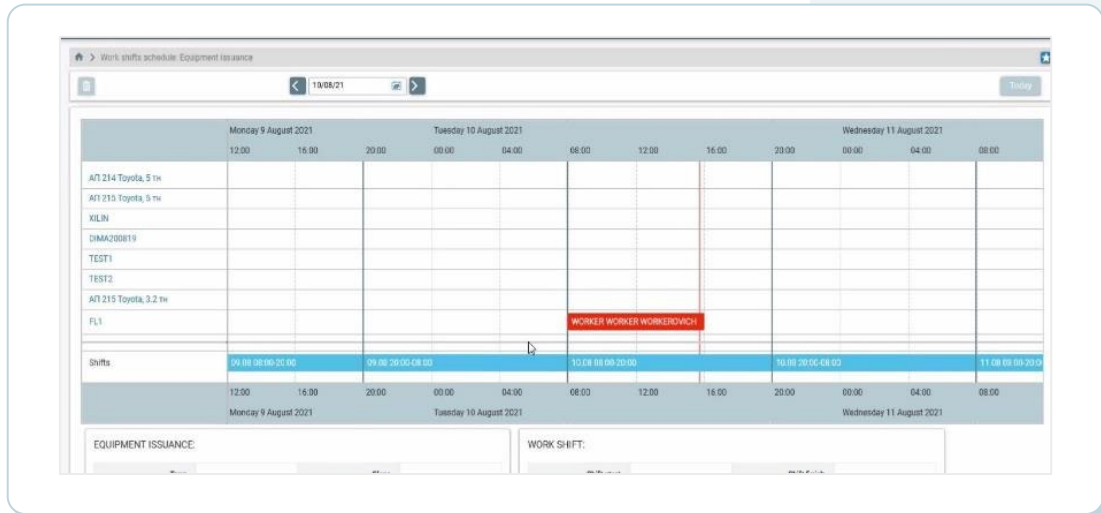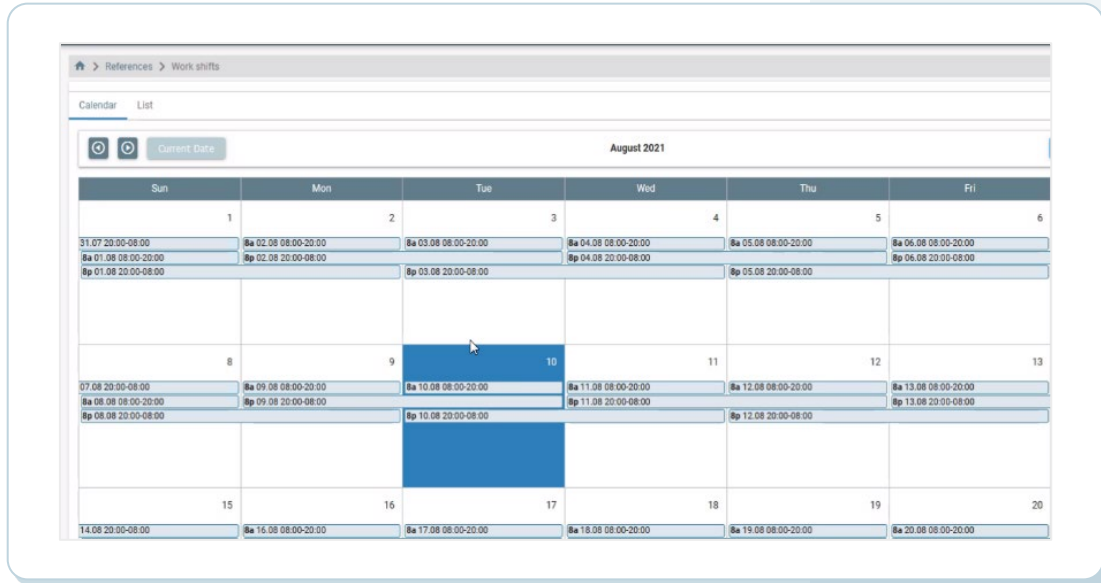
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The dispatcher plans in advance and then controls the execution of the work-orders, using an interactive terminal map and data received in real time from RDT mounted on vehicles or held by tallymen.

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.

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 (non-productive container moves)

- Eliminating human factor

- Improving health and safety ops

- Finding efficiencies in processes and logistics

- Improving margins

- Reducing operating costs
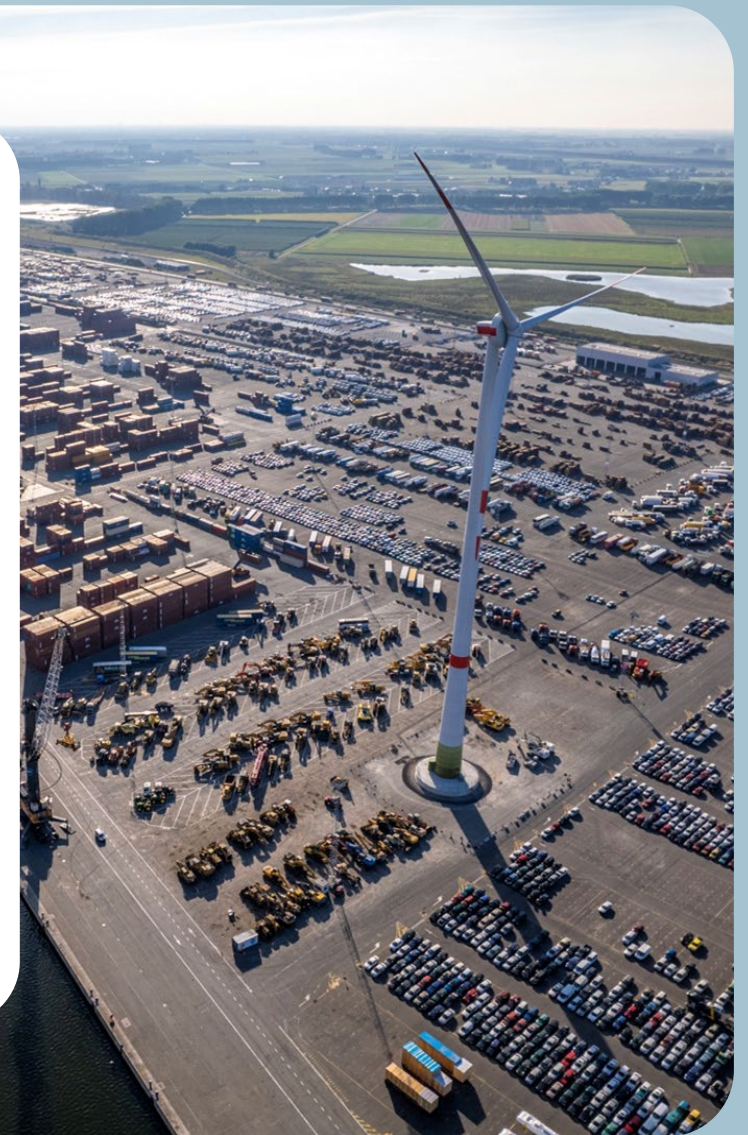
The solution
is here!

Giovanni Migliaccio,
Vice President
Sales & Marketing