

TRANSAS

DMIS

Port Management Information Systems

**Management of ports using
innovative 3D visualization technologies**

4th Black Sea Ports&Shipping 2015/Istanbul-TURKEY

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Port Management Information System

Innovative Approach Towards Port Management

Contents

- Transas Marine Profile
- PMIS Overview
- Key Modules and Functionality
- 3D Integration
- Benefits/Conclusions



Transas Marine

International High-Technology Corporation

Transas Marine is a global established player in the marine market with major references, global sales network, comprehensive products portfolio and involvement in large-scale R&D projects.



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Solutions

High-Technology Marine Products



Onboard Navigation and Communication Systems



Charts and Data Services



Simulation Systems



Port and Vessel Traffic Management Systems



Training Solutions (ECDIS Training, Technical Trainings, CBT)



Global Service & Support Network

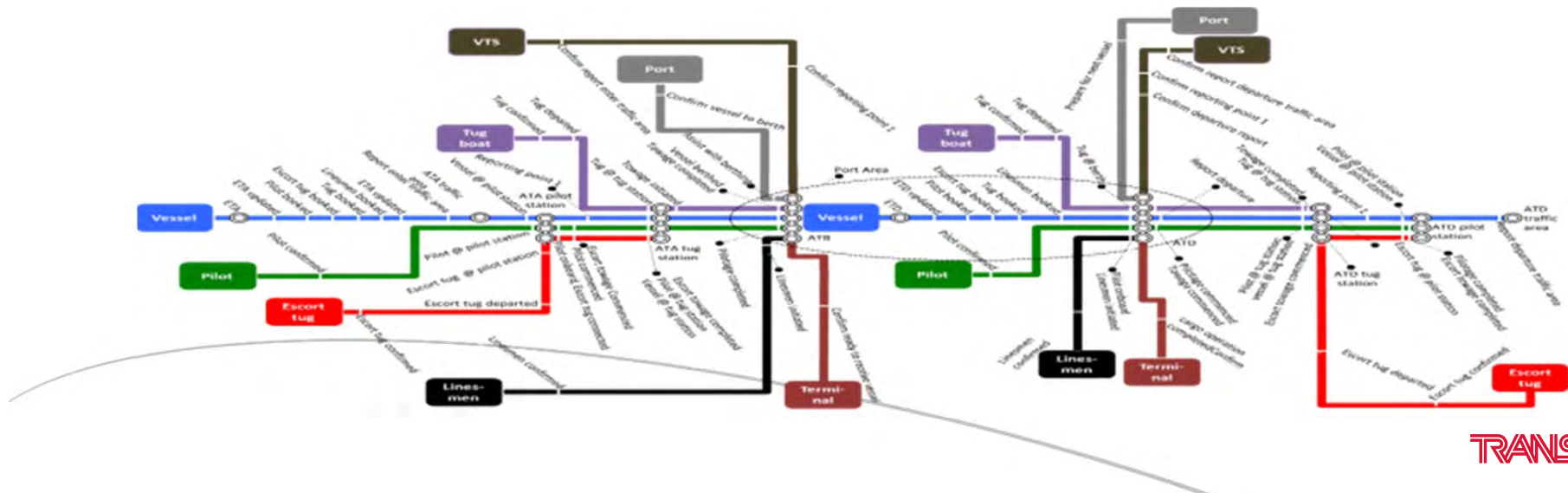




Transas Port Management Information Systems

Challenges in Port Operations

- The complexity of the port operations involving many activities by different actors and most are using none compatible systems
- The efficient use of port assets, equipment and facilities and measuring the efficiency of operations with improved dashboard&reporting tools
- Collecting data of all operations in time and as integrated for collaborative decision making
- Integration with 3rd party systems like VTS, PCS and distributing the data for different stakeholders



Port Management Information System

Overview

- Comprehensive system for real-time management of port operations
- Cloud/ Software as a Service (SaaS) and traditional client location installable models
- Vessel Call Management
- Berth Allocation Management
- Pilot & Tug Management
- Resources Management
- Billing and Customer Relationship Management Module
- Cargo Management Using 3D tools
- Integrated Live Port Map (Real-time view of port locations status)
- Seamless integration with VTS
- Possible further integration with Mobile Pilots Application & Simulation Software



Port Management Information System

Modular Approach



Efficient Solutions for Day-to Day Port Operations

Vessel Traffic Management

- Vessel Information Management
- Arrival/Departure Notifications
- Port Services Management

Commercial Operations Management

- Dynamic Offer Design
- Customized Billing and Tariff System
- Contract Management
- Subcontractors Management
- Reporting

Vessel Calls Management

- Vessel Calls Planning
- Berth Management
- Vessel Call Documents Control
- Coordination of Agents Notifications
- Resources Allocation

Terminal Operations Management

- Gate Entry-Exit Operations
- 3D Yard Display
- Yard Planning Control
- Dynamic Yard Definition
- Monitoring and Control of Warehousing Activities

Cargo Operations Management

- Equipment Management
- Cargo Monitoring and Movement Plan
- Workforce Management
- Electronic Data Exchange (EDI)
- Customs Control Software

Role-Based System Access

- Automatic Port System Authorization Level Identification
- Information Entry Definition

Customer Relationship

- Inter-departmental and Customer Communication
- Job Requirement Entry System
- Kiosk and PC Control and Tracking System



External Databases
VTS/AIS
Management & Accounting
software packages
Mobile Pilot Application
Simulation Software

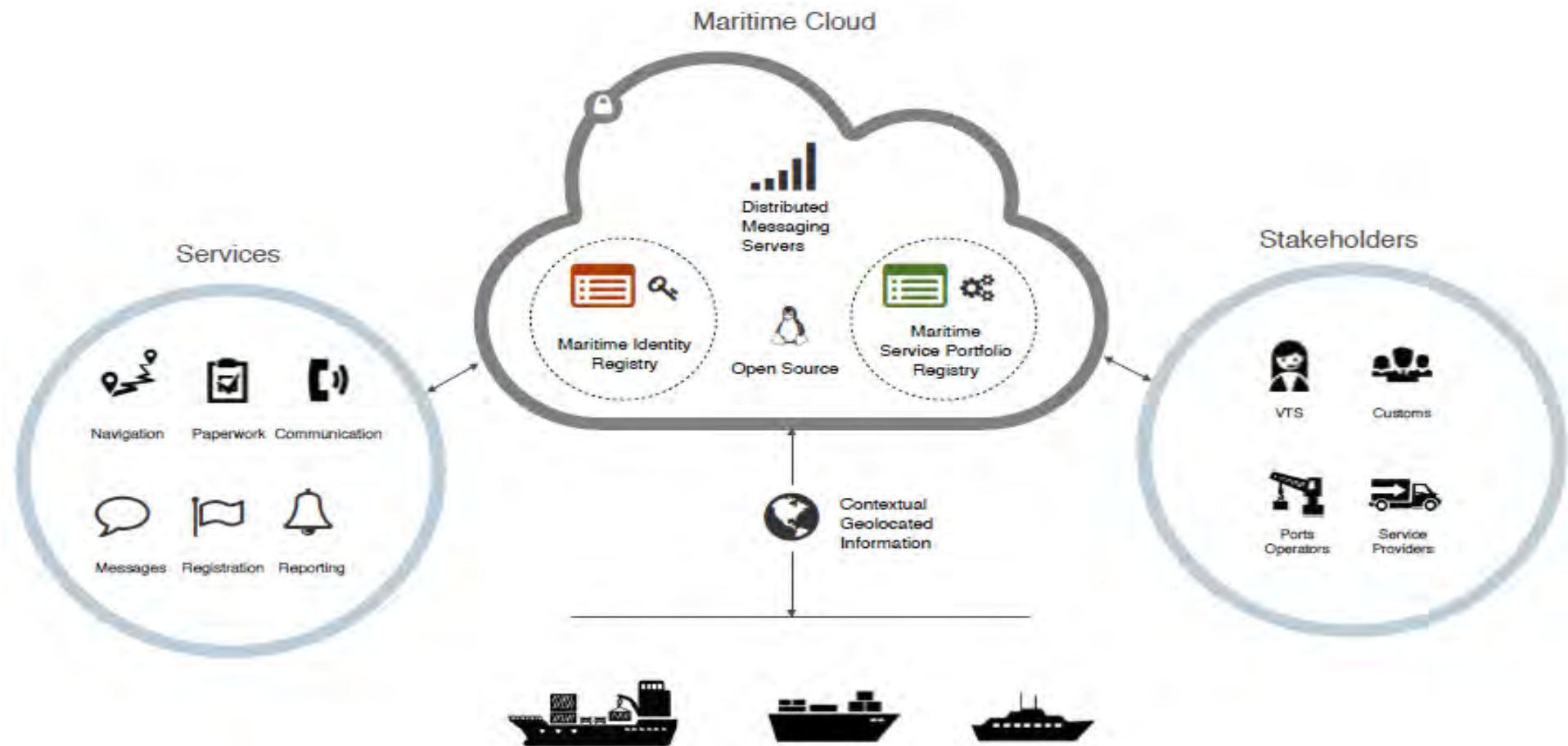


On-demand
Applications

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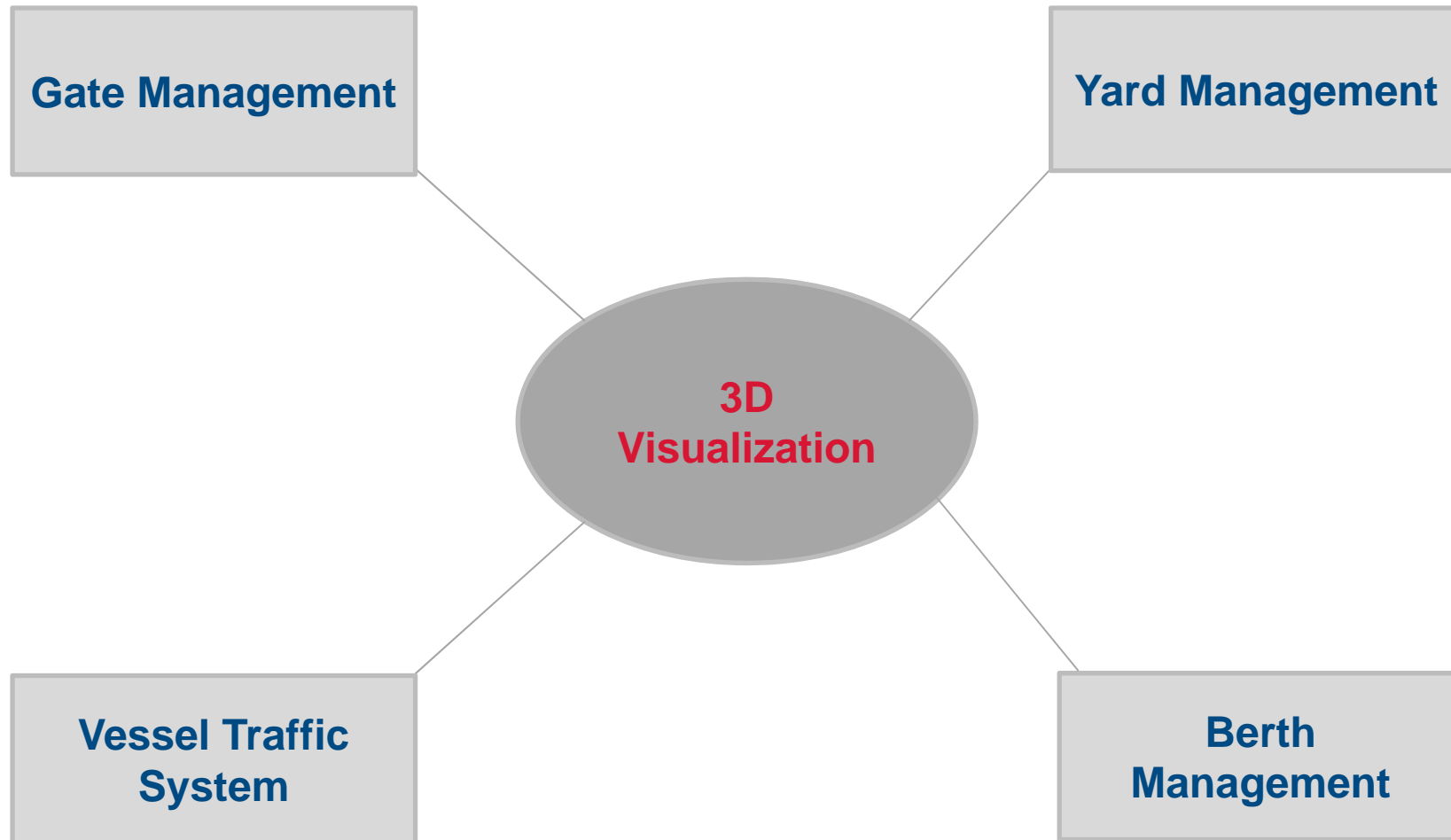
e-Navigation Infrastructure

Maritime Cloud



PMIS

Port Management Information Systems



An aerial photograph of a busy port. Several large cargo ships are docked at the pier, with yellow and blue container cranes positioned along the quay. The foreground shows a large, paved yard filled with numerous stacks of white and grey containers. In the background, a city is visible on a hillside, and the sea extends to the horizon under a clear blue sky.

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Gates, Berth and Yard Management

Integrated 3D Visualization Tool

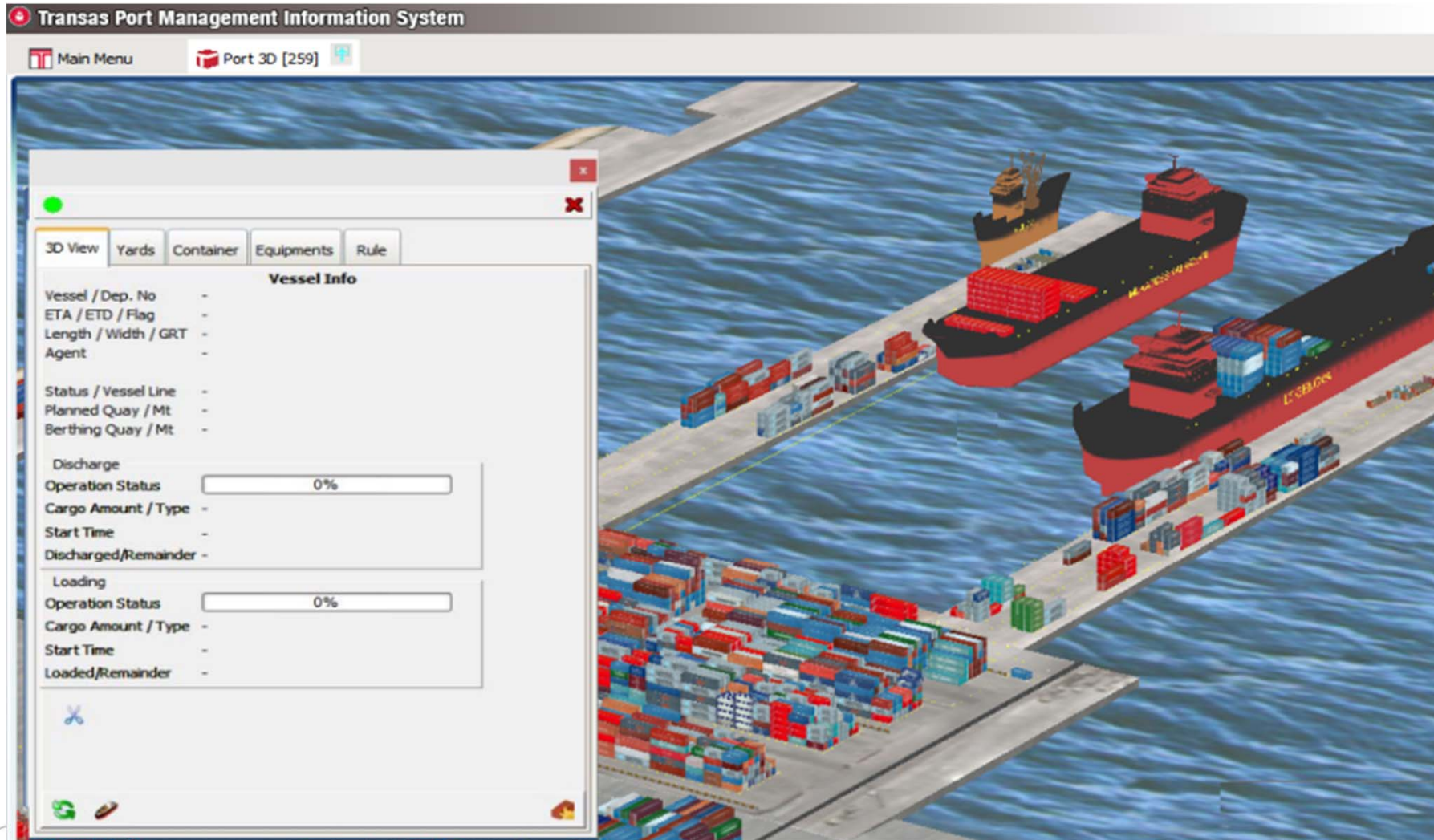
Gates, Yard and Berth Management in 3D

Interactive Display of a Terminal Layout Using 3D Drawing Tools

- 3D visualization of a terminal, including yard, buildings, warehouses, quay cranes, Cargo and vessels
- Cargo movement is monitored real-time in 3 dimensions
- Well-organised management of job orders using 3D display
- More optimized yard planning with a minimum number of operators
- 3D visual displays of all equipment (MHC, SSG, RTG, STACKER, Terminal Tractor etc.) identified in the system through the apparatus placed over WLAN via the aid of GPS support
- Tracking of overall traffic within the port
- Maximizing berth productivity

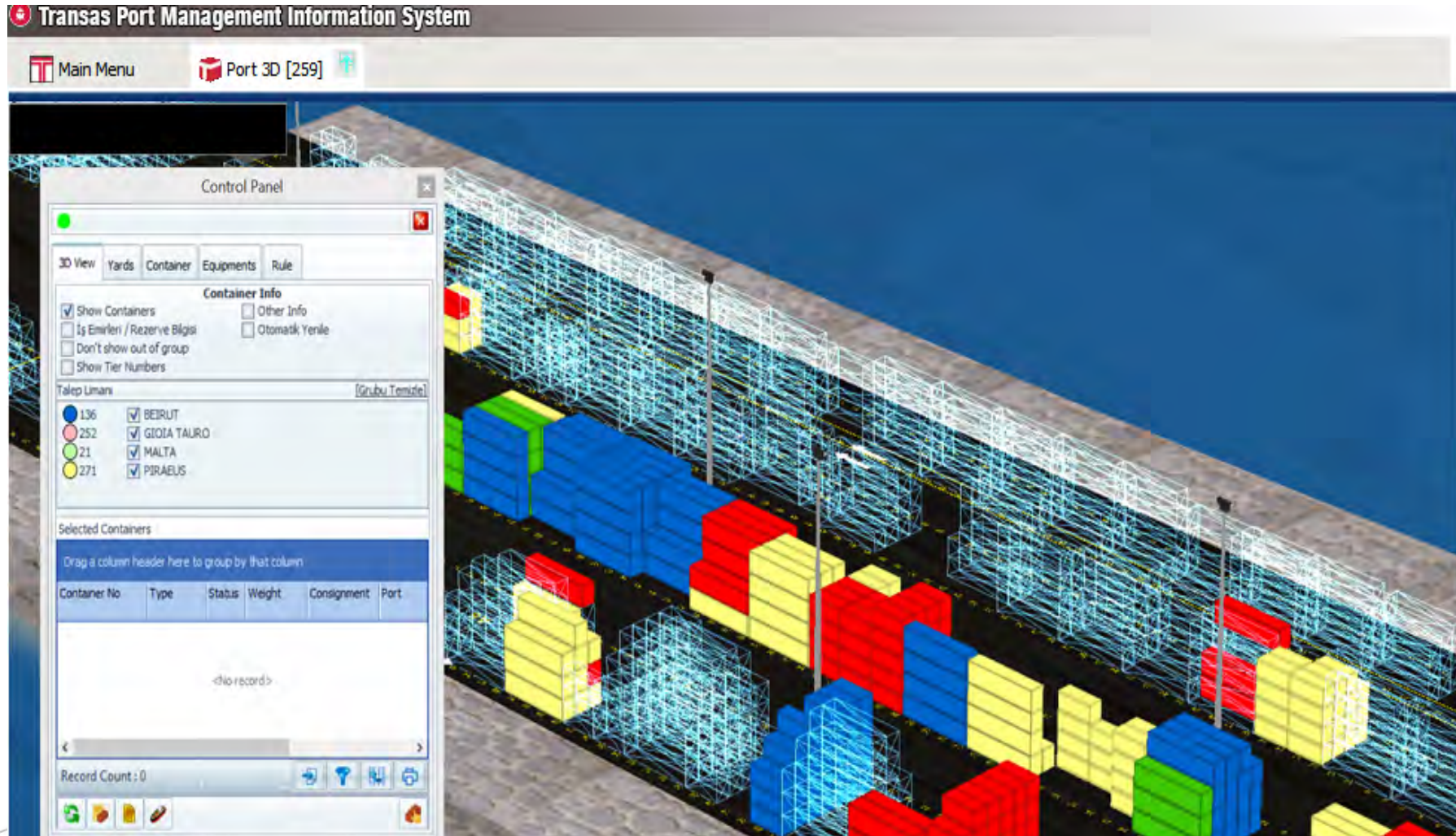
Berth Management

Berth Allocation in 3D



Yard Operations

3D Visualization of Containers



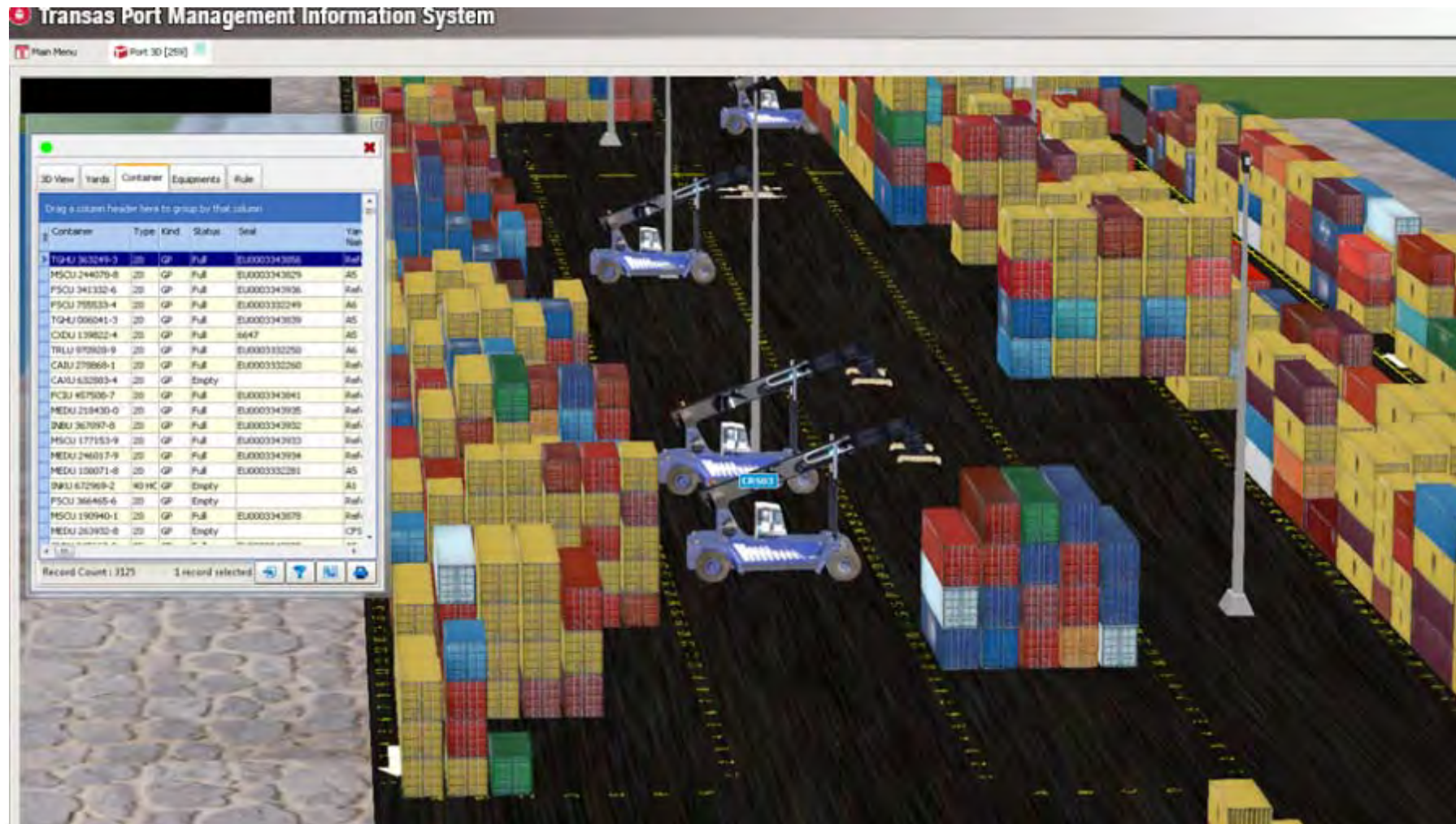
Terminal Operations System

3D Monitoring of Cargo Movement



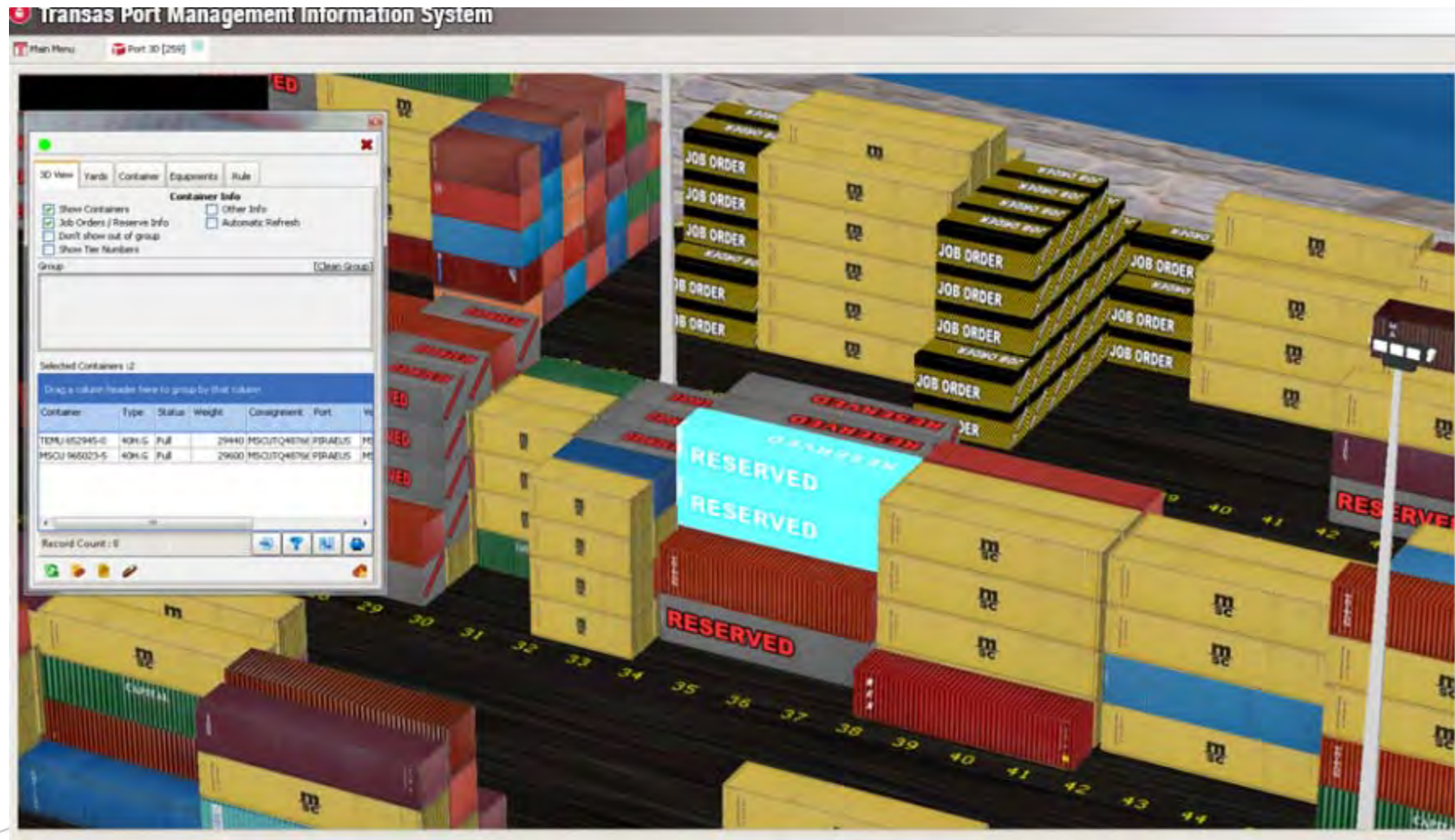
Terminal Operations System

3D Visualization of Container Terminal



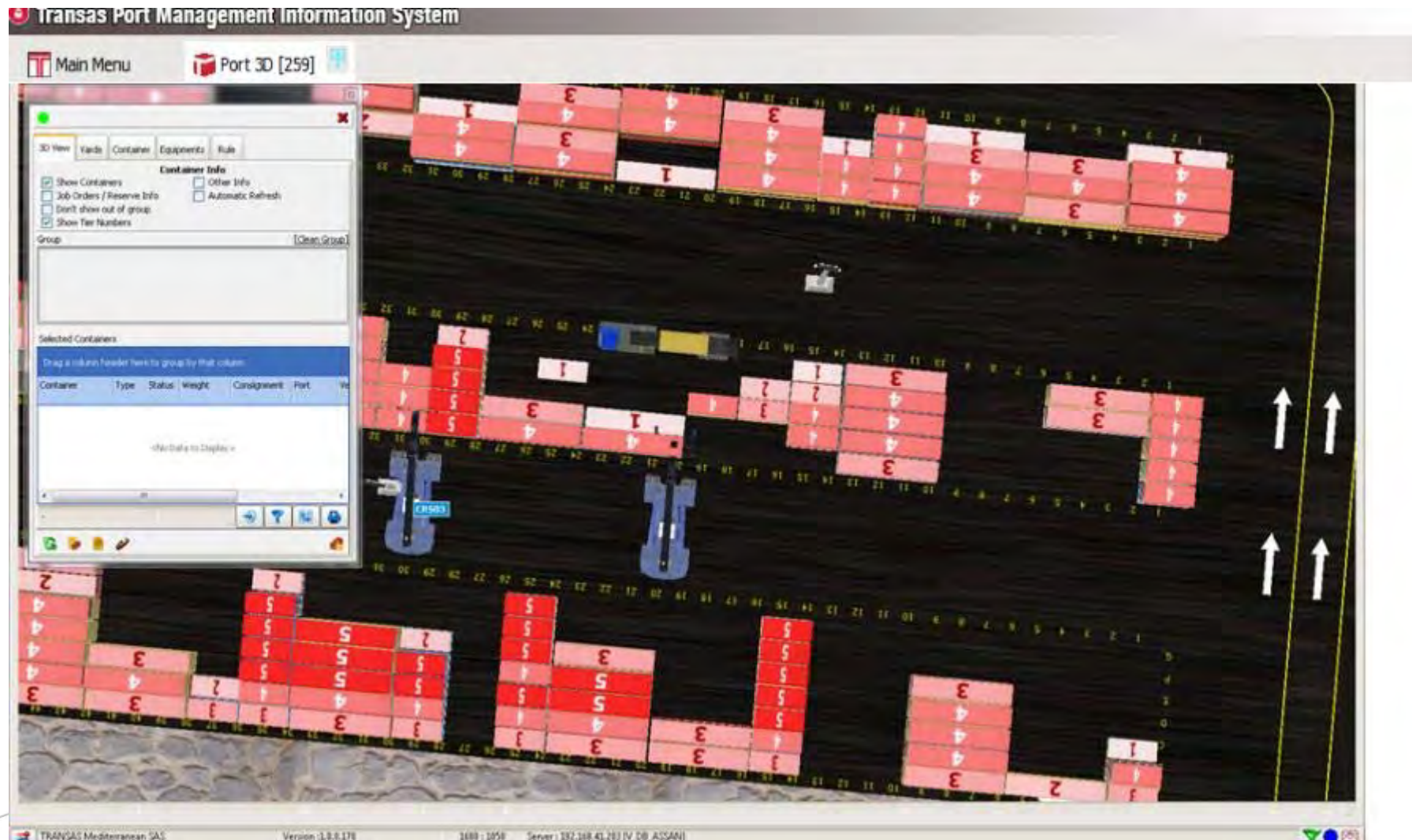
Terminal Operations System

3D View of Container Terminal



Terminal Operations System

3D View of Containers





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Reporting & Dashboards Module

Integrated 3D Visualization Tool

Reporting and Dashboards



A man is seated at a desk in a control room, surrounded by multiple computer monitors. The monitors display various maps and data, including a large map of the world and several smaller maps showing specific regions. The room is dimly lit, with the primary light source being the screens. The overall atmosphere is professional and technical.

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Vessel Traffic System

Integrated 3D Tool

VTSS Operation Module

VTSS software is integrated with PMIS in order to monitor vessels traffic within a port at any given date and time with 3D functionality

- Full-scale 3-dimensional view of the navigational situation in a port
- VTSS operator is provided with 3D presentation of a current port environment
- Vessel movement (arrival/turnaround/departure) and information on 3D display
- Traffic images are fully interactive for adjusting both the angle and position of view
- Enhance navigation, particularly when used in poor visibility, debriefing, training, planning and security situations
- Ideal functionality for analysis and debriefing of incidents on a port territory as well as incident prevention

Live Port Map

Real-time view of port areas and vessels

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Welcome Administrator

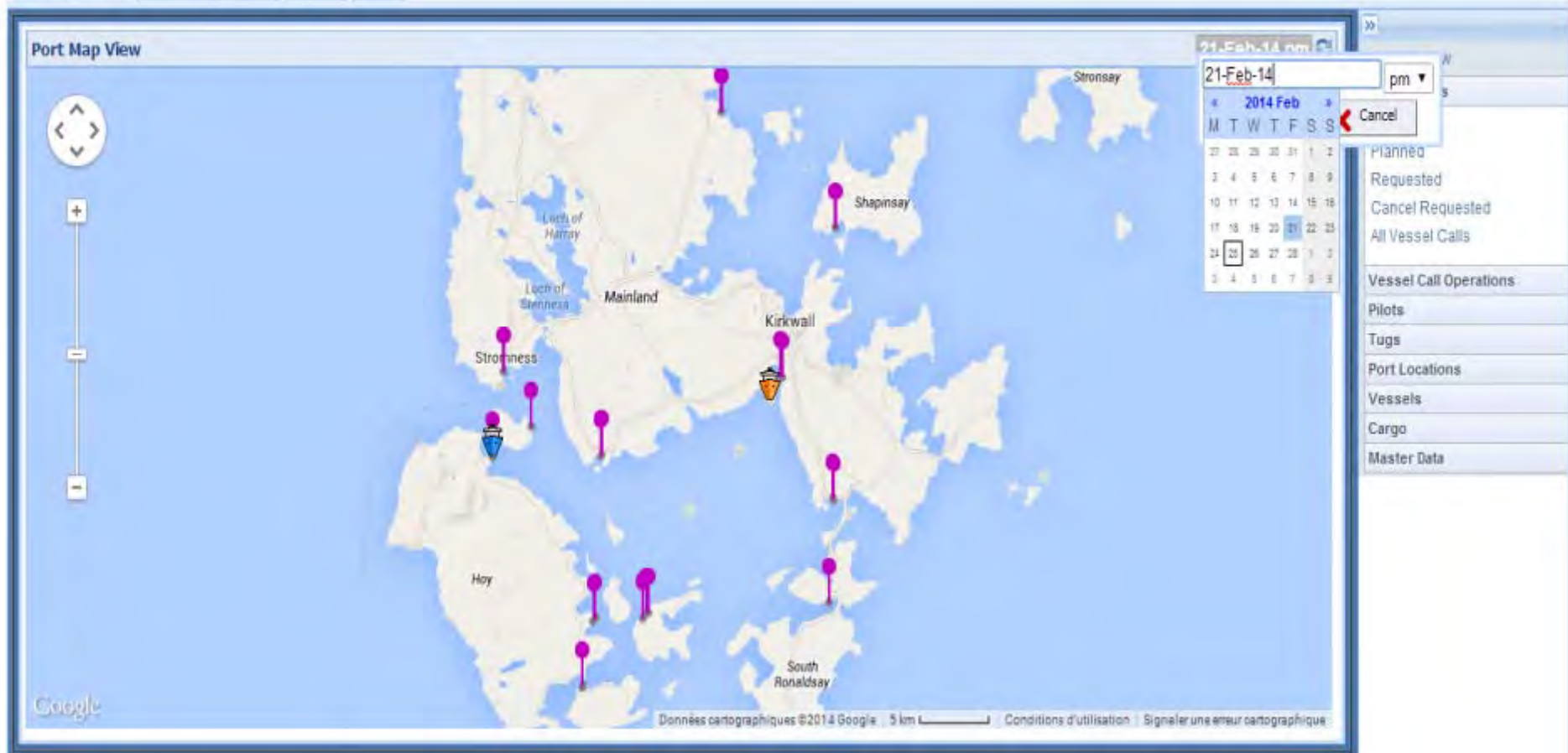
ORKNEY ISLANDS COUNCIL
Marine Services

Port Operations

Terminal Operations

Reports

Admin



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VTs Integration

Vessel Information and Movement in 3D format

Unknown vessel status

Vessel entering a VTS area

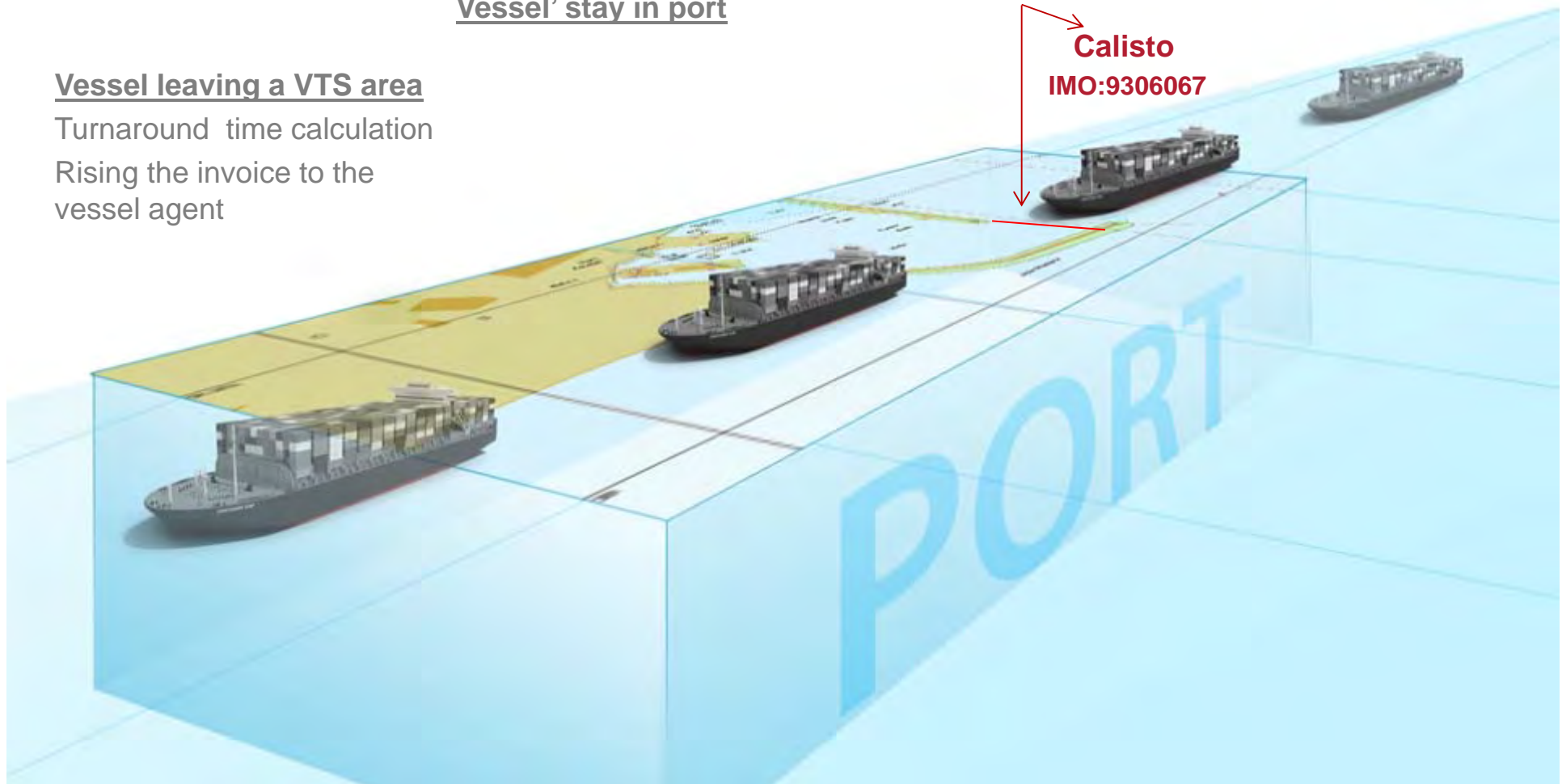
Crossing the reporting lines
Vessel identification

?

Vessel' stay in port

Vessel leaving a VTS area

Turnaround time calculation
Rising the invoice to the vessel agent



Benefits of 3D Technology Integration in PMIS

- Realistic representation of a port environment
- Improved supervision and optimization of all port operations
- Enhanced convenience of data interpretation
- Higher level of port control and stability
- Increased employee and stakeholder satisfaction
- Increased productivity while decreasing the man-power (labor) requirements
- Cost efficient solution/Return of Investment in a short time period

Thank You!

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