UN CAPACITY-BUILDING SEMINAR

System overview of PMIS for Port of Baku

Marco Politi, DBA Group VP Sales

Zakaria Valikov, Port Expert, Port of Baku

2023

DBA GROUP

DBAGROUP

is an **independent** holding (group of companies) specialized in **Consultancy**, **Architecture**, **Engineering** and **Project Management** services and **ICT** solutions focused on **lifecycle management** for **buildings** and **mission critical infrastructures**

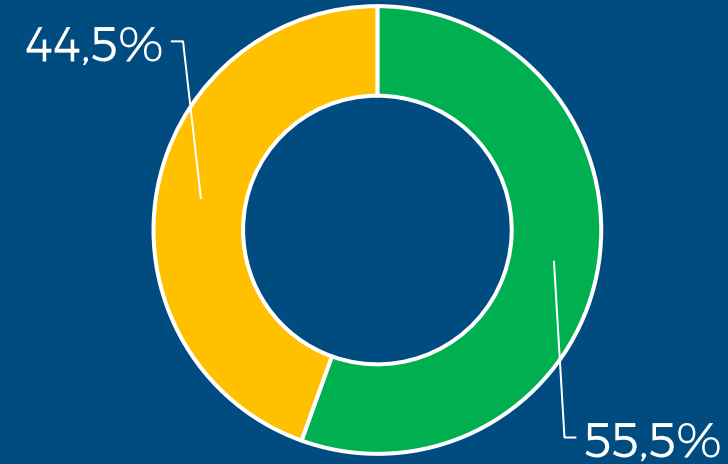| 95+	400+	900+	8	32
*MN EUROS IN SERVICES AND PRODUCTS	ACTIVE CLIENTS	SKILLED PROFESSIONALS	COUNTRIES	YEARS OF EXPERIENCE

Engineering, Consulting and ICT Solutions

*data 2022 proforma, including
General Planning at 10,4MnEuro*

DBA**WORLDWIDE**

The Group operates through its **15** offices in Italy and **10** abroad

44,5%

55,5%

DBA OFFICES

Italy, Albania, Azerbaijan, Bosnia and Herzegovina, Croatia, Montenegro, Serbia, Slovenia

PROJECTS AREAS

Angola, Bulgaria, Denmark, Egypt, Estonia, Georgia, Greece, Jordan, Kyrgizistan, KSA, Liberia, Mexico, Morocco, Portugal, Romania, Russia, Spain, Taijkistan, Thailand, Turkey, UK, Venezuela

AREA	SALES 2022
ITALY	53,1 Mn €
ABROAD	42,6 Mn €
TOTAL	**95,7 Mn €**

* data 2022 proforma, including General Planning at 10,4MnEuro

A COMPLETE SOLUTION FOR THE PORT OF BAKU

TOS Ro-Ro

MUTOS

PCS

POCC

BILLING
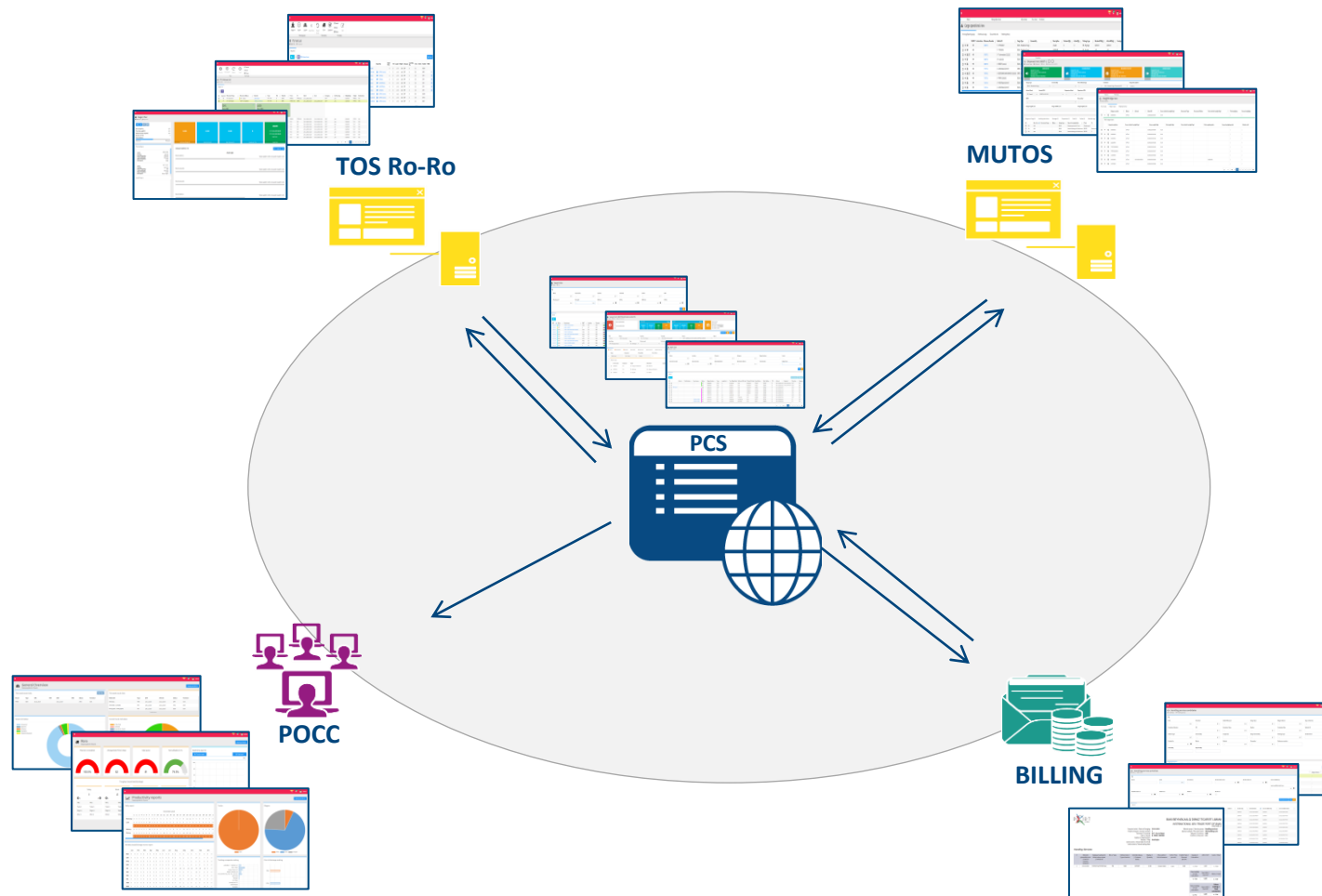
Developed Modules

Integrated web based solution developed with new technologies for multi port/terminal usage.

Main Modules:

- **Port Community System** (PCS),

- **Terminal Operating System for Ro-Ro** (TOS Ro-Ro)

- **Terminal Operating System for Multiuser Terminal** (MUTOS)

- **Billing Module** (BLL)

- **Port operational Control room** (POCC)

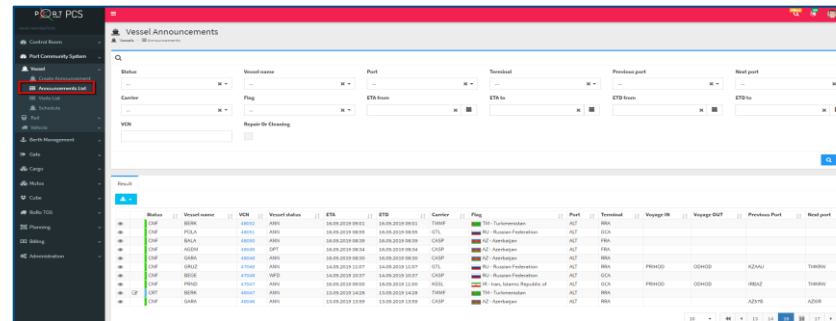# PCS - Vessel Module functionalities 1/2

PCS Vessel Module

➢ **Creating Vessel's announcements:**

- various modes of filling the data into the system (manual insertion, authorizations/user roles, import excel files, integration with external IT systems;
- possibility to re-use vessel's data from previous calls (each vessel calling a port is registered in vessel's master data base)
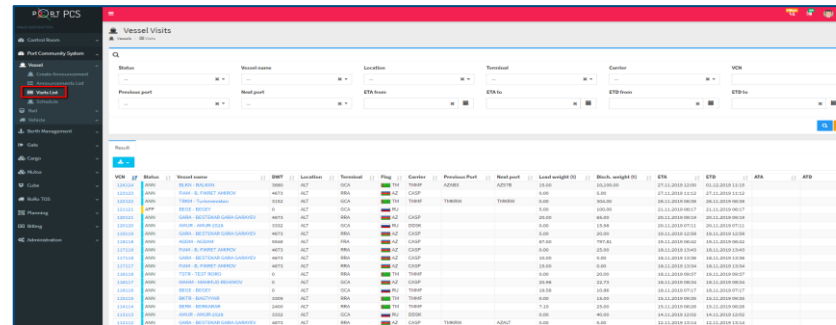- possibility to attach documents
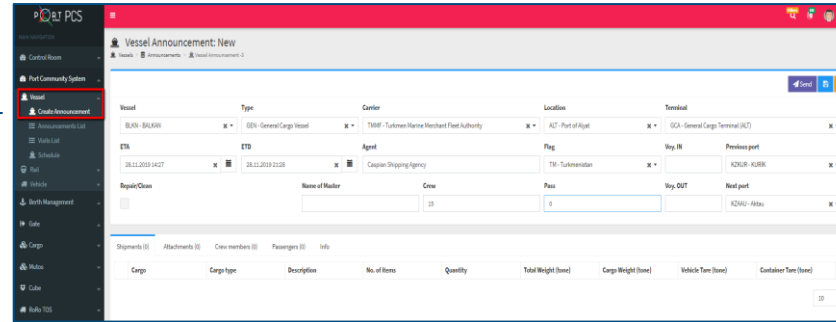
➢ **Announcement List:**
- all created vessel's announcements are registered in Announcement lists;
- possibility to modify data with new version, cancel announcement or confirm announcement

- Vessel arrival announcement (ETA)
- Vessel arrival notification (ATA)
- IMO FAL support
- Dangerous goods
- Cargo manifest
- Berth assignment
- Operational progress
- Permission to leave
- Vessel departure announcement (ETD)
- Vessel departure notification (ATD)
- Statement of fact
- Attachments, SMS and e-mail notifications
- Interaction with Customs

➢ **Vessel Visit List:**

- every vessels gets unique ID by which is than tracked during stay in port by different statuses;
- possibility to view vessels details (vessel's master data);
- managing approvals from different authorized entities;
- registering all operations during vessels' stay in port;
- allocation of berths – logical control of berth feasibility basing on pre-defined parameters for each berth and vessel's characteristics;

PCS - Vessel Module functionalities 2/2

PCS Vessel Module

➢ **Vessel Visit List :**
- vessel's characteristics;
- complete insight into vessels operations in one place (from approvals, arrival, berth, commission visit, loading/unloading, stops, departure);
- operational data are retrieved from TOS Modules (TOS Ro-Ro, MUTOS, Cube) in real time (using hand held devices ;
- possibility of viewing in real-time loading/unloading process i.e. quantity of cargo announced vs work done (conditioned with usage of hand held devices)

➢ **Schedule:**
- complete insight into a vessels schedule in real time (expected vessels, vessels in port, departed vessels);
- possibility of editing schedule;
- complete visibility of source of data change (user) and time of change;

All mentioned lists can be exported in Excel.

- Vessel arrival announcement (ETA)
- Vessel arrival notification (ATA)
- IMO FAL support
- Dangerous goods
- Cargo manifest
- Berth assignment
- Operational progress
- Permission to leave
- Vessel departure announcement (ETD)
- Vessel departure notification (ATD)
- Statement of fact
- Attachments, SMS and e-mail notifications
- Interaction with Customs

PCS - Rail module functionalities

PCS Rail module

➢ Create wagon announcement:

- various modes of inserting the data into the system (manual insertion, authorizations/user roles, import excel files, integration with external IT systems;
- easily adding new wagons;
- possibility of inserting shipments, parties additional information
- possibility to attach documents
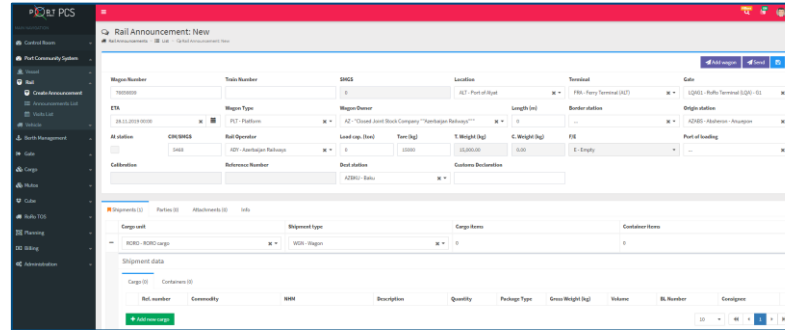
➢ Rail Announcement List:

- all created wagon announcements are registered in Announcement lists;
- possibility to modify data with new versions, cancel announcement or confirm announcement;
- different stages are shown by different statuses of announcement process (created, canceled, deleted, confirmed, new)
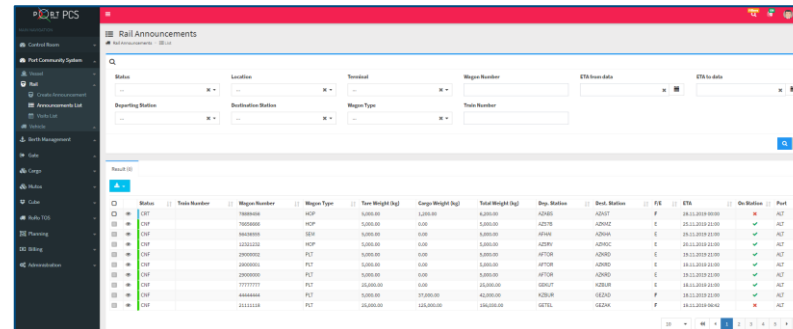
➢ Rail Visit List:

- every wagon can be tracked during stay in port by different statuses, by direction, location and terminal;
- registering all wagon operations during wagon stay in port;
- operational data are retrieved from TOS Modules (TOS Ro-Ro, MUTOS, Cube) in real time (using hand held devices ;
- visibility of cargo delivered/picked up in real time
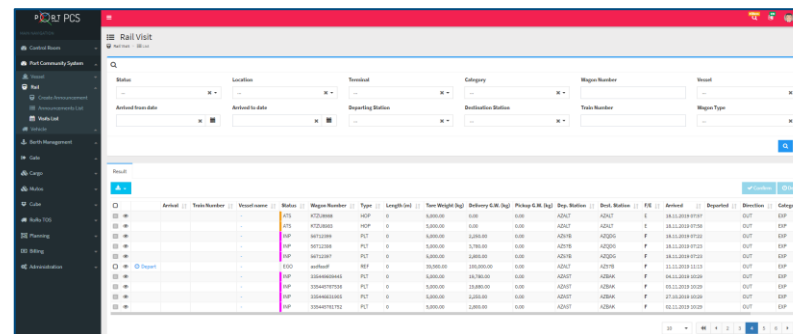
- Rail wagon pre-announcements
- Rail wagon announcements
- Loading and discharging orders
- Manipulation ending notifications
- Train Arrival/Receipt
- Train Dispatch
- All supporting documentation
- Handover and return of rail cars/wagons between Terminal and rail carrier
- PCS can easily integrate and exchange messages with any Cargo operators, following the message standards, and could quickly adopt to changes

# PCS - Vehicle module **functionalities**

➢ Create wagon announcement:

- various modes of inserting the data into the system (manual insertion, authorizations/user roles, import excel files, integration with external IT systems;
- possibility of inserting shipments, parties and additional information
- possibility to attach documents

➢ Vehicle Announcement List:

- all created vehicle announcements are registered in Announcement lists;
- possibility to modify data, cancel announcement or confirm announcement;
- different stages are shown by different statuses of announcement process (created, canceled, deleted, confirmed, new)
- Possibility to search vehicles by bar code assigned by customs

➢ Vehicle Visit List:

- every vehicle can be tracked during stay in port by different statuses, by direction, location and terminal;
- registering all vehicle operations during it's stay in port;
- operational data are retrieved from TOS Modules (TOS Ro-Ro, MUTOS, Cube) in real time (using hand held devices ;
- visibility of cargo loaded in real time;
- tasks assigned to trucker (obligatory weighing for particular cargo)

PCS Vehicle module

- Truck arrival announcements
- Truck entry approvals
- Truck entry permits
- Truck arrival notifications
- Truck entry
- Customs block
- Truck exit

PCS - Cargo module **functionalities**
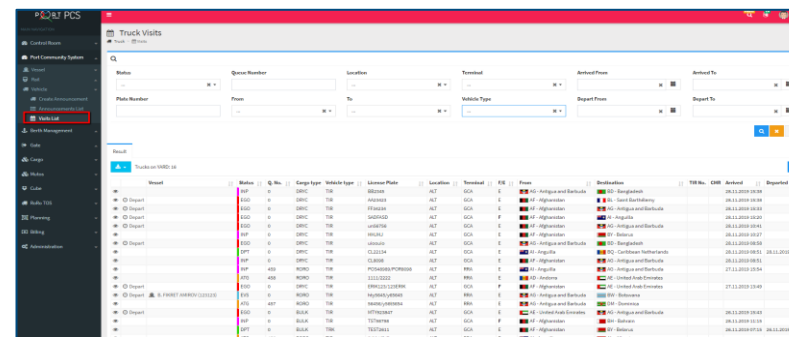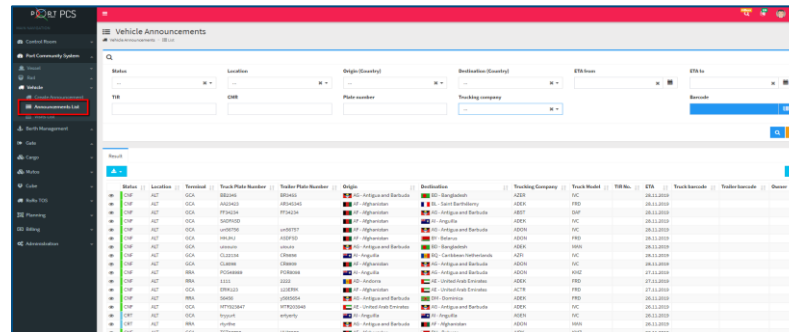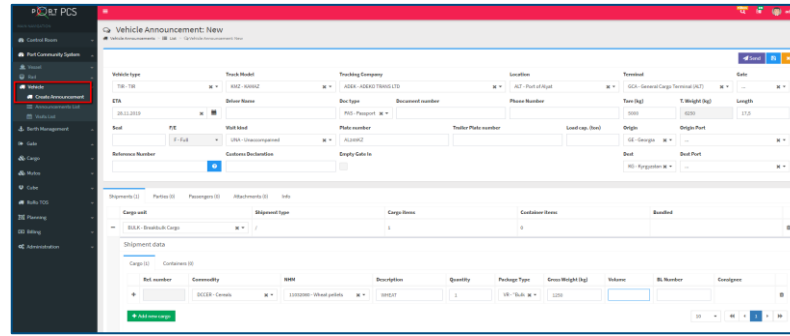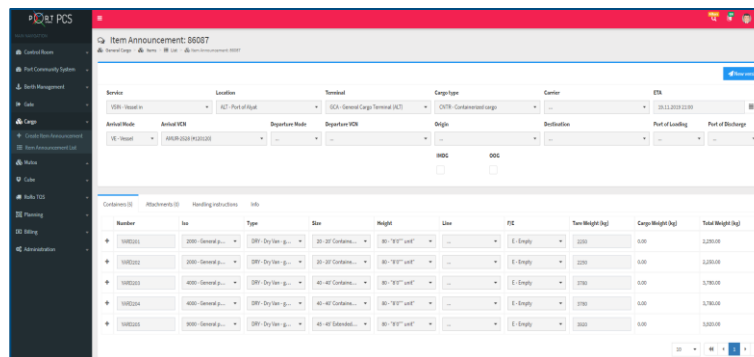
➤ Cargo announcement

- various modes of inserting the data into the system (manual insertion, authorizations/user roles, import excel files, integration with external IT systems;
- cargo announcement for all types of transport and cargo types in one place
- possibility of inserting shipments, handling instructions and additional information, temperature, seals;
- Supports dangerous cargo, OOG;
- possibility to attach documents

➤ Item Announcement List:

- visibility of cargo announcements with different statuses;
- possibility to edit announcements;
- insight in mean of transport by which the cargo is announced;
- confirmed item announcements receives unique ID reference number by which are traced during it's stay in port;
- items with assigned reference number are transferred into TOS for further operational process
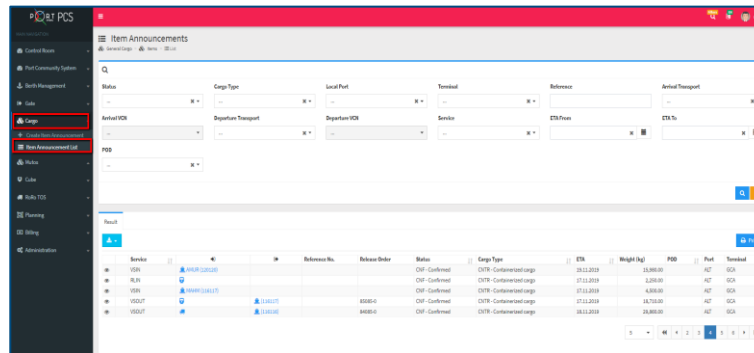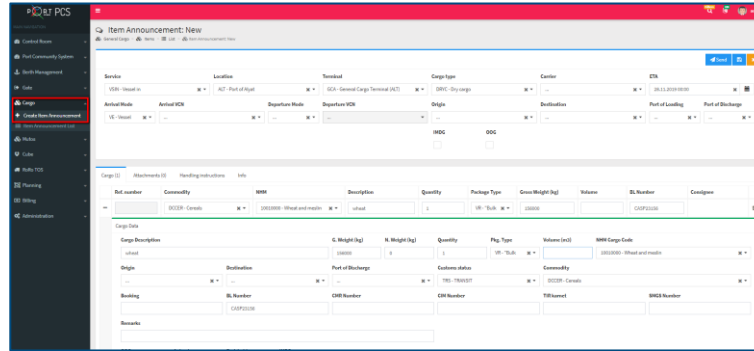
- Creating announcement of Cargo (Item announcement) by service (vessel, truck, rail in/out)

- Possibility to add attachments, handling instructions and other information relating to announced cargo

- Each announced item when confirmed receives shipment identification reference number

- Information of shipment is transferred automatically into TOS - Shipment Visit List where complete tracking of shipment can be done

PORT COMMUNITY SYSTEM

External Stakeholders

Internal Stakeholders

PMIS

Vessel Module

Vehicle Module

Train Module

Cargo Module

AZERBAIJAN
CASPIAN SHIPPING COMPANY

Shipping Company

Customs

ADY
Azerbaycan Demir Yollari QSC

Railway operator

Agents/ Forwarders

PORT AKTAU
KAZAKHSTAN

Other Ports

TOS MUTOS

TOS RORO

TOS CT CUBE

BILLING

CONTROL ROOM

GATE
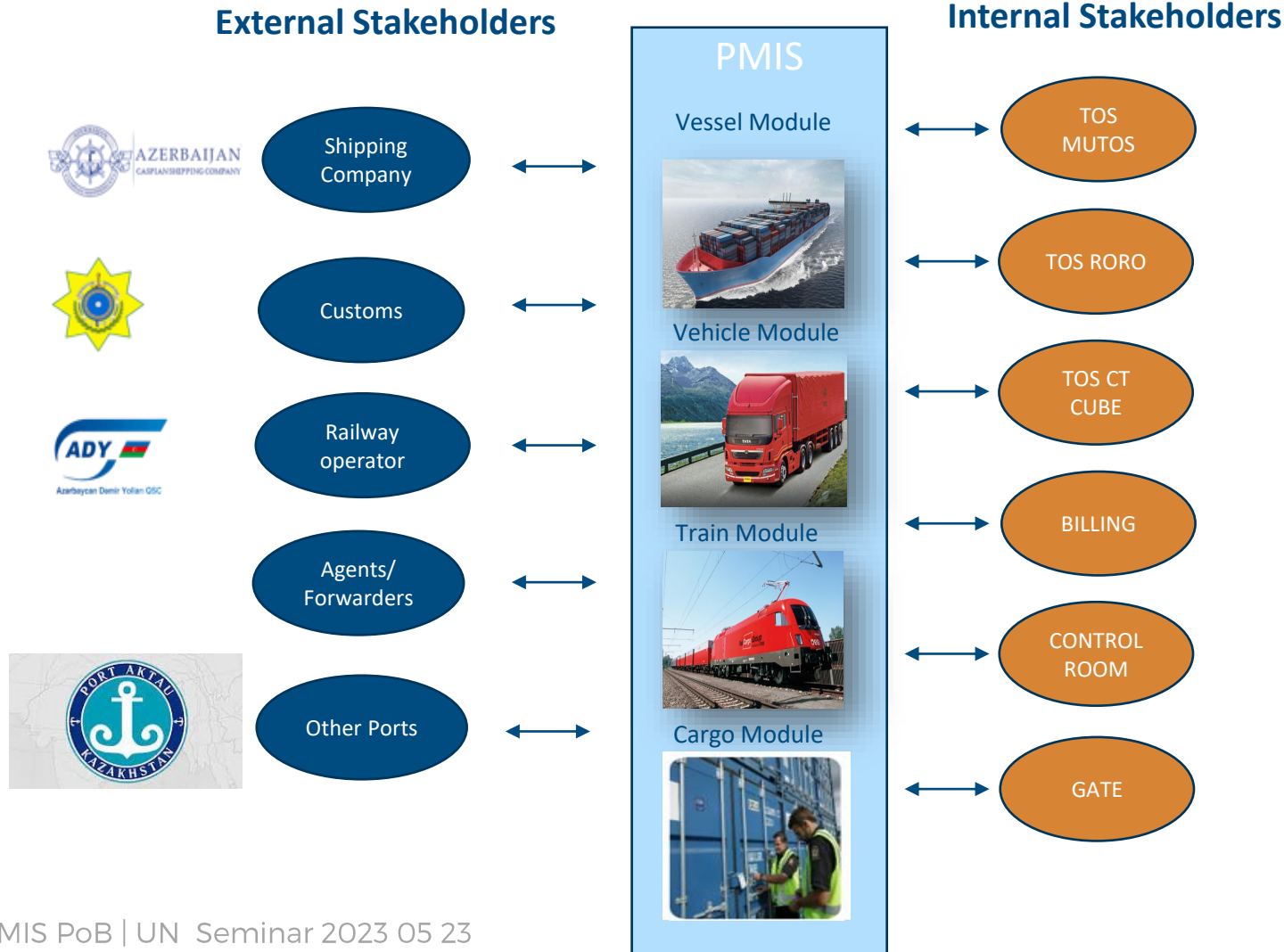
The PoB PCS System is created in accordance with Single-Window paradigm. The basic principle is that all data is submitted into the system only once.

Data can be submitted by computer messages or directly from the web user interface.

The submitted data can also be changed and corrected.

Access to data is only for those users, who have appropriate user rights.

Integration with:

- Customs
- National Railway Operator
- Caspian Shipping Company
- Port of Aktau (KZ)

Integration

```
<Message
  xmlns:xsd='http://www.w3.org/2001/XMLSchema'
  xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance'>
<Header>
  <Sender>POB</Sender>
  <MessageType>VAN</MessageType>
  <Action>CRT</Action>
  <Recipients>
    <Recipient>
      <string>KZAAU</string>
    </Recipient>
  </Recipients>
  <Date>2021-06-16T06:05:06.3752519Z</Date>
</Header>
<Payload>
  <VAN
    xmlns:xsd='http://www.w3.org/2001/XMLSchema'
    xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance'>
  <MessageRef>POB180694</MessageRef>
  <VesselCode>BARS</VesselCode>
  <VesselName>BARYS</VesselName>
  <VesselType>GEN</VesselType>
  <VesselLenght>113.00</VesselLenght>
  <VesselDwt>6400</VesselDwt>
  <TerminalCode>GCA</TerminalCode>
  <VoyageIn></VoyageIn>
  <VoyageOut></VoyageOut>
  <VesselImo>9814521</VesselImo>
  <PreviousPort>AAU</PreviousPort>
  <Etd>2021-06-16T19:00:52.159Z</Etd>
  <NextPort>AAU</NextPort>
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  <CarrierOperatorAgent></CarrierOperatorAgent>
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</Payload>
</Message>
```
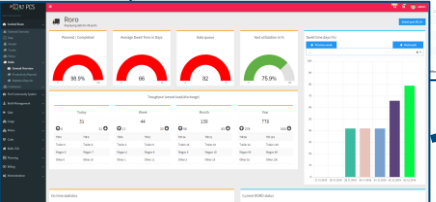
PORT OF BAKU

PORT OF AKTAU

180694 Barys

THE FIRST «FULLY DIGITISED» VOYAGE NUMBER

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CASPIAN SEA

The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT)

➢ **Key areas of Work**

1. **Code List Recommendations**
2. **Trade Facilitation Recommendations**
3. **Standards**
4. Projects
5. Public Reviews
6. UN/LOCODE Advisory Group

Of the above 6 areas of work in all our implementations we consider and strictly follow 3 areas.

➢ **Code List Recommendations**

Our solutions have build in all international codelists, based on UN recommendation (Rec) :

- Rec.3 – Code for the Representation of Names of Countries
- Rec 19 – Code for Modes of Transport
- Rec 16 – LOCODE Code for Trade and Transport Locations
- Rec 7 – Numerical Representation of Dates, Time and Periods of Time
- Rec 9 – Alphabetic Code for the Representation of Currencies
- Rec 10 – Codes for the identification of Ships
- Rec 19 – Code for Modes of Transport
- Rec 21 – Codes for Passengers, Types of Cargo, Packages and Packaging Materials (with Complementary Codes for Package Names)
- Rec 28 – Codes for Types of Means of Transport

By using UN recommendation, it is easier to synchronize different codes used by external TOS or other systems that are integrated with PCS. Standardized codes mean that all integrated systems can communicate with a single code instead of using different codes.

The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT)

➤ Trade Facilitation Recommendations

By following best practices set up by UN our solutions benefit from worldwide harmonize international trade procedures and information flows.
We strictly follow:

- **Rec 25** – Use of the UN Electronic Data Interchange for Administration, Commerce and Transport Standard (**UN/EDIFACT**)
  This allows us to integrate with all lines across the globe and exchange information about arriving shipments, containers and vessels.

- **Rec 33** – **Single Window** Recommendation

  This allows us to build and implement information systems that enable reuse of the information and data and minimize the user input of the same information

- **Rec 37** – **Single Submission** Portals (SSPs)

  We help economic operators to not only fulfil their declarative obligations through a single portal, but also propose **information exchange** between economic operators creating a seamless use of information along the entire supply chain. These can come in many forms, from Port Community Systems, Cargo Community Systems to Customs Clearance Systems and Freight Forwarder Systems.

➤ Standards

Our solutions strictly enforce the use of standardized data and information. We convert as much as possible data into structured standard. Preventing human error by limiting the user to choose from the drop-down list. When integrating with 3rd party systems we validate data based on international standards to increase the data quality.
All communication with external system is done by using the **XSD schemas**. Enabling strong data validations and data control
All **code** exchanged with other systems are standardized and follows **UN recommendations**
All international transport documents (B/L, Rail Consignment note, CIM, CMR, etc) are following UN recommendation on XSD schemas and standardization of data

TITR logistic corridor

New Silk Road terrestrial corridors characteristics:
➢ Multimodal/intermodal that involves multiple interchange points
➢ Multicountry and Multilanguage
➢ Cross border interaction of multiple stakeholders (e.g. customs, border police,…)
➢ Integration between different transport modes involving transport operators, freight owners, infrastructure owners, government and public authorities

Main goal of transport corridor/TITR:
➢ Increase competitive advantage vs. sea routes (**efficiency**, **safety** and **security**)
➢ Enhance the flow and storage of goods, people, and **related information**,
➢ Improve logistics and all related technological, organizational and legal conditions with the support of service providers and a facilitating institutional environment
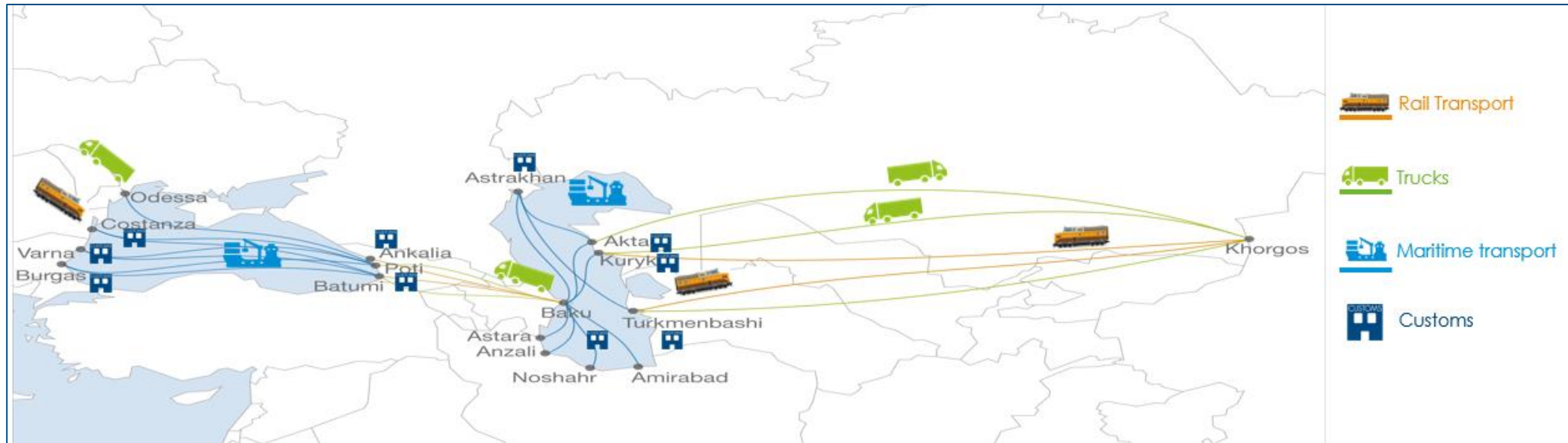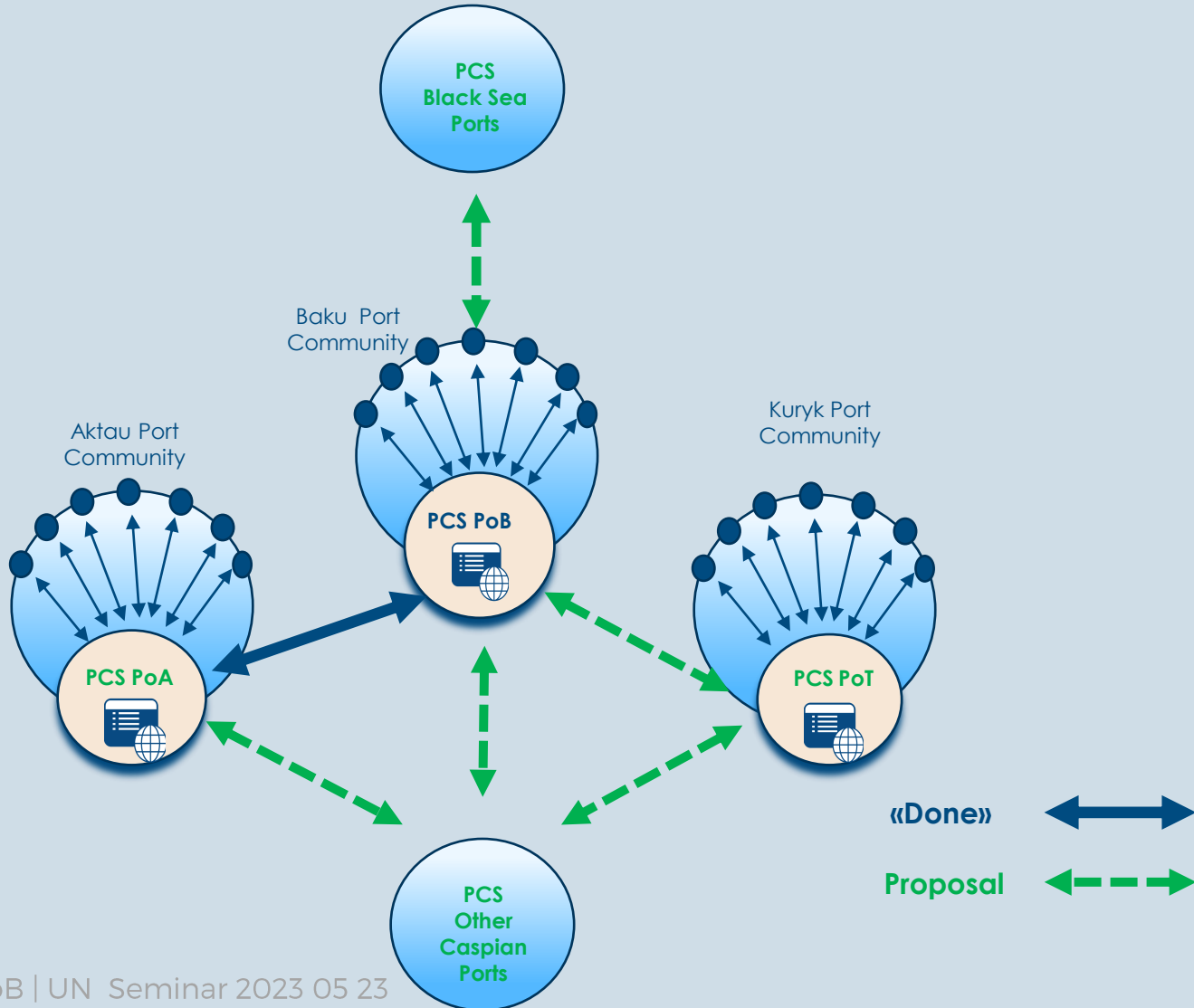

Drawbacks:
- **Physical barriers:**
  ➢ Different gauge systems
  ➢ Multimodality
  ➢ Route capacity
- **Non- Physical barriers:**
  ➢ Facilitation policies
  ➢ Customs / Border controls
  ➢ Higher costs / tariffs vs Sea route
  ➢ Partial IT systems

Integration between Caspian Ports

**Exchange of data takes place among and through Caspian ports**

Current status

"Done":

- Integration between PMIS Port of Baku (PoB), Solvo.TOS in Aktau Port (PoA)

- E-exchange of operational data relating to arriving vessel, cargo, crew

- Exchanged more than 80 different operational data

Digital Single Window

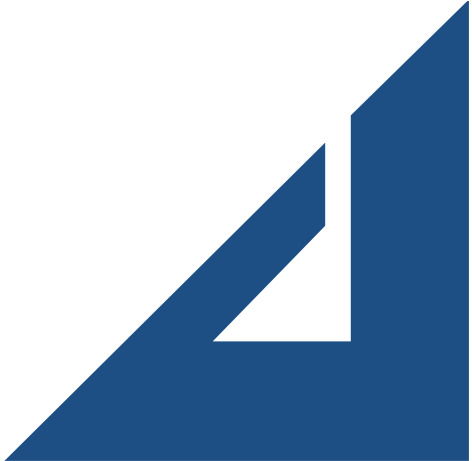## Centralized e-platform integrating all Digital Route Stakeholders
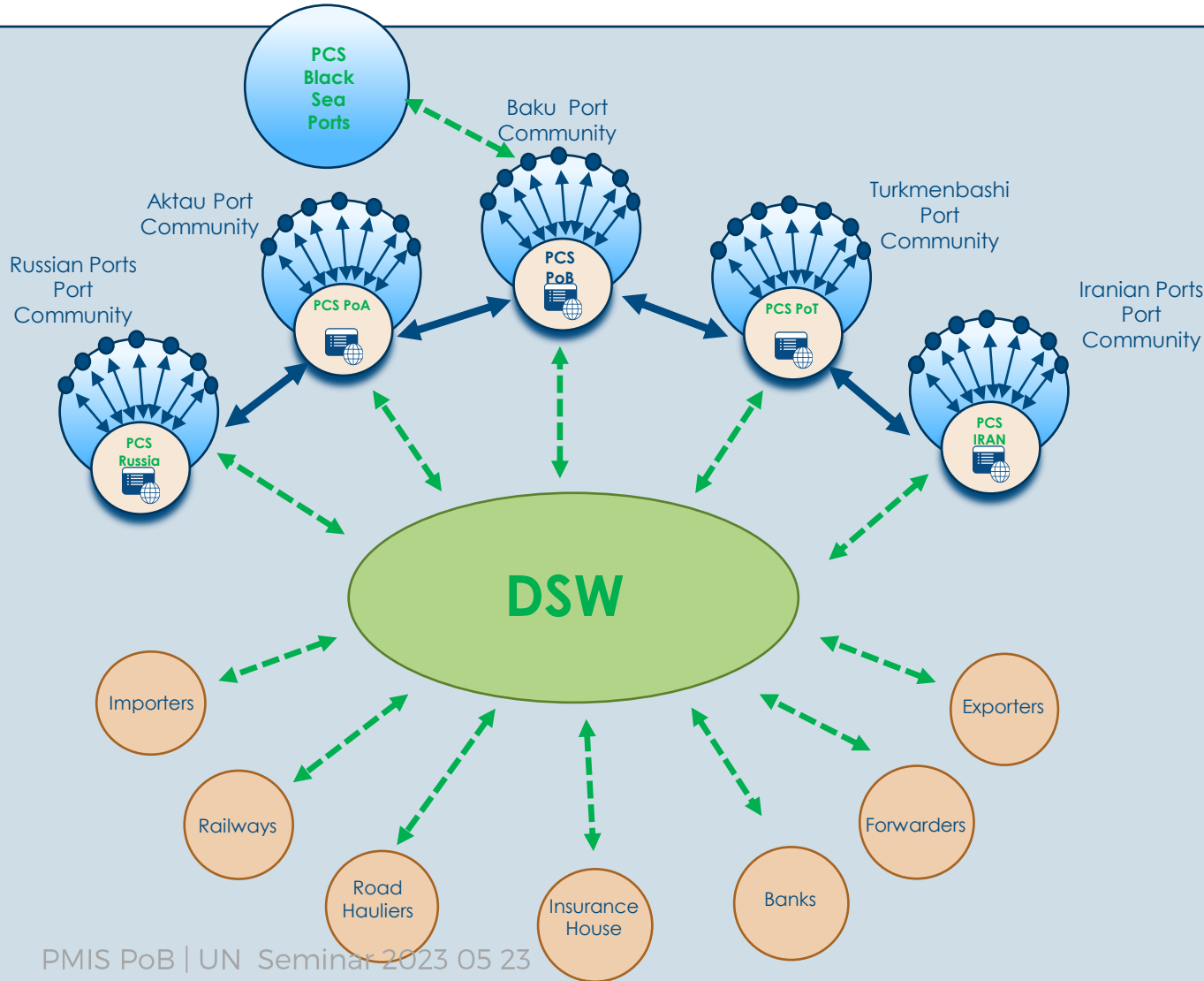
- To enable track and trace of the shipment through complete transport route, logistic operational IT systems along whole transport route should be integrated through a **centralized e-platform**

- **Local PCSs** will still be needed as every port in different country has it's own specifics i.e. operational and administrational requirements – primarily goal of PCS is to serve local port community.

- **Consent between main stakeholders** from countries should be taken on how to own, govern, manage, maintain e-platform

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WE'RE READY
FOR YOUR PROJECT