

## ***14<sup>th</sup> International Capacity-Building Seminar on Trade and Transport Facilitation***

### **TRADE FACILITATION AND DIGITAL TRANSFORMATION OF MULTIMODAL INFORMATION EXCHANGE IN EASTERN EUROPE AND SPECA, USING UNITED NATIONS STANDARDS**

**Hybrid capacity-building seminar, Baku, Azerbaijan, 22-23 May 2023**

**Major goal - link developers of the international (UN) standards for multimodal data and document exchange in the supply chain with practitioners implementing digitalization in the region**

Event organized with the UNECE, Institute of Control Systems at the Ministry of Science and Education of AZ and Ukrvneshtrans



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# Background

This Seminar - part of a series of demand-driven capacity-building events to help countries, agencies & business community in the region work to digitalize info flows in the int'l supply chain, in the Middle Corridor / TRACECA

THE MANDATE: process launched by the [International High-level Conference on Digital Transformation of Information Exchange in Supply Chains Using United Nations Standards](#), Baku, 31 Oct. 2022. recommended to:

- Strengthen training and CB for experts in the region on UN/CEFACT standards,
  - Develop and implement pilot projects, e.g., in the trans-Caspian corridor,
- SPECA [Ministerial Meeting](#) 17 April 2023 requested “UNECE to develop a Roadmap for digitalization of multimodal data and document exchange along the trans-Caspian transport corridor using relevant United Nations standards, including through realizing a regional pilot project for SPECA participating States”

[13<sup>th</sup> International UNECE “Odessa” seminar](#), 22 Dec.2022, recommended aligning data exchange with the UN/CEFACT Multimodal Transport Reference Data Model and the EU Electronic Freight Transport Information Regulation (eFTI)

So, please help with recommendations during the seminar for:

- the Roadmap for digitalization of multimodal data and document exchange along the trans-Caspian transport corridor using relevant United Nations standards, and
- developing pilot implementation projects, notably testing a digital CIM/SMGS CN

# Structure of the seminar (4 sessions):

1. How to (a) implement the package of UN (UN/CEFACT) standards in a digital corridor, with special attention to (b) drafting a roadmap on how to digitalize multimodal data and document exchange using the UN standards;
2. Pilot implementation project for the CIM/SMGS railway consignment note – an incremental approach to building a multimodal corridor along the international supply chain;
3. Port community systems as a multimodal information exchange hub or platform and other segments of the multimodal exchange;
4. Partnerships, including coordination with partner organizations and donors and possible support for pilot projects.

Prepare conclusions and recommendations

Reach MoU, plan of action for pilot test

Elements for a Roadmap

Agree with partners

# Standards and tools

During COVID19 a package of standards and supporting tools for digitalization of data and document exchange (consignment notes, bills of lading and additional documents) in the five modes of transport finalized. Objective: interoperability of data exchange. Published at <https://unece.org/trade/uncefact/mainstandards>:

Transport and Logistics
Multi-Modal Transport Reference Data Model (MMT-RDM)
International Forwarding and Transfer
Transport Booking
Shipping Instruction
Waybill
Transport Status Report / Request
Maritime Bill of Lading
Road Consignment Note (eCMR)
Air Consignment Security Declaration
Air Dangerous Goods Declaration
Air Way Bill
Rail CIM-SMGS (URL)
Rail CIM-SMGS Consignment Note
Rail SMGS Consignment Note
Rail Wagon List
Inland Waterway Bill
Smart Containers IOT Device Notification
Pipeline Data Exchange Standard (PDES)
IMO FAL Compendium
Verified Gross Mass (VERMAS)

Technological neutrality is essential. Semantic standards, MMT RDM, UN/TDED provide an IT lingua franca that can be used for various technologies: UN/EDIFACT, XML, JSON, API, blockchain, etc., interoperable across legal regimes, modes, sectors, countries, unions

1. Standardized data exchanges (executive guide; business requirement specification; business name structure; subset; CCL structure; XLS guideline structure; XSD schema; UML diagram; HTML index, using as a model the e-CMR standard) [www.unece.org/unecefact/mainstandards.html](http://www.unece.org/unecefact/mainstandards.html), already prepared for the following documents:

- eCMR
  - Cross Industry Invoice
  - Cross Industry Delivery
  - Cross Industry Catalogue
  - Cross Industry Quotation
  - Cross Industry Remittance Advice
  - Cross Industry Scheduling
  - Cross Industry Ordering Process
  - Material Safety Data Sheet Details (MSDS)
  - Contract Financial Execution Management
  - Market Research Information
  - Verified Gross Mass (VERMAS) documents
  - International Forwarding and Transfer documents
  - Smart container information
  - A number of agricultural certificates, accounting and other documents
- These standards you can find at [www.unece.org/trade/unecefact/mainstandards.html](http://www.unece.org/trade/unecefact/mainstandards.html)

2. Standardized data exchanges published in October 2020, making information already in the MMT-RDM more easily discoverable

- Provisional booking
  - Firm booking
  - Booking confirmation
  - Shipping instructions
  - Waybill
  - Status report
  - Status request
  - Packing list
  - RASFF (Rapid Alert for Security of Food and Feed)
- (published at [www.unttc.org](http://www.unttc.org) and

3. Standardized data exchanges to support cross-modal cargo transfers

- Inland water transport contract document: IWT “Bill of Lading”; CMNI consignment note; etc.
- Maritime waybill.
- CIM/SMGS and SMGS Consignment Note;
- CIM/SMGS Wagon List (+ Commercial Act, etc.)
- eCERT (sanitary-phytosanitary certificates and basis for other certificates): aligned to the Buy-Ship-Pay Reference Data Model

4. Air cargo and dangerous goods documents:

- **airwaybill,**
- **dangerous goods declaration, and**
- **consignment security declaration**

FIATA multimodal Bill of Lading +

**Common foundation for all multimodal data & e-docs based on UN/CEFACT standards & reference data models – Stakeholder agencies retain control over their documents and legal frameworks. EU’s eFTI Regulation uses MMT RDM**





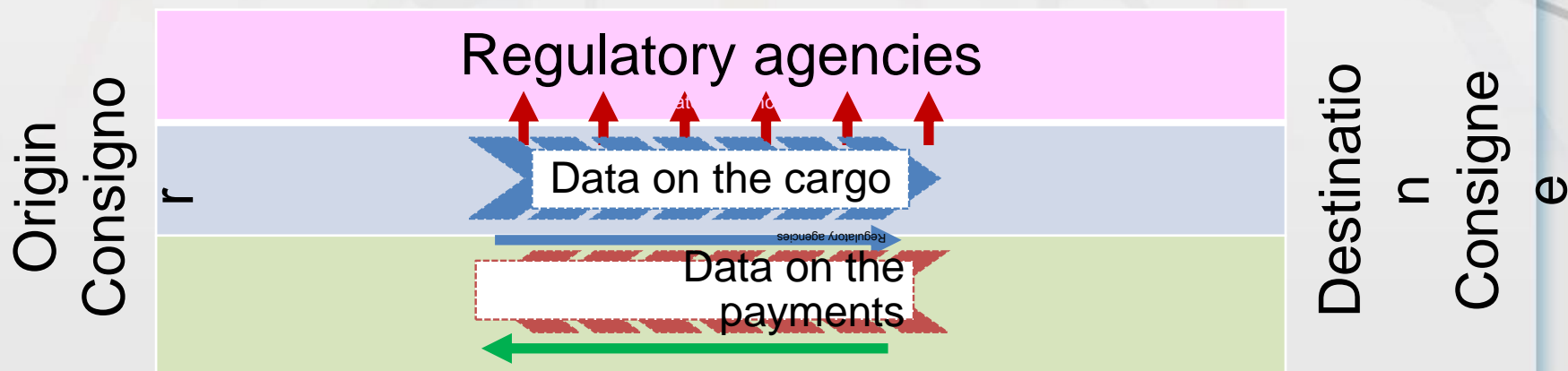
# Multimodal data and document exchange in a digital trade corridor

- **Develop multimodal data exchange - part of the supply chain in the Middle Corridor**
- **Based on the UN/CEFACT Multimodal Transport Reference Data Model**
- **Using digital exchange platforms supported by the governments in each country**

## Support for building a Digital Corridor for trade and transport, using the UN semantic standards and reference data models

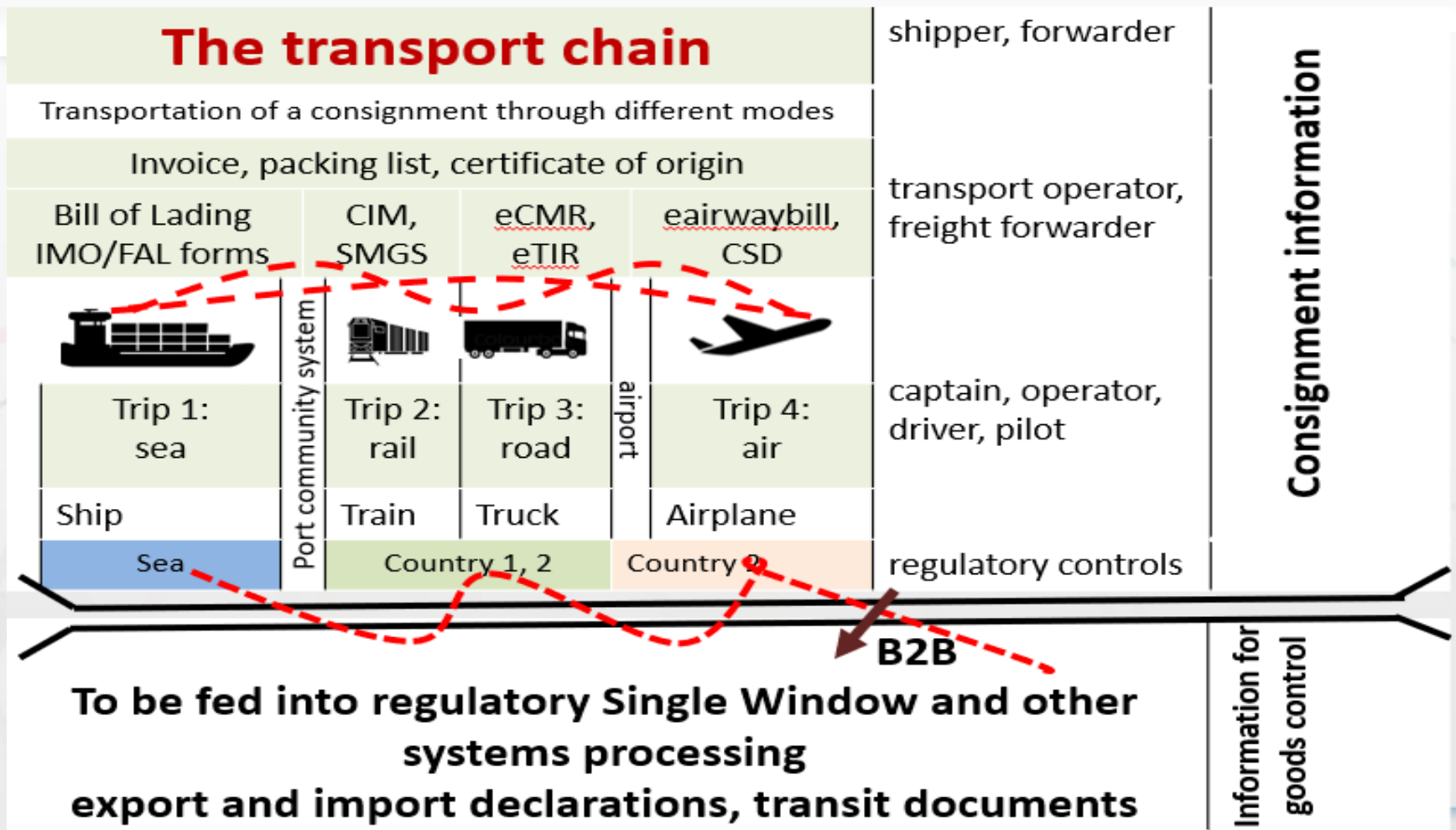
Working definition of Digital Corridor for trade may include the following:

- Digital Corridor as an electronic platform (or combination of platforms) connecting multiple entities to share information on the status of movement of goods in a contingent set of locations.
- Connection of systems from origin to destination through a set of EDI messages, schemas, or APIs: the basis for accepting digital data to facilitate the cross-border movement of goods.
- Data exchange in a regional setting (critical for regional integration)
- Issues: free flow of information, data protection, cybersecurity, “localization”, etc.
- Involves several layers: movement of information about the goods, their transportation, data submission to authorities, and payment information.





# Seamless multimodal supply chain

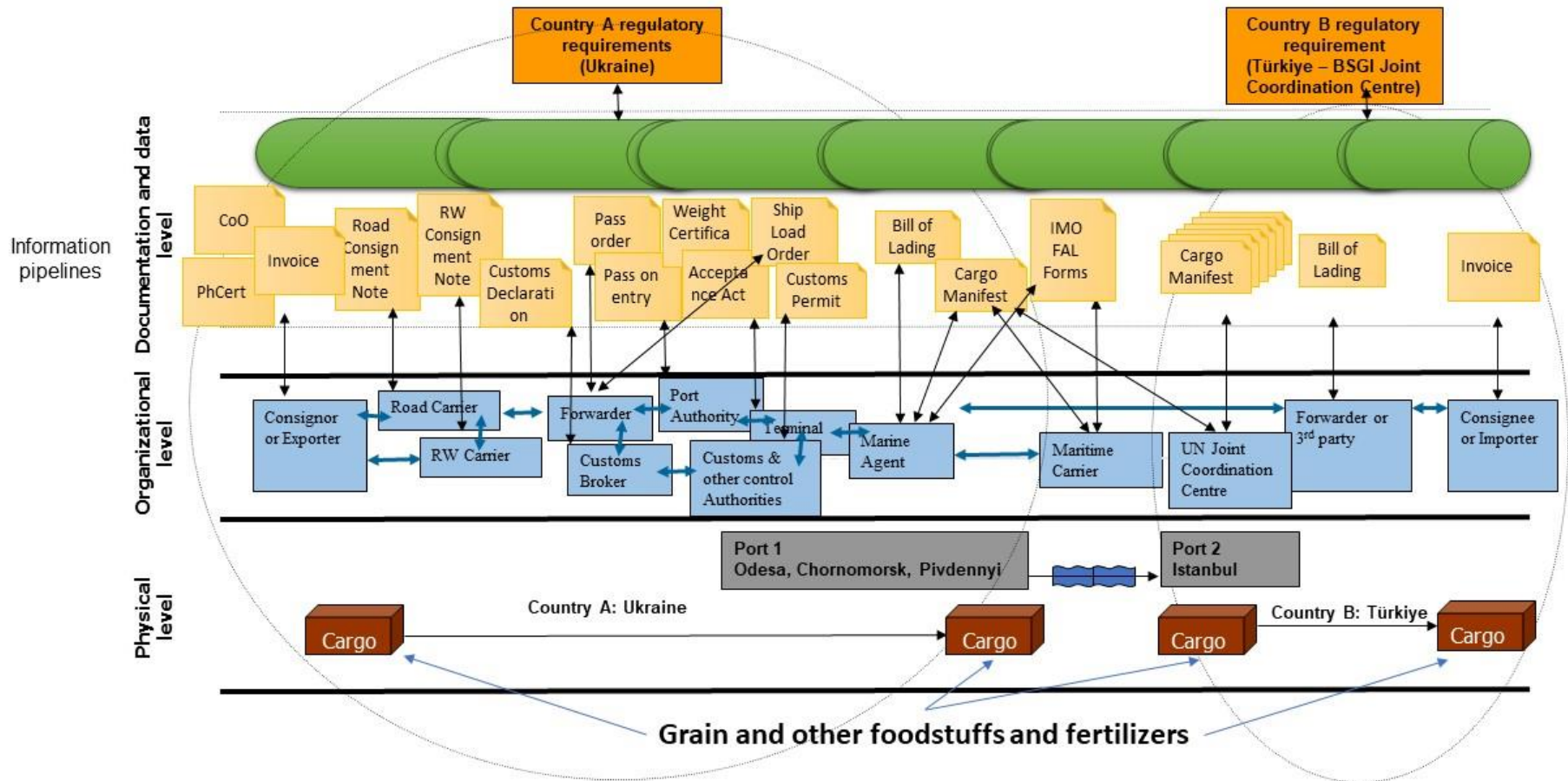


Upgrading existing and developing data exchange standards for key documents accompanying cargo in different modes of transport

Based on UN/CEFACT Multimodal Transport Reference Data Model

Pilot applications: e.g. in a digital multimodal transport corridor or documents (FIATA B/L, air cargo, IWT)

# Data pipeline concept (e.g., in BSGI)



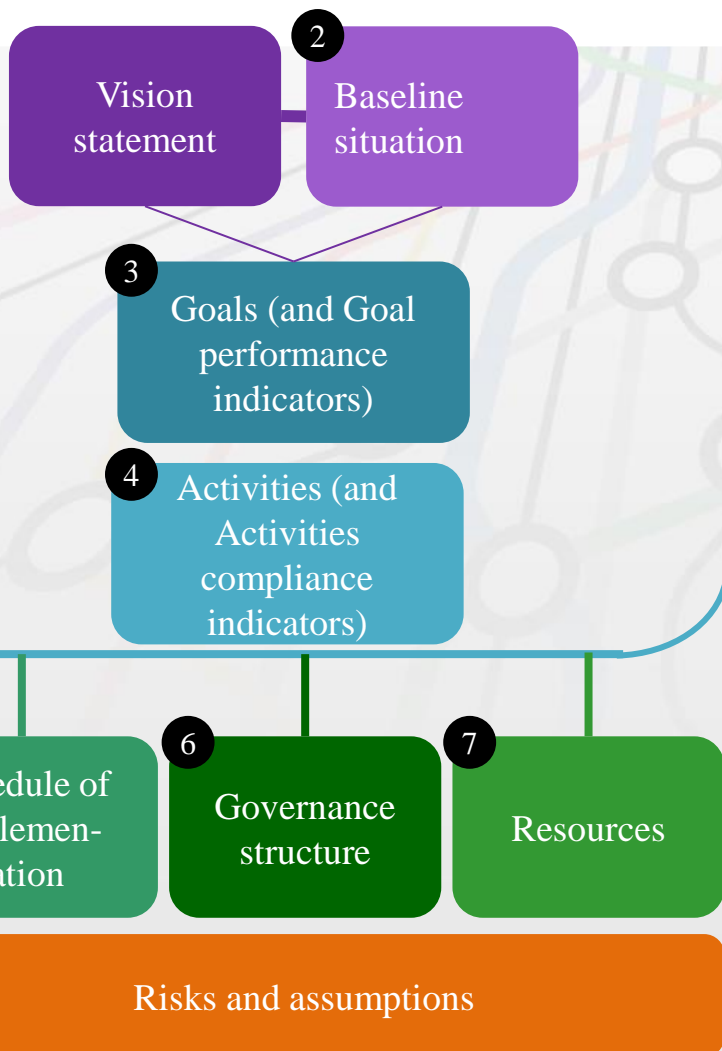
# Legal issues in the multimodal digital transformation

- **Legal agreements to validate electronic exchange of data**
- **Legal recognition of electronic document equivalents and data sets, including admissibility to courts**
- **Identification, authentication, and authorization; legal significance of e-signatures and e-documents**
- **Legal transformation in the transfer of goods from one mode of transport to another (e.g., between road, railway, and sea transport)**
- **Validity of data; legal aspects of changing individual data values in a data set, adding new data to a data set, change of data format or data structure**
- **Verifiable credentials**
- **Data protection**
- **Authority of regulatory or business entities to access and share data**
- **Data quality issues**
- **Liability issues (obligations and responsibilities of stakeholders)**
- **Arbitration and dispute resolution**
- **Electronic archiving**
- **Intellectual property rights and database ownership and processing**
- **Competition.**

# Structuring a Roadmap

## Structure of the Roadmap

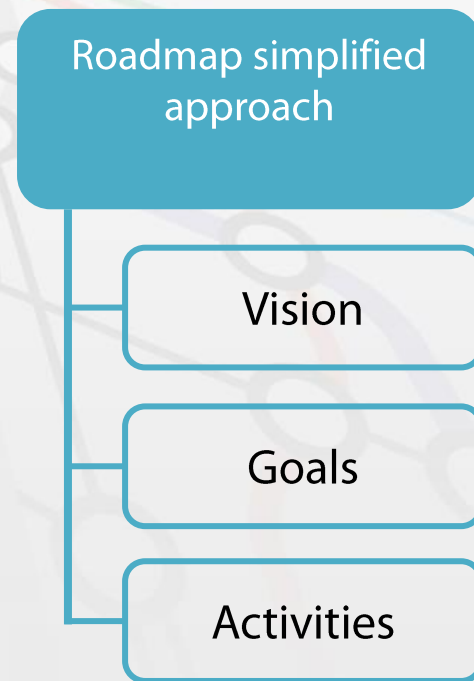
## Structure of the logical framework



**The Strategy:**  
What do we want to do and how we will do it?

**Implementation of the Roadmap:**  
Who will do what? When? And how much will it cost?

**Conditions:**  
What are the risks and assumptions that need to be considered?





# Incremental digitalization (project-by-project) roadmap

1. Vision statement: prepare by 2028 the basis for digitalization of data and document exchange for the rail, road and air consignment notes and maritime bill of lading and key trade documents, using the UN standards and reference data models to be exchanged through a set of national platforms among the countries in the region
2. Describe and analyse the baseline (“as-is”) situation, prepare gap analyses and the way forward
3. Define the goals (the desired, “to-be” situation) with performance indicators
4. Plan activities that will help achieve the goals and the vision, with a set of activity compliance indicators.
5. Develop an implementation plan with timelines
  - a. identify a specific corridor (with types and volumes of goods, level of use of UN standards),
  - b. Define the scope of the project
  - c. Determine the composition of the information flow in this corridor
  - d. Determine the degree of adoption of standards (international, UN/CEFACT, etc.) in IT system
  - e. Map datasets to Reference Data Models
  - f. Do gap analyses in several countries
  - g. Establish a network of focal points; start building national platforms,
  - h. Prepare and carry out training events on the standards; update the e-learning tools
  - i. Carry out implementation testing projects (e.g., digitalization of a railway

# Thanks!

## Further Information

Standards and reports available on [UNTTC.org](http://unttc.org) project and UN/CEFACT pages.

On the project web site ([unttc.org](http://unttc.org)), we upload information on the standards and tools at <https://unttc.org/stream/electronic-trade-and-transport-documents-and-data>

A streamlined web presentation of the UN/CEFACT standards can be found at <https://unece.org/trade/uncefact/standards>

Information on the UN/CEFACT projects:

<https://uncefact.unece.org/display/uncefactpublic/Transport+Modal+Views+of+MMT>

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