Recent Digitalization initiatives along ESCAP’s Trans-Asian Railway Network

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Outline

• Background

• Rail digitalization initiatives along Trans-Asian Railway Network and Asian Highway Network and dry ports

• Concluding remarks
Growing importance of rail digitalization

✓ Exponential increase in Eurasian rail traffic in last decade benefiting Central Asian LLDCs

✓ Rail proved to be reliable transport means during pandemic—as the rail freight avoided major restrictions and kept international supply chain functioning

✓ Geopolitical challenges (Suez crisis) has further fortified role of rail in international transport as countries look to de-risk their transport connectivity

✓ Rail, therefore, is now established as sustainable, reliable and a competitive mode of transport between Asia and Europe and vice versa
Growing importance of rail digitalization

✓ As rail is energy efficient and environment friendly, promoting rail transport is imperative to address negative externalities of transport such as emissions, congestion and pollution.

✓ Pandemic gave further momentum to digitalization of transport even in countries with relatively low level of digital services.

✓ Digitalizing rail is crucial to enhance rail competitiveness.
Trans-Asian Railway Network was developed by ESCAP members as a coordinated plan to develop a regional railway network to meet the growing needs of intra and interregional trade and transport.

Formalized through intergovernmental agreement entered into force in 2009. Has now 21 contracting parties.

The Working Group under the agreement provides a regional platform for the member countries to discuss persistent and emerging issues in international railway transport along the network. Eight meetings focus on operational issues.
Complex environment of railway border crossing

- Numerous stakeholders
- Complexity of railway border crossings
- Lack of sharing of information among regulatory agencies
- Competing interests of the stakeholders
- Inefficient information exchanges among railways and regulators
- Different processes and inspections for completion of formalities
- Lack of mutual recognition of inspections Customs to Customs and railways to railways
Fragmented railway legal environment

Annex 9 - Convention on the Harmonization of Frontier Controls of Goods

ESCAP Regional Cooperation Framework for Facilitation of International Railway Transport

OSJD Agreements

- COTIF
- EAEU regulation
- ECO TTFA

Bilateral Agreements Only
Lack of seamless information flow along the international railway corridors
New Annex to intergovernmental agreement on Trans-Asia Railway network

Proposed by Iran at the seventh meeting in 2021 and adopted at the eighth meeting held in 2023

Annex on Guiding principles on electronic information exchange among railways and between railways and control agencies

Encourages contracting parties to exchange data required for completion of rail border crossing electronically

Harmonize them as far as possible so that the information flows seamlessly among the stakeholder in for efficient completion of regulatory formalities and operational requirements in international railway transport
ESCAP-OSJD Joint document on potential of electronic information exchange to streamline customs formalities in international railway transport

Potential of electronic exchange of information for streamlining customs formalities for rail

1. Recognition of railway consignment note as customs transit declaration

2. Use of new technologies in collecting information required for regulatory controls and increased cooperation among border agencies behind the border and across the border

3. Implementation of joint control measures customs and other regulatory controls

4. Electronic pre-arrival intimation can facilitate integrated risk assessment

5. Electronic interface between railway and border agencies for streamlining customs formalities

6. Facilitated customs formalities for rail transit including simplified procedures for authorized rail operators (AROs)
Vision

Enhance sustainability of transport to support realization of Agenda 2030 on Sustainable Development

Outcome

Increase in freight and passenger transport by rail

Reduce green house gas emission from transport

SDG supported directly

Target 9.1; 9a quality, reliable, sustainable, and resilient infrastructure

Target 3.6 Road traffic accident

Target 7.3 Energy efficiency
Objectives (Six)

1. Provide *coherence and momentum* to rail digitalization initiatives
2. Foster an *ecosystem* to harness the full potential of rail digitalization
3. Augment the operational performance, capacity, reliability, safety, and security of rail assets
4. Enhance customer experience including ease of doing business
5. Create synergies through partnerships to digitalize rail
6. Ensure high level political support on rail digitalization
Priority Areas (eight)

1. Digital communication technologies for rail
2. Digital customer services
3. Digital platforms for rail operations
4. Digital rail asset management including maintenance
5. Digital traffic management including signaling
6. Digitally integrated rail services
7. Digital rail business process
8. Digital rail border crossing
Cross cutting issues (five)

1. Enhance digital skills of rail officials

2. Increase investment in rail digitalization. Establish a rail digital and innovation fund.

3. Strengthen rail cyber security including data protection.

4. Use data analytics to support optimal decision making for planning and operating the rail network.

5. Heighten engagement with private sector development and regulatory framework.
Implementing and monitoring

Creating implementation mechanism/arrangements—formulate national and sub-regional strategies on rail digitalization

Measuring progress in rail digitalization—develop a **rail digital index** and a three-level maturity profile for rail
Automatic transit transport systems along the Asian Highways network

Study on paperless transit under the project found that the only operational paperless systems was the New Computerized Transit System (NCTS) used for common and community transit in Europe.

Guide on paperless transit systems to expand the knowledge of stakeholders in designing and implementing such systems.

Guide on establishing an automated customs transit transport system have been finalized detailing technical design of the system.

Electronic cargo tracking systems – ESCAP developed Secure Cross Border Transport Model in 2012 and piloting it together with ADB along India-Bhutan transit corridor.

Study for Deployment of Highly and Fully Automated Vehicles in Road Traffic Along the Asian Highway Network.
Thank you for your attention

http://www.unescap.org/our-work/transport