Draft Regional Strategy on Accelerating Rail Digital Transformation in Asia and the Pacific
Outline

• Background
• The draft strategy—key components
• Next steps
Intergovernmental Agreement on Trans-Asian Railway Network

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. Seven meetings—focus on operational issues.
Background

United Nations development account project on enhancing shift towards sustainable freight transport

- National track
- Regional track

Mandates

The seventh working group meeting supported the initiative to develop a regional strategy/framework to deepen digitalization among the railways of the region.

The Committee on Transport at its seventh session that took place in November 2022 in its decision 2, reinforced the mandate from the Working Group.
Draft Strategy on accelerating rail digital transformation

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

✓ Provide coherence and momentum to rail digitalization initiatives
✓ Foster an ecosystem to harnesses full potential of rail digitalization
✓ Augment the operational performance, capacity, reliability, safety, and security of rail assets
✓ Enhance customer experience including ease of doing business
✓ Create synergies through partnerships to digitalize rail
✓ Ensure high level political support on rail digitalization
Priority Areas

Digital communication technologies for rail—prepare regional guidelines on the use of digital rail communication technologies to harness full opportunities from rail digitalization.

Digital customer services—share experience among railways and provide technical assistance to least developed and landlocked developing countries.

Digital platforms for rail operations—develop a repository of train operating applications for reference by railway policymakers.
**Priority Areas**

Digital rail asset management including maintenance - prepare an inventory of good practices at regional level on predictive maintenance for rail for use by member railways as deem fit.

Digital traffic management including signaling - may be introduced in a gradual manner depending on priorities after undertaking feasibility studies.

Digitally integrated rail services - use appropriate interfaces to connect digitally with other stakeholders to ensure that rail transport process is seamless and digitally enabled as far as possible.
Priority Areas

Digital rail business process—share experience and good practices and identify appropriate solutions

Digital rail border crossing—finalize suitable modality to harmonize digital exchange information practices in the region; simultaneously undertake pilot application of digital exchange of information such as electronic consignment note

consider developing a digitally enabled regional transit regime for rail transport
Cross cutting issues

Enhance digital skills of rail officials: set up a regional capacity building programme on rail digital transformation supported by pool of experts.

Increase investment in rail digitalization: establish a rail digital and innovation fund.

Strengthen rail cyber security including data protection: develop a regional framework for rail cybersecurity.
Cross cutting issues

Use data analytics to support optimal decision making for planning and operating the rail network: prepare inventory of data analytics solutions at regional level

Heighten engagement with private sector: develop supportive legal 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 and innovation index and a three-level maturity profile for rail
**ENHANCE SUSTAINABILITY OF TRANSPORT TO SUPPORT REALIZATION OF AGENDA 2030 ON SUSTAINABLE DEVELOPMENT**

- TO INCREASE FREIGHT AND PASSENGER TRAFFIC BY RAIL
- TO REDUCE GHG EMISSIONS FROM TRANSPORT

**OBJECTIVES**

1. PROVIDE COHERENCE AND MOMENTUM TO RAIL DIGITALIZATION INITIATIVES
2. FOSTER AN ECOSYSTEM TO HARNESS 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**

- A. Digital customer services
- B. Digital communications technologies
- C. Digital platforms for rail operations
- D. Digital rail asset management including maintenance
- E. Digital traffic management including signaling
- F. Digitally integrated rail services
- G. Digital rail business process
- H. Digital rail border crossing

**ENABLERS**

- Enhance digital skills of rail officials: set up a regional capacity building programme on rail digital transformation
- Increase investment in rail digitalization: establish a rail digital and innovation fund
- Strengthen rail cyber security including data protection: develop a regional framework for rail cybersecurity
- Use data analytics to support optimal decision making for planning and operating the rail network: prepare inventory of data analytics solutions at regional level
- Heighten engagement with private sector: develop supportive legal and regulatory framework

**IMPLEMENTING + MONITORING**

- FORMULATE NATIONAL AND SUB-REGIONAL STRATEGIES ON RAIL DIGITALIZATION
- DEVELOP A RAIL DIGITAL AND INNOVATION INDEX
Thank you for your attention

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