

The challenges of coherent rail transport statistics

74th UNECE Working Party on Transport Statistics

Giacomo Potenza | 16 May 2023 | Geneva

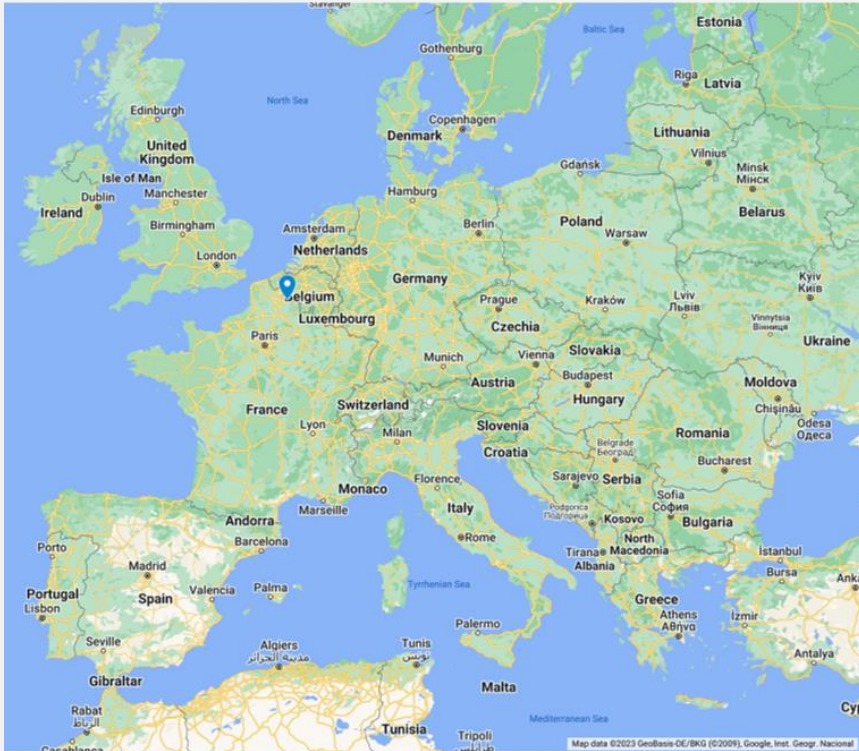


EUROPEAN
UNION
AGENCY
FOR RAILWAYS

Who is ERA

The European Union Agency for Railways:

- Founded in 2004 and based in Valenciennes, France
- Approximately 200 staff members
- Operating according to [Regulation \(EU\) 2016/796](#) and performing tasks such as:
 - Devise the technical and legal framework to remove technical barriers for rail interoperability;
 - Promoting, monitoring and auditing a harmonised approach to rail safety;
 - Issuing vehicle authorisations, single safety certificates of railway undertakings and approvals for track-side deployment of the ERTMS signalling system
- Maintaining 13 registers of rail-related data and documents, including the Register of Infrastructure ([RINF](#)) and the European Vehicle Register ([EVR](#))
- Publishing [studies and reports](#) on railways, including statistics to monitor interoperability and safety in the EU



Why is it a challenge to collect coherent rail transport statistics at international level?

Multiple organisations

Different Institutions and industry associations collect rail statistics for different reason: legal obligations, membership management, policy, market monitoring. Data collection is often indirect through national organisations

Different scope of reporting

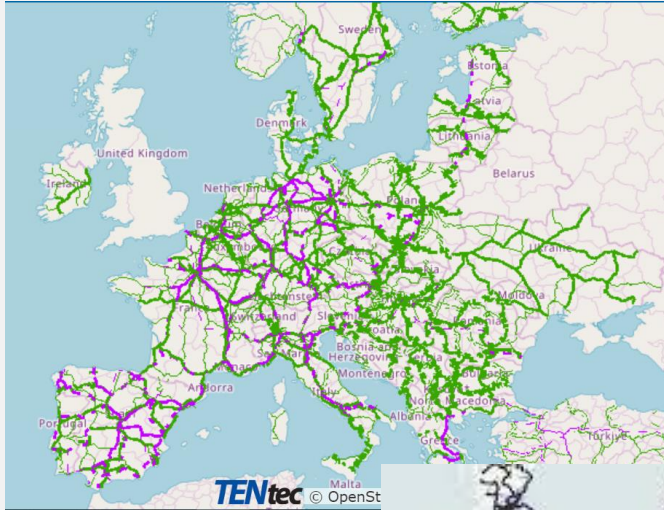
Data collection is tailored for each international organisation and relevant exclusions from country, network, fleets, operations, type of traffic are required

Similar but not identical definitions

Indicators to be fed with data following each organisations' definitions. Small differences generate misunderstandings and incorrect data submission by rail industry ultimate data providers



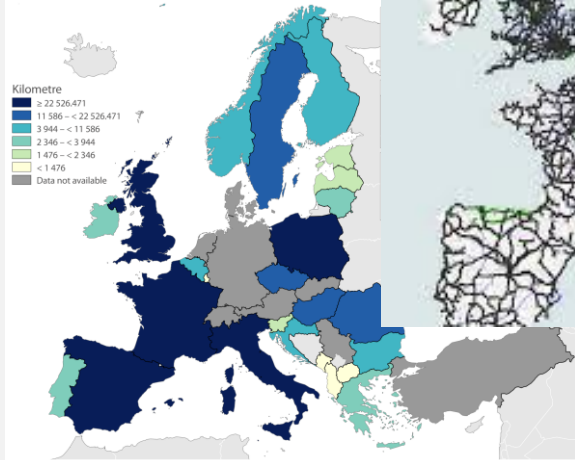
The scope of reporting, a challenge to report accurately



Which lines are in scope of the data collection questionnaires?

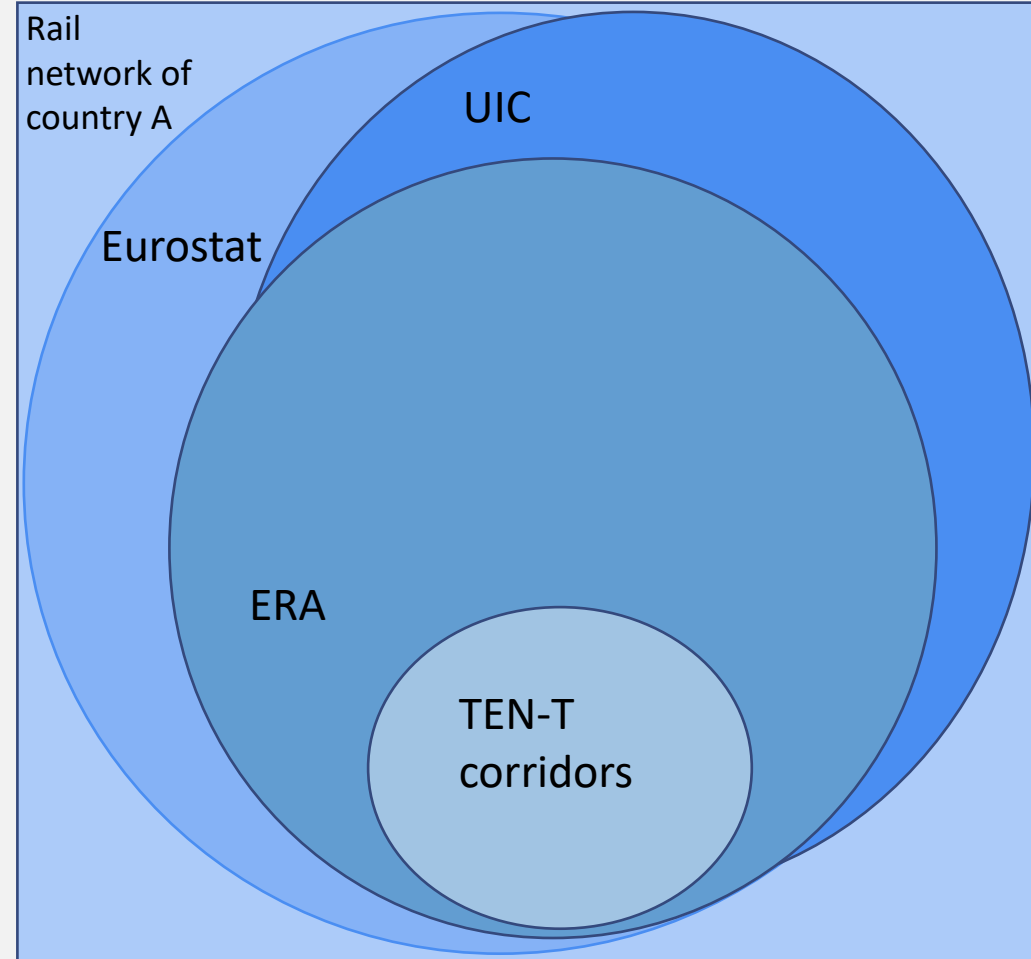
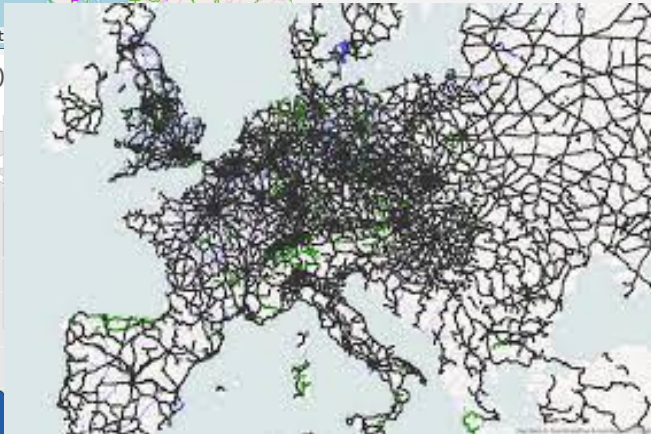


Railway transport - length of tracks (2021)
Total



Administrative boundaries: © EuroGeographics © UN-FAO © Turstat
Cartography: Eurostat - IMAGE, 04/2023

Source: Eurostat (dataset code rail_if_tracks)

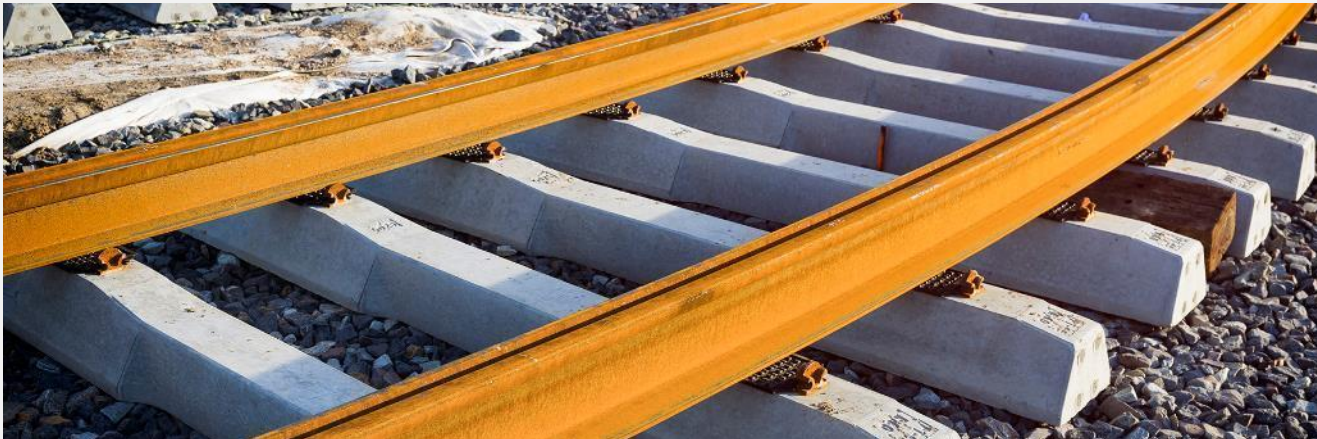


ERA Task Force on Data Quality Subgroup on Railway Statistics

From October 2022 to March 2023, we worked with many organisations to improve accuracy, consistency, completeness and timeliness of data by discussing comparability across datasets of definitions, scope and sources used.

What we did:

- Mapping of definitions and data providers for about 20 indicators;
- Identifying possible overlaps and data quality issues among different organisations
- Making proposals for harmonization and clarity
- Interacting as a community of rail statistics experts



We worked with organisations that collect and publish identical or similar rail stats indicators in Europe

Organisation	Data collected	Link to publications
National Rail Safety Authorities	CSI data, relevant for train-km, tonne-km, etc	CSI dataset and national purposes
Eurostat	Stats according to Regulation (EU) 2018/643 and Common Questionnaire for Inland Transport Statistics	Transport Statistics
ITF	Common Questionnaire for Inland Transport Statistics	ITF Transport Statistics
UNECE	Common Questionnaire for Inland Transport Statistics	UNECE Working Party on Transport Statistics (WP.6)
DG MOVE European Commission	Stats according to Commission Implementing Regulation (EU) 2015/1100 on Rail Market Monitoring Scheme and own production of a Pocketbook	RMMS Statistical Pocketbook
IRG-Rail	Market monitoring by national rail regulatory bodies	Market Monitoring
PRIME	Platform of main IMs collecting KPIs for benchmarking as per Article 7f of Directive(EU) 2016/2370	PRIME KPI Subgroup PRIME External Report PRIME KPI Catalogue
UIC	Various statistics from UIC members, Railisa database	UIC Statistics
CER	Statistics from CER members for annual activity report	CER Annual Reports
EIM	Statistics from EIM members for annual report	EIM Annual Reports

The indicators the Task Force worked on

Starting from the Common Questionnaire ESTAT/ITF/UNECE [glossary](#), we compared in each organisation:

- Definitions
- Scope
- Major inconsistencies of results

N.	Indicator	ERA	DG MOVE	Eurostat	UIC	EIM*	IRG-Rail	OECD (ITF)	NSAs	PRIME	UNECE
Infrastructure											
1.	Line-km	√		√	√	√	√	√	√	√	√
2.	Electrified Line-km			√	√	√	√	√		√	√
3.	High-speed Line-km			√	√	√	√	√		√	√
4.	Track-km			√	√	√		√	√	√	
5.	Line-km equipped with ERTMS	√					√			√	
6.	Line-km part of TEN-T		√			√	√				
7.	Freight and multi-modal terminals		√				√				
Transport equipment											
8.	Rolling stock			√	√			√			√
9.	Vehicles equipped with ERTMS	√							√		
Enterprises											
10.	Number of RUs			√			√	√			√
11.	Number of IMs			√				√			√
12.	Revenue		√		√	√	√				
13.	Investments and maintenance		√	√	√	√	√	√			√
14.	Number of train drivers	√	√		√						
Traffic											
15.	Train-km	√	√	√	√	√	√	√	√	√	√
Transport measurement											
16.	Tonnes transported			√	√			√	√		√
17.	Tonne-km	√	√	√	√	√		√	√	√	√
18.	Passengers transported			√	√		√	√			√
19.	Passenger-km	√	√	√	√	√	√	√	√		√
20.	Modal split freight transport	√	√	√				√			√
21.	Modal split passenger transport	√	√	√				√			√

Our key recommendations

Category	Observations	Recommendations
1. Scope	Reporting scopes are defined by different legal acts, but unclear how Member States apply the scope.	Member States should be encouraged to explicitly specify the network(s) or lines(s) that fall outside the scope of application of the Interoperability and Safety Directives. Data collectors should highlight the scope differences when requesting data on indicators that is also collected by others.
2. Definitions	Data quality is negatively affected by complex and unharmonized definitions.	Promote collaboration between data collectors to harmonise and simplify definitions. Provide guidance on definitions with examples and when helpful drawings
3. Administrative burden – data provision by ERA	ERA registers were not set up for statistical purposes but have statistical value in absence of alternative sources.	The use of ERA registers for statistical purposes could reduce administrative costs and improve the accuracy of providing and collecting statistics. Such use case should be considered when defining access and utilisation rights.
5. Governance – data collectors	Coordination between data collectors and providers is necessary to implement the recommendations as formulated by this task force.	For transport statistics, new channels through new or revamped EC Expert Groups should be set up to ensure communication, alignment on data quality issues and involvement of ultimate data providers from the rail industry
6. Governance – data providers	Structural data quality issues at country level need to be addressed by involving national and ultimate data providers from the rail industry	Eurostat is encouraged to organise national campaigns on railway data quality
7. Data quality assurance	Data providers are often assigned the responsibility for data quality. Data collectors are however better positioned to cross-check data and spot issues.	The data quality assurance role of data collectors should be acknowledged, and adequate resources assigned to this role.

More details per individual rail statistic indicator are available in the Final Report of the ERA Task Force on Data Quality, published on era.europa.eu



THANK YOU

Moving Europe towards a sustainable and safe railway system without frontiers.

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