

Standard Inputs for economic analyses

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EUROPEAN
UNION
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FOR RAILWAYS

Introduction

Recurrent statements:

- *ERTMS is great but it is expensive*
- *ERTMS deployment on-board costed us 1 million EUR per locomotive*
- *The authorization process for ERTMS took forever*

Recurrent questions:

- *I need to prepare a budget for my ERTMS project. How much does ERTMS deployment cost? Cost per km? Cost per vehicle? L1 or L2?*
- *I need to prepare a cost-benefit analysis for ERTMS deployment. What unit cost and what assumptions should I use as input data?*
- *How long will ERTMS deployment last?*

Standard Inputs for Economic Analyses

What does it mean Standard inputs for Economic Analyses?

Standard inputs are published **reference values** which are:

- Single values or ranges of unit costs of specific assets, equipment, operations or other metrics (e.g. time);
- Indicative and not statistically significant averages
- Providing order of magnitude information;
- Checked industry reps, ensuring business confidentiality.

Other network industries have developed standard inputs with industry support:

- Since 2002, Eurocontrol regularly updates a [list of cost and other reference values](#) (also as [live list](#)) to facilitate cost-benefit analyses for aviation stakeholders



- ACER, mandated by [EU law](#), publishes since 2015, [unit investment cost](#) for energy infrastructure

Why do we need Standard Inputs for Economic Analyses in rail?

- Art. 8 of Regulation (EU) 2016/796 requires impact assessments for all ERA Recommendations and Opinions;
- Following the 2023 revision, European Commission, Member States and rail sector asked for more quantitative impact assessments for the upcoming revisions of Technical Specifications for Interoperability (TSI);
- Change requests to TSIs need to be accompanied by an economic pre-evaluation;

But:

- Resources for economic analyses are scarce
- Time to perform cost-benefit analyses is tight, limited time for stakeholders' consultation and ad hoc input data collection
- Absence of reliable EU-level reference data on unit costs of railway assets, equipment and operations from statistics or literature
- Costs data are often confidential and tend to vary over time

The Railway System Data Inventory (RSDI)

The RSDI :

- Is a central repository of indicative but robust EU standard input reference values/ranges, a further upgrade of our toolbox after the [ERA Factsheets](#)
- Helps to focus analysts' working time on estimating benefits rather than collecting data on costs
- Allows to reduce the burden on the rail sector, with ad hoc surveys more targeted
- Will in the future give an idea of evolution of costs in rail

The 1st release of the RSDI was developed by a dedicated ERA's Economic Steering Group (ESG) Task Force in 2023-2025.

Methodological report and xls file available on [ERA website](#) . Examples of RSDI indicators:

ERTMS	Category	Metric
L2 track-side annual cost	Maintenance	EUR per track-km
L2 track-side upgrade cost to Baseline 3	Investment	EUR per track-km
L2 on-board prototype/series deployment	Investment	EUR per vehicle type
L2 on-board retrofit time prototype/serie	Investment	Calendar days

The outcome of the RSDI 1st release

The positive aspects:

- First cooperative approach with the rail sector in building together with ERA a generic repository of data,
- ERA trusted as a neutral and reliable entity in handling business sensitive data
- Proven process to collect business sensitive data;
- Committed core group of experts in the ESG;
- First published release of the RSDI as a support for economic analyses in rail

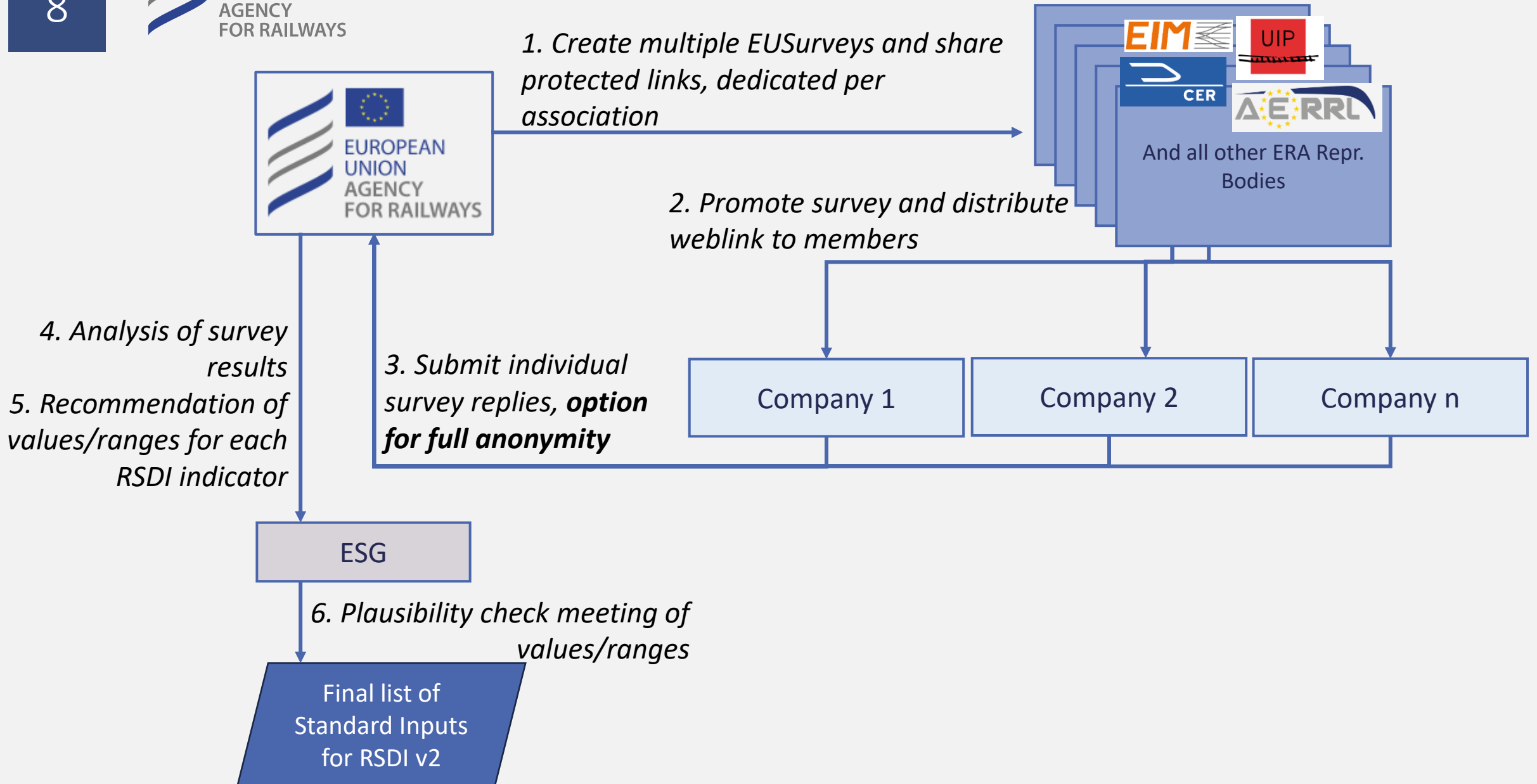
The challenges:

- The response rate to the RSDI's survey and the engagement of all sector stakeholders
- The limited scope of the RSDI 1st release, not yet an enabler for more quantitative economic analyses;

The RSDI 2026 update, focus on ERTMS

- The ESG will support the RSDI update for its 2nd release by end 2026
- Standard inputs values in the RSDI are good only if they are:
 - Meaningful
 - Actual and granular
 - Revised regularly
 - Developed with the rail sector
- EU Survey web survey sent to all ERA Representative Bodies, open from June to September 2026 with focus on ERTMS unit costs and processes
- Key roles of the ESG:
 - Advice on feasibility and maturity of indicators for data collection;
 - Review and design RSDI survey indicators;
 - Check plausibility of survey results and literature sources, prior to inclusion into RSDI

The RSDI survey process





THANK YOU

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