European Railway Agency

# COMMON SAFETY TARGETING FOR THE EUROPEAN RAILWAYS: A REGULATORY TOOL FOR MONITORING SAFETY AND REDUCING DIFFERENTIATION

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Dr Roberto Piazza - Safety Assessment Sector

# CSTs: key issues

- **Aimed at gradually reducing diversification of railway safety performance across the EU, to support market development**
- **To be established in 2 sets**, according to Art.7 of Directive 2004/49/EC
- **1st set** of CSTs: **based on examination of existing targets and current safety performance in the MS (TO BE AT LEAST MANTAINED)**
- The CSTs shall define the safety levels (of the railway system as a whole), in term of **risk acceptance criteria, for:**
  - **Individual risks** relating to passengers, staff, L.C. users and others
  - **Societal risk** (estimated as "collective risk")
- No data available for parts of system (eventually considered in 2nd set)
- **2nd set of CST shall reflect any priority areas** where safety needs to be further improved.

# The specific EU legislation on CSTs: what is already in force and what is being developed

- Main legal basis: Railway Safety Directive (2004/49/EC – Article 7, in force since April 2004)
- Secondary legislation (technical specifications):

1) Decision of the European Commission on the common methodology for calculating and assessing achievement of CSTs (2009/460/EC – already in force since June 2009)
2) Decision of the European Commission establishing the 1st set of CSTs (to be developed, should enter into force by February 2010 at the latest)
3) Decision of the European Commission establishing the 2nd set of CSTs (to be developed, should enter into force by 2013 at the latest)

# The methodology for setting CSTs: an outline of the key elements

- Based on observation of statistical trends of data on railway accidents (involving RS in motion) and related consequences (4-year time series are considered; extension to 6-year time series in 2011)
- Current safety performance of railways in Member States expressed in terms of observed risk, via the National Reference Values (NRVs)
- NRVs calculated with a weighted averaging mechanism, to take into account statistical oscillation and limit influence of very rare events
- CSTs derived from NRVs, on the basis of a parametric comparison with a sort of European average of the NRVs (EURV), i.e. CST equal to the lower of the two values: highest NRV, EURVx10
- NRVs enforced as max. tolerable risk level at MS level (even if<CSTs)
- CSTs enforced as max. tolerable risk level at EU level

# Assessment of compliance with NRVs and CSTs: an outline of the key elements

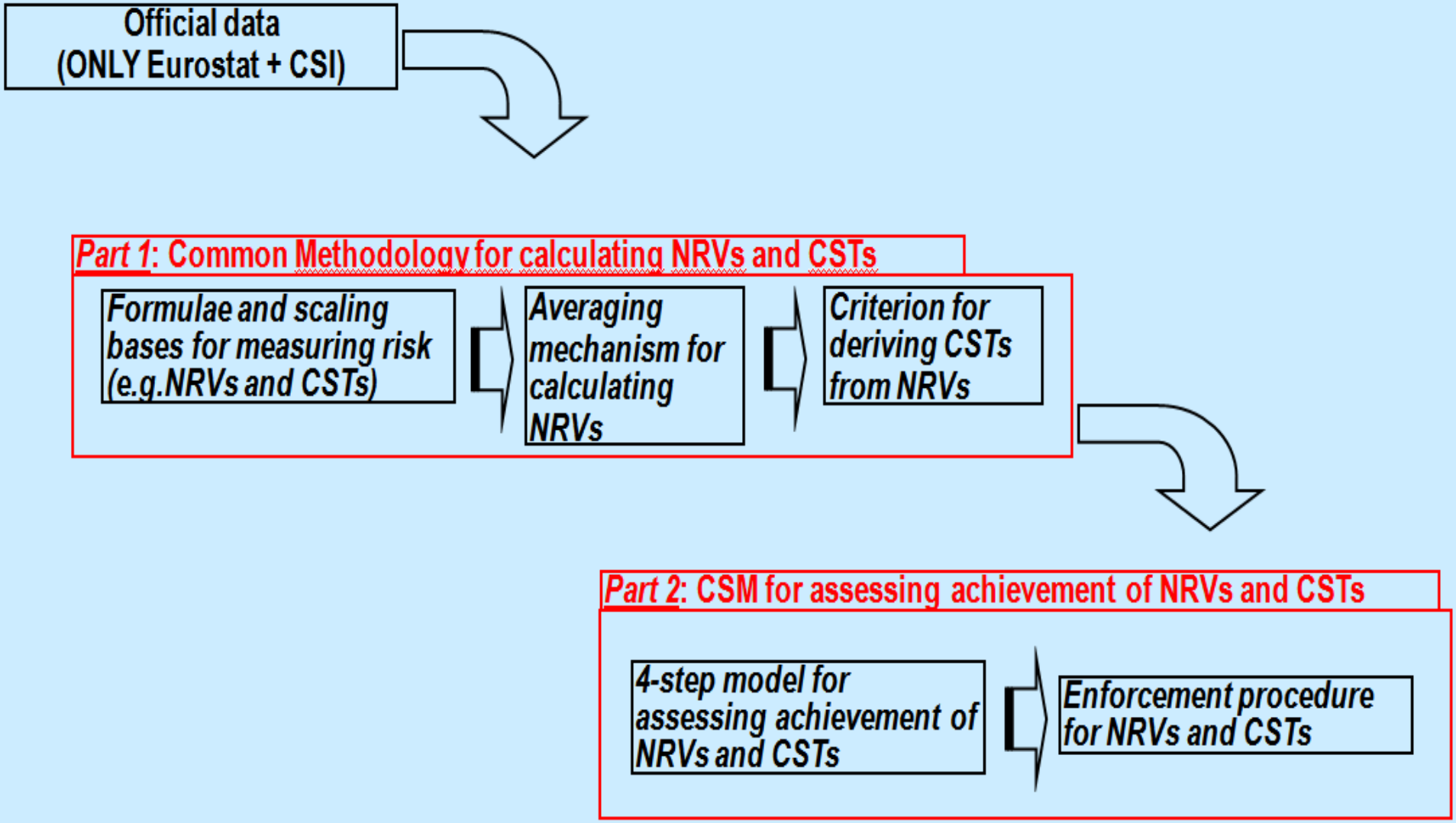
- Carried out annually by the Agency, based on observation of statistical trends of data on railway accidents and related consequences (4-year moving time series are considered; extension to 5-year from 2011)
- 4-step semi-quantitative decisional model, which includes elements of flexibility and "filters" by:

  - allowing for a 20% range of tolerance

  - checking on whether non-compliance is recursive

  - excluding single, very rare events
- Soft enforcement in case of non-compliance (enforcement of detailed reporting and/or due process for planning of safety improvements)

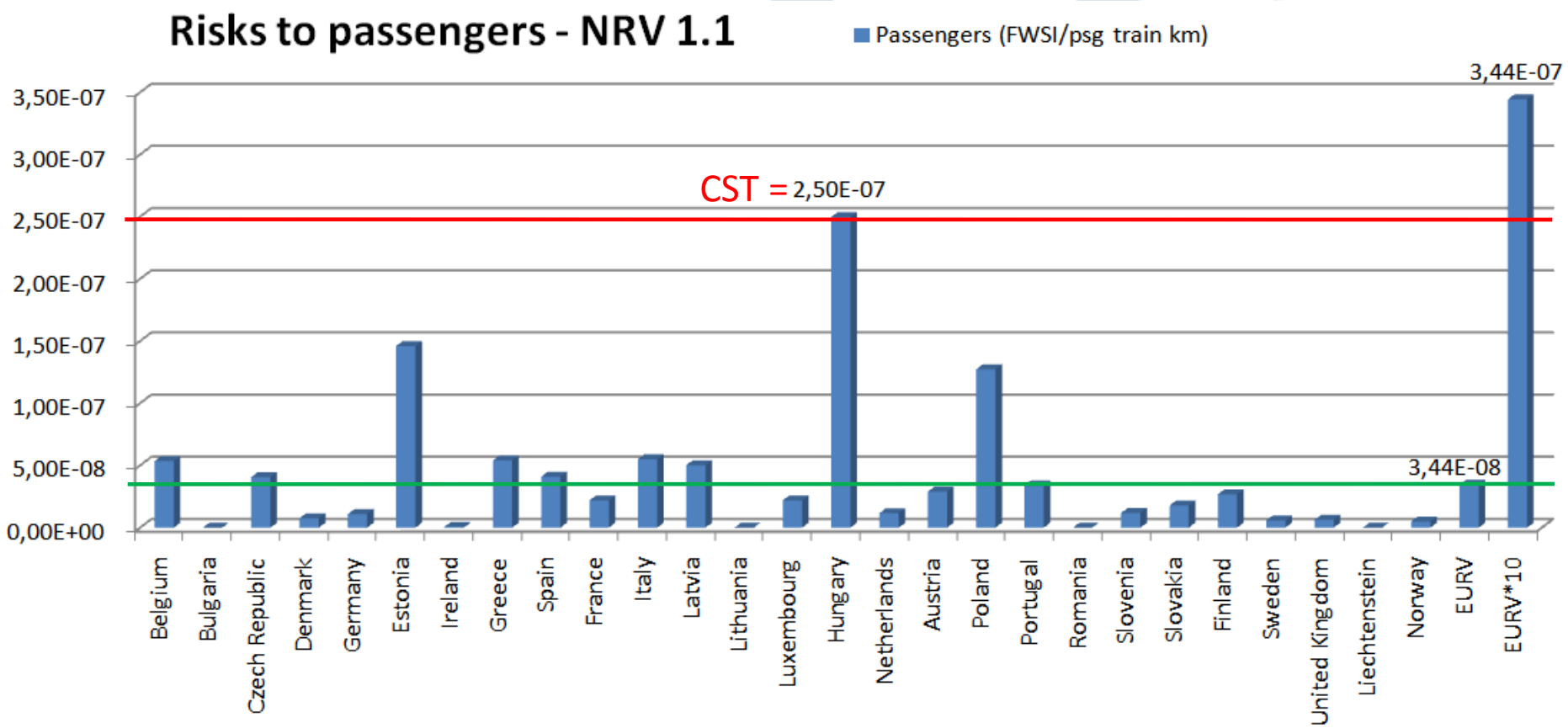
# A global overview of the methodology



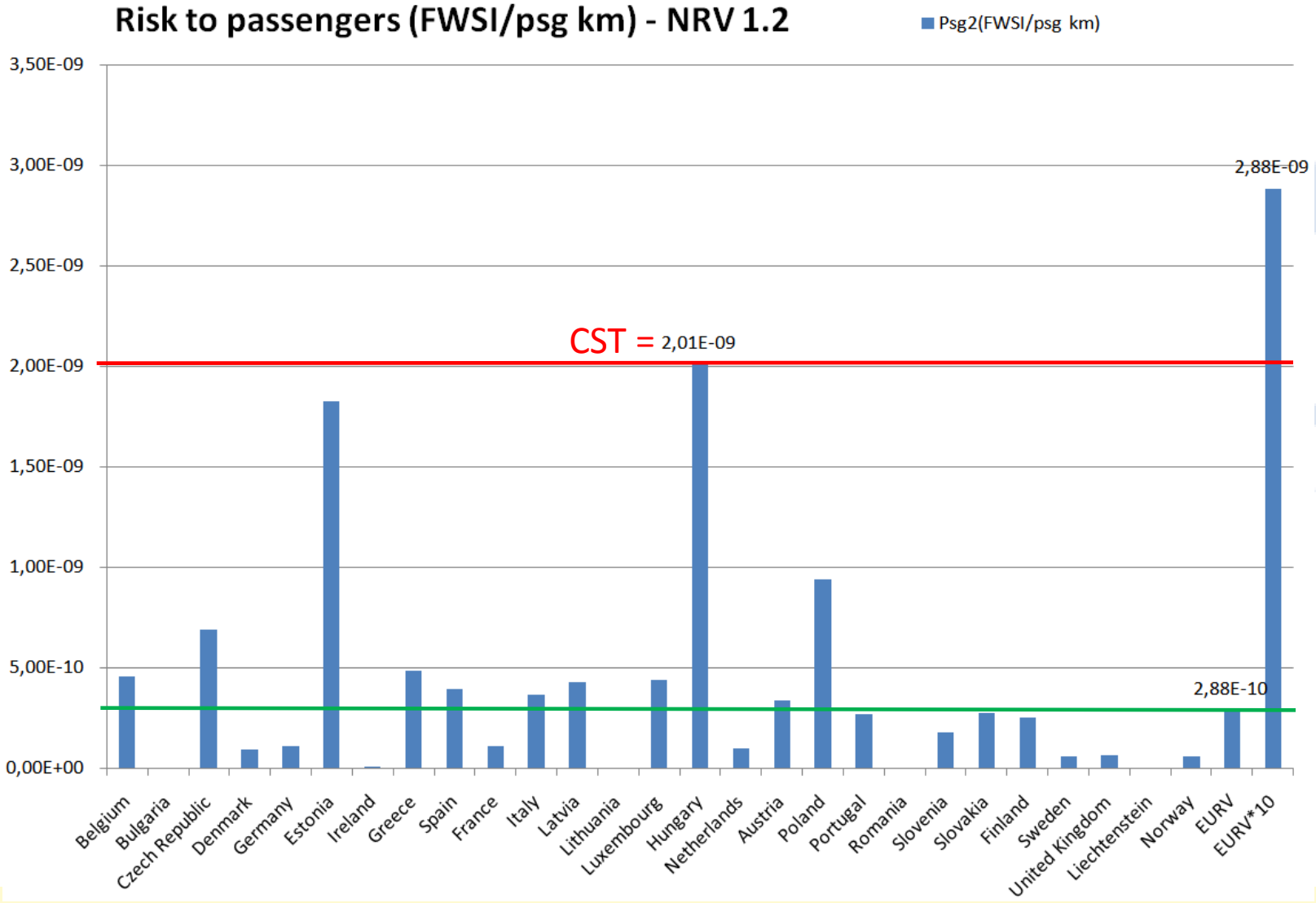
# NRVs: the ranges of values (draft)

| Risk Category | Range of NRV values (draft) **(xE-09)** | | EURV (draft)**(xE-09)** | Measurement units |
|---|---|---|---|---|
| Risk to passengers | NRV 1.1 | 4,91 ÷ 250 | 34,4 | Number of passenger FWSIs per year arising from significant accidents / Number of passenger train-km per year |
| | NRV 1.2 | 0,0557 ÷ 2,01 | 0,288 | Number of passenger FWSIs per year arising from significant accidents / Number of passenger-km per year |
| Risk to employees | NRV 2 | 1,5 ÷ 77,9 | 14 | Number of employee FWSIs per year arising from significant accidents / Number of train-km per year |
| Risk to level crossing users | NRV 3.1 | 21 ÷ 743 | 117 | Number of level-crossing user FWSIs per year arising from significant accidents / Number of train-km per year |
| | NRV 3.2 | Not available | Not available | Number of level-crossing user FWSIs per year arising from significant accidents / [(Number of Train-km per year * Number of level crossings)/ Track-km] |
| Risk to “others” | NRV 4 | 1,90 ÷ 18,5 | 4,93 | Yearly number of FWSIs to persons belonging to the category “others” arising from significant accidents / Number of train-km per year |
| Risk to unauthorized persons on railway premises | NRV 5 | 22,6 ÷ 2030 | 234 | Number of FWSIs to unauthorised persons on railway premises per year arising from significant accidents / Number of train-km per year |
| Risk to the whole society | NRV 6 | 55,2 ÷ 2510 | 395 | Total number of FWSIs per year arising from significant accidents / Number of train-km per year |

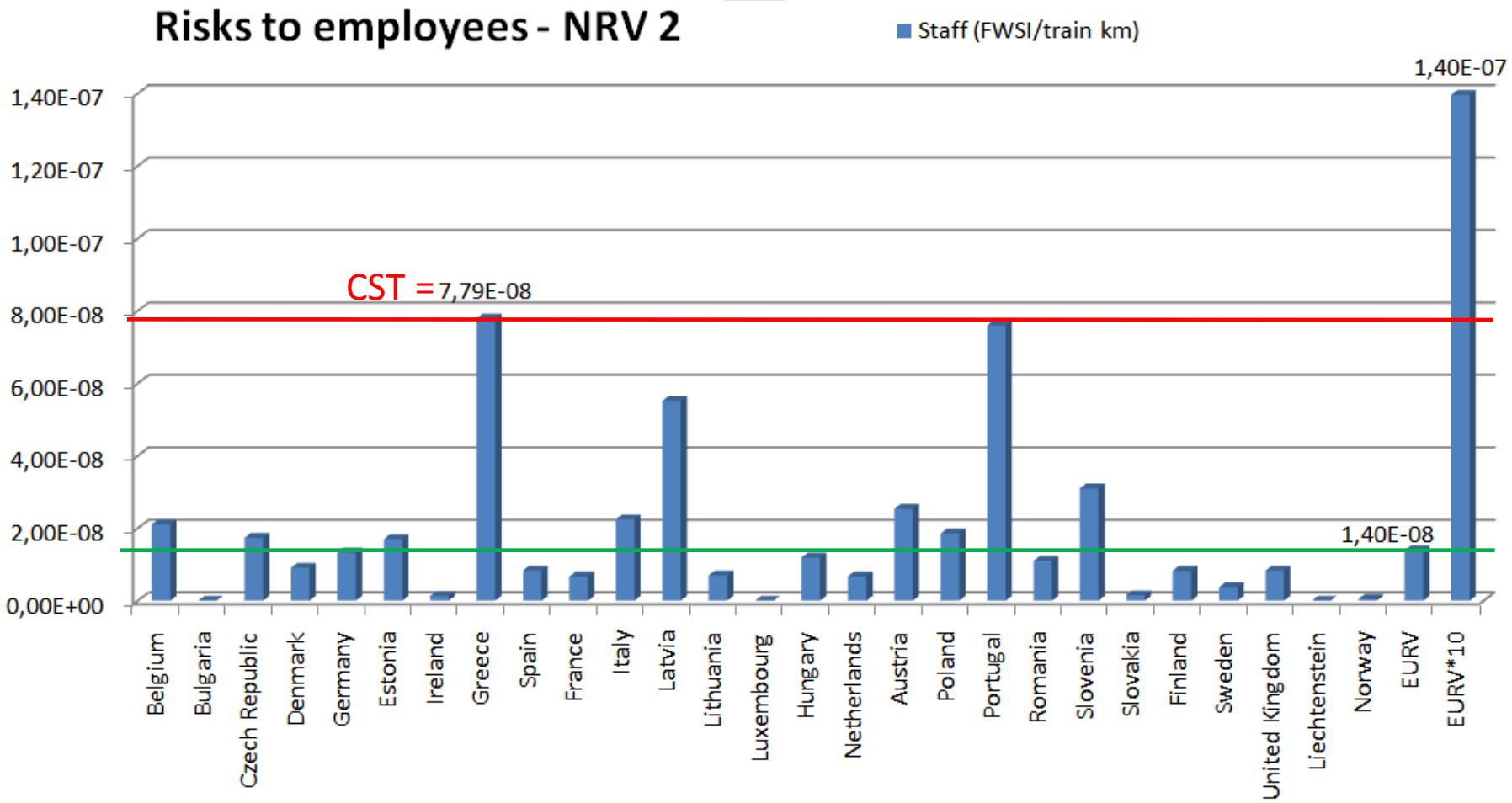
# The draft NRVs and the CST for passengers (1)



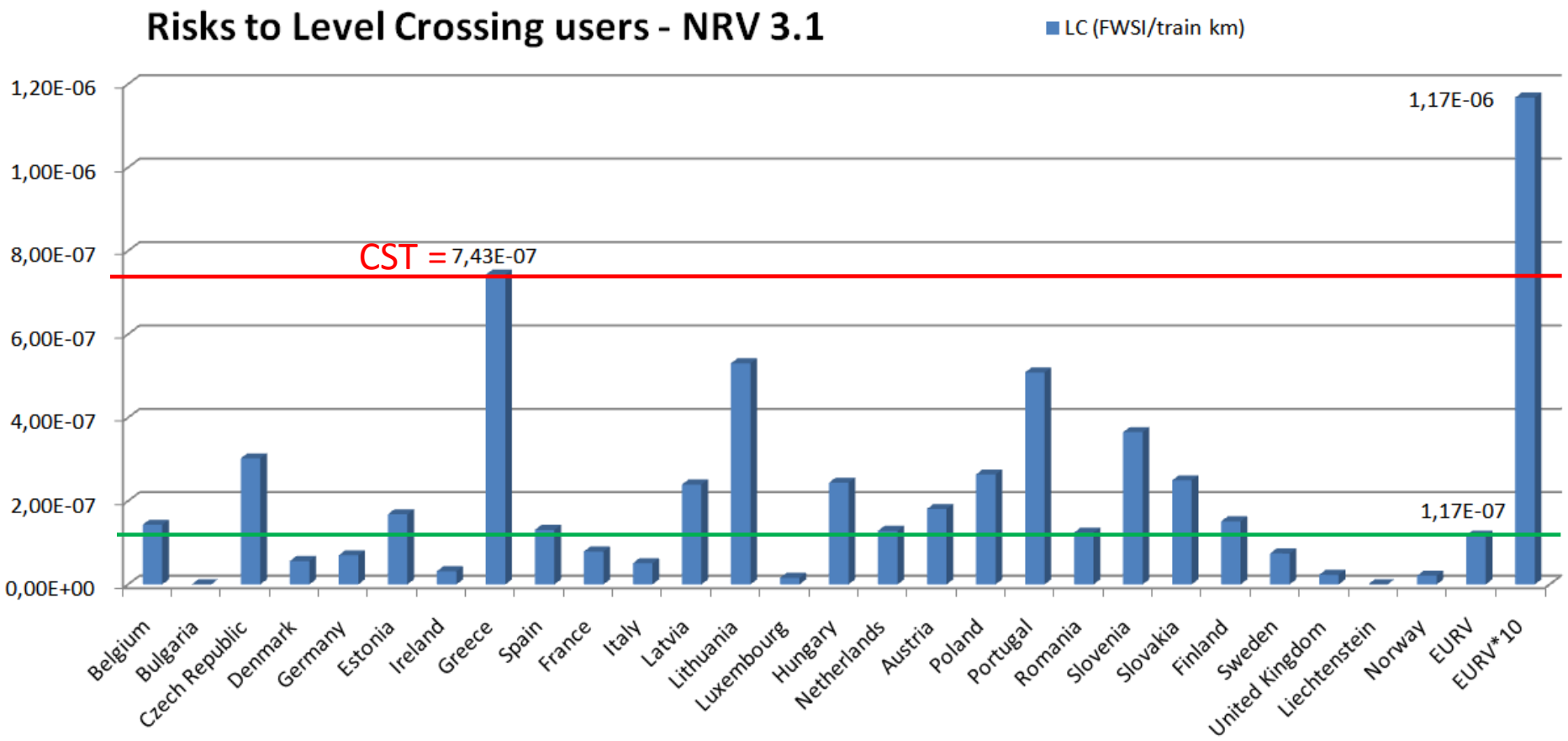
# The draft NRVs and the CST for passengers (2)



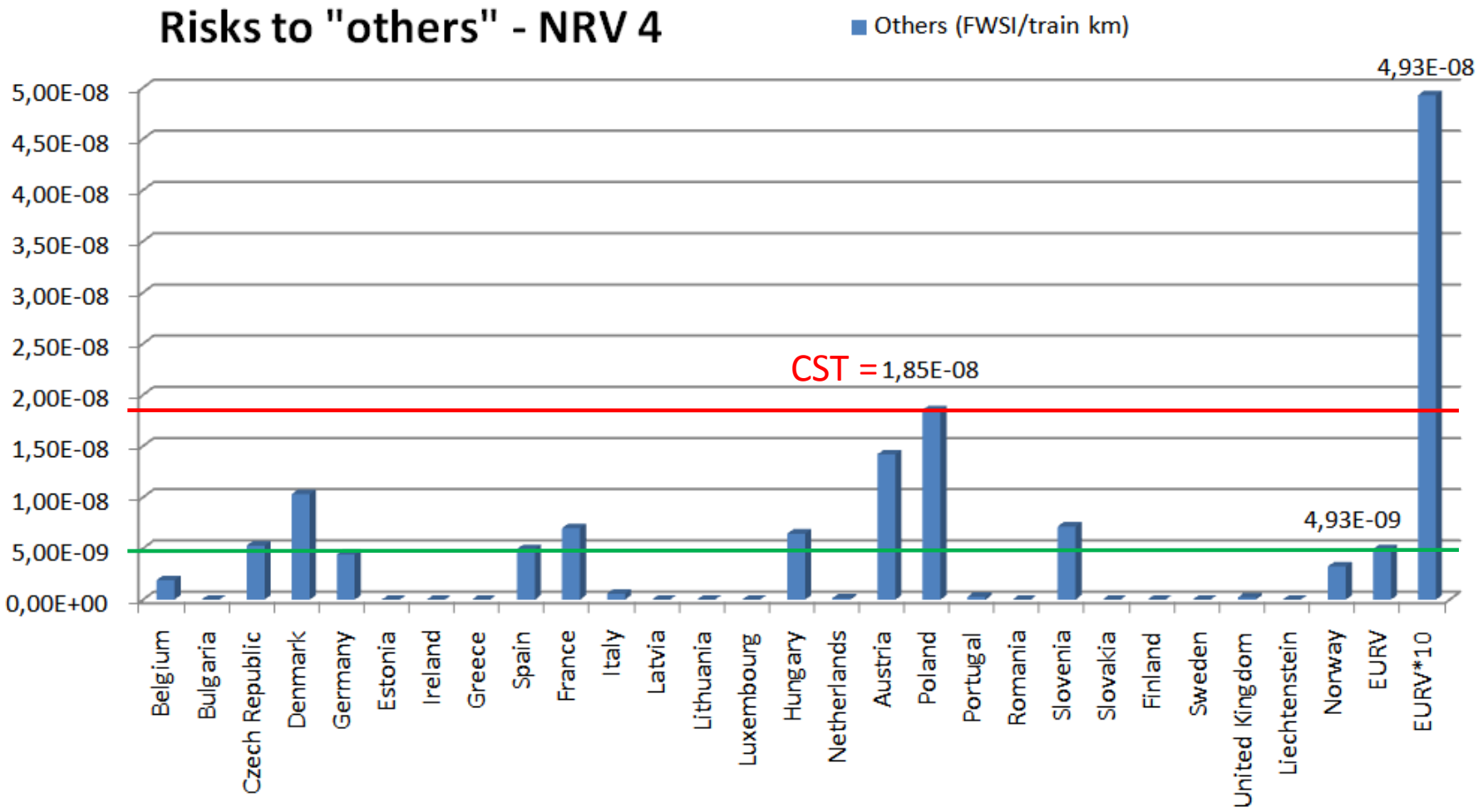
# The draft NRVs and the CST for employees



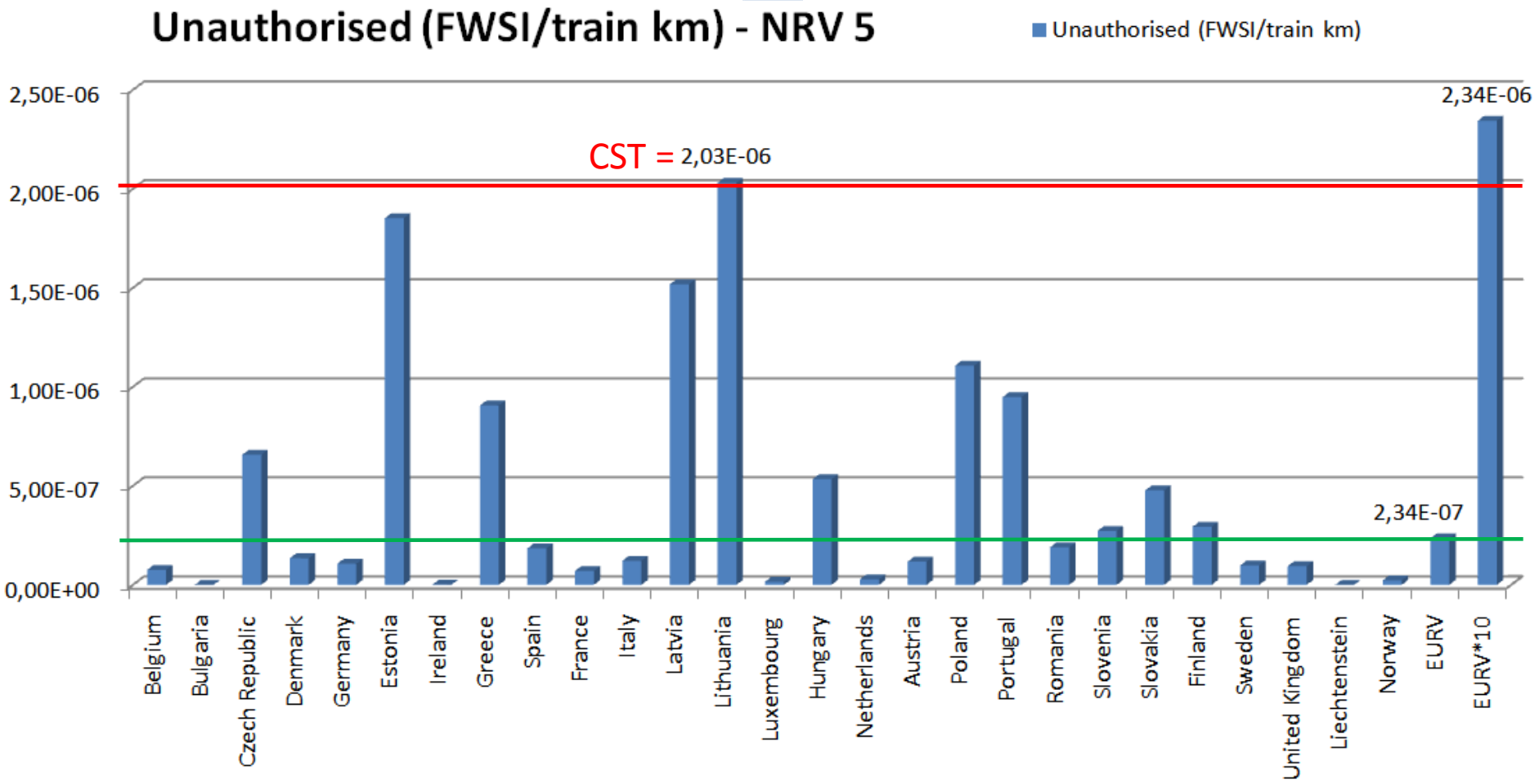
# The draft NRVs and the CST for LC users



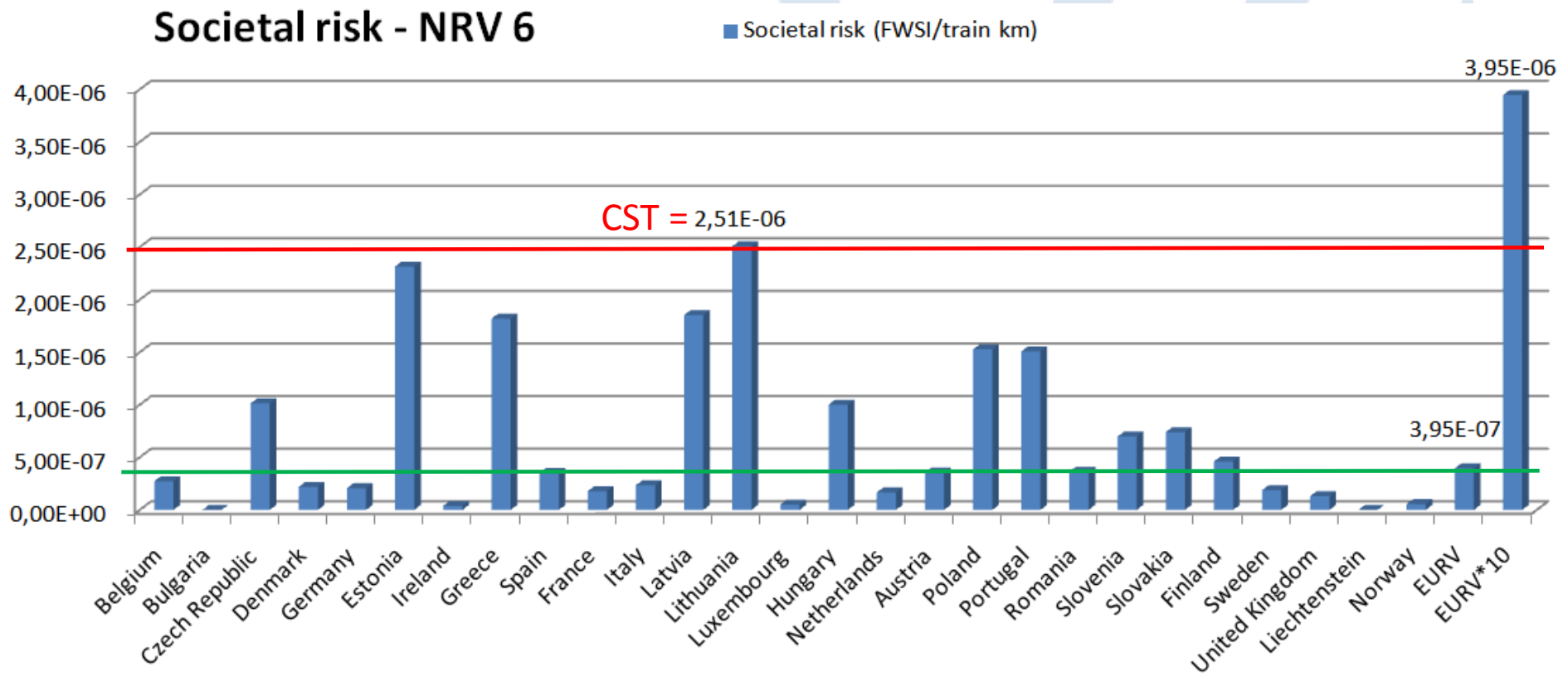
# The draft NRVs and the CST for “others”



# The draft NRVs and the CST for "unauthorised persons on railway premises"



# The draft NRVs and the CST for societal risk




Many thanks for your attention!