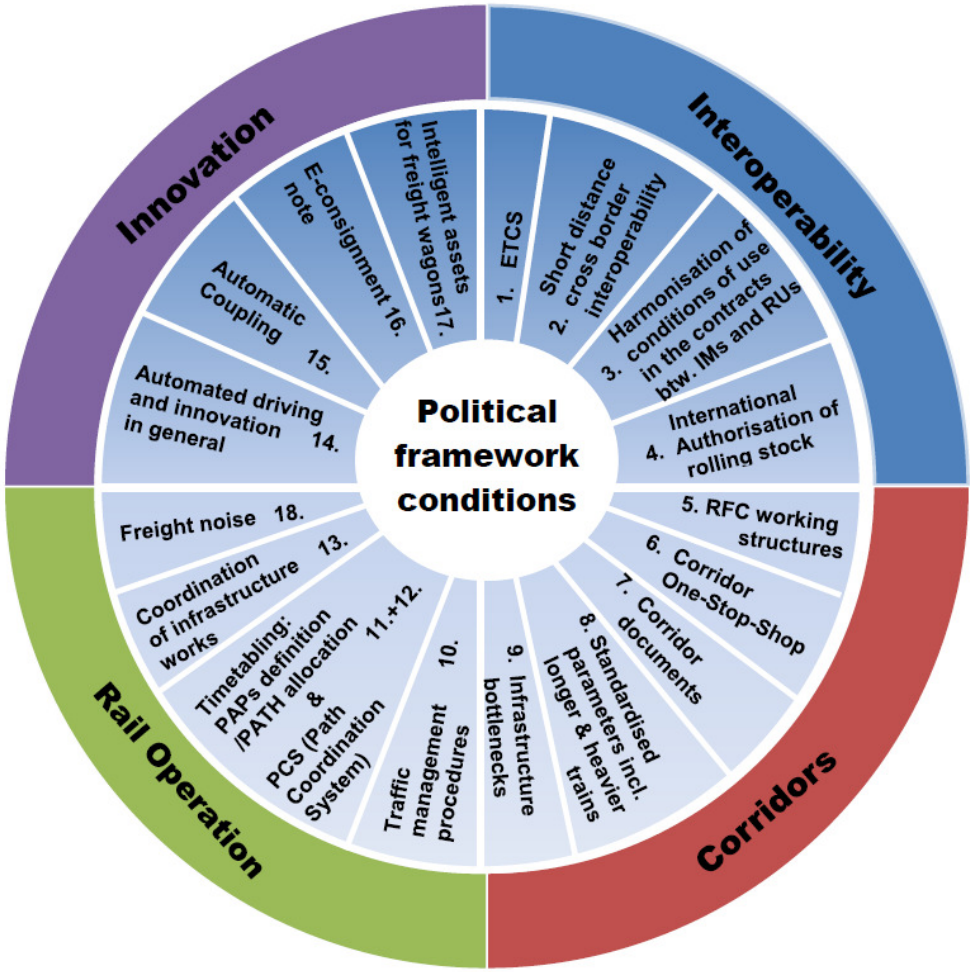

# TSI Noise revision – impact on the business

**11th UIC Railway Noise Workshop, 14 November 2017, Paris UIC Headquarters**

**CEO-Taskforce | Sherpa-Group | Michael Mh Müller (DB Cargo) | 14.11.2017**

# CEO TASK FORCE: High level initiative of the HLFM 2015 (UIC-CER)




## Goal

- Speed up implementation of key issues relating to rail freight performance, processes and productivity through CEO involvement
- Address short-term, medium-term and long-term issues

## How?

- Through capitalizing on existing and new projects, working groups and initiatives
- Through sector involvement and strict monitoring by CEOs

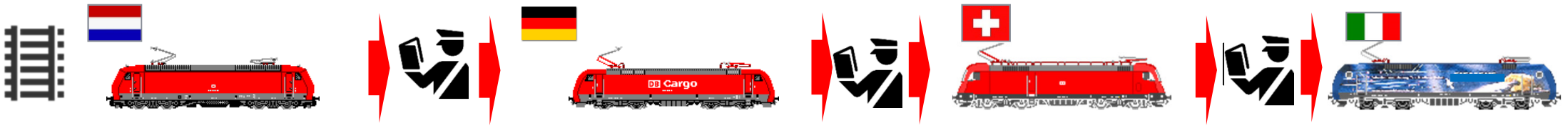
## Working structure

- Regular CEO meetings and web conferences
- Issues prepared by sherpas of the respective railway undertakings
- Presentation given in this sherpa function

# Railways are already facing serious challenges to achieve
# Noise dramatically intensifies the situation

**End-to-end, any driver, on any EU truck, under mandatory driving times and rest periods**

same driver, same truck




**Netherlands**

- **Different operating rules for train formation** of all countries involved must be considered: braking rules, length + weight
- **The standard is the lowest train length/weight** of any of the countries involved
- The locomotive must be equipped with the Dutch **train control system ATB and ETCS** (costs 400 - 500.000 €)

**Border Emmerich**

- Change of loco and loco driver
  **or:**
- Loco admission for Germany, equipped with German train control system PZB/LZB
- **German language skills** level B1 (costs 20.000 €)
- Training of loco driver in **operational knowledge for Germany**

**Germany**

- Higher costs for non-noise reduced wagons
- **Costs for retrofitting** of 1.700€ per wagon


**Border Basel**

- Change of loco and loco driver
  **or:**
- Loco homologation for Switzerland
- Training of loco driver in **operational knowledge for Switzerland**

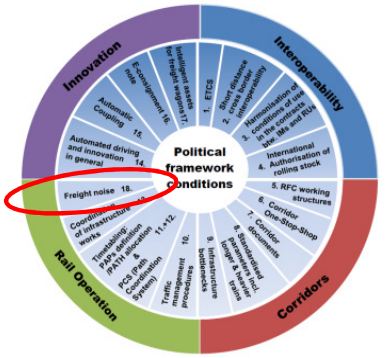
**Switzerland**

- Dutch ETCS incompatible with Swiss ETCS
- Loco needs **Swiss ETCS version and national train control system ZUB** (400.000 € per loco)
- Loco needs Swiss pantograph (smaller)

**Border Domodossola Italy**

- Change of loco and driver
  **or:**
- Italian loco homologation + Italian train control system SCMT
- Training of loco driver in **operational knowledge for Italy**
- **Level B1 Italian** language skills
- **Two loco drivers** often required in Italy
- Length of train max. 540m

# A European approach is needed
# Competiveness of rail freight has to be maintained




- In order to maintain public acceptance of environmentally friendly rail freight transport and to secure its growth opportunities, the reduction of rail freight noise is needed
- The affectedness and sensitivity varies considerably in the EU member states. For this reason, a one-size-fits-all approach is not feasible to solve the noise problem
- Different degrees of affectedness have to make different solutions possible. A flexible approach is necessary:

  ➔No additional economic/operational burdens where noise is not a problem

  ➔Pragmatic and cost-effective solutions are needed, where noise is a problem

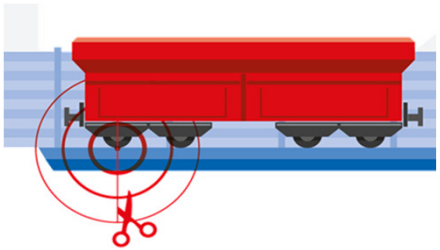
- Principal approaches: vehicle-based versus infrastructure based

  ➔International / national: gradual full applicability of TSI limits to all existing wagons

  ➔Quieter Routes: Only TSI NOI compliant wagons on quieter routes of the network

  ➔Quieter networks: NOI TSI scope is extended to wagons using quieter networks (= AT, DE, NL, CH) with possibility of a derogation for a period until when wagons can realistically be silent in this Member State

# What do „quieter routes“ and „quieter networks“ mean for economic, administrative and operational burdens?



**Rough economic consideration excl. the costs of RUs/ wagon keepers in NL, D, CH and A, without additional costs of IMs**

❶ Quieter networks (NL, DE, CH and AT): Approx. 30,000 silent wagons of large railways until 2021 are needed for carrying out transports with NL, D, CH and AT. Further reducible by pooling. Approx. 50 m € retrofitting costs, approx. 20 m €/a increased operational costs. **Total 250 m € to the year 2030**

❷ Quieter routes: Approx. 100 - 140,000 wagons : Approx. 200 m € retrofitting costs. Approx. 70 m €/a increased operational costs. **Total 900 m € to the year 2030**

- Rough estimation: Approx. 30 trains/day (on average on one silent corridor in 24 h) x 25 wagons/train x 5 days wagon circulation time (mix of single wagon/block trains) x 2 corridors/country x 15 countries (except NL, DE, CH, AT) x 1.33 (1/3 reserve to enable smooth operations) x 0.9 (due to existing silent wagons) x 0,9 (due to silent wagons in trains from NL, DE, CH, A) = 120,000 wagons

In addition, the costs from administrative burdens and operational complications on daily railway business - and this on a regular basis across several countries - have to be analyzed cleanly and to be included in the evaluation.

- Quieter networks*: 6 m €/a. **60 m € to the year 2030**
- Quieter routes**: 130 m/a. **1300 m/€ to the year 2030**

* Rough estimation: 30 000 wagons x 5 frequency of use/a (for noise affected countries) x 40 €/wagon (additional tasks (pooling, disposition) = 6 m €/a/. 60 m € bis 2030

** Rough estimation: Approx. 30 trains/day x 25 wagons/train x 7 days/week x 52 weeks/year x 2 corridors/country x 15 countries (except NL, DE, CH, AT) x 20 €/wagon (additional tasks above) x 0,8 (sundays, holidays, additional fuzziness) = 130 Mio €/a. 1300 Mio € bis 2030

# If no European simple and cost-effective approach can be found, the competitiveness of rail freight will further decline

**Any future approach has also to take into account the effect on daily rail business**

- Communication feasibility: Preservation of public acceptance and growth opportunities. Real benefit regarding real noise disturbance felt by citizens (not allocated benefit in theory).
- Operational aspects: Retrofitting costs + additional operational costs after retrofitting (also timing of costs); administrative + operational costs and manageability in daily rail business; realistic transitional periods.
- Economical burden: additional support through funding schemes

- Careful analysis is needed for every option
- No hasty approach with the risk of significant threat to the competitiveness of SGV

Thank you for your attention!

# Which structuring necessities result from the quieter routes approach? First considerations…

Backup

First draft - structuring necessities QR approach

| Criterion | Detailed criterion | Recommendation |
|---|---|---|
| **Definition QR** | **Number of trains** | clear, reproducible defition process for each country |
| | **end to end, length** | end to end silent corridors. No hot spots over 20 km approach |
| | **applicability** | 24/7 only silent wagons on QR |
| | **…** | |
| **Date of comprehensive entry into force** | | Europe-wide. Clear deadline, e.g. January 2022 |
| **Revision cycle** | | Yearly in the first 3 years, every 2 years afterwards |
| **Kind of revision** | | "preservsation" of silent routes. From silent to noisy not explicable |
| **Exemptions from retrofitting necessity** | **Not retrofittable 1:1** | Retrofitting of those wagons needed as well. At least, countries must be able to regulate that for transport within their borders (domestic, cross-border, transit) |
| | **Kink valve required** | Retrofitting of those wagons needed as well. Especially since these wagons regularly have a high mileage. At least, countries must be able to regulate that for transport within their borders (domestic, cross-border, transit) |
| | **Tyred wheels** | At least, countries must be able to to regulate the retrofitting necessity of these wagons for transport within their borders (domestic, cross-border, transit) |
| | **…** | |
| **Manageability/ rules for QR in everyday operations** | **Crisis-/capacity management bad weather + accidents** | Clear rules for deviation of trains from noisy to silent routes and vice versa |
| | **Crisis-/capacity management construction + line overload** | see above |
| | **…** | |
| **Europe-wide monitoring of the use of silent wagons on QR** | | Effective monitoring that only silent wagons run on QR has to be ensured in all countries on part of the EU |

# Which structuring necessities result from the quieter network approach? First considerations…

Backup

**First draft: structuring necessities Quieter Network (QN) approach**

| Criterion | Detailed criterion | Recommendation |
|---|---|---|
| **Definition QN** | **Definition network** | Only silent wagons on public infrastructure (e.g. no industrial railway infrastructure) |
| | **Definition of necessary exemptions** | E.g. OTIF-wagons. If necessary transport of remaining noisy wagons under speed limits and/or time restrictions |
| | **Preventing the misuse of exemptions** | Comprehensive shift of fleets to the OTIF region unrealistic scenario (outside EU law; aspects of marketing to customers and public; tax aspects; …) or preventable by political requirements |
| **Date of comprehensive entry into force** | | In steps: 2022 NL, D, CH and A. Other countires according to noise disturbance (e.g. total train mileage + political sensitivity) successively until after 2030 |
| **Exemptions from retrofitting necessity** | **Not retrofittable 1:1** | Retrofitting of those wagons needed as well. At least, countries must be able to regulate that for transport within their borders (domestic, cross-border, transit) |
| | **Kink valve required** | Retrofitting of those wagons needed as well. Especially since these wagons regularly have a high mileage. At least, countries must be able to regulate that for transport within their borders (domestic, cross-border, transit) |
| | **Tyred wheels** | At least, countries must be able to regulate the retrofitting necessity of these wagons for transport within their borders (domestic, cross-border, transit) |
| | **…** | |
| **Nation-wide monitoring of the use of silent wagons on QN** | | Effective monitoring that only silent wagons run on QN has to be ensured in all countries with QN |