Quiet Freight Transport

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Overview

1. Programmatic foundations
2. The noise mitigation programme
3. The economic stimulus package II: Innovative measures at the track
4. The pilot and innovation programme “Quiet Freight Transport”
5. What needs to be be done now

1. The programmatic foundations

The National Traffic Noise Mitigation Package (2007/2009)

- Use of innovative noise mitigation technology
- Relieving noise hotspots
- Reduction of the traffic noise burden despite increasing traffic volume
- Objective: Reducing rail noise by 50 % until 2020

The Coalition Agreement (October 2009)

- The acceptance of the development of the transport infrastructure depends on the reduction of the noise burden on the population
- Gradual reduction of the rail bonus with the aim of abolishing it
- Development of a noise-dependent rail infrastructure charging system
- Continuation and intensification of the noise mitigation programme on existing lines
- Use of the potential of technical progress to reduce vehicle noise

2. The Noise Mitigation Programme

1999 Initiation of the noise mitiagation programme:

Voluntary programme to mitigate noise at existing federal railway lines

2005 Overall strategy of noise mitigation:

Definition and prioritization of 3,400 km of lines in need of rehabilitation

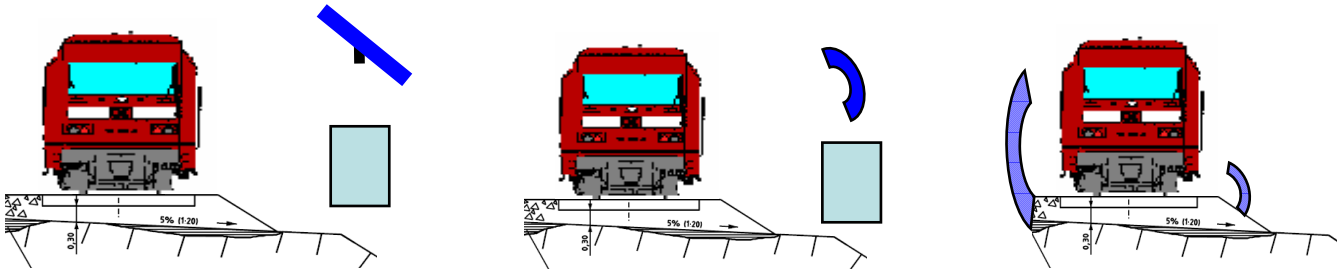
2010 Continuation of the overall strategy of noise mitigation:

Start in the fourth quarter

The Balance of Activities

- Annual investment 100 million Euros since 2007
- Rehabilitation of more than 800 kilometres of lines and 560 passages through built-up areas
- Subsidies for more than 300 km of noise protection walls and passive noise mitigation measures in 42,400 dwellings

3. ESP II: Innovative Measures at the Track



Quelle: DB Netz AG, 2010

Economic Stimulus Package II: Innovative Measures at the Track

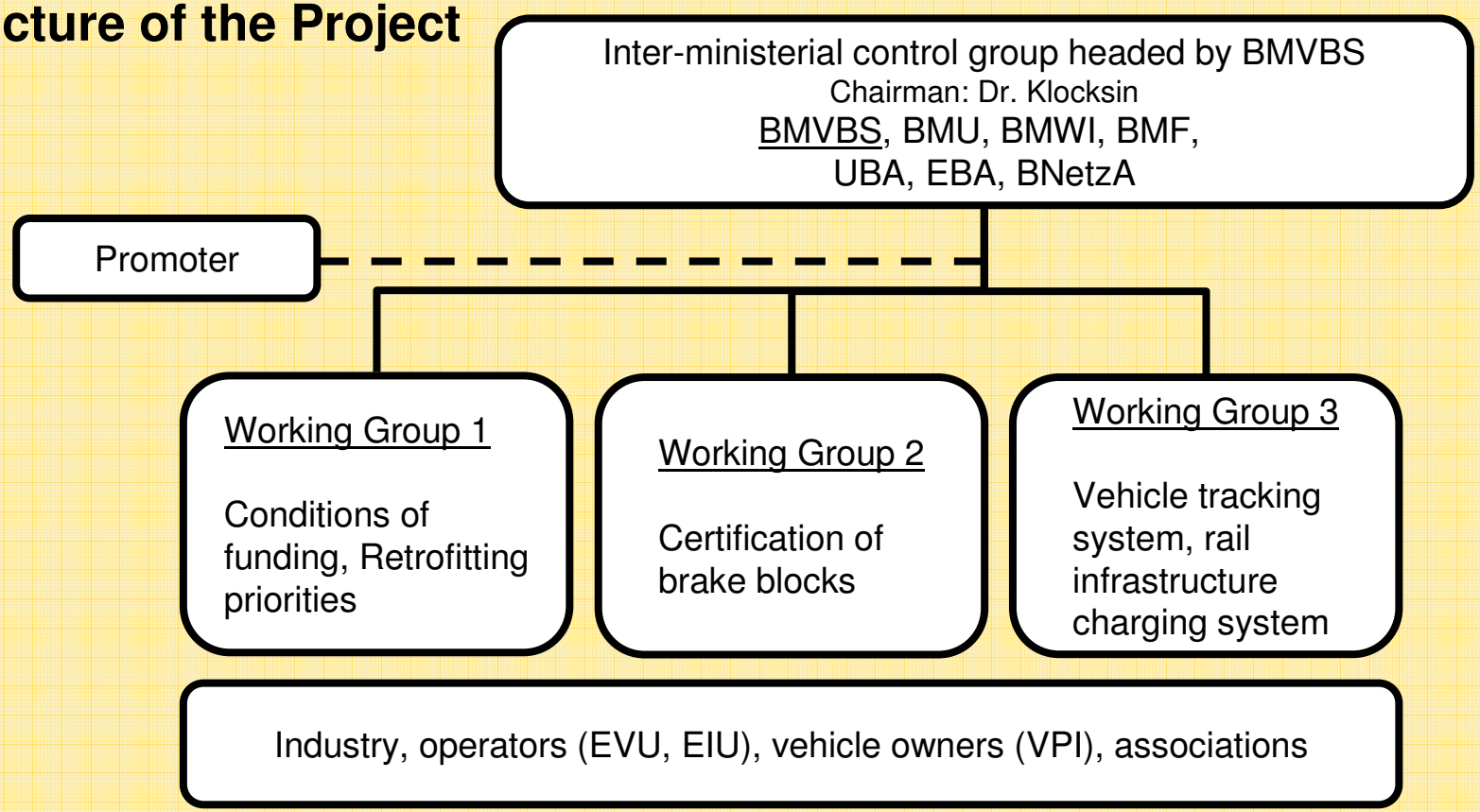
- 100 million Euros are available in 2009 and 2010; the individual projects have to be completed by the end of 2011.
- More than 80 projects for the mitigation of noise and vibration are tested at line sections and bridges all over Germany.
- This includes web vaporizers, low and transparent noise protection walls and the combination of noise protection and photovoltaics.

4. The Pilot and Innovation Programme “Quiet Freight Transport”

The Pilot and Innovation Programme “Quiet Freight Transport”

- The pilot project “Quiet Rhine”
- The innovation programme composition brake block
- Development of a noise-dependent rail infrastructure charging system

Structure of the Project

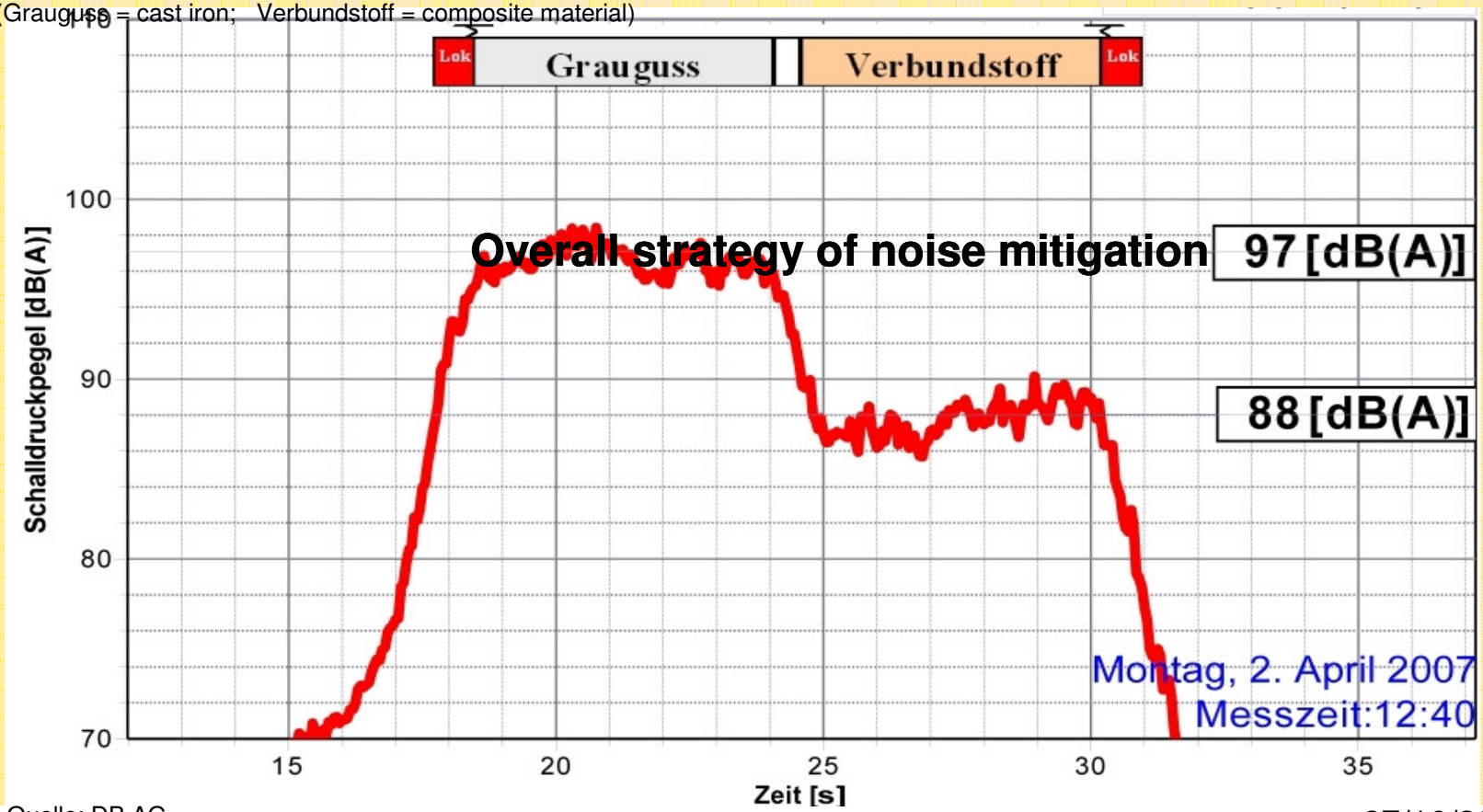


The Pilot Project “Quiet Rhine”

- The BMVBS makes 20 million Euros of funding available for the retrofitting of up to 5,000 freight wagons.
- In November 2009 – after the state aid approval by the EU – the State Aid Guideline was published
- Notifications of financial aid were sent out for the retroffitting of more than 1,200 freight wagons.
- A noise reduction of approximately 10 dB (A) per freight train is expected from a comprehensive retrofitting of the existing fleet.

Sound level measurement of a demonstration train

(Grauguss = cast iron; Verbundstoff = composite material)



Quelle: DB AG

The Innovation Programme Composition Brake Block

- Die K-brake block is approved, but retrofitting is very costly.
- Retrofitting with the LL-brake block is not as costly, but the UIC approval is limited until 30/06/2012 only.
- For some time now discussions have been underway with UIC with the aim of advancing the final approval of LL-brake blocks as a precondition of a fast and low-cost retrofitting of the existing fleet.

Development of a noise-dependent rail infrastructure charging system

- Study on the open-ended development and evaluation of a practicable rail infrastructure charging system.
- Development of the process sequences and quantity and cost structures for several models.
- Deduction of retrofitting scenarios

Performance description infrastructure charging study

			Type of financing		
			Bonus	**Bonus-Malus**	Exkurs **Direct aid**
Kilometric performance and differentiation	**Model on base AVV** Reporting of AVV data	Differentiation according to kilometric performance in Germany	B-AVV	BM-AVV	Financing of the retrofitting by the state and, if applicable, refund of the additional operational costs for a defined period
	Operational data Complete electronic wagon lists and train routes in operational data bases	Differentiation according to kilometric performance and route in Germany	B operational data route	BM operational data route	
	Operational data Complete electronic wagon lists and train routes in operational data bases	Differentiation according to kilometric performance, route section, time and level of the noise emissions in Germany	B operational data route/time	BM operational data route/time	
	Electronic recording (example RFID) Electronic route-side recording	Differentiation according to kilometric performance, route and daytime in Germany	B-RFID	BM-RFID	

Study Criteria for the above-mentioned Variants:

- Subsidy costs for the public sector
- Transaction costs for the railway sector
- Determination of the efficiency
- Determination of the effectivity
- Intermodal effects
- Europe-wide compatibility
- Time schedule for the introduction

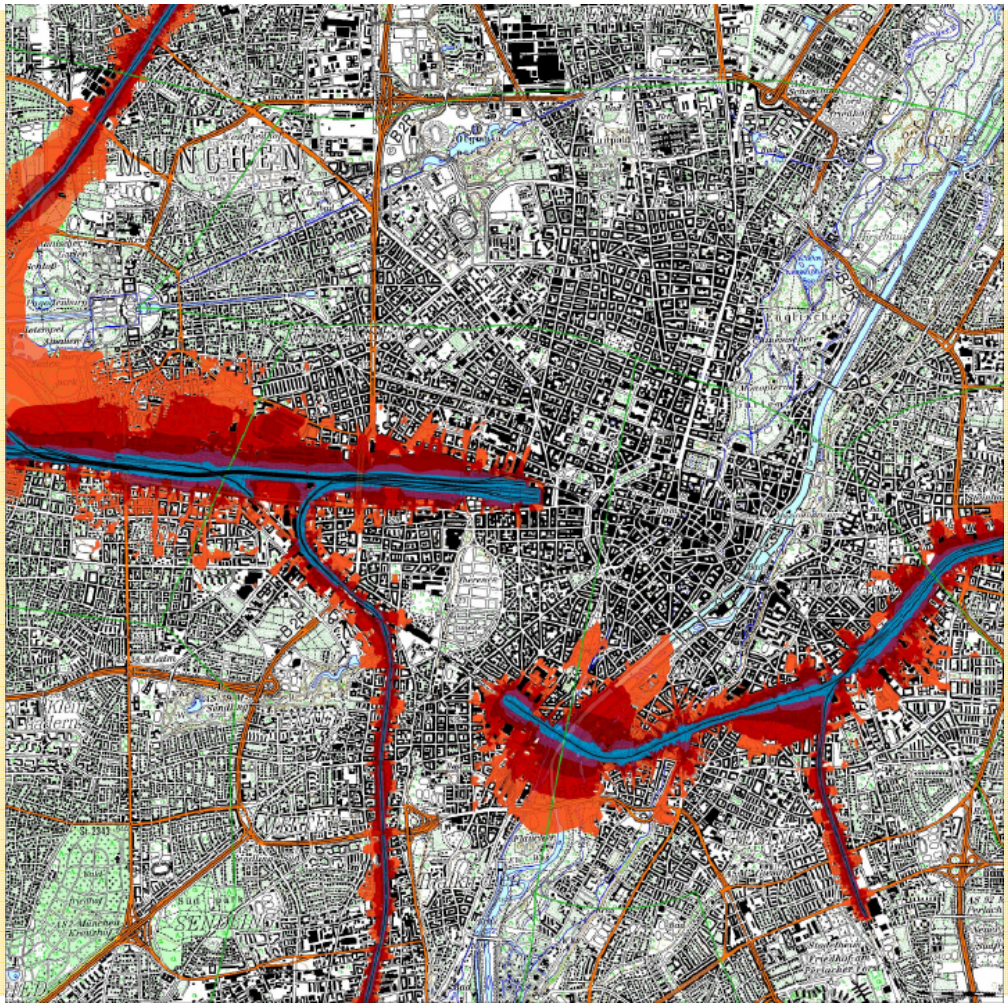
Revision of the 1st Railway Package, COM (2010) 475, Annex VIII:

- Differentiation of the infrastructure charges according to compliance with TSI noise limit values.
- “Noise-dependent infrastructure charges **have** to make the amortisation of investments which serve the retrofitting of freight wagons with the **most economically useful** and **available** low-noise break technology possible within an **adequate period of time**.“
- Possibility of further differentiating according to:
  - Time of the day,
  - composition of the train (i.e. block train bonus),
  - necessity of protection (i.e. location),
  - falling below the TSI noise limit values.

5. What needs to be done now

Quelle: pixelio.de

- **Continuity of the funds for noise rehabilitation:**
  Maintain 100 million Euros p.a.
- **Continuation of the overall strategy of noise rehabilitation:**
  Define and prioritize rehabilitation requirements.
- **Abolishing the rail bonus:**
  Examine the financial impact.
- **Approval of the LL-brake block:**
  Urge UIC to initiate positioning and prioritization.
- **Evaluation of the infrastructure charging study:**
  Decide on and schedule implementation.



Quelle: Eisenbahn-Bundesamt

Thank you very much for your attention !