What’s next?
Current and future developments
Nils IJntema, noise & vibration specialist
Railway noise protection in the Netherlands

- Noise emission ceilings
- Noise abatement program (MJPG)
- NDTAC
- Quieter routes EU (2024)
Noise mitigation measures

Forecast 2019 - 2023

- 81% silent freight trains

- Noise mitigation at 19 noisy bridges

- Planned façade insulation at 3,000 DU’s

- Large scale squeal noise mitigation
Create possibilities for (future) innovative technologies

- Low height noise barriers
- Noise barrier with added diffraction elements
- Solar panels on noise barriers
- Testing ground for ‘sustainable’ bearers
- What’s next…?
Noise & vibration control by monitoring track quality

- Passenger train as monitoring platform
- Axl box acceleration sensors and microphones (wheel-rail interface)
- Detect rail defects, track alignment deterioration, excessive noise emission, rail roughness growth
- Noise & vibration motivated maintenance
Challenges of railway vibrations

Increasing awareness asks for actions:

- More communication
- Research and development
- Clear policy and regulations
- Dose-response-relationships
- Uniform calculation model
- Cost effective mitigation measures
Thank you!