

MONITORING OF VEHICLES AND INFRASTRUCTURE



Unit installed on bogie

Railway vehicle

Wayside cabinet to record data

Server

Life-cycle-cost (LCC) considerations need a consistent monitoring.

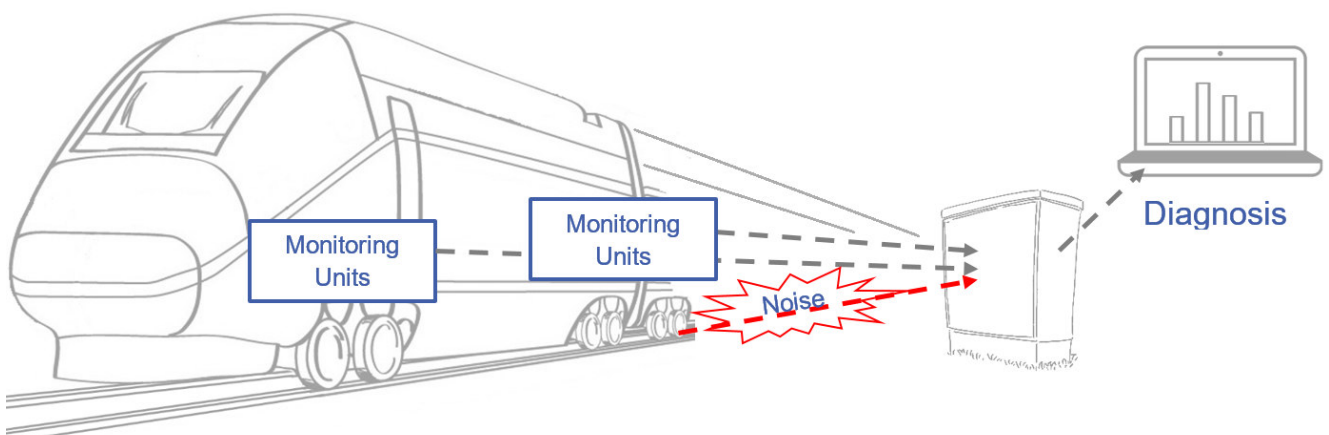
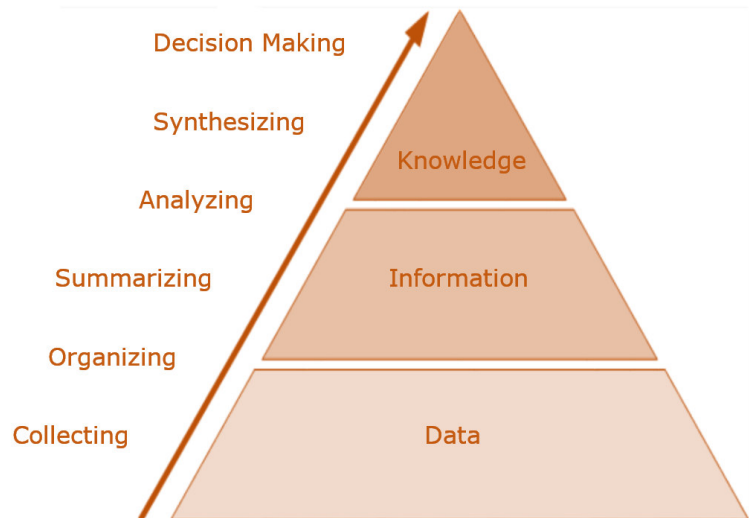
- Ongoing documentation of the current status to check the efficiency of implemented maintenance measures
- Information at your fingertips for internal and external validation
- Long and mid-term optimization for LCC considerations
- Independence of measurements, increase internal Know-How
- Today's technology allows for constant infrastructure and vehicle driven data collection and analysis

Fleet Monitoring

Setup at neuralgic network knots, wayside monitoring units primarily collect sound and vibrational data of passing vehicles.

Infrastructure Monitoring

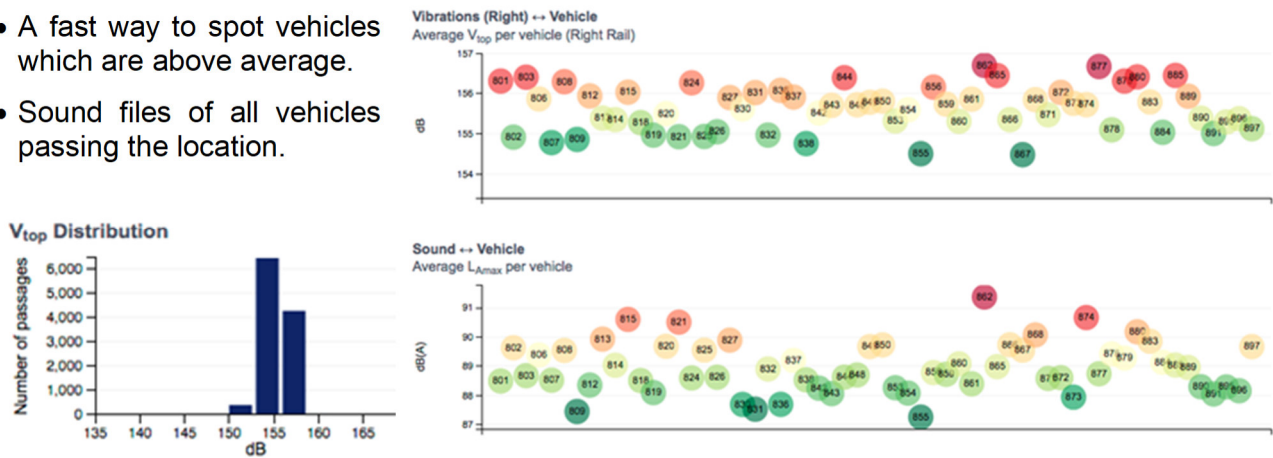
Train borne monitoring units installed in regular vehicles record noise, vibrational data and pantograph impacts. A few regular vehicles collect much more statistically robust data in considerable shorter time than dedicated measuring vehicles can do.



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Fleet dashboard – parameters by vehicle

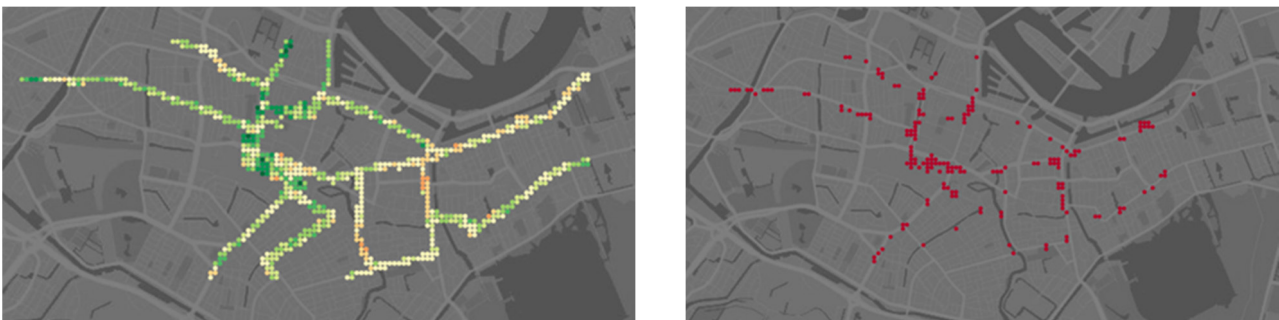
- A fast way to spot vehicles which are above average.
- Sound files of all vehicles passing the location.



Time	V _{top} (left)	V _{top} (right)	Speed	L _{Amax}	Humidity	Vehicle
2016-06-06 15:59:12	168.3	154.3	17		1	824
2016-06-22 09:59:28	162.5	157.3	17	94.7	1	868

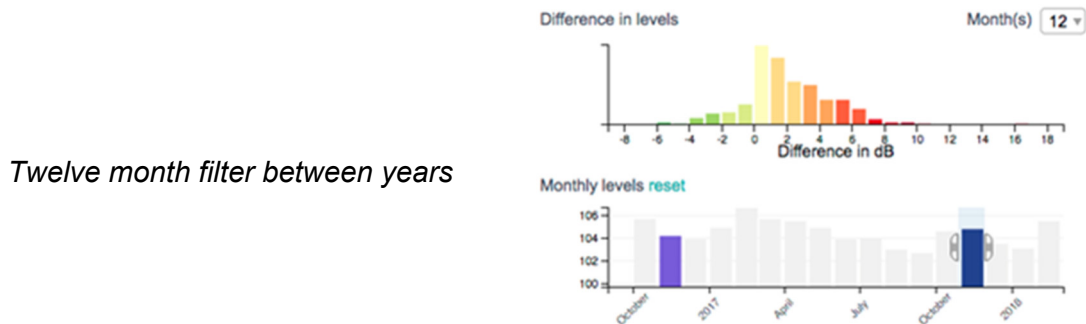
Visualize individual vehicle data, organized by passing

Infra dashboard – collected data from reference vehicles



Average network noise and vibration compared to filtered hot spot regions

- A few clicks to filter for problematic spots or regions of the network with suspicious characteristics.
- Comparisons between months helps to track the efficiency of implemented measures.



Twelve month filter between years