

# Mobile service coverage on trains

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# Status

Commercial coverage in 39 railway tunnels, mainly with more than one mobile operator (MNO) offering service

Both voice and data services

Bane NOR facilitates and operates the infrastructure within the tunnels, the mobile operators outside

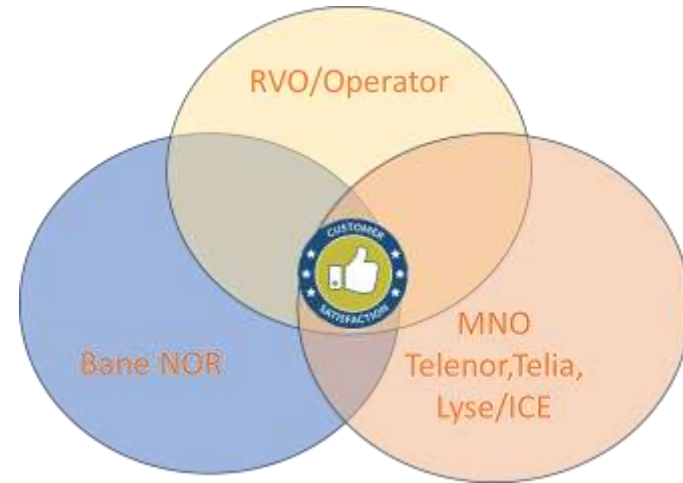
Increase in demand

Outdated technical solutions in several tunnels - need for renewal



# Split of responsibilities, common goal

Joint effort	Coverage	Capacity
<p>Bane NOR, RVO/operator, and MNO must work closely <b>together</b> to create good mobile coverage for passengers.</p>	<p>Good user experience depends on <b>continuous</b> mobile coverage</p>	<p>Infrastructure in tunnels and trains, together with mobile coverage from one or more mobile operators are crucial to ensure sufficient coverage and <b>capacity</b> for passengers on the trains.</p>



# Mobile Services Coverage

More than 10 years of measurement history, both within and outside the tunnels

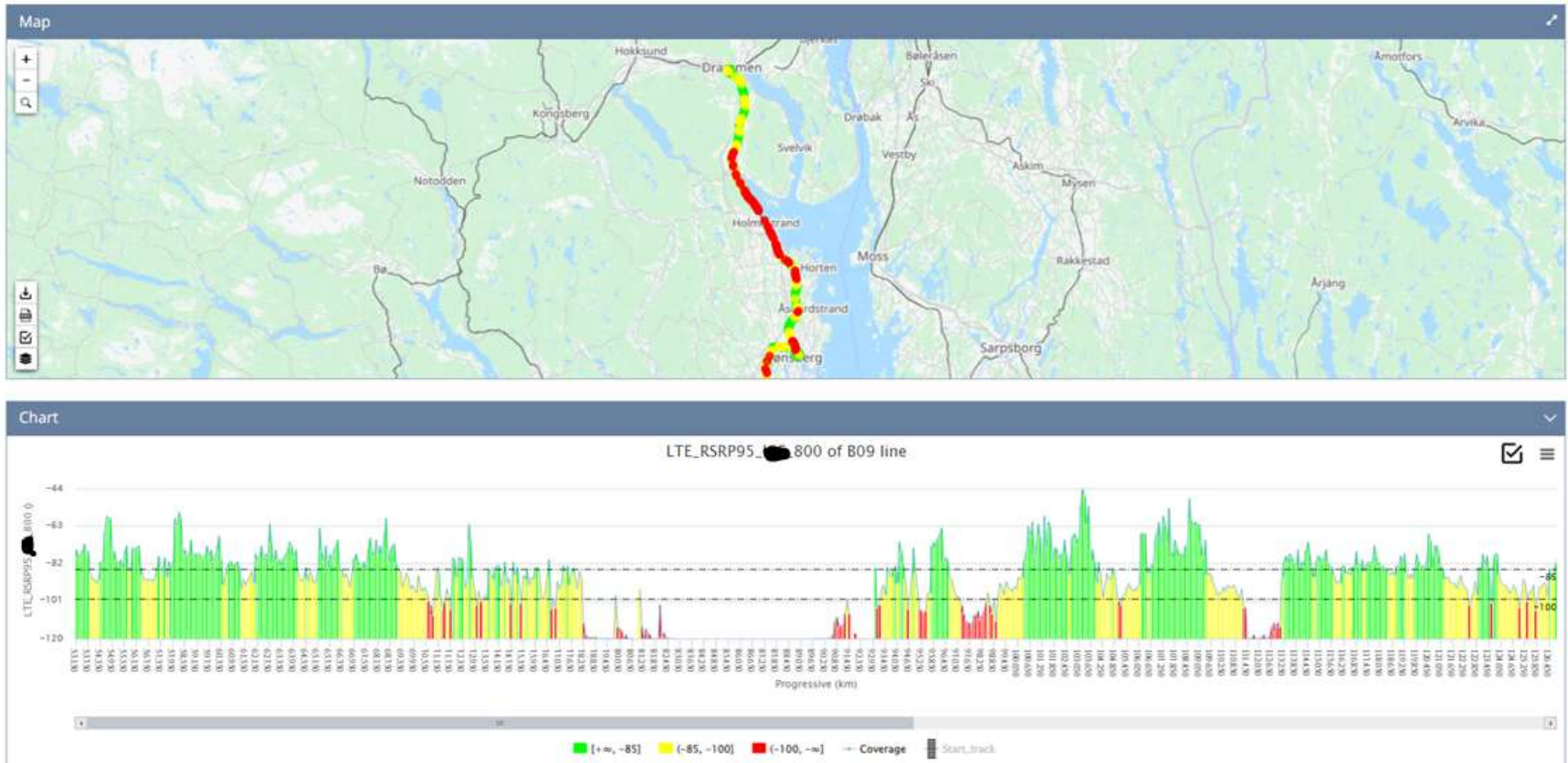
Positive development in coverage over time along trackside, but still areas with none or limited coverage

The measurements are shared with the respective mobile operator



Measurement tools onboard Roger1000

# Coverage example, operator X



# Ongoing activities – «Bedre Nettdekning»

KVU (concept selection study) for 'improved mobile service coverage on trains'

The KVU concluded that this was a profitable investment project, and recommended going ahead with the project, with Bane NOR in lead

Bane NOR has for the last two years been working on this project based on the KVU.

