Norwegian experiences and lessons learned

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Why do we need an interchange?

NRA's have some work to do – an interchange can create a dialogue between road users and NRAs!

"Allways" connected

The vehicle accessed a map that had all the messages on the interchanges (pre-federation). All safety related traffic information was available from the four countries on the phone in the vehicle.

Ghost and missing roadworks

- A ghost road work is one that exist in the digital world, but there is no trace of it in the real world.

- Missing roadworks exist in the real world but do not exist in the digital world.

Some of the ghost roadworks in Denmark were due to faulty filtering on our side. But most probably not all
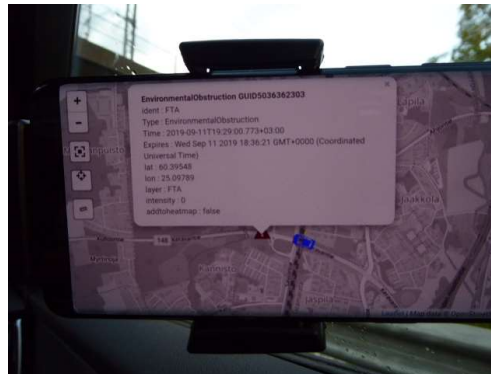
In Norway major roadworks 10Km + where missing

It is quite clear that the interchange and delivery of messages works, but one needs to take great care when filtering, but there is also the issue with how correct the data on when the roadworks are in effect. We have seen issues in all countries. NRA's have a job to due!

Weather in Finland

RDS TMC Message – in Finnish ??????

Please excuse us Volvo for taking the car for a swim, the road should probably have been closed

2020 test

- To confirm interoperability between two different implementations, a test was conducted between the Norwegian and Swedish node.

- We tested the average latency from end user to end user. (Not over cellular network!)
  - Ericsson(Swe) user located in Lund, Sweden. Ericsson Node also in Lund.
  - Bouvet(Nor) user located in Oslo, Norway. Bouvet Node located in Finland.

- Physical message route:
  - Lund(Client) -> Lund(Interchange) -> Finland(Interchange) -> Oslo(Client)

- User to user latency was 57.2 milliseconds on average for single messages.

If you were standing at one end of a bowling lane speaking to your friend, ~57ms is the time it would take for the sound of your voice to go from your mouth to your friend's ear.

Co-financed by the European Union
Connecting Europe Facility