Public road automated vehicle testing in Finland

WORKSHOP 16 DECEMBER 2016
National strategy for transport automation

• All modes of transport
  • Air
  • Maritime
  • Rail
  • Road

• Robots on land, in water and in the air – Promoting intelligent automation in transport services; Publications of the Ministry of Transport and Communications 7/2015
  • “If it works in Finland, it will work anywhere!”
  • Simpler, smarter regulation in focus

• A governmental resolution on robotisation in May 2016
National strategy for road vehicle automation

- Focus in road transport and actions required by public sector and in SAE levels 3-4-5
- **Action Plan 2016–2020**
  - Infrastructure
  - Road
  - Services
  - Vehicle
  - Driver
- Published in April 2016 (available online)
Testing automated vehicles

• Testing of all automated vehicles (SAE levels 0–5) is possible on public roads in Finland using a test plate certificate

• Vehicle under testing must have a driver either inside or outside the vehicle

• Focus on responsible behavior of the testing organization
How? Test plate certificates

- Valid for one year at a time
- Eligible applicants: companies, agencies or other R&D organisations
- Entitles the bearer to drive test vehicles, to a limited extent and on a temporary basis, both in road traffic and off-road
- For testing in road traffic, Trafi will issue test plates
Requirements for test permits

- *Trade register extract* from the company’s country of incorporation

- *Trial plan* including:
  - a general description of the trials
  - technical specifications of the test vehicles
  - information on the road area where the trials are intended to be conducted
  - proof of insurance cover for third party liability
  - description of how road safety will be ensured.
Follow-up: reporting

• The test plate certificate holder must submit a report to Trafi on the trial results.

• The report should describe:
  • how the trial plan was implemented
  • what kind of deviations from the plan were encountered.
National AV activities in Finland

1. **Extreme weather testing in Northern Finland**
   - Aurora: public test section for AVs on highway E8

2. **Urban testing facilities**
   - Tampere & Tuusula
   - Developing testing tools & requirements for AVs

3. **SOHJOA automated electric buses**
   - Helsinki, Espoo, Tampere
   - Automated last-mile solutions & innovation platform
Aurora Arctic Challenge 2017-2018

• Road vehicle automation and intelligent infrastructure solutions and their performance and impacts in arctic conditions
  • The technical performance of solutions is to be verified with field trials using automated vehicles in the Aurora corridor.

• Funding: ~€1-2M

• January 2017: publishing of procurement notice

• Result by end of December 2018
SOHJOA automated electric buses

• 2 EasyMile buses (SAE Level 4)
• Public streets

• Traffic lights, street markings
• Signs indicating AV testing
Challenges & lessons learned

• Close and interactive cooperation between authorities and stakeholders carrying out the testing is crucial already in the planning phase.
  ◦ In urban settings, city transport planners should be involved as early as possible.
  ◦ Including police officials in the discussions from the start

• Real urban environments are always more complicated to test in than expected.
  ◦ Illegal parking issues, lots of pedestrians and cyclists

• For automated electric buses, conditions are still a limiting factor.
Next: cross-border testing & mutual recognition of approvals
More information

Read more on AV trials in Finland:
http://www.trafi.fi/en/road/automated_vehicle_trials

Future information:
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