VOLVO CARS EMC TESTING
FROM FARADAY TO AWITAR

IEEE / SNRV meeting
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Björn Bergqvist Volvo Car Corporation
HISTORY

- Faraday was opened in 1991
- Agreement for cooperation
- Volvo Car Corporation 17 weeks/year
- Two shifts
- Models: 345 (-91), 440 (-96), 460 (-96), 480 (-95), 240 (-93), 740 (-92), 940 (-98), 850 (-96)
VOLVO MODELS AT THAT TIME
ACTIVITIES IN FARADAY

- Vehicles more complex
- S80 (1998) Milestone for Volvo Cars
- In-vehicle CAN data communication busses
- Off-vehicle wireless communication, Volvo On-Call
- Need for Communication Test Chamber
- Capacity in Faraday.
- Mars 2016 RISE decided to build AWITAR
FUTURE EMC TESTING IN AWITAR

- Automotive Wireless Test and Research Facility
- Modern EMC test chamber
- High performance
- Effective testing of several projects
- Support development of future vehicles
  - Automated
  - Electrified
  - Fast charging, wired and wireless
  - Connected
COMMUNICATION TESTING IN AWITAR
WHAT, DO WE WANT TO EMULATE IN AWITAR?

Average Power Delay Profile (APDP) for a C2I scenario.

WHAT: REAL LIFE SIGNAL ENVIRONMENT

OTA multi-probe setup

Measurements on a highway in Lund, Sweden.
HOW: SIVERT

• SIVERT* a project submitted to Vinnova FFI, that will define and build a prototype wireless communication test setup in AWITAR.
• A project with 5 partners and with a total budget of 28MSEK during 3 years.

*Simulation and VERification of wiReless Technologies
Advantages with AWITAR:
- The environment can be controlled.
- The tests are repeatable.
- The tests can be performed, ~1 year earlier than today.

Tomorrow, testing of wireless performance in AWITAR.

Today, field trails.