NordicWay 2
Cellular C-ITS Corridor

Telecom/Ericsson view on the C-ITS DA

Co-financed by the European Union
Connecting Europe Facility

Major concerns from Telecom

- Cellular connectivity out of scope (for the time being)
  - Vague promises of later introduction
- Not technology neutral
  - Vague promises of adding other technologies
  - But backward compatibility with ITS G5 is required – killing every business case
- No migration path to 5G and more advanced use cases
- GSMA:
- 802.11p has demonstrably poorer performance than C-V2X in terms of security, reliability, range and latency
- demands of ‘interoperability’ and ‘backwards compatibility’ between 802.11p and future communication infrastructure.
- Therefore, even if the technology of choice of many telecommunications networks and automobile manufacturers – C-V2X – tried to eventually be recognized as a communication layer for C-ITS, it would de facto be locked out.
- The technology choice that Europe is making towards 802.11p goes in a backwards direction, ignoring market developments and isolating itself further.
- the new legislation deals a blow to 5G rollout plans across Europe.
- There is so much well-founded objection to the Delegated Act on C-ITS, that it is simply the wrong choice for Europe to make.

Co-financed by the European Union
Connecting Europe Facility

Official view of Ericsson

- EXISTING cellular C-ITS services such as LTE-V2X are at least as mature and far more widely deployed compared to ITS-G5, thus LTE-V2X should be included and recognized on an equal basis to ITS-G5 already from the first release of the regulation.
- All elements (specification maturity and commercial readiness) required in the proposed process for updating the draft Regulation are already met by LTE-V2X for both short and long-range modes:
- All required profiles/technical specifications for LTE-V2X have been adopted by European SDOs; and are therefore available for inclusion as alternative references to ITS-G5;
- Multiple vendors have already available & commercialized LTE-V2X short-range hardware and software in Q1 2019 (others are announced for Q2 2019), hence significantly before the expected date of application of the Regulation;
- LTE-V2X long-range solutions are readily available and have been commercially deployed for many years

Co-financed by the European Union
Connecting Europe Facility

- We therefore call upon the Commission to:
- **Define clearly interoperability requirement as “mutual” between mature technologies (ITS-G5 and LTE-V2X short & long-range modes)**
- **Amend the current draft to include LTE-V2X technology short & long-range modes in its scope via related ETSI ITS approved specifications and profiles**
- **Avoid legal uncertainty on the “fast-track” update process:**
  - Introduce a 6-month deadline for the Commission to make its decision known as regards the initiation of an amendment procedure to include new technologies or services and;
  - Include criteria to assess objectively when and how a “suitable migration path” must be specified (e.g. below a certain market penetration threshold);
  - Specify the unambiguous definitions of terms such as “existing”, “maturity”, etc.
  - Include as an Annex a template for the “technical file” to be submitted.
- **Open up participation to in the future C-ITS expert group to representatives of technology segments that are not within the scope of the draft Regulation today.**

Co-financed by the European Union
Connecting Europe Facility

Other major concerns from Fagerholt

- Short range ”legacy thinking” – hard to optimize the DA to include cellular
- ”C-ITS station” – outdated box thinking (compare VW end2end electronics)
- CE marking
- Requirement to use changing pseudo certificates
- EU cert system not in place for many years
- Message size and latency (needed for short range + high speed)
- CAM = SPAM
- Spectrum issues: ITS G5, LTE PC5, 5G NR PC5, CBTB and other ITS????
- More advanced use cases – AD vehicles sharing intentions – real two way communication

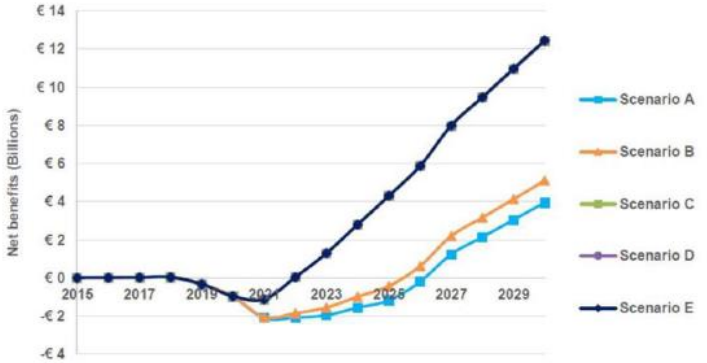
CBTC = communication based train control

Co-financed by the European Union
Connecting Europe Facility

RICARDO CBA = 3 to 1

- Emergency electronic brake light (EBL)
- Emergency vehicle approaching (EVA)
- Slow or stationary vehicle(s) warning (SSV)
- Traffic jam ahead warning (TJW)
- Hazardous location notification (HLN)
- In-vehicle signage (VSGN)
- In-vehicle speed limits (VSPD)
- Probe Vehicle Data (PVD)
- Roadworks warning (RWW)
- Weather conditions (WTC)
- Shockwave damping (SWD)
- Green Light Optimal Speed Advisory (GLOSA) / Time to Green (TTG)
- Signal violation/Intersection safety (SigV)
- Traffic signal priority request by designated vehicles (TSP)
- On street parking information and management (Pinfo)
- Off street parking information and management (PMang)
- Park & Ride information (P&Ride)
- Information on alternative fuelled vehicle charging and fuelling stations (iFuel)
- Traffic information and smart routing (SmartR)
- Zone access control for urban areas (ZACM)
- Loading zone management (LZM)
- Vulnerable road user protection – pedestrians and cyclists (VRU)
- Cooperative collision risk warning (CCRW)
- Motorcycle approaching indication (MAA)
- Wrong way driving (WWD)

- The ● are in the DA, 12 of 25 missing
- Scenario E = all services, short and long range, smartphones and after market was the only case with acceptable B/C ratio.
- A big part of the value was ”saved time”



Co-financed by the European Union
Connecting Europe Facility

DG MOVE Day 1 services

Service category	Service	Service profile
	Vehicle-to-vehicle services	
Traffic jam	Dangerous end of queue	Section 3
Traffic jam	Traffic jam ahead	Section 4
Stationary vehicle warning	Stopped vehicle	Section 5
Stationary vehicle warning	Broken-down vehicle	Section 6
Stationary vehicle warning	Post-crash	Section 7
Special vehicle warning	Emergency vehicle in operation	Section 8
Special vehicle warning	Stationary safeguarding emergency vehicle	Section 9
Special vehicle warning	Stationary recovery service warning	Section 10
Exchange of IRCs	Request IRC	Section 11
Exchange of IRCs	Response IRC	Section 12
Dangerous situation	Electronic emergency brake light	Section 13
Dangerous situation	Automatic brake intervention	Section 14
Dangerous situation	Reversible occupant restraint system intervention	Section 15
Adverse weather conditions	Fog	Section 16
Adverse weather conditions	Precipitation	Section 17
Adverse weather conditions	Traction loss	Section 18
	Infrastructure-to-vehicle services	
In-vehicle signage	Dynamic speed limit information	Section 19
In-vehicle signage	Embedded VMS 'free text'	Section 20
In-vehicle signage	Other signage information	Section 21
Hazardous locations notification	Accident zone	Section 22
Hazardous locations notification	Traffic jam ahead	Section 23
Hazardous locations notification	Stationary vehicle	Section 24
Hazardous locations notification	Weather condition warning	Section 25
Hazardous locations notification	Temporarily slippery road	Section 26
Hazardous locations notification	Animal or person on the road	Section 27
Hazardous locations notification	Obstacle on the road	Section 28
Road works warning	Lane closure (and other restrictions)	Section 29
Road works warning	Road closure	Section 30
Road works warning	Road works — mobile	Section 31
Signalised intersections	Green light optimal speed advisory	Section 32
Signalised intersections	Public transport prioritisation	Section 33

- Benefits 2030 acc to Ricardo:
  - Total 15 Billion €
  - Saved time 10 Billion €
  - Accidents 3,5 Billion €
  - Fuel & CO2 1,6 Billion €
- The present DA should not be implemented as there is no positive cost benefit case!

Co-financed by the European Union
Connecting Europe Facility

Co-financed by the European Union
Connecting Europe Facility