

## ASECAP comments on CEF Digital work programme

The final draft of the CEF Digital work programme<sup>1</sup> is contradicting existing EU Regulation and the CEF transport sector programme in the following areas related to Intelligent Transport Systems:

### 1. Undue intervention into an existing market.

The draft proposes funding for specific cellular 3GPP technology outside of the 5G pioneer bands and in the (license-exempt) ITS band<sup>2</sup>, where there is already deployment and an existing market for other ITS technology. This is a violation of the principle of technological neutrality (see Recital (2) of the CEF Regulation (EU) 2021/1153) and constitutes an undue market intervention, since there is no market failure. This is even more regrettable as 3GPP technology is neither interoperable nor backwards compatible to incumbent ITS technology.

### 2. Intervention into spectrum regulation of the Member States

By funding cellular technology explicitly in the 5.9 GHz ITS band, where its interference-free operation has not been fully investigated, the Commission intervenes into Member States spectrum regulation. Interference problems of specifically cellular technology into the smart tachograph, weight and dimensions and road tolling applications were addressed in a recent CEPT statement<sup>3</sup> on which Commission was informed by ECC. Furthermore, there are interference problems into incumbent ITS technology already deployed. The draft work programme even shows that these interference problems are known to the Commission<sup>4</sup>.

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<sup>1</sup> ANNEX to the Commission Implementing Decision on the financing of the Connecting Europe Facility – Digital sector and the adoption of the work programme for 2021-2025. Draft after Committee meeting of Dec 3

<sup>2</sup> Section 3.1.3, page 16: The infrastructure should make use of at least one 5G pioneer band (700 MHz, 3.6 GHz, 26 GHz) and, if appropriate, **the 5.9 GHz ITS band** and the 900 MHz and 1900 MHz FRMCS bands<sup>25</sup>.

<sup>3</sup> CEPT Liaison Statement to ETSI (WG FM #100) [https://www.cept.org/Documents/wg-fm/66803/fm-21-155annex17\\_ls-to-etsi-on-road-its-technologies-coexistence](https://www.cept.org/Documents/wg-fm/66803/fm-21-155annex17_ls-to-etsi-on-road-its-technologies-coexistence)

“WG FM reminds that CEPT’s regulatory framework is based on specific technical assumptions that were used in compatibility studies in ECC Reports 101, 228, 290 and 291 referred to in ECC/DEC/(08)01. As per the MoU with ETSI, these assumptions shall be followed to ensure coexistence with the adjacent radio applications as well as an efficient use of spectrum between different radio technologies.[...] As stated in the note of Table 7.9 in TR 103 766, the timings of LTE-V2X were changed since the publication of CEPT Report 71. [...] In addition, the smart tachograph also operates in the band 5795-5815 MHz (see ECC Report 291).

<sup>4</sup> Section 3.1.3, page 16: Proposals should demonstrate that **interference issues with other C-ITS services** using the 5.9 GHz ITS band are analysed and adequately addressed<sup>26</sup> in the project. Particular attention should be given to ensure continuity of legacy services and in particular continued functioning of safety-related services.

Footnote <sup>26</sup> As a starting point, **the less used part of the harmonised 5.9 GHz ITS band could be considered for early implementation** throughout the corridor **in order to avoid interference** to and from other ITS technologies until a suitable coexistence solution is found. This



Instead of awaiting agreed procedures to solve coexistence issues with incumbent systems, the Commission sets a precedent by funding the deployment in the ITS spectrum or parts thereof. Deploying cellular technology outside cellular bands and where interference problems are known, would make the affected parts of the ITS spectrum unusable in the future. It is an erosion of the principle that license-exempt spectrum must remain useable for all (e.g. by using “polite” spectrum access).

### 3. Contradiction of CEF Regulation

The known interference problems of cellular 3GPP technology in ITS bands (as documented in point 2 above) are in contradiction of CEF Regulation since in Recital 18 of (EU) 2021/1153 funding is explicitly linked to the enforcement of drive and rest times<sup>5</sup>.

Furthermore, CEF Regulation Article 14, 1. name “interoperability” and “maturity of the action” as award criteria. Interoperability is not given, and unsolved interference problems with incumbent systems and radio applications raises more than doubts that cellular technology is mature when being deployed outside cellular frequency bands in the ITS band.

### 4. Contradiction of Directive (EU) 2019/520 on electronic road toll systems

The known interference problem of cellular 3GPP technology in ITS bands (as documented in point 2 above) are in contradiction of Recital (44) of Directive (EU) 2019/520, which explicitly mentions the importance of measures to protect existing investments in the 5.8 GHz microwave technology from the interference of other technologies<sup>6</sup>.

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does not constitute any limitation for any services to use the entire harmonised 5.9 GHz ITS band as long as the harmonised conditions of Commission Implementing Decision (EU) 2020/1426 are strictly respected.

<sup>5</sup> Regulation (EU) 2021/1153 of the European Parliament and of the Council of 7 July 2021 establishing the Connecting Europe Facility and repealing Regulations (EU) No 1316/2013 and (EU) No 283/2014. <http://data.europa.eu/eli/reg/2021/1153/oj>

“(18) It is necessary to promote public and private investments in all modes of transport in order to promote smart, interoperable, sustainable, multimodal, inclusive, accessible, safe and secure mobility throughout the Union. In its Communication of 31 May 2017 entitled “Europe on the move: An agenda for a socially fair transition towards clean, competitive and connected mobility for all”, the Commission presented a wide-ranging set of initiatives to make traffic safer, to encourage smart road charging, to reduce CO2 emissions, air pollution and congestion, to promote connected and autonomous mobility and to ensure proper conditions and rest times for workers. Those initiatives should be accompanied by Union financial support through the CEF, where relevant.”

<sup>6</sup> DIRECTIVE (EU) 2019/520, Recital 44: Electronic tolling and other services, such as cooperative ITS (C-ITS) applications use similar technologies and neighbouring frequency bands for short range vehicle-to-vehicle and vehicle-to-infrastructure communication. In the future, the potential for applying other emerging technologies to electronic tolling merits exploration, after a thorough assessment of the costs, benefits, technical barriers and possible solutions thereto. It is important that measures are implemented to protect existing investments in the 5,8 GHz microwave technology from the interference of other technologies.



## 5. Contradiction of Regulation (EU) 2014/165 and Implementing Regulation (EU) 2016/799 on the smart tachograph

Starting May 1st, 2006, all newly registered vehicles with a total weight of 3.5 tons or larger and buses with more than 9 seats must be equipped with a digital tachograph. Regulation (EU) 2014/165<sup>7</sup> has introduced second-generation digital tachographs called smart tachographs, which include a connection to the global navigation satellite system ('GNSS') facility, a remote early detection communication facility, and an interface with intelligent transport systems. The remote communication functionality shall enable agents of the competent control authorities to read tachograph information from passing vehicles by using remote interrogation equipment connecting wirelessly using CEN 5.8 GHz Dedicated Short Range Communication (DSRC) interfaces. Commission Implementing Regulation (EU) 2016/799<sup>8</sup> has made the usage of smart tachographs mandatory from 2019 onwards – including the usage of 5.8 GHz CEN DSRC for the remote communication facility.

Cellular 3GPP technologies in the ITS band were developed outside the EC Standardisation Mandate M/453 for Interoperable Cooperative ITS. Mitigation techniques to assure interoperability with applications in the adjacent 5.8 GHz band used for CEN DSRC communication were assumed to be applicable to all Road ITS devices within the mandate, but the 3GPP technologies (LTE-V2X, NR-V2X) were not developed under this mandate and will not ensure interoperability. Assumptions for non-interference towards the smart tachograph and tolling enforcement are not met.

Even within the 5.9 GHz ITS band, cellular 3GPP technologies violate the basic requirements on “polite spectrum access” and the principles of harmonised use of Safety-Related Intelligent Transport Systems (ITS) in the 5875-5935 MHz frequency band as stipulated in the ECC Decision (08)01<sup>9</sup> and CEPT Report 71<sup>10</sup>. They transmit without “listen-before-talk”, regardless of other technologies. This can render channels un-usable by other technologies for road safety. The ability to share (“politeness”) the channel is of the utmost importance: whenever the required sharing is not possible, a technology owner could ask the regulator for a “prioritised”, “preferred”, or “reserved” portion of a band. With several upcoming ITS

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<sup>7</sup> Regulation (EU) No 165/2014 of the European Parliament and of the Council of 4 February 2014 on tachographs in road transport, repealing Council Regulation (EEC) No 3821/85 on recording equipment in road transport and amending Regulation (EC) No 561/2006 of the European Parliament and of the Council on the harmonisation of certain social legislation relating to road transport Text with EEA relevance. <https://eur-lex.europa.eu/eli/reg/2014/165/oj>

<sup>8</sup> Commission Implementing Regulation (EU) 2016/799 of 18 March 2016 implementing Regulation (EU) No 165/2014 of the European Parliament and of the Council laying down the requirements for the construction, testing, installation, operation and repair of tachographs and their components. [https://eur-lex.europa.eu/eli/reg\\_impl/2016/799/oj](https://eur-lex.europa.eu/eli/reg_impl/2016/799/oj)

<sup>9</sup> ECC Decision of 14 March 2008 on the harmonised use of Safety-Related Intelligent Transport Systems (ITS) in the 5875-5935 MHz frequency band. Amended on 3 July 2015 and amended on 6 March 2020. <https://docdb.cept.org/implementation/412>

<sup>10</sup> Report from CEPT to the European Commission in response to the Mandate to study the extension of the Intelligent Transport Systems (ITS) safety-related band at 5.9 GHz. <https://docdb.cept.org/document/9683>



technologies, each technology could claim priority in a portion of a band, resulting in complete fragmentation of the ITS band that was meant to be available for everyone abiding by the established rules of “polite spectrum access”.

#### 5. Contradiction of Regulation (EU) 2015/719 and Implementing Regulation (EU) 2019/1213 on weights and dimensions and on-board weighing

In Europe, heavy goods vehicles, buses and coaches must comply with certain rules on weights and dimensions for road safety reasons and to avoid damaging roads, bridges and tunnels. Directive (EU) 2015/719<sup>11</sup> sets maximum dimensions and weights for international traffic and defines on-board weighing as one of the options for carrying out the control of vehicles. The communication of weight data between moving vehicles is specified to be exchanged via CEN DSRC in the 5.8 GHz band. Furthermore, Commission Implementing Regulation (EU) 2019/1213<sup>12</sup> states that on-board weighing equipment may be fitted in motor vehicles as well as trailers and that the exchange of information between these two units shall be based on C-ITS short-range communication (ITS-G5) in the 5.9 GHz ITS band to ensure interoperability between on-board weighing equipment.

Cellular 3GPP technologies are not interoperable and not compatible with both C-ITS and CEN DSRC communication. As stated in the previous point 5 on the smart tachograph, assumptions for non-interference towards CEN DSRC communication in the 5.8 GHz band are not met. In the 5.9 GHz ITS band, cellular 3GPP technologies violate the basic requirements on “polite spectrum access” and the harmonised use of the ITS band altogether.

A deployment of 3GPP technologies in the ITS band would jeopardize C-ITS investments taken by road operators and the road safety benefits that are available already today to hundreds of thousands of vehicles equipped with the incumbent ITS-G5 technology. It would especially prohibit the undisturbed usage of the already regulated on-board weighing communication exchange via C-ITS communication.

#### **Conclusion**

In order to solve the violation of rules, we demand the complete removal of footnote 26 (“As a starting point, the less used part of the harmonised 5.9 GHz ITS band [...]”) or any similar statements towards the proposed use of the 5.9 GHz ITS band for cellular 3GPP technologies.

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<sup>11</sup> Directive (EU) 2015/719 of the European Parliament and of the Council of 29 April 2015 amending Council Directive 96/53/EC laying down for certain road vehicles circulating within the Community the maximum authorised dimensions in national and international traffic and the maximum authorised weights in international traffic. <https://eur-lex.europa.eu/eli/dir/2015/719/oj>

<sup>12</sup> Commission Implementing Regulation (EU) 2019/1213 of 12 July 2019 laying down detailed provisions ensuring uniform conditions for the implementation of interoperability and compatibility of on-board weighing equipment pursuant to Council Directive 96/53/EC. [https://eur-lex.europa.eu/eli/reg\\_impl/2019/1213/oj](https://eur-lex.europa.eu/eli/reg_impl/2019/1213/oj)