QUESTION ITU-R 261/5

Radiocommunication requirements for connected automated vehicles (CAV)

(2019)

The ITU Radiocommunication Assembly,

considering

*a)* that, around 1.5 billion vehicles exist in the world including trucks and busses;

*b)* that, after the initial standardization of intelligent transport systems (ITS), ongoing enhancements of the ITS specifications have been and will continue to be accommodated over time;

*c)* that the introduction of CAVs is driven by new types of radiocommunication and sensor technologies;

*d)* that, CAVs have the potential to reduce crashes, thereby reducing traffic fatalities and crash-related injuries;

*e)* that CAVs provide information about congestion relief and traffic crashes for increased efficiency of traffic and comfortable driving;

*f)* that CAVs encompass various stages of automation, involving different levels of human intervention;

*g)* that CAVs are being planned to be or are deployed in various regions;

*h)* that radiocommunications for CAVs may be implemented in frequency bands allocated to the land mobile service;

*i)* that there is a need for consideration of global or regional harmonization of spectrum for CAVs;

*j)* that the technologies for CAVs also address requirements for trucks and public transportation systems to make them safer and more efficient;

*k)* Question ITU-R 205/5 on the development and implementation of ITS services,

recognizing

that harmonized spectrum would facilitate worldwide deployment of radiocommunications for CAVs and provide for economies of scale for CAVs,

noting

that a number of ITU-R Recommendations and Reports exist on various aspects of current ITS, for example Recommendations ITU-R M.1452, ITU-R M.1453, ITU-R M.1890, ITU-R M.2057, ITU‑R M.2084, ITU-R M.2121 and Reports ITU-R M.2228, ITU-R M.2322, ITU-R M.2444, ITU‑R M.2445 as well as the Handbook on Land Mobile (including ITS),

decides that the following questions should be studied

1 What is the definition of connected automated vehicle (CAV) in the context of ITS?

2 What are the radiocommunication elements for CAVs?

3 What are the overall objectives and requirements for CAVs, including:

– service requirements: service type, service concept, grade of service;

– radiocommunication requirements: sensors, radio interfaces, data rate, latency, reliability;

– improvement factors: safety, control, energy savings, traffic management, congestion control?

4 Which radiocommunication systems have the capabilities to support CAV requirements?

5 What CAV functions might benefit from spectrum harmonization?

6 What are the spectrum requirements for CAV radiocommunication including:

– suitable bands;

– spectrum bandwidth needed?

further decides

1 that the results of the above studies should be included in one or more Recommendations, Reports and/or Handbooks;

2 that the above studies should be completed by 2023.

Category: S2