



44TH ASECAP STUDY & INFORMATION DAYS 2016

Radio Frequencies – a limited resource for applications in the road sector

*Intercontinental Hotel
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RADIO FREQUENCIES IN ROAD TOLLING



FREQUENCY REGULATORY STATUS

- **Tolling systems have an assigned frequency band (Short Range Devices)**
- **EC and the European Conference of Postal and Telecommunications (CEPT) produce regulations**

SHORT RANGE DEVICES APPLICATIONS

5.8GHz AV-Transmitter



RF-Radarsensor



5.8GHz Wireless camera system



5.8GHz Livevideo streaming for Drons

5.8GHz AV-Transmitter



FREQUENCY REGULATORY STATUS

- **no protection against interference can be guaranteed to users of short-range devices**
- **it is the responsibility of manufacturers of short-range devices to protect such devices against harmful interference**

DSRC COUNTRIES

Austria, Bosnia Herzegovina, Belgium, Bulgaria, Belarus, Switzerland, Croatia, Czech Republic, Germany, Denmark, Spain, France, United Kingdom, Greece, Ireland, Italy, Norway, Poland, Portugal, Republic of Serbia, Russia, Sweden, Turkey etc.

... using ~ 30 Million # of DSRC equipment
... creating ~ Euro 28 Billion state revenue

TOLLING REGULATORY STATUS

- **Directive 2004/52/EC on the interoperability of electronic road toll systems**
- **Decision 2009/750/EC on the definition of the European Electronic Toll Service (EETS)**

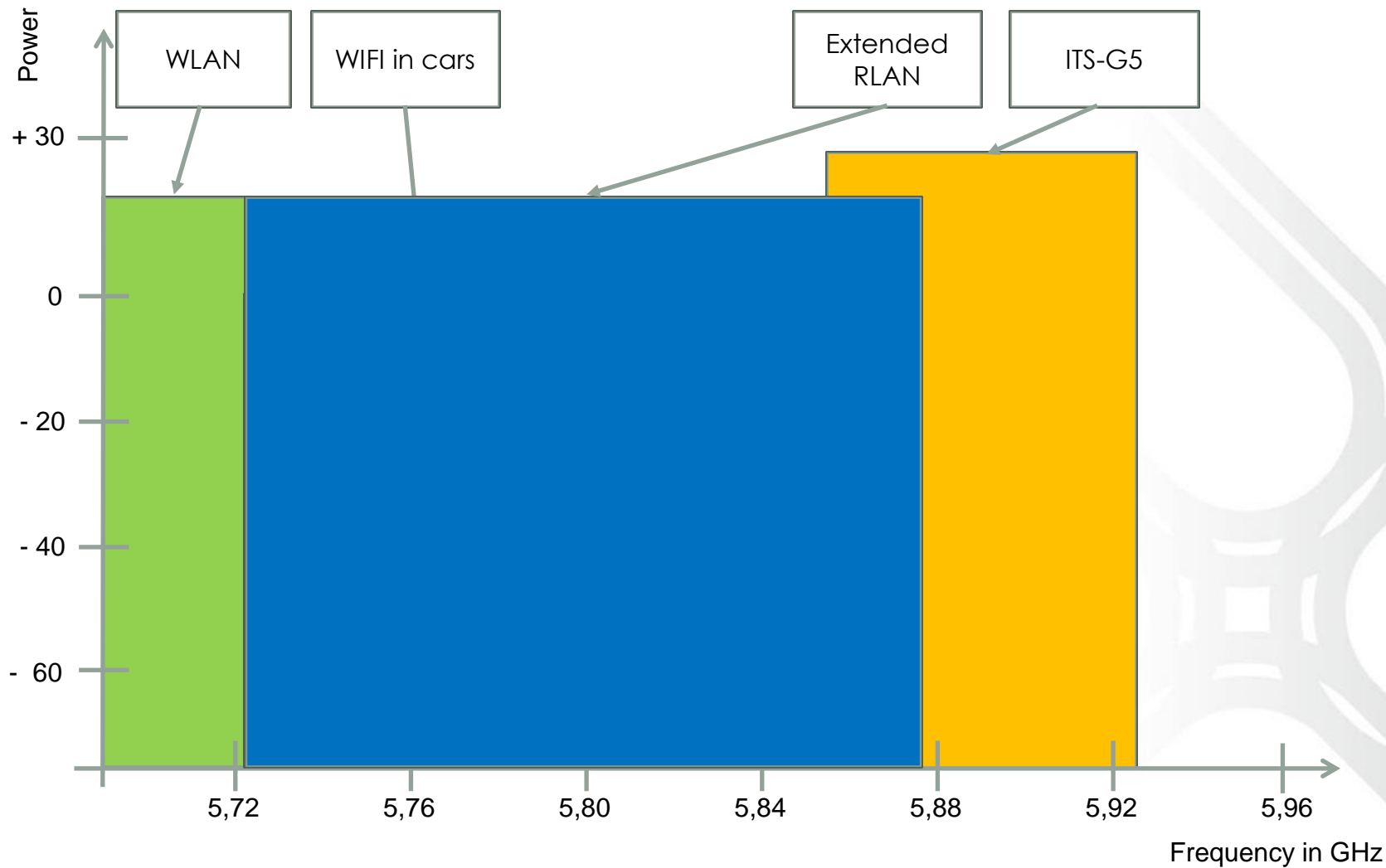
TOLLING REGULATORY STATUS

- **Digital Tachograph Regulation 165/2014**
- **Weights & Dimensions Regulation 2015/719**
- **Transport policy like EETS, Digital Tachograph, Weights & Dimensions however is recognized but not taken into account in frequency regulatory aspects**

STATUS QUO

- **It worked until now ...**
 - **Never change a winning team ...**
 - **There are no interferers close by tolling**
- ... the situation has changed**

TOLLING SPECTRUM STATUS



ACTIONS TAKEN

- **ASECAP is contributing to the radio frequency standardisation and regulation activities**
- **ASECAP has conducted an „Analysis of radio frequency aspects related to the usage of the 5,8GHz band for tolling applications”**
- **COPER III is addressing radio frequency issues in 9 working groups**