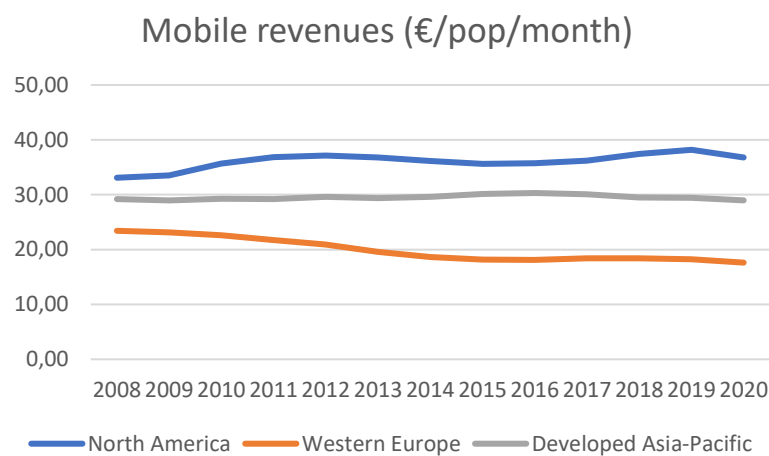


# Comments to RSPG Opinion on a Radio Spectrum Policy Programme (RSPP)

March 26<sup>th</sup>, 2021

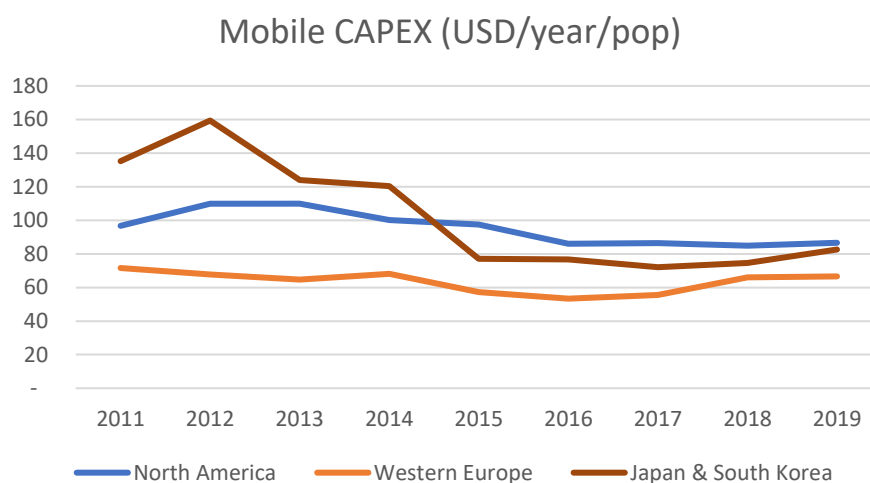
## 1. Introduction & General remarks

The last decade has been challenging for the mobile telecommunications sector in our region. Revenues per pop in Western Europe are 20% lower in 2020 than in 2010, and today each Western European spends on mobile services, on average, about half what a North American does, and about 40% less than an East Asian (see graph below).



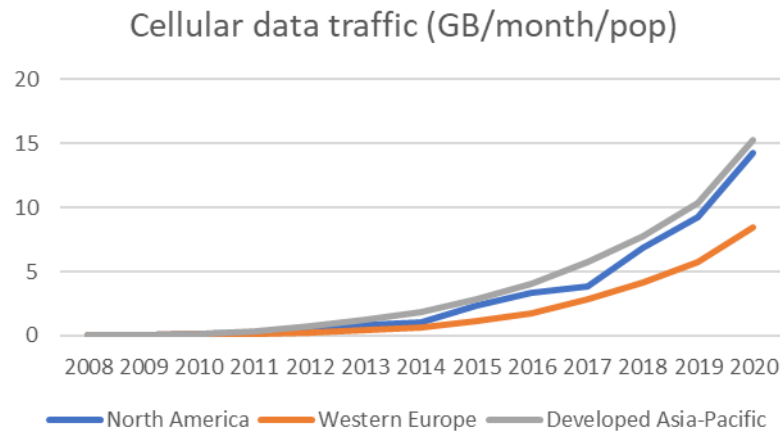
Source: Analysys Mason. Constant 2019 Euros.

In the face of lower and decreasing revenues, mobile operators have also invested much less per person. As seen below, mobile CAPEX per pop was below our peers throughout the decade, although the gap narrowed towards the end. In total, Europe invested 33% less per pop than the US and 46% less than Japan & South Korea.



Source: Omdia. Current USD.

Cellular traffic per pop, in the same period, has doubled every two years, but was in 2020 about 40% below comparable regions. Looking at the combined figures, Europe seems to be caught in a trap of lower revenues and capex, mirrored by a negative gap in usage with respect to comparable regions.



Source: Analysys Mason

The next decade is an opportunity to reverse the trend, inducing European citizens and businesses to spend “more for more” on wireless services, as a necessary premise to induce investment and reach the goals of the Digital Decade. The RSPP can be instrumental in achieving that purpose, by:

- maximising availability of spectrum for cellular networks to facilitate cost efficient deployments; and
- providing a governance framework that ensures that the tendering of those frequencies is designed to foster investment, rather than being used as a revenue raising opportunity by Member State Governments.

## 2. Spectrum sharing and local licensing

As explained in more detail in our accompanying response to the consultation on spectrum sharing, innovative sharing technologies and authorisation methods can be useful tools for spectrum policymakers, but they do not solve some basic trade-offs:

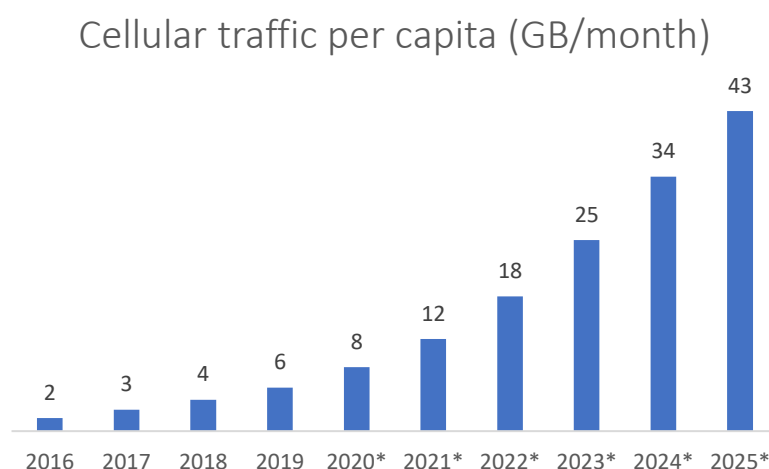
- Power restrictions introduced in ECS licences to create scope for sharing reduce the coverage of each cell and the value that society can extract from the frequencies, depriving end users of the full benefits of innovations that try to maximise the number of users that a cell can manage, or optimise the distribution of the available capacity among them. Power limits also have a negative environmental impact, as they force licensees to densify and consume more energy than necessary.
- New sharing technologies are getting cheaper and more powerful, but their introduction will always entail some costs. The burden should preferably fall on those that benefit from opportunistic access, rather than those that own a licence subject to a “use it or share it” obligation. That allocation of incentives will make it less likely that resources are dedicated to build expensive solutions for which there is no demand.

- Increasing the number of authorised users creates fragmentation in usage rights, which in turn makes it more difficult for them to engage in discussions to coordinate their usage in value-enhancing ways. This is a common feature of unlicensed bands, in which innovations need to be backwards compatible and change of use is very difficult.
- Spectrum is a scarce resource, and identifying frequencies for one particular type of sharing detracts them for others. For example, when more efficient use is sought in a band occupied by legacy technologies, seeking it through multiple local licences in “white spots” is incompatible with introducing national overlay licences that foster agreements between incumbents and new licensees.

The RSPG draft opinion emphasises the existence of demand for local licences to provide local connectivity for ECS services, and points to sharing technologies as a means to meet that demand. We believe it is vital to provide business users and verticals with the best connectivity, including by creating scope for sharing and local private networks, but it needs to be done without undermining the efficient use of the spectrum. We see a clear possibility that, as wireless broadband technologies evolve and operators and verticals together explore the best path to digitisation, the majority of business users will find value in benefiting from the synergies of public networks, or in outsourcing a private network to a licensed operator that can manage, within its spectrum licence, coexistence with other local users. If that were the case, spectrum identified for local networks risks being heavily underused. To prevent that outcome, it is key that policymakers take account of the trade-offs highlighted above. If local licensing is introduced, it should be in higher bands, preferably mmWave, in which scarcity is not as acute and the range of the signal is shorter.

### 3. Spectrum Needs for wireless broadband services

Cellular traffic is expected to duplicate every two years in Western Europe, driven by competition among cellular operators and strong demand for connectivity from residential and business customers. Without additional frequencies in all spectrum ranges, it will be very extremely challenging to meet those expectations in a sustainable manner.



\*Estimate

Source: Analysys Mason

Demand for additional spectrum for mobile broadband is particularly acute in mid-bands. A recent report by Coleago Consulting, endorsed by GSMA<sup>1</sup>, describes how an additional 1,000 -2,000 MHz of upper mid-band spectrum for cellular services would create large value for Europe. Looking forward, we see two main mid-bands where those frequencies could be available: the upper 6 GHz band that will be discussed in WRC 23, and the 3.8-4.2 GHz band that is currently used by legacy fixed satellite services and fixed links.

The 3800-4200 MHz band, in which 5G deployments are foreseen in the short and mid-term in Japan, Korea and North America<sup>2</sup> holds, in our view, the higher potential to provide in Europe additional valuable mid-band frequencies for Electronic Communications Services. Mobile uses and wide area networks should not be excluded from the band, or artificially restricted. Ideally, the licensing scheme should also impose on new licensees the least restrictive conditions necessary to prevent interference to incumbents, with scope for the two parties to engage in negotiations and look for complementarities.

The upper 6 GHz band is a possible alternative, and its allocation for mobile ITS services will be key to prevent scarcity, particularly if not enough spectrum is made available in other mid-bands.

Even if most of the attention is now focused on mid band spectrum, incremental spectrum allocated in low bands to wireless broadband would in our view also be beneficial for society, through lower deployment costs that feed into better and more affordable end user services, especially in rural and suburban areas. We understand that low band spectrum is also valuable in other uses, and in fact DTT penetration is still high in many parts of Europe. The conditioned national flexibility embedded in the UHF Decision, however, leaves scope for countries with low DTT usage to increase supply of low band spectrum for wireless broadband without waiting until 2030, as long as neighbouring countries can continue to meet their demand for broadcasting services. We encourage RSPG members to explore that possibility.

#### **4. Spectrum Governance**

The European Electronic Communications Code and the recently released 5G connectivity toolbox are in our view a good foundation for a governance framework in Europe that ensures assignment processes are designed to maximise efficiency. We encourage RSPG and the EC to monitor the impact of the best practices implemented following the approval of the toolbox, and eventually introduce some of them in the RSPG as required. In depth peer reviews of relevant awards should be valuable in that respect, and we feel it is important that there are effective procedures in place to make them possible. Input from operators potentially participating in assignment processes is relevant to identify potentially good or bad proposals, and RSPG should create room for them to provide it in one form or another.

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<sup>1</sup> <https://www.gsma.com/gsmaeurope/resources/imt-spectrum-demand/>

<sup>2</sup> <https://www.qualcomm.com/media/documents/files/spectrum-for-4g-and-5g.pdf>