

## **Response to the questions raised in chapter 3.3 of the Berec report “on practices and challenges of the phasing out of 2G and 3G”.**

This report has been prepared by the Spanish association Aotec (Association of Telecommunications and Internet Services Operators). This association represents all small local telecommunications operators.

As shown in chapter 2 of the report, MVNOs, or small MNOs, may experience more issues and difficulty in putting forward preferred VoLTE, VoNR profile alignments in standards, and implementing them, as compared to bigger MNOs. Bigger MNOs may also have better bargaining power with large smartphone manufactures on the default settings in handsets.

As a result, BEREC is of the view that resellers and MVNOs (and smaller MNOs) should not be discriminated against in relation to setting and implementing profile alignments in standards for VoLTE, VoWiFi and VoNR. BEREC, therefore, emphasises that device vendors and network operators (and standards bodies) should ensure that such cooperations align with non-discriminatory competition principles.

Regarding this statement, we agree that terminal equipment manufacturers have an important role in supporting VoLTE. Mobile devices must meet certain technical requirements in order to use the VoLTE service. These requirements include support for the communication protocol used (IMS), as well as for the radio frequencies used by the network. However, even when these circumstances occur in the equipment, the same VoLTE-compatible device may only work with some mobile communication operators and not with others, due to the specific network configuration required for each operator. Device manufacturers must ensure that they meet each carrier's requirements for their devices to work on their respective networks. This may include specific software and hardware configurations, as well as device certification. If a device does not meet these requirements, it will not work with that particular carrier. When it comes to software, device manufacturers must ensure that they comply with the specifications and requirements of each mobile communications operator. This can include specific settings such as APN (Access Point Name) settings – these are the network settings needed to connect to the carrier's network. Carriers often have different APN settings and manufacturers need to make sure their devices are configured correctly for each one.

Well, manufacturers with a significant market share (such as Apple or Samsung) negotiate these configurations with the operators. The manufacturers do it in exchange for the operators to advertise and sell a significant number of their terminals.

In practice, this circumstance means that only large operators, specifically network operators, can access these benefits from equipment manufacturers. No MVNO in the world (either large or small) has managed to resolve the problem in these manufacturers. This circumstance is putting MVNOs against the ropes, regardless of their host operator. These two manufacturers do not even go so far as to make concrete economic proposals to the MVNOs to resolve the issue.

The disappearance of the 3G network does not theoretically prevent the provision of voice service, since if there is no 3G, LTE can work in 2G. However, the coverage and capacity of the 2G mobile network is lower than that of 3G. This circumstance seriously affects the market 15, since the MVNOs see how they cannot provide their voice services always and everywhere and logically they lose unsatisfied customers.

There are only two solutions to prevent the progressive shutdown of 2G and 3G networks from affecting both MVNOs and their customers:

- a) either the large mobile phone manufacturers are forced to guarantee the configuration of the MVNOs' phones,
- b) either host operators are required to include their own MVNOs in negotiations with equipment manufacturers when it comes to guaranteeing the correct operation of VoLTE devices in all cases.

From AOTEC we believe that the most effective solution is the second. In other words, involve the host operator.