Huawei welcomes the Commission's draft guidelines on state aid for broadband networks (hereinafter referred to as the ***"draft guidelines"***) aimed at better reflecting technological evolution as well as policy objectives pursued by the EU.

In line with the goals set out by both the 2030 Digital Compass and the Connectivity Toolbox, Huawei considers that enhanced high quality connectivity will not only support more connections but also make them faster and more reliable. It will empower people and businesses with better, faster and more widespread internet coverage. Citizens will have access to more efficient digital services, consumers will enjoy more choices and available information, and businesses will explore new opportunities through innovative business models, remote collaborations and digital tools.

We believe that high quality connectivity is necessary for a digital and green EU that is also capable to meet the challenges in terms of (1) **smart agriculture,** (2) **smart mobility,** (3) **smart grids,** (4) **remote work and education** and (5) **smart healthcare**. Those five key pillars underpin the emergence of Smart Villages in line with the long-term vision for the EU's rural areas published in June 2021 by the Commission: connectivity infrastructure is the key foundation for achieving this vision. Thus, we invite the Commission to adopt a holistic vision taking into account a wide range of policy objectives with a view to reconciling those with the goals pursued by state aid rules.

We consider that the draft guidelines are well articulated and strike the right balance between the need to take into account technological evolution for broadband networks and the goal of attaining policy objectives pursued by the EU while upholding the principle of technology neutrality.

We are pleased to submit for your consideration the recommendations below with a view to improving the draft guidelines. More specifically:

- As regards recital 19, a) of the draft guidelines related to the definition of *'broadband electronic communications network'*, we invite the Commission to refer instead to the definition of Very High Capacity Networks (VHCN) as per BEREC guidelines[1]. In this regard, BEREC's definition accurately reflects technological evolution for broadband networks while upholding the principle of technology neutrality. We believe that such an alignment would bring a much needed consistency between electronic communications rules and state aid rules.

[1] BEREC guidelines on Very High Capacity Networks made available at https://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/guidelines/9439-berec-guidelines-on-very-high-capacity-networks.

- We recommend to add a recital 127bis to the draft guidelines on the need for VHCN infrastructure to utilize IPv6 protocol as well as the services offered on the wholesale market or to the end user. This proposal is underpinned by the considerations mentioned below:

1. Just as a phone needs not only the phone line but also the phone number, broadband needs not only fiber or 5G connection, but also the IPv6 address at the terminal.

2. In December 2020, the Commission released the EU cybersecurity strategy encouraging IPv6 utilization and the sun setting of IPv4[2]. In accordance with this strategy, it is recommended to mandate IPv6 compatibility for all the new subsidized infrastructure as well as for the e2e services supported by it.

3. IPv6 utilization allows for a fair competition among existing industry players and the possibility for new players to join the market. IPv6 utilization avoids the need to buy scarce and expensive IPv4 addresses on the secondary market to be able to utilize wholesale or end user services.

4. IPv6 has been mentioned for many years, but in the past, terminals (such as mobile phones) and content did not support IPv6. Therefore, no substantial development occurred. After 2015, both terminals and content (Netflix, Youtube, Google, FB, Akamai) all support IPv6. IPv6 is now growing very fast.

5. IPv6 enhances cyber security and digital economy. Many countries, among others the United States, China, Germany and France, have introduced IPv6 policies. For example, the French regulator ARCEP declared that the delayed deployment of IPv6 will affect a country's telecommunications competition and affect the development of new industries such as smart cities, smart homes, and IoT.

We would be pleased to discuss our recommendations above at your best convenience.

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[2] The EU's Cybersecurity Strategy for the Digital Decade made available at https://digital-strategy.ec.europa.eu/en/library/eus-cybersecurity-strategy-digital-decade-0.