

The Shift Project answer to public consultation on the draft BEREC Report on the entry of large content and application providers into the markets for electronic communications networks and services

Context

To maximize their ability to attract users and develop user engagement, large CAPs deploy techniques to stimulate, monitor, and analyze the presence of users on their platforms. Such practices rely on an exponential use of digital technology, e.g., video content, higher quality video standards, algorithms, and artificial intelligence: a handful set of CAPs is then responsible for 75% of the growth of the internet traffic¹.

This exponential rise of digital affluence is not self-regulated as CAPs only bear part of the resulting financial (actual costs of using networks and end-user devices) or environmental (scope 3 downstream GHG emissions) costs.

This is aggravated by inadequate market and environmental regulations, which fail to hold these companies accountable for the financial and environmental impacts of their practices.

The entry of large CAPs into the markets for electronic communications networks and services is raising concerns as accumulation of a significant variety of the internet ecosystem elements in the hand of a few Big Tech companies can have important consequences in term of market dynamics and could increase the power of few companies that drive the market behaviors.

These compagnies are more and more vertically integrated allowing them to build autonomous systems.

It is therefore essential to introduce regulation to lower their market power, and thus their impact on the entire digital ecosystem.

The entry of large CAPs into the markets for ECN and ECS will contribute to accelerate unsustainable dynamics in digital sector

Digital technologies form a global system: devices (smartphones, computers, tablets, etc.) connect to each other via network infrastructures (terrestrial and submarine cables, mobile network antennas, fiber optics, satellite constellations...) to exchange information stored and processed in data centres, the beating heart of this system.

But each of these elements requires energy not only to function (usage phase) but also, before that, to be produced: mining of raw materials, industrial manufacturing processes, and then delivery to consumers require substantial biotic and abiotic resources.

¹ Hugues Ferreboeuf (2023). Transitioning towards sustainable digital business models. <https://doi.org/10.14279/depositonce-17703>

The digital sector already accounts for almost 4% of global emissions worldwide. With a projected increase which is standing at 6% per year, this figure could more than double by 2030 to reach 8% of all global carbon emissions ².

The electricity consumption of mobile networks has been growing at 10% per year and this rate will surge to 20% per year with the densification of antennas resulting from the usage of higher frequencies together with unchanged geographical coverage requirements. The transformation of the cloud into core cloud and multiple layers of edge cloud (regional, local, micro) together with the increase of unitary processor consumption will cause the electricity consumption of data centers to grow at 10% per year instead of the current 5% rate.

At the same time, in the same way as other sectors of the economy, digital sector must achieve its decarbonization target, in line with the global commitment of the sector from SBTi (- 45% by 2030 compared with 2020 at global level).

By deploying their own physical infrastructure (data centers, networks), on top-of existing infrastructures, large CAPs will contribute to accelerate all dynamics including those furthest removed from our decarbonization objectives.

For example, the recent boom in low-orbit satellite constellations is shaping a new network infrastructure in space. Despite a limited number of users, satellite networks are meeting growing coverage challenges, with some offering service levels (very high bandwidth, low latency) that are comparable to certain terrestrial networks.

Between now and 2050, these services will increase the mass injected into orbit tenfold (> 4000 tonnes in 2050), making it impossible to control the environmental footprint of the space sector ³.

In a context of resources scarcity and intense electrification of uses it is essential to prioritize the uses

Resilience is a transversal function which, in the event of constraints on energy resources, involves all economic sectors.

It is essential to prioritize the uses or functioning of these different sectors to adapt needs to the energy resources available. This prioritization involves adopting “essential” uses that will be the only ones to benefit from the network.

Governments shall be able to ensure a proper arbitration of the common resources and goods allocated to the different industries, social services and our communities.

Arbitration capabilities shall be designed in order to offer the choice of which systems need to be prioritized under various short and long terms stress situations.

All actors, from the single citizen to the highest policy makers, including the major companies, must be perfectly aware of the past and current situation, but also what is to be expected.

CAPs' investment in their own network infrastructure provides them with more flexibility to manage their own capacity and to manage their bandwidth mainly to support the delivery of their own services and bringing content closer to end-users.

The use of common resources and goods (as electricity) for CAPs specific needs can raise some challenges in the context of scarcity and prioritization and the impact should be further investigated by BEREC in the future.

² The Shift Project - Environmental impact of digital technology - 5-year trends and 5G governance (2021)

³ The Shift Project - Lean networks for resilient connected uses (2023)

<https://theshiftproject.org/en/article/virtual-worlds-and-networks-new-reports-release/>

Impacts on end-users' rights

The challenges raised by CAPs entry into the markets for ECN and ECS should also be assessed in regards of their impact on the way content is accessed and distributed.

It can shape the way users access to content and applications and potentially affecting their freedom of choice.

End-users' empowerment via the promotion of transparency and comprehensibility, the reinforcement of users consent and control on the data they share, as well as portability will be crucial to guarantee that consumer could choose their provider.

Future work

In a context of convergent digital ecosystem and vertically integrated CAPs, the players in European market may not fall under equivalent rules applicable to all, and the users may not benefit from this new digital market.

The new digital ecosystem, shaped by non-European CAPs, could also raise questions on privacy issues and cybersecurity implications that will need to be monitored and analyzed by the BEREC.

We would also strongly advocate to give a more central place to environmental assessment in BEREC work programme.

It is therefore relevant to adapt the regulatory framework and ensure that the concerns raised by the entry of CAPs into the markets for ECN and ECS can be tackled.

About The Shift Project

The Shift Project is a French think tank advocating the shift to a post-carbon economy. As a non-profit organization committed to serving the general interest through scientific objectivity, we are dedicated to informing and influencing the debate on energy transition in Europe. The exponential development of digital technologies and how this development interacts with decarbonization objectives is a major component of the carbon transition.