1. General context and objectives

1.1 Numbering

The current EU rules in the area of numbering aim to ensure a non-discriminatory access for electronic communication service (ECS) providers to numbering resources (typically a fixed/mobile telephone number) - whose assignment is under the competence of the Member States – as well as the harmonisation of specific numbers that are of Union interest (e.g. 112 and 116).

The demand for public telecom network numbers has been dramatically increasing with the spread of the Internet of Things (IoT) and the accompanying development of connected devices and products equipping wearables, cars but also homes, buildings etc. The intensity of that growth is such that it could trigger in the medium term some public network numbers scarcity issues. A key feature of this very high demand for numbers, which originates from the Machine-to-Machine (M2M) communications service providers, is that a significant proportion of these connected devices and products should be able to freely circulate within the EU, and hence be able to connect locally to public telecom networks with a suitable number. The growth and innovative potential of the IoT therefore very much relies on the setting of competitive market entry conditions associated with the granting of numbering resources matching the scale of the Single Market.

In that context, the European Electronic Communications Code (the Code) aims to:

i) enable an extraterritorial use of non-geographic numbers;
ii) allow the possibility to assign numbers to non-ECS providers;
iii) promote the over-the-air (OTA) provisioning of numbers for easier switching.

1.2 Modernised EU rules for emergency communications

The deployment of modern emergency communications is critical to meet public safety objectives in the EU. This critical mission takes place in a digital environment characterised by rapid developments in the way people interact with each other, i.e. no longer only using traditional fixed and mobile voice telephony, but increasingly interacting via Internet-based electronic communications services (Over-The-Top - OTT), e.g. messaging, voice and video over IP. In addition, the access to accurate caller location information by the emergency service authorities remains challenging.

The Code therefore aims to adapt the current rules to new technologies and usage patterns.
2. Proposed solutions

2.1 Numbering

2.1.1 Extraterritorial use

In order to facilitate the extraterritorial use of connected devices, the Code requires national regulatory authorities (NRAs) to determine certain non-geographic numbering resources for use outside the territory of the assigning Member State (but still within the EU) (Article 87(4)). Non-geographic numbers are numbers not linked to a specific geographic area, e.g. through a local area prefix. Undertakings benefitting from such rights of extraterritorial use of numbers have to comply with the relevant consumer protection rules and other number-related rules applicable in any Member State where those numbers are used (Article 88(6)). The NRA of the Member State assigning the numbers has to ensure such compliance, including by means of conditions attached to rights of use, and shall act on the request of the NRA of the country where the number is actually used. At the same time, this is without prejudice to the enforcement powers of the NRA of the country of use (Article 30).

The proposed right of extraterritorial use will benefit M2M communications in particular. The Code does not oblige Member States to grant extraterritorial usage rights for numbers which are used for interpersonal communications services (telephony, messaging etc.), due to the higher risk of fraud and consumer harm related to those services.

In order to ensure an effective coordination at EU level, BEREC will establish a central registry on numbers with rights of extraterritorial use. Information exchange between NRAs is also enhanced (Articles 20 and 88(6)).

2.1.2 Assignment of numbers to non-ECS providers

In order to enhance access to numbers and facilitate market entry and switching of providers in the area of M2M, the Code clarifies that national regulators are allowed – but not obliged – to assign numbers on a non-discriminatory basis to undertakings other than providers of electronic communications networks or services (Article 87(2)). This will allow such undertakings to obtain numbers directly from the NRA and thereby enable them to switch provider more easily. In order to benefit from that right, these undertakings have to demonstrate their ability to manage numbering resources.

This will allow e.g. providers of connected homes services, eHealth services, truck fleets or connected cars services, i.e. with potentially a huge customer base, to be assigned numbers directly by the NRAs independently of any providers of electronic communications networks or services.

If there is a risk of exhaustion of numbering resources, NRAs may suspend the granting of numbers to such undertakings.

In order to support a consistent implementation of these new provisions, BEREC will provide guidance on the ability to manage numbering resources and on the risk of exhaustion of numbering resources.
2.1.3 Over-the-air provisioning

In order to ease the switching of mobile network operator and foster competition in the market, the Code requires Member States to promote over-the-air (OTA) provisioning of numbers directly into the SIM card or its software equivalent (eSIM) for non-consumer uses such as M2M (Article 87(6)).

This will facilitate the change of mobile network operator without having to gain physical access to the devices concerned. This is particularly relevant for M2M services, where devices might be located in remote places, embedded inside a product with little accessibility, or deployed on a very large scale and hence impossible to change overnight.

2.2 Modernised EU rules for emergency communications

The Code clarifies that Member States shall ensure that end users have access to emergency services via all number-based interpersonal communications services (like traditional voice telephony or voice over the Internet (VoIP) services which enable calls to numbers to be made) (Article 102). Interpersonal communications services which do not connect with the numbering system (e.g. PC-to-PC VoIP or certain messaging services) would at this stage not be obliged to provide access to emergency services. However, if a situation arises where effective access to emergency services is actually endangered, NRAs may impose obligations to grant access to emergency services on all types of interpersonal communications services. Such obligations may only be imposed within the limits to be set out by a Commission decision which found an appreciable threat to effective access to emergency services on the basis of a BEREC report (Article 59(1), third sub-paragraph).

The Code increases legal clarity and consistency. For instance, it incorporates the definitions of ‘public safety answering point’ (PSAP), ‘emergency communication’ and ‘emergency service’ which are already used in the relevant EU legislation in the field of eCall (in-vehicle emergency communications system).

The Code further clarifies that the obligation to provide access to emergency communications also covers situations where an emergency communication is triggered on behalf of a person, e.g. by the eCall in-vehicle system.

Precise caller location information is especially important for effective emergency response. This depends on action by a number of parties, not just ECS service providers. Therefore, the obligation to ensure caller location information will now be on Member States, who have thus to ensure that all stakeholders meet the necessary requirements to provide caller location information (Article 102(5)). Relevant stakeholders include among others providers of interpersonal communications services, internet access service providers, network operators and handset manufacturers. This change will allow Member States to set requirements for the provision of both network and handset based caller location information. The establishment and transmission of caller location information will be free of charge for both the end-users and the PSAPs, irrespective of the technology used, i.e. network-based or handset-based location technologies, such as Advanced Mobile Location (AML).

In addition, the Code empowers the Commission to adopt delegated acts in order to ensure the compatibility, interoperability, quality, reliability and continuity of emergency communications in the EU with regard to caller location solutions, access for disabled end-users and routing to the most appropriate PSAP (Article 102(7)).
2.3 Missing children hotline number 116000

As regards the rules for harmonised numbers for services of social value, the focus is on the effective implementation of the missing children hotline (Article 90), which is the service with the widest take-up throughout the EU. The Code therefore strengthens the obligations of Member States as regards provision and accessibility of 116000 hotline services, while the overall framework for 116 numbers continues to be based on Commission Decision 2007/116/EC.