# KPN response to "Draft BEREC Report on practices and challenges of the phasing out of 2G and 3G"

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KPN welcomes this work from Berec on the important topic of phasing out both 2G and 3G networks. The impact of the sunset of both these circuit-switched networks is considerable for a variety of users. Therefore, this phasing out must be planned studiously with considerable attention to all remaining user groups, informing them in a timely manner and offering them adequate (and usually superior) alternatives.

KPN is a member of both GSMA and ETNO and hence supports their input to this consultation. We would however like to make some additional points and highlights in this individual response. KPN has already switched off 3G completely and has started a program to switch off 2G from December 2025. We would like to share the lessons learned from this experience thus far. We base this response on the questions asked by Berec.

## Which other potential challenges/impacts would you identify?

The sunset of a network technology does not happen overnight, nor all at once. Given the complexity of a switch-off and knowing that, despite our best communication efforts, most likely a considerable number of users continue to rely on the technology, it is necessary to consider a phased approach. Such an approach is executed over an extended period, giving a variety of user groups appropriate notice periods about the planned switch-off and time to prepare.

In case of the sunset of KPN's 2G network, we are considering scaling down network functionality step by step. This means that mobile users with non-VoLTE mobile devices, which require full functionality of the 2G network, may form the first user group which can no longer access the 2G network. On the other hand, smart energy meters, which require limited connectivity and are stationary, may continue to use the 2G network for some time. Obviously, such a phased approach would only apply to current users (not new customers) and additional conditions may apply based on objective and nondiscriminatory criteria.

KPN is of the opinion that such a phased approach is a controlled and proportionate way to close down a network and provide as much opportunity as possible for sitting users to find a suitable alternative solution – recognizing that some customers have lower demands on the functionality of the 2G network and need more time to migrate to another solution.

## How urgently do you think the different challenges/impacts need to be addressed (time, priority)?

One group of users of the 2G network which KPN cannot reach, are eCall users. KPN has no commercial relationship with the vast majority of these users, as cars drive across our country equipped with eCall devices with connectivity solutions that were not provided by KPN. Therefore, we rely on other stakeholders to manage these users.

First and foremost, the European Commission must change the regulation that is enabling car manufacturers to still equip cars with eCall devices that can only operate on circuit switched networks. The problem is growing bigger each day, as new cars are still sold and drive on European roads equipped with dated technology. Most urgently, a policy change is required to actively stimulate car manufacturers to stop this practice immediately and start equipping cars with future proof "Next Generation" eCall devices.

Parallel to stopping this problem from growing, a solution is needed for the millions of cars that drive throughout Europe with these soon-to-be outdated eCall devices. The European Commission needs to make an important decision: is the eCall functionality valuable enough to seriously invest in guaranteeing its continued existence? If so, then a budget must be found to find a solution for re-equipping these millions of cars – or perhaps an alternative solution to communicate with emergency services may emerge.

Under no circumstances can mobile network operators be required to compensate for the oversight of a non-technology neutral policy approach, and a very slow response from the European Commission to this issue, by forcing them to continue services on an outdated technology (which indeed is also insecure, energy inefficient, and keeps mobile network operators from reaching Digital Decade goals).

## What challenges / impacts have already been solved or can be considered minor?

KPN does not believe coverage of our 4G and 5G network to be any less than that of our 2G network. Therefore, coverage is not an issue.

## What stakeholders should initiate (more) efforts to meet the challenges/impacts?

**Mobile network operators** are primarily responsible for informing their 2G and 3G users of the upcoming sunset of these networks, giving them sufficiently long notice periods and guiding them onto appropriate and valuable alternatives to this outdated technology. Service continuity is a prime interest of these operators in a competitive market, and will therefore get full attention.

Additionally, together with **handset manufacturers** (including operation system/ software suppliers), mobile network operators have a responsibility to ensure emergency calling remains available for all users with appropriate devices (VoLTE capable mobile phones). KPN recognizes the interoperability issues that the Berec report describes on, and is actively working on this issue both internally and with the GSMA. We are most concerned about the interoperability of our network with mobile devices we do not sell ourselves, and that we have not tested on our network. Our customers can buy a mobile device from anywhere in the world and put a KPN SIM card in, expecting smooth services. KPN does not block any handsets on our network, nor does it determine which handsets (including operation system/ software versions) are suitable for interoperating with our network and which are not. We simply cannot see what handset (including its software settings) is suitable unless there has been 1 on 1 testing. Therefore, we have very little influence on the interworkings of these (potentially thousands of) unknown handsets, including their operating systems and software settings, with our network. At best, we can educate our customers on the importance of purchasing a suitable mobile device and regularly installing software updates.

Hence, also **end-users** themselves have an important role to play to meet the challenge of 2G and 3G sunset with minimal impact. They need to take responsibility for acquiring suitable mobile devices and accepting software updates.

**European regulation** may alleviate this interoperability issue. New regulation may attempt to obstruct the sale of 'unsuitable' mobile devices that cannot interoperate with European 4G and 5G networks. One option is to mandate (for example in the Radio Equipment Directive) that all mobile devices in Europe should be VoLTE capable. A simple sticker with a certificate (like '*VoLTE ok*') that is easily recognizable for users may encourage user to buy appropriate devices. Regulators such as our Radiocommunications agency would need to enforce the proper use of such certificates. Potentially a mandatory registration at GSMA for example helps improve transparency.

Additionally, these mobile devices need to be supported for a minimum period of time with software updates, not only for security issues but also ensuring interoperability and the smooth operation of emergency calling. This could be enforced through new regulations as well.

As a reminder, more effort is also needed from **the European Commission** on drafting the correct regulation so that the automotive sector is incentivized to take immediate action on soon-to-be outdated eCall devices. Mobile network operators throughout Europe (and the world) will continue to switch off circuit switched networks, rendering the current eCall solution useless.


## What stakeholders should be involved in efforts to meet the challenges/impacts? How should they contribute?

KPN agrees with Berec that the phasing out of 2G and 3G concerns many stakeholders from different domains. A multi-stakeholder approach is needed, as the impact of the sunset of all circuit-switched networks in a country may be considerable for different types of users. We believe government cannot lean back and only get involved when complaints or confusion arises; it has an important role to play up front. We believe member states should actively support the sunset of these network technologies and take a role in educating the larger public of its implications; such as the need to use a mobile phone that is VoLTE capable and interoperable with the mobile networks, and the need to keep up with software updates for this device. National government can start campaigns to highlight the importance of a '*VoLTE ok'* sticker, indicating a mobile device is fit for use on the national 4G and 5G mobile networks.

In KPN's experience with the sunset of 3G, the last remaining users on the soon-to-be switched off network tended overwhelmingly to be older people. It was particularly hard to reach these customers and explain the actions needed by them to switch to another mobile device. Information campaigns from government sources would be a valuable tool in such a case.

One final constraint that needs to be lifted to make the phasing out of 2G and 3G networks a smoother transition, stems from the e-Privacy directive. The Dutch telecommunication law restricts the ability of mobile operators to contact their customers in a targeted way, assisting them towards a futureproof solution on their networks. KPN knows from CDRs exactly which customers still use the 2G network. Despite our best generic communication efforts, these customers may not be aware at all that their handset is unable to interoperate with our 4G and 5G network and will find themselves 'suddenly' disconnected when 2G is switched-off. It would be helpful for both KPN and our users if we could approach these users (as above, mostly the elderly) with targeted campaigns, pointing them directly towards suitable devices that may be purchased to continue problem-free connectivity on our mobile network.