



**GSMA response to the Draft RSPG report on Mobile
technology evolution – experiences and strategies**

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About the GSMA

The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry, and society thrive. Representing mobile operators and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today's biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world's largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

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Introduction

The GSMA welcomes the opportunity to comment on the RSPG's draft report on Mobile technology evolution. We believe this is a useful summary of the issues at hand with an interesting annex showing the state of 2G/3G switch off across EU member states. We hope that the following comments can serve as a constructive contribution to the RSPG's deliberations on its draft.

With the arrival of 5G, the commercial pressure to retire legacy networks and re-farm frequencies is increasing. The pace of 5G coverage expansion across Europe will also be a key factor in the transition from 4G to 5G in the region and significant work is being undertaken by mobile operators to deliver 5G coverage across Europe, in line with the EU's ambitious connectivity targets for the Digital Decade, which envisage full 5G or 5G equivalent coverage by 2030, and in some countries in compliance with spectrum auction obligations. A majority of European countries (34 out of 50) have now deployed commercial 5G, while nearly two thirds of operators in the region (108 out of 173) have launched 5G networks.¹

For mobile operators, network rationalisation should be a voluntary opportunity to progressively reduce the extra cost of running multiple networks, which in turn benefits consumers and businesses. As noted by the RSPG, the phasing out of older technology generations such as 2G and 3G in order to introduce newer technologies including 4G and 5G is intended to improve communication security, provide higher data speeds and enable new use cases. In addition, the retirement of expiring network technologies helps operators to improve energy efficiency, reduce energy consumption and thus help combat climate change. The telecom sector has already demonstrated its commitment to reducing its own emissions² and further improvements enabled by network rationalisation are of fundamental importance in the context of delivering the EU's twin digital and green transition.

The GSMA therefore encourages RSPG members to favourably consider fostering the adoption of mandatory End-of-Sales for 2G and 3G devices by Member States, as well as encouraging public incentives for end users to migrate to the latest technologies, instead of suggesting as the report does, that this should solely be the responsibility of the MNOs to "be able to incentivise subscribers to change to devices with newer technologies".

¹ GSMA Intelligence

² [Mobile Net Zero: State of the Industry on Climate Action 2022](#), GSMA, May 2022

Transparency

The GSMA regularly publishes information³ on mobile network sunset plans (based on publicly available information) and would welcome the opportunity to engage more regularly with relevant stakeholders, including the RSPG and the European Commission, in relation to the sharing of information on 2G/3G network closures as and when such information becomes available from EU-based licensed mobile network operators.

An important issue for MNOs considering 2G or 3G switch-off is the provision of sufficient notice for end-users. Switch-off and the transition to new technologies should be supported by clear communication, careful planning and the appropriate information and marketing campaigns. Operators must also ensure that sufficient time is allowed for the majority of customers to naturally migrate, and that new technology offerings are attractive enough to facilitate this. It is important to note that MNOs are best placed to communicate on such plans as they see fit from a strategic and commercial viewpoint.

Transparency is paramount and MNOs already use this *modus operandi* today to communicate on network closures through press releases and communication to the general public. Furthermore, as part of MNO's existing commercial relationship with third parties, such as OEMs and providers of IoT-based solutions, information exchange on sunset plans is an ordinary integral part of the existing business relationship, which ensures that partners prepare for the technology shift in a timely manner.

Sunset considerations and IoT

Despite being technologically obsolete, 2G and 3G network rationalisation decisions are based on a wide range of considerations. These include the potential economic and societal impacts, commercial drivers, spectrum management and refarming, regulatory obligations and service migration challenges.

From a commercial perspective, MNOs are seeking to rationalise legacy network technologies as more spectrally efficient technologies become available and the nature of consumer demand changes. Furthermore, as a result of the smartphone revolution and rapid growth in mobile data services, MNOs worldwide are exploring opportunities to reduce costs, and to re-use 2G/3G spectrum for the more cost efficient 4G and 5G technologies by shutting down networks using older legacy technologies. However, MNOs employ varying decommissioning strategies and timetables, which are influenced by the characteristics of local markets.

In the EU, discussions around what will happen when both 2G and 3G are switched off are centred around current IoT applications. It should be highlighted that most of the technology concerned is decades old and there are better solutions available. Most applications using low-cost end-user devices such as wireless point-of-sale devices are straightforward to migrate to 3G/4G by simply replacing the host equipment. However, where the equipment is characterised by high cost and long lifecycles, migration is more problematic. A prominent example is the 2G and/or 3G based eCall service in Europe used for all new vehicles sold since 2018.

As there are technical options for migrating the vast majority of IoT applications, the decision to sunset 2G and 3G technologies remains an economic one - key factors in the decision include the size and type of subscriber base, current and forecast revenues, and the cost of substitution of the devices.

Technology neutrality

The GSMA agrees with the report's conclusion that "no need has been identified for regulatory intervention to extend the lifespan of 2G/3G". The GSMA calls on the RSPG to continue defending the principle of technology neutrality, as deviations from this principle have proven counterproductive in the past.

The GSMA also supports the report's finding that it is imperative that MNOs retain the liberty to deploy new technologies in order to maintain relevance for customers and gain competitive market advantage. As previously mentioned, spectrum will be re-farmed for the support and roll-out of 4G/5G mobile networks. In addition, the move to Packet Switched mobile networks will assist MNOs in contributing to the Green Agenda by optimising energy consumption, and ensure the security of mobile networks. This prerogative is secured in the long-standing regulatory principle of technology and service neutrality, which also provides regulatory certainty for any type of provider of telecommunication network and services.

Both the automotive industry and the telecommunications industry are fully dependent on technological innovation and evolution. As such, the principle of technology neutrality should apply equally to both sectors. Neither industry would survive in the market, whether commercially or in the sense of being attractive to investors, if locked into outdated technologies through regulatory requirements.

Obstacles for migration to newer technologies

Voice communication and emergency calls

As European mobile networks continue to evolve, the GSMA's members are fully dedicated to fulfilling their social responsibility and remain committed to constructive cooperation with all parties involved. Mobile operators are developing an all-IP based infrastructure to support next generation emergency services, yet the interconnection with emergency services operators is, in many cases, still based on circuit switched communication networks. For example, Public Safety Answering Points (PSAPs) in the EU should have the capability to receive and handle the most modern means of communications including IP-based 4G and 5G technologies.

GSMA technical work

The GSMA agrees with the RSPG that the development and use of standards for VoLTE require attention by MNOs and other stakeholders such as device manufacturers.⁴ Furthermore, the GSMA is aware of potential interoperability issues between devices and networks and has been working to address these via a number of initiatives. This includes defining a minimum set of IMS configuration parameters, hosting a database to enable MNOs to share parameter settings with OEMs and launching a VoLTE Interoperability Testing service.

In the past year, awareness of potential technical issues regarding emergency call handling has triggered further activity in the GSMA and a dedicated Task Force has been established to address these issues across all industry stakeholders.

Focus on non-EU jurisdictions/handsets

The GSMA stresses that the interoperability issue highlighted by the draft report (page 11) has come to media attention due to interoperability issues in non-EU jurisdictions rather than being an issue that has arisen within the EU.

The shutdown of 2G services in the United States has seen issues raised around inbound roaming and access problems for voice services and emergency calling. It is important to note that emergency calls must be available to inbound roamers, irrespective of whether a VoLTE Roaming agreement is in place. The 3GPP standards are in place to permit Packet Switch (PS) emergency calling for inbound roamers, meaning mobile operators must provide emergency access via one, or both, PS and CS calling. Post CS shutdown, emergency calls will

⁴ It is necessary that device manufacturers engage technical evolutions in order to adapt their devices that are already on the market and to design a new generation of devices using 4G and/or 5G mobile networks.

be provided via PS or IP Multimedia Subsystem (IMS) calling. In these cases, the LTE network will broadcast this fact to the handsets.

As mentioned in the draft report, a key problem faced by operators launching VoLTE services is the availability of handsets providing VoLTE support. Although the major handset manufacturers have tested and support VoLTE on major networks, economies of scale have dictated that smaller operators are unable to obtain the necessary testing. Consequently, device manufacturers disable VoLTE functions in a handset where testing is not complete, even when the same handset supports VoLTE with a SIM from an operator where VoLTE testing has been completed.

Further investigation by the GSMA has uncovered the fact that some devices do not try and attempt a PS emergency call in the event of (normal) VoLTE being unavailable on the device for whatever reason. This is in contradiction of 3GPP standards and becomes an issue if there is no CS emergency calling option available due to CS shutdown. An industry-wide Task Force is currently working to address these issues.

eCall

Existing eCall regulation should be updated where required, so that it does not solely refer to CS technology, but rather should be fully technology neutral as is standard practice for EU legislation. The GSMA regrets that the European Commission work to update the problematic eCall legislative framework is much delayed.

The GSMA is and remains fully committed to ensuring the successful deployment of eCall, both now and in the future by cooperating with all relevant stakeholders, including vehicle manufacturers and Member State authorities. It is important to keep in mind that (i) vehicle manufacturers are liable for the deployment of the eCall system inside cars⁵ across the EU and (ii) Member State authorities shall deploy on their territory the eCall PSAP infrastructure required for the proper receipt and handling of all eCalls.⁶ Therefore, the GSMA considers that telecom operators cannot be held liable for any difficulties in the routing of eCall using the 112 number⁷ and do not have to bear the financial burden relating to the retrofit of vehicles.

However, the GSMA considers that all parties in the eCall delivery chain must work together to successfully make the transition happen from CS eCall to Next Generation (NG) eCall –

⁵ Regulation (EU) 2015/758 of the European Parliament and of the Council of 29 April 2015

⁶ Decision n° 585/2014/UE of the European Parliament and of the Council of 15 May 2014 on the deployment of the interoperable EU-wide eCall service

⁷ The EU legal framework relating to eCall is technologically neutral. Therefore, telecom operators shall not be required to maintain their 2G and/or 3G mobile network⁷ in order to comply with the EU legal framework relating to eCall.

delivered over IP Multimedia Subsystem (IMS). The deployment of 4G/5G mobile networks is closely linked to this transition. The GSMA considers that all relevant stakeholders should expedite the move from CS toward NG eCall. By doing so, citizens will have access to better and enhanced emergency services, whilst ensuring the efficient use of spectrum.

Currently, network operators are massively upgrading their network capacities. These investments also foster the future functioning of eCall systems. In particular, 4G and 5G technologies will provide higher network availability and quality of services, as well as harness the potential for enhanced eCall services. As such, the roll-out of NG eCall should not be delayed and should be aligned with the 5G deployment plans of MNOs.

Furthermore, standards for the support of NG eCall have all been concluded. This topic is regularly raised as a stumbling block for the transition to NG eCall, but it should be recognised by the European Commission that this is not the case.

The draft report states that according to car manufacturers, the retrofit of vehicles is not possible due to the type approval regulation and the fact that aftermarket solutions may not be reliable and are costly for the consumer. **However, such statements are not backed up by evidence and numbers.** It is important to note, that the Commission has sponsored the sAFE project, the main aim of which was to find a solution for retrofitting vehicles as a result of the current eCall solution becoming obsolete. This project was concluded a year ago in December 2021, but no results have been communicated from the project. It should therefore be regarded as premature to rule out a solution of retrofitting vehicles equipped with the legacy eCall solution.

There are also security considerations to take into account. It is expected that from 2025, vendors will no longer be providing security patches to circuit switched networks. It is therefore also a matter of security that MNOs are not hindered in their evolutionary move to packet switched networks.