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The latest mobile phone technologies (3G/ 4G) offer much higher data transmission rates; and there is growing demand for the new electronic communications services they enable. EU rules have freed up radio frequencies for those new technologies, bringing faster wireless broadband to more and more Europeans - without disrupting existing mobile services.

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The new generations of mobile phone technology, 3G systems (using the Universal Mobile Telecommunications System - UMTS) and 4G mobile technology (using the LTE or WiMAX systems) offer innovative possibilities for electronic communications services, with hugely increased data transmission rates. But how can these new services use economically attractive spectrum without disrupting the current GSM network?

In Europe, mobile phones operate under the GSM protocol (short for Global System for Mobile or originally Groupe Spécial Mobile). This operates over two bandwidths: the 900 MHz bands (880 – 915 MHz and 925 – 960 MHz) and the 1800 MHz bands (1710 – 1785 MHz and 1805 – 1880 MHz) - collectively known as GSM 900/1800.

These two frequencies have been reserved for use by public pan-European cellular digital mobile communications services - ever since Europe successfully coordinated to introduce the system in the 1990s. GSM technology has served Europe well, establishing a harmonised framework for mobile voice and digital communications, right across the continent: so people can move from country to country without changing their phone or losing services.

We work on specific areas to improve the use of your mobile:

[Enabling new technologies](#) ^[1]

[Finding the right technical parameters](#) ^[2]

[Mobile Communications on board Aircraft \(MCA\)](#) ^[3]

Background

In 1987 the GSM Directive reserved part of the 900MHz spectrum band for GSM technologies like mobile phones. Responding to the development of new wireless technologies, the GSM Directive was updated in September 2009 by Directive [2009/114/EC](#) ^[4] to allow more advanced, next generation wireless technologies to also use this band, starting with 3G (UMTS) mobile broadband.

The technical rules to do so were harmonised by Commission Decision [2009/766/EC](#) ^[5], which clarified the technical conditions so that those technologies could coexist. This Decision was updated in 2011 to ensure that 4G systems could also be used, bringing faster wireless broadband to ever more

people. This latest [Commission Decision](#) [6] was due to be implemented by Member States by the end of 2011, helping achieve the broadband targets of the [Digital Agenda](#) [7].

More information

- [Commission Decision](#) [6] amending Decision [2009/766/EC](#) [8] on the harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community.
- Directive [2009/114/EC](#) [8] of the European Parliament and of the Council amending Council Directive 87/372/EEC on the frequency bands to be reserved for the coordinated introduction of public pan-European cellular digital land-based mobile communications in the Community.
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[3] <https://ec.europa.eu/digital-agenda/node/68150>

[4] <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:274:0025:0027:EN:PDF>

[5] <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:274:0032:0035:EN:PDF>

[6] <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011D0251:EN:NOT>

[7] <https://ec.europa.eu/digital-agenda/en/>

[8] <http://eur-lex.europa.eu/JOHtm1.do?uri=OJ:L:2009:274:SOM:EN:HTML>

[9] <https://ec.europa.eu/digital-agenda/how-get-involved-eu-radio-spectrum-policy>

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