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Mobile communications on board aircraft or on board vessel covers the on board use of normal mobile phones and other mobile electronic devices to make calls, send and receive messages, and other communications such as e-mail, surfing the internet and using social media.

After a long, slow beginning, mobile communications on board aircraft (airplanes) - MCA, and on board vessels (ships) - MCV, are becoming the rule and the availability of connectivity services is becoming a major competition element. For most airlines and ship-owners today, MCA/MCV is no longer a question of "if," but "when" and "how" as air and sea passengers (and crew members) now see it as part of essential services they expect.

Commission coordination

Airlines and shipping companies in Europe typically cross several borders during flights or seafaring, so coordination at the European level is crucial to achieve a truly pan-European MCA/MCV service.

The first coordination step consisted in two Commission Recommendations (one for MCA in 2008 and one for MCV in 2010) on a harmonised approach to licensing, which promotes mutual recognition between national authorisations for mobile communications on board aircraft or vessel.

The European Commission constantly monitors technological evolution, market developments and users' requirements.

MCA rules

After adoption in 2008 of the first Decision on MCA, rules on Mobile Communications on board Aircraft were updated in 2013 in order to allow the utilisations of not only 2G, but also 3G and 4G technology thanks to the definition of specific technical requirements and the assignment of adequate spectrum bands.

In 2016, based on the operational experience acquired, the MCA rules were updated again in order to simplify some technical requirements, reduce operational costs and allow a wider adoption of MCA services.

MCV rules

MCV rules at EU level were first introduced in 2010 with a Commission Decision which set rules for the usage of 2G technology on board vessels within the EU territorial waters. In order to keep account of

technological evolution, that Decision was updated in February 2017 in order to allow the utilisations of not only 2G, but also 3G and 4G technology thanks to the definition of specific technical requirements and the assignment of adequate spectrum bands.

This sets a unified environment for providing pan-European MCA and MCV services through existing, or new, commercial providers. Availability and pricing are matters for market operators (e.g. airlines and ship-owners) as are issues like passenger comfort (possible noise disturbance if phone calls are allowed, particularly on board aircraft).

MCA and MCV definition

There are two kinds of mobile communications on board aircraft (MCA) and mobile communications on board vessel (= ship) (MCV): one is based on Wi-Fi and the other one on roaming.

The Wi-Fi based connectivity can be used for data only (most airlines and shipping lines do not allow voice over internet -VOIP- services like Skype). In order to use Wi-Fi services on air or sea, passengers must usually purchase a voucher, typically using their credit card. Due to the very low power involved, and the unlicensed spectrum used, Wi-Fi is not subject to interference mitigation measures.

Connectivity based on roaming, which is the subject of the legislation mentioned in this page, works like a normal terrestrial roaming service: voice and data usage are billed directly by the passenger's mobile phone operator like any mobile telephone usage in a foreign (rest of the world) country. Please note that the [European Commission roaming rules](#) [1] do not apply on board of airplanes and ships.

It is, obviously, the airlines' and shipping companies' choice whether to offer Wi-Fi or roaming, or both services on board of their aircraft and ships.

In MCA (roaming) equipped aircraft, passengers will be invited to switch their phones from "flight mode" to "transmit" mode as soon as the aircraft climbs above 3000 meters (10 000 feet). From that moment on, they will be able to use their mobile phone like on the ground.

In the case of MCV, the service is available in EU territorial waters. However when the ship is less than 2 nautical miles (3.7 Km) from the shore, the normal land based system should be used. When outside the EU territorial waters, other satellite-based systems may be used, which are out of scope of these EU rules.

Useful links about MCA

- [Commission Implementing Decision \(EU\) 2016/2317](#) [2] amending Decision 2008/294/EC and Implementing Decision 2013/654/EU, in order to simplify the operation of mobile communications on board aircraft (MCA services) in the Union.
- Press Release ["Surfing in the sky: Commission gives airlines green-light for 3G and 4G broadband services on board aircraft](#) [3]" (14 November 2013).
- [Commission Implementing Decision 2013/654/EU](#) [4] of 12 November 2013 amending Decision 2008/294/EC to include additional technologies and frequency bands for mobile communications services on aircraft (MCA services).
- Press release ["First European airlines offering in-flight use of mobile phones thanks to EU-wide ground rules"](#) [5] (2 April 2009).
- [Commission Recommendation 2008/295/EC](#) [6] of 7 April 2008 on authorisation of mobile communication services on aircraft (MCA services) in the European Community.
- [Commission Decision 2008/294/EC](#) [7] of 7 April 2008 on the harmonised conditions of spectrum use for the operation of mobile communication services on aircraft (MCA services) in the

Community.

Useful links about MCV

- [Commission Implementing Decision \(EU\) 2017/191](#) [8] of 1 February 2017 amending Decision 2010/166/EU, in order to introduce new technologies and frequency bands for mobile communication services on board vessels (MCV services) in the European Union.
- [Commission Recommendation 2010/167/EU](#) [9] of 19 March 2010 on the authorisation of systems for mobile communication services on board vessels (MCV services).
- [Commission Decision 2010/166/EU](#) [10] of 19 March 2010 on harmonised conditions of use of radio spectrum for mobile communication services on board vessels (MCV services) in the European Union.

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Team responsible

[Radio Spectrum Policy \(Unit B.4\)](#) [11]

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Links

[1] <https://ec.europa.eu/digital-single-market/en/roaming>

[2] <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32016D2317>

[3] http://europa.eu/rapid/press-release_IP-13-1066_en.htm

[4] <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1411135091282&uri=CELEX:32013D0654>

[5] <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/526&format=HTML&aged=0&language=EN&guiLanguage=en>

[6] <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:098:0024:0027:EN:PDF>

[7] <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:098:0019:0023:EN:PDF>

[8] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2017.029.01.0063.01.ENG&toc=OJ:L:2017:029:TOC

[9] <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32010H0167:EN:NOT>

[10] <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32010D0166:EN:NOT>

[11] <https://ec.europa.eu/digital-single-market/en/content/radio-spectrum-policy-unit-b4>