

DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
establishing the first radio spectrum policy programme

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union (TFEU), and in particular Article 114 thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national Parliaments,

Having regard to the opinion of the European Economic and Social Committee¹,

Having regard to the opinion of the Committee of the Regions²,

Acting in accordance with the ordinary legislative procedure,

Whereas:

¹ OJ C , , p. .

² OJ C , , p. .

- (1) Article 8a(3) of the Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive)³ provides that the Commission may submit a legislative proposal to the European Parliament and Council for establishing multiannual radio spectrum policy programmes setting out policy orientations and objectives for the strategic planning and harmonisation of the use of spectrum in accordance with the directives applicable to electronic communications networks and services. These policy orientations and objectives should refer to the availability and efficient use of spectrum necessary for the establishment and functioning of the internal market. The radio spectrum policy programme supports the goals and key actions outlined in the Europe 2020 Strategy and the Digital Agenda, and is included among the 50 priority actions of the Single Market Act. This Decision is without prejudice to existing EU law, in particular Directives 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity⁴, 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive)⁵, 2002/20/EC of the European Parliament and of the Council of 7 March 2002 on the authorisation of electronic communications networks and services (Authorisation Directive)⁶, 2002/21/EC and 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC, 2002/19/EC, and 2002/20/EC⁷, as well as Decision No 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision)⁸. It is also without prejudice to measures taken at national level, in compliance with Union law, to pursue general interest objectives, in particular relating to content regulation and audio-visual policy and to the right of Member States to organise and use their spectrum for public order and public security purposes and defence.

³ OJ L 108, 24.4.2002, p. 33.

⁴ **OJ L 91, 7. 4. 1999, p. 10.**

⁵ **OJ L 108, 24.4.2002, p. 7.**

⁶ **OJ L 108, 24.4.2002, p. 21.**

⁷ **OJ L 337, 18.12.2009, p. 37.**

⁸ **OJ L 108, 24.4.2002, p. 1.**

- (2) Spectrum is a key public resource for essential sectors and services, including mobile, wireless broadband and satellite communications, television and radio broadcasting, transport, radiolocation, and applications such as alarm, remote controls, hearing aids, microphones, and medical equipment. It supports public services such as security and safety services, including civil protection, and scientific activities, such as meteorology, Earth observation, radio astronomy and space research. Easy access to spectrum also plays a role in the provision of electronic communications, in particular for citizens and businesses located in less populated or remote areas, such as rural areas or islands. Regulatory measures on spectrum therefore have economic, safety, health, public interest, cultural, scientific, social, environmental and technical implications.
- (3) A renewed economic and social approach with regard to the management, allocation and usage of spectrum should be adopted. The Radio Spectrum Policy Programme should have a particular focus directed towards spectrum policy, with the aim to ensure greater spectrum efficiency, better frequency planning and safeguards against anti-competitive behaviour.
- (4) The strategic planning and harmonisation of spectrum use at Union level should enhance the single market for wireless electronic communications services and equipment as well as other Union policies requiring spectrum use, thus creating new opportunities for innovation and employment creation, and simultaneously contributing to economic recovery and social integration across the Union, while at the same time respecting the important social, cultural and economic value of spectrum.

The harmonisation of appropriate spectrum use can also be beneficial to the quality of the services provided by electronic communications and is essential to create economies of scale lowering both the cost of deploying wireless networks and the cost of wireless devices for consumers. To this end, the Union therefore needs a policy programme that covers the internal market in all Union policy areas involving the use of spectrum such as electronic communications, research, technological development and space, transport, energy and audio-visual.

- (5) This first programme should promote competition and contribute to laying the foundation for a genuine single digital market.
- (6) This first programme should in particular support the Europe 2020 Strategy for smart, sustainable and inclusive growth given the huge potential of wireless services to promote an information-based economy, develop and assist sectors relying on information and communications technologies and overcome the digital divide. The growing use of, in particular, audiovisual media services and online content is increasing demand for speed and coverage. It is also a key action in the Digital Agenda for Europe⁹ which aims to deliver fast broadband internet in the future network-based knowledge economy, with an ambitious target for universal broadband coverage. Providing the highest possible wired and wireless broadband speeds and capacity contributes to achieving the target of not less than 30 Mbps for all by 2020 with at least half of European households having broadband access at a speed of at least 100 Mbps and is important for fostering economic growth and global competitiveness, and necessary to achieve the sustainable economic and social benefits of a digital single market. It should also support and promote other Union sectoral policies such as a sustainable environment and economic and social inclusion for all Union citizens. Given the importance of wireless applications for innovation, this programme is also a key initiative in support of Union policies on innovation.
- (7) The first programme should lay the foundations for a development whereby the Union can take the lead regarding wireless broadband speeds, mobility, coverage and capacity. Such leadership is essential in order to establish a competitive digital single market working to open up the internal market for all Union citizens.

⁹ COM(2010)0245, 19.5.2010.

- (8) The first programme should specify guiding principles and objectives up to 2015 for Member States and Union institutions, and set out specific implementation initiatives. While spectrum management is still largely a national competence, it should be exercised in compliance with existing Union law and allow for action to pursue Union policies.
- (9) The programme should also take into account Decision No 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision)¹⁰ and the technical expertise of the European Conference of Postal and Telecommunications Administrations (CEPT) so that Union policies which rely on spectrum and were agreed by Parliament and Council can be implemented by technical implementing measures, noting that such measures can be taken whenever necessary to implement already existing Union policies.
- (10) Easy access to spectrum may require innovative authorisation conditions such as collective use of spectrum, or infrastructure sharing. The application of such principles in the Union might be facilitated by identifying best practices and encouraging information sharing, as well as by defining certain common or converging conditions for spectrum usage. General authorisations, which are the least onerous authorisation system, are of particular interest where interference does not risk hampering the development of other services.
- (11) While technologically still in development, so-called "cognitive technologies" should already be further explored, including by facilitating sharing based on geolocalisation.

¹⁰ OJ L 108, 24.4.2002, p. 1.

- (12) Spectrum rights trading combined with flexible usage conditions should substantially benefit economic growth. Therefore, bands where flexible use has already been introduced by Union law should be immediately made tradable pursuant to the Framework Directive. The sharing of best practices on authorisation conditions and procedures for such bands and common measures to prevent accumulation of spectrum which may create dominant positions, as well as undue failure to use acquired spectrum, would facilitate the coordinated introduction by all Member States of these measures and facilitate acquisition of such rights anywhere in the Union.

Collective (or shared) use of spectrum – as an undetermined number of independent users and/or devices to access spectrum in the same range of frequencies at the same time and in a particular geographic area under a well-defined set of conditions – should be fostered where applicable, without prejudice to the provisions of Directive 2002/20/EC on what concerns electronic communications networks and services.

- (13) As underlined in the Digital Agenda for Europe, wireless broadband is an important means to boost competition, consumer choice and access in rural and other areas where deployment of wired broadband is difficult or economically unviable. However, spectrum management may affect competition by changing the role and power of market players, for example if existing users receive undue competitive advantages. Limited spectrum access, in particular when appropriate spectrum becomes scarcer, can create a barrier to entry for new services or applications and hamper innovation and competition. Acquisition of new usage rights, including through spectrum transfer or leasing or other transactions between users, and the introduction of new flexible criteria for spectrum use can have an impact on the existing competitive situation. Member States should therefore take appropriate ex ante or ex post regulatory measures (such as action to amend existing rights, to prohibit certain acquisitions of spectrum rights, to impose conditions on spectrum hoarding and efficient use such as those referred to in Article 9 paragraph 7 of the Framework Directive, to limit the amount of spectrum for each operator, or to avoid excessive accumulation of spectrum) to avoid distortions of competition in line with the principles underpinning Article 5(6) of Directive 2002/20/EC (the "Authorisation" Directive) and Article 1(2) of Directive 87/372/EEC (the "GSM" Directive).

- (14) An inventory of existing spectrum use together with an assessment of technology trends, future needs and demand for spectrum, in particular between 400 MHz and 6 GHz should allow to identify spectrum bands where efficiency could be improved and spectrum sharing opportunities to the benefit of both the commercial and public sectors.

The methodology for establishing an inventory of existing uses of spectrum should take due account of the administrative burden which the methodology places on the administrations and should aim to minimize the administrative burden for conducting the inventory.

Therefore, the information provided by the Member States pursuant to the Commission Decision on harmonised availability of information regarding spectrum use within the Community (Decision “EFIS” 2007/344/EC) should be fully taken into account for the development of the methodology for establishing an inventory of existing uses of spectrum.

- (15) Harmonised standards under Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity¹¹ are essential to achieve efficient spectrum use and should take account of legally defined sharing conditions. European standards for non-radio electric and electronic equipment and networks should also avoid disturbance to spectrum use. The cumulative impact of the increasing volume and density of wireless devices and applications combined with the diversity of spectrum use challenges current approaches to interference management. These should be examined and reassessed together with receiver characteristics and more sophisticated interference avoidance mechanisms.
- (16) Member States should be allowed, where appropriate, to introduce compensatory measures relating to the migration costs.

¹¹ OJ L 91, 7.4.1999, p. 10.

- (17) In line with the objectives of the Commission's flagship initiative "Digital Agenda for Europe", wireless broadband could contribute substantially to economic recovery and growth if sufficient spectrum is made available, usage rights are awarded quickly and trading is allowed to adapt to market evolution. The Digital Agenda calls for all Union citizens to have access to broadband of at least 30 Mbps by 2020. Therefore, spectrum that has already been covered by Commission Decisions should be made available under terms and conditions of those Decisions and, subject to market demand, the authorisation process should be carried out by 31 December 2012 for terrestrial communications to ensure easy access to wireless broadband for all, in particular within spectrum bands designated by Commission Decisions 2008/477/EC, 2008/411/EC and 2009/766/EC. To complement terrestrial broadband services and ensure coverage of most remote Union areas, satellite broadband access could be a fast and feasible solution.
- (18) More flexible arrangements governing spectrum use should be introduced, where appropriate, in order to foster innovation and high-speed broadband connections which enable firms to reduce their costs and increase their competitiveness and make it possible to develop new interactive online services, for example in the fields of education, health and services of general interest.
- (19) A European market with nearly 500 million people connected to high-speed broadband would act for the development of the internal market, creating a globally unique critical mass of users exposing all regions to new opportunities and giving each user increased value and the Union the capacity to be a world-leading knowledge-based economy. A rapid deployment of broadband is crucial for the development of European productivity and for the emergence of new and small enterprises that can be leaders in different sectors, for example healthcare, manufacturing and the services industry.

- (20) The International Telecommunications Union (ITU) estimated in 2006 that the future spectrum bandwidth requirements for the development of International Mobile Telecommunications-2000 (IMT-2000) and IMT-advanced systems (i.e. 3G and 4G mobile communications) as amounting to between 1280 and 1720 MHz in 2020 for the commercial mobile industry for each ITU region including Europe. It should be noted that this lower figure (1280 MHz) is higher than the requirements for some countries. In addition there are some countries where the requirement is larger than the higher value (1720 MHz). Both these figures include spectrum already in use, or planned to be used, for Pre-IMT systems, IMT-2000 and its enhancements.

Without freeing up of required spectrum, preferably in a harmonised way at global level, new services and economic growth will be hindered by capacity constraints in mobile networks.

- (21) The 800 MHz band is optimal for the coverage of large areas by wireless broadband services. Building on the harmonisation of technical conditions under Decision 2010/267/EU, and on Commission Recommendation of 28 October 2009 calling for analogue broadcasting to be switched off by 1 January 2012, and given rapid national regulatory developments, this band should in principle be made available for electronic communications in the Union by 2013. In the longer term, additional spectrum could also be envisaged, in the light of the results of the analysis, of technology trends, future needs and demand for spectrum. Considering the capacity of the 800 MHz band to transmit over large areas, coverage obligations could be attached to rights, where appropriate.
- (22) Increased wireless broadband opportunities are crucial to provide the cultural sector with new distribution platforms, thereby paving the way for the successful future development of the sector.

- (23) Wireless access systems, including radio local access networks, may outgrow their current allocations on an unlicensed basis. The need and feasibility of extending the allocations of unlicensed spectrum for wireless access systems, including radio local area networks, at 2.4 GHz and 5GHz, should be assessed in relation to the inventory of existing uses of, and emerging needs for, spectrum, and depending on use of spectrum for other usages.
- (24) While broadcast will remain an important distribution platform for content, as it is still the most economical platform for mass-distribution, wired or wireless broadband, and other new services provide new opportunities for the cultural sector to diversify its range of distribution platforms, to deliver on-demand services and to tap into the economic potential of the major increase in data traffic.
- (25) In order to focus on the priorities of this first multi-annual Programme, Member States and the Commission should cooperate to support and reach an objective of enabling the Union to take the lead in wireless electronic communication broadband services by freeing up sufficient spectrum in cost-efficient bands for these services to be widely available.
- (26) Since a common approach and economies of scale are key to developing broadband communications throughout the Union and preventing competition distortion and market fragmentation among Member States, certain best practices on authorisation and procedural conditions could be identified in concerted action among Member States and with the Commission. Conditions could include coverage obligations, spectrum block size, the timing of granting rights, access to mobile virtual network operators (MVNOs) and the duration of rights of use. Reflecting the importance of spectrum trading for increasing efficient use of spectrum and developing the internal market for wireless equipment and services, these conditions should apply to spectrum bands that are allocated to wireless communications, and for which rights of use may be transferred or leased.

- (27) Additional spectrum may be needed by other sectors such as transport (for safety, information and management systems), R&D, e-health, e-inclusion and, if necessary, public protection and disaster relief (PPDR), in view of their increased use of video and data transmission for quick and more efficient service. Optimising synergies between spectrum policy and R&D activities and carrying out studies of radio compatibility between different spectrum users should help innovation. Moreover, results of research under the Seventh Framework Programme require the examination of the spectrum needs of projects that may have a large economic or investment potential, in particular for SMEs, e.g. cognitive radio or e-health. Adequate protection against harmful interference should also be ensured to sustain R&D and scientific activities.
- (28) The Europe 2020 Strategy sets environmental objectives for a sustainable, resource efficient and competitive economy, for example by improving resource efficiency by 20%. The information and communication technology (ICT) sector has a key role to play as stressed in the Digital Agenda for Europe. Proposed actions include acceleration of the Union-wide deployment of intelligent energy management systems (smart grids and smart metering) using communication capabilities to reduce energy consumption, and the development of Intelligent Transport Systems and intelligent traffic management to reduce carbon dioxide emissions by the transport sector. Efficient use of spectrum technologies could also help reduce energy consumption by radio equipment and limit the environmental impact in rural and remote areas.
- (29) Protection of public health against electromagnetic fields is essential for citizens' well-being and for a coherent approach to spectrum authorisation in the Union; while subject to Council Recommendation 1999/519/EC on the limitation of exposure of the general public to electromagnetic fields, it is essential to ensure constant monitoring of the ionising and non-ionising effects of spectrum use on health, including the real-life cumulative effects of spectrum use in various frequencies by an increasing number of equipment types.

- (30) Essential public interest objectives such as safety of life call for coordinated technical solutions for the interworking of safety and emergency services between Member States. Sufficient spectrum should be made available on a coherent basis for the development and free circulation of safety services and devices and innovative pan-European or interoperable safety and emergency solutions. Studies have indicated the need for additional harmonised spectrum below 1 GHz to deliver mobile broadband services for public protection and disaster relief, across the Union in the next 5 to 10 years.
- (31) Spectrum regulation has strong cross-border or international dimensions, due to propagation characteristics, the international nature of markets dependent on radio-based services, and the need to avoid harmful interference between countries.
- (32) According to the case law, where the subject matter of an international agreement falls partly within the Union competence and partly within the competence of the Member States, it is essential to ensure close cooperation between the Member States and the Union institutions. That obligation to cooperate, as explained in a well-established case law, flows from the principle of unity in the international representation of the Union and its Member States.
- (33) Member States may also need support on frequency coordination in bilateral negotiations with non-Union neighbouring countries, including accession or candidate countries, to meet their Union obligations on frequency coordination issues. This should also help avoid harmful interference and improve spectrum efficiency and spectrum use convergence even beyond Union borders.
- (34) To realise the objectives of this Programme it is important to enhance the current institutional framework for the co-ordination of spectrum policy and management at Union level, including in matters directly affecting two or more Member States, while taking full account of the competence and expertise of national administrations. Cooperation and coordination are also essential between standardisation bodies, research institutions and the CEPT.

- (35) In order to ensure uniform conditions for the implementation of this Decision, implementing powers should be conferred on the Commission. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers.
- (36) The Commission should report to the European Parliament and the Council on the results achieved under this Decision, as well as on planned future actions.
- (37) In drawing up its proposal the Commission has taken utmost account of the opinion of the RSPG.

HAVE ADOPTED THIS DECISION:

Article 1

Aim and Scope

1. This Decision establishes a multi-annual (2012-2015) radio spectrum policy programme for the strategic planning and harmonisation of the use of spectrum to ensure the functioning of the internal market in the Union policy areas involving the use of spectrum such as electronic communications, research, technological development and space, transport, energy and audio-visual.

This decision shall not affect the sufficient availability of spectrum for other Union policy areas such as civil protection and disaster relief, Common Security and Defence Policy.

2. This Decision is without prejudice to existing EU law, in particular:
- to Directives 2002/20/EC and 2002/21/EC;
 - subject to Article 6 of this Decision, to Decision No 676/2002/EC;
 - to Directive 1999/5/EC, and to measures taken at national level, in compliance with EU law.
3. This Decision is without prejudice to measures taken at national level in full compliance with Union law, which pursue general interest objectives, in particular those relating to content regulation and audiovisual policy.

This Decision is without prejudice to the right of Member States to organise and use their spectrum for public order and public security purposes and defence. Where this Decision or measures adopted on its basis in bands specified in Article 6 affect spectrum used by a Member State exclusively and directly for its public security and defence purposes to the extent necessary, the Member State may continue to use this spectrum band for public security and defence purposes until the systems existing in the band respectively at the date of the entry into force of this Decision or of a measure adopted on its basis are phased out. That Member State shall duly notify the Commission of its decision.

Article 2

General regulatory principles

1. Member States shall cooperate with each other and with the Commission in a transparent manner, in order to ensure the consistent application of the following general regulatory principles across the Union:
 - (a) applying the most appropriate and least onerous authorisation system possible in such a way as to maximise flexibility and efficiency in spectrum usage. Such an authorisation system shall be based on objective, transparent, non-discriminatory and proportionate criteria;
 - (b) fostering development of the internal market by promoting the emergence of future EU-wide digital services and fostering effective competition;
 - (c) promoting competition and innovation, taking account of the need to avoid harmful interference and of the need to ensure technical quality of service in order to facilitate the availability of broadband services and to respond effectively to increased wireless data traffic;
 - (d) in defining the technical conditions of the use of spectrum, take full account of the relevant EU law, including on the limitation of the exposure of the general public to electromagnetic fields;
 - (e) promoting technology and service neutrality in the **rights** of use of spectrum, where possible.
2. For electronic communications, in addition to the general regulatory principles defined in paragraph 1, the following specific principles, shall apply, in accordance with Articles 8a, 9, 9a and 9b of Directive 2002/21/EC and with Decision No 676/2002/EC:

- (a) applying technology and service neutrality in the right of use of spectrum for electronic communications networks and services and the transfer or lease of individual rights to use radio frequencies;
- (b) promoting the harmonisation of use of radio frequencies across the Union, consistent with the need to ensure effective and efficient use thereof.;
- (c) facilitating increased wireless data traffic and broadband services, in particular by fostering flexibility, and promoting innovation, taking account of the need to avoid harmful interference and ensure the technical quality of service.

Article 3

Policy objectives

In order to focus on the priorities of this first multi-annual Programme, Member States and the Commission shall cooperate to support and reach the following policy objectives:

- (a) encourage efficient management and use of spectrum to best meet the increasing demand for use of frequencies reflecting the important social, cultural and economic value of spectrum;
- (b) seek to allocate sufficient and appropriate spectrum in a timely manner to support Union policy objectives and to best meet the increasing demand for wireless data traffic, thereby allowing the development of commercial and public services, while taking into account important general interest objectives such as cultural diversity and media pluralism; for that purpose, every effort should be made to identify, based on the inventory of spectrum in Article 8, at least 1200 MHz of spectrum by 2015 at the latest. This figure includes spectrum already in use;

- (c) bridge the digital divide and contribute to the objectives of the Digital Agenda for Europe, fostering access to broadband at a speed of not less than 30 Mbps by 2020 to all Union citizens and making it possible for the Union to have the highest possible broadband speed and capacity;
- (d) enable the Union to take the lead in wireless electronic communication broadband services by freeing up sufficient spectrum in cost-efficient bands for these services to be widely available;
- (e) secure opportunities for both the commercial as well as public sectors by means of increased mobile broadband capacities;
- (f) promote innovation and investment through an enhanced flexibility in the use of spectrum, through a consistent application across the Union of the principles of technology and service neutrality between the technological solutions that may be adopted and through adequate regulatory predictability as provided for, inter alia, in the regulatory framework for electronic communications through the freeing up of harmonised spectrum to new advanced technologies, and through the possibility of trading spectrum rights, thereby creating opportunities for future EU-wide digital services to be developed;
- (g) facilitate easy access to spectrum by harnessing the benefits of general authorisations for electronic communications in accordance with Article 5 of Directive 2002/20/EC Authorization Directive;

- (h) encourage passive infrastructure sharing where this would be proportionate and non-discriminatory, as envisaged in Article 12 of Directive 2002/21/EC;
- (i) maintain and develop effective competition, in particular in electronic communication services, by seeking to avoid through ex ante measures or ex post remedies, excessive accumulation of radio frequencies by certain economic operators which results in significant harm to competition;
- (j) reduce the fragmentation and fully exploit the potential of the internal market in order to foster economic growth and economies of scale at Union level by enhancing coordination and harmonisation of technical conditions for the use and availability of spectrum, as appropriate;
- (k) avoid harmful interference or disturbance by other radio or non-radio devices, inter alia, by facilitating the development of standards which contribute to efficient use of spectrum; and increasing immunity of receivers to interference, taking particular account of the cumulative impact of the increasing volumes and density of radio devices and applications;
- (l) foster the accessibility of new consumer products and technologies so as to secure consumer endorsement for the transition to digital technology and efficient use of the digital dividend;
- (m) reduce the Union's carbon footprint by enhancing the technical and energy efficiency of wireless communication networks and equipments.

Article 4

Enhanced efficiency and flexibility

1. Member States shall foster, in cooperation with the Commission and where appropriate, the collective use of spectrum as well as shared use of spectrum.

Member States shall also foster the development of current and new technologies, for example, in cognitive radio, including those using "white spaces".

2. Member States and the Commission shall cooperate to enhance flexibility in the use of spectrum, to promote innovation and investment, through the possibility to use new technologies and the transfer or lease of spectrum rights.¹²

3. Member States and the Commission shall cooperate to foster the development and harmonisation of standards for radio equipment and telecommunications terminals as well as for electric and electronic equipment and networks based where necessary upon standardisation mandates from the Commission to the relevant standardisation bodies. Special attention shall also be given to standards for equipment to be used by disabled people.

4. Member States shall foster R&D activities on new technologies such as cognitive technologies and geolocation databases as their development could represent an added-value in the future in terms of efficiency of spectrum use.

5. Member States shall put in place, where appropriate, selection conditions and procedures that promote competition, investment and efficient use of spectrum as a public good, as well as co-existence between new and existing services and devices. Member States shall promote the ongoing efficient use of spectrum for networks, devices and applications.

¹² This paragraph was moved from article 3(b).

6. Where necessary in order to ensure the effective use of spectrum rights and avoid spectrum hoarding, Member States may consider taking appropriate measures, such as financial penalties, the use of incentive fees tools or the withdrawal of rights. These measures shall be established and applied in a proportionate, non-discriminatory and transparent manner.
7. For electronic communications services, Member States shall adopt by 1 January 2013 allocation and authorisation measures appropriate for the development of broadband services, in conformity with Directive 2002/20/EC of the European Parliament and of the Council on the authorisation of electronic communications networks and services (Authorisation Directive) with the aim of achieving the highest possible capacity and broadband speeds.
8. In order to avoid possible fragmentation of the internal market due to divergent selection conditions and procedures for harmonised spectrum bands allocated to electronic communication services and made tradable in all Member States pursuant to Article 9b of Directive 2002/21/EC, the Commission, in cooperation with Member States and in accordance with the principle of subsidiarity, shall facilitate the identification and sharing of best practices on authorisation conditions and procedures and encourage sharing of information for such bands to increase consistency across the Union, achieved in line with the principles of technology and service neutrality.

Article 5

Competition

1. Member States shall promote effective competition and avoid distortions of competition in the internal market for electronic communications services in accordance with Directives 2002/20/EC and 2002/21/EC. They shall also take into account competition issues when granting rights of use of spectrum to users of private electronic communication networks.

2. In order to promote effective competition for electronic communications services, Member States may adopt inter alia the following measures, which are without prejudice to the application of competition rules and to the measures adopted by Member States in order to achieve a general interest objective in accordance with Article 9(4) of Directive 2002/21/EC.
 - (a) Member States may limit the amount of spectrum for which rights of use are granted to any undertaking or may attach conditions to such rights of use, such as the provision of wholesale access, national or regional roaming, in certain bands or in certain groups of bands with similar characteristics, for instance the bands below 1 GHz allocated to electronic communication services; These additional conditions may only be imposed by the competent National Authorities;
 - (b) Member States may reserve, if appropriate in regard to the situation on the national market, a certain part of a spectrum band or group of bands for assignment to new entrants;
 - (c) Member States may refuse to grant new rights of use or to allow new spectrum usages in certain bands, or may attach conditions to the grant of new rights of use or to the authorisation of new spectrum usages, in order to avoid the distortion of competition by any assignment, transfer or accumulation of rights of use of radio frequencies;
 - (d) Member States may prohibit or impose conditions on transfers of spectrum usage rights, not subject to national or Union merger control, when this is likely to result in significant harm to competition;
 - (e) Member States may amend the existing rights in accordance with Directive 2002/20/EC when this is necessary to remedy ex-post the distortion of competition by any transfer or accumulation of rights of use of radio frequencies.

3. Where Member States wish to adopt any such measures as are referred to in paragraph 2, they shall act in conformity with the procedures for the imposition or variation of such conditions on the rights to use spectrum laid down in Directive 2002/20/EC.
4. Member States shall ensure that authorisation and selection procedures for electronic communications services promote effective competition for the benefit of EU citizens, consumers and businesses.

Article 6

Spectrum for wireless broadband communications

1. Member States, in cooperation with the Commission, shall take all steps necessary to ensure that sufficient spectrum for coverage and capacity purposes is available within the Union, in order to enable the EU to have the fastest broadband speeds in the world, facilitating for ~~that~~ wireless applications and European leadership in new services to contribute effectively to economic growth, and to achieving the target for all citizens to have access to broadband speeds of not less than 30 Mbps by 2020.
2. In order to promote wider availability of wireless broadband services for the benefit of EU citizens and consumers, Member States shall make the bands covered by Commission Decisions 2008/477/EC (2.5–2.69 GHz), 2008/411/EC (3.4–3.8 GHz) and 2009/766/EC (900/1800 MHz) available under terms and conditions described in those decisions. Subject to market demand, Member States shall carry out the authorisation process by 31 December 2012 without prejudice to the existing deployment of services, and under conditions that allow consumers easy access to wireless broadband services.
3. Member States shall foster the ongoing upgrade by providers of electronic communications of their networks to the latest, most efficient technology, in order to create their own dividends in line with the principles of service and technology neutrality.

4. Member States shall, by 1 January 2013 carry out the authorization process in order to allow the use of the 800 MHz band for electronic communications services. In Member States where exceptional national or local circumstances or cross-border frequency coordination problems would prevent the availability of the band in that Member State, the Commission shall authorise specific derogations until the end of 2015 in response to a duly motivated application from the Member State concerned.

If substantiated cross-border frequency coordination problems with one or more countries, including acceding or candidate countries, persist after the end of 2015 and prevent the availability of the 800 MHz band, the Commission shall authorise exceptional derogations on an annual basis until such obstacles are removed.

Where the derogation referred to in the first and second subparagraphs has been granted, the Member State concerned shall ensure that the use of the 800 MHz band shall not prevent the availability of that band for electronic communications services other than broadcasting in the neighbouring Member States.

This paragraph shall also apply to the spectrum co-ordination problems in the Republic of Cyprus arising from the fact that the Government of Cyprus is prevented from exercising effective control in part of its territory.

5. Member States, in cooperation with the Commission shall continuously monitor the capacity requirements for wireless broadband services. On the basis of the results of the analysis referred to in Article 8(4), the Commission shall assess and report by no later than 1 January 2015 whether there is a need for action to harmonise additional spectrum bands.

Member States may ensure that, where appropriate, the direct cost of migration or reallocation of spectrum usage is adequately compensated in accordance with national law and in conformity with EU law.

6. Member States, in cooperation with the Commission, shall promote access to broadband services using the 790-862 MHz (800MHz) band in sparsely populated areas, where appropriate, In doing so, Member States shall examine ways and, where appropriate, take technical and regulatory measures to ensure that the freeing of the 800 MHz band does not adversely affect programme making and special events (PMSE) users.
7. The Commission shall, in cooperation with Member States, assess the justification and feasibility of extending the allocations of unlicensed spectrum for wireless access systems, including radio local area networks.
8. Member States shall allow transferring or leasing of spectrum usage rights in the harmonised bands 790–862 MHz (the "800 MHz band"), 880–915 MHz, 925–960 MHz, 1710–1785 MHz, 1805–1880 MHz, 1900–1980 MHz, 2010–2025 MHz, 2110–2170 MHz, 2.5–2.69 GHz, and 3.4–3.8 GHz.
9. In order to ensure that all citizens have access to advanced digital services including broadband, in particular in remote and sparsely populated areas, Member States and the Commission may explore the availability of sufficient spectrum for the provision of broadband satellite services enabling Internet access.
10. Member States shall, in cooperation with the Commission, examine the possibility of spreading the availability and use of picocells and femtocells. They shall take full account of the potential of those cellular base stations and of shared and unlicensed use of spectrum to provide the basis for wireless mesh networks, which can play a key role in bridging the digital divide.

Article 7

Spectrum needs for other wireless communication policies

In order to support the further development of innovative audiovisual media and other services to Union citizens, taking into account the economic and social benefits of a digital single market, Member States shall, in cooperation with the Commission, aim at ensuring sufficient spectrum availability for satellite and terrestrial provision of such services, provided the need is clearly substantiated.

Article 8

Spectrum needs for other specific Union policies

1. Member States and the Commission shall ensure spectrum availability and protect the radio frequencies necessary for monitoring the Earth's atmosphere and surface, allowing the development and exploitation of space applications and improving transport systems, in particular for the global civil navigation satellite system GALILEO, for the Global Monitoring for Environment and Security programme GMES, and for intelligent transport safety and transport management systems.
2. In cooperation with the Member States, the Commission shall conduct studies which would contribute to a low-carbon policy, by saving energy in the use of spectrum as well as consider making spectrum available for wireless technologies with a potential for improving energy saving and efficiency of other distribution networks such as water supply, including smart energy grids and smart metering systems.
3. The Commission shall, in cooperation with the Member States seek to ensure that sufficient spectrum is made available under harmonised conditions to support the development of safety services and the free circulation of related devices as well as the development of innovative interoperable solutions for public safety and protection, civil protection and disaster relief.

4. Member States and the Commission shall collaborate with; the scientific and academic community; to identify a number of research and development initiatives and innovative applications that may have a major socio-economic impact and/or potential for investment and consider the spectrum needs of such applications and, where necessary, consider the allocation of sufficient spectrum to such applications under harmonised technical conditions and the least onerous administrative burden.
5. Member States shall, in cooperation with the Commission, seek to ensure the necessary frequency bands for PMSE, according to the Union's objectives to improve the integration of the internal market and access to culture.
6. Member States and the Commission shall seek to ensure spectrum availability for radio-frequency identification (RFID) and other Internet of Things (IOT) wireless communication technologies and shall cooperate to foster the development and harmonisation of standards regarding spectrum allocation for IOT communication across Member States.

Article 9

Inventory

1. The inventory of existing uses of spectrum (both for commercial and public purposes) is hereby established.

The inventory shall serve the following objectives:

- (a) to allow to identify spectrum bands where efficiency of existing spectrum uses could be improved;
- (b) to help to identify spectrum bands that could be suitable for re-allocation and spectrum sharing opportunities in order to support Union policies set out in this Decision, while taking into account future needs for spectrum based, inter alia, on consumers' and operators' demands, and of the possibility to meet such needs;

- (c) to help to analyse the various types of spectrum usage by both private and public users;
 - (d) to help to identify spectrum bands that could be allocated or re-allocated in order to improve their efficient use, promote innovation and enhance competition in the internal market, to explore new ways for spectrum sharing, to the benefit of both private and public users, while taking into account the potential positive and negative impact on existing users of such bands and of adjacent bands.
2. For the purposes of ensuring the uniform implementation of paragraph 1, the Commission, taking utmost account of the views of the RSPG, shall adopt the following implementing acts by 1 July 2013:
- (a) to develop practical modalities and uniform formats for the collection and provision of data by the Member States to the Commission on the existing uses of spectrum, provided that the business confidentiality rules under Article 8 of the Spectrum Decision and the right of Member States to withhold confidential information are respected, taking into account the aim to minimise the administrative burden and existing obligations upon the Member States under other Union provisions, in particular to provide specific information;
 - (b) to develop a methodology for an analysis of technology trends, future needs and demand for spectrum in Union policy areas covered by this Decision, in particular for those services which could operate in the range from 400 MHz to 6 GHz, in order to identify developing and potential significant uses of spectrum;

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 11a(2).

3. The Commission shall administer the inventory referred to in paragraph 1 in accordance with implementing acts under paragraph 2.

4. The Commission shall conduct the analysis of technology trends, future needs and demand for spectrum in accordance with the implementing acts referred to in point (b) of paragraph 2. The Commission shall submit to the European Parliament and to the Council a report about the results of this analysis.

Article 10

International negotiations

1. In international negotiations relating to spectrum matters, the following principles shall apply :
 - (a) if the subject matter of the international negotiations falls into Union competence, the Union position shall be established in accordance with the Union law;
 - (b) if the subject matter of the international negotiations falls partly into Union competence and partly into the Member States' competence, the Union and the Member States shall seek to establish a common position in accordance with the requirements of the principle of sincere cooperation;

For the purpose of the application of point (b) of the first subparagraph, the Union and the Member States shall cooperate in accordance with the principle of unity in the international representation of the Union and its Member States.

2. The Union shall, upon request, assist Member States with legal, political and technical support to resolve spectrum coordination issues with Union neighbouring countries, including candidate and acceding countries, in such a way that the Member States concerned can respect their obligations under Union law. In the provision of such assistance, the EU shall use all its legal and political powers to promote the implementation of EU policies.

The Union shall also support efforts by third countries to implement spectrum management that is compatible with that of the Union, so as to safeguard Union spectrum policy objectives.

3. When negotiating with third countries in a bilateral or multilateral environment, Member States shall be bound by their obligations under Union law. When signing or otherwise accepting any international obligations regarding spectrum, Member States shall accompany their signature or any other act of acceptance by a joint declaration stating that they shall implement such international agreements or commitments in accordance with their obligations under the treaties.

Article 11

Cooperation among various bodies

1. The Commission and the Member States shall cooperate to enhance the current institutional setting, in order to foster co-ordination at Union level of the management of spectrum, including in matters directly affecting two or more Member States, with a view to developing the internal market and ensuring that Union spectrum policy objectives are fully achieved.
2. The Commission and Member States shall encourage standardisation bodies, CEPT, the Commission's Joint Research Centre and all relevant parties to closely cooperate in technical issues to promote the efficient use of spectrum. To this end, they shall maintain a coherent link between spectrum management and standardisation in such a way as to enhance the internal market.

Article 12

Public consultation

Wherever appropriate, the Commission shall organise public consultations to collect the views of all interested parties as well as the views of the public in general on the use of spectrum in the Union.

Article 13

Committee procedure

1. The Commission shall be assisted by the Radio Spectrum Committee established by Decision 676/2002/EC. That committee shall be a committee within the meaning of Regulation 182/2011.
2. Where reference is made to this paragraph, Article 5 of Regulation 182/2011 shall apply. Where the committee delivers no opinion, the Commission shall not adopt the draft implementing act and the third subparagraph of Article 5(4) of Regulation 182/2011 shall apply.

Article 14

Reporting

By 31 December 2015, the Commission shall conduct a review of the application of this radio spectrum policy programme. The Commission shall report to the European Parliament and the Council on the activities developed and the measures adopted pursuant to this Decision, not later than two years after entry into force of this Decision.

Article 15

Notification

Member States shall apply these policy orientations and objectives by 1 July 2015 unless otherwise specified in the preceding articles.

They shall provide the Commission with all information necessary for the purpose reviewing the application of this Decision.

Article 16

Entry into force

This Decision shall enter into force on the 20th day following that of its publication in the *Official Journal of the European Union*.

For the European Parliament

The President

For the Council

The President