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THE EUROPEAN PARLIAMENT

THE COUNCIL

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**DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
ESTABLISHING A MULTI-ANNUAL RADIO SPECTRUM POLICY PROGRAMME**

DECISION No .../2012/EU
OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 14 March 2012

establishing a multi-annual radio spectrum policy programme

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, 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,

After consulting the Committee of the Regions,

Acting in accordance with the ordinary legislative procedure²,

¹ OJ C 107, 6.4.2011, p. 53.

² Position of the European Parliament of 11 May 2011 (not yet published in the Official Journal) and position of the Council at first reading of 13 December 2011 (OJ C 46 E, 17.2.2012, p.1). Position of the European Parliament of 15 February 2012 (not yet published in the Official Journal).

Whereas:

- (1) In accordance with 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)¹, the Commission may submit legislative proposals to the European Parliament and Council for establishing multiannual radio spectrum policy programmes. Those programmes should set 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. Those policy orientations and objectives should refer to the availability and efficient use of the spectrum necessary for the establishment and functioning of the internal market. The Radio Spectrum Policy Programme (hereinafter 'the Programme') should support the goals and key actions outlined in the Commission Communication of 3 March 2010 on the Europe 2020 Strategy and the Commission Communication of 26 August 2010 on 'A Digital Agenda for Europe', and is included among the 50 priority actions of the Commission Communication of 11 November 2010, 'Towards a Single Market Act'.

¹ OJ L 108, 24.4.2002, p. 33.

- (2) This Decision should be without prejudice to existing Union law, in particular 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 conformity¹, Directive 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)², Directive 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)³, Directive 2002/21/EC 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)⁴. This Decision should also be without prejudice to measures taken at national level, in compliance with Union law, that 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 for defence.

¹ OJ L 91, 7.4.1999, p. 10.

² OJ L 108, 24.4.2002, p. 7.

³ OJ L 108, 24.4.2002, p. 21.

⁴ OJ L 108, 24.4.2002, p. 1.

- (3) 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 alarms, 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 remote and sparsely populated 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.
- (4) A renewed economic and social approach with regard to the management, allocation and use of spectrum should be adopted. That approach 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.

- (5) The strategic planning and harmonisation of spectrum use at Union level should enhance the internal 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.
- (6) The harmonisation of appropriate spectrum use can also be beneficial to the quality of the services provided through electronic communications, and is essential in order to create economies of scale, lowering both the cost of deploying wireless networks and the cost of wireless devices for consumers. To that end, the Union 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 audiovisual policies.
- (7) The Programme should promote competition and contribute to laying the foundation for a genuine single digital market.

- (8) The Programme should, in particular, support the Europe 2020 Strategy, given the huge potential of wireless services to promote a knowledge-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 Europe, which aims to deliver fast broadband internet in the future network- and knowledge-based 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 access to broadband at a speed of not less than 30 Mbps for all by 2020 with at least half of Union households having access to broadband 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 single digital 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, the Programme is also a key initiative in support of Union policies on innovation.

- (9) The 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 single digital market working to open up the internal market for all Union citizens.
- (10) The Programme should specify guiding principles and objectives up to 2015 for Member States and institutions of the Union, 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.
- (11) The Programme should also take into account Decision No 676/2002/EC and the technical expertise of the European Conference of Postal and Telecommunications Administrations (hereinafter 'CEPT') so that Union policies which rely on spectrum and have been agreed by the European Parliament and the Council can be implemented by technical implementing measures, noting that such measures can be taken whenever necessary to implement already existing Union policies.

- (12) Easy access to spectrum may require innovative types of authorisation such as collective use of spectrum, or infrastructure sharing, the application of which in the Union could be facilitated by identifying best practices and encouraging information sharing, as well as by defining certain common or converging conditions for the use of spectrum. General authorisations, which are the least onerous type of authorisation, are of particular interest where interference does not risk hampering the development of other services.
- (13) While technologically still in development, so-called "cognitive technologies" should already be further explored, including by facilitating sharing based on geolocalisation.
- (14) Spectrum rights trading combined with flexible usage conditions could substantially benefit economic growth. Therefore, bands where flexible use has already been introduced by Union law should immediately be made tradable pursuant to Directive 2002/21/EC. The sharing of best practices on authorisation conditions and procedures for such bands and common measures to prevent accumulation of rights of use of spectrum which may create dominant positions, as well as undue failure to use such rights, 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 with regard to electronic communications networks and services.

- (15) 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 not economically viable. 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 rights of use of spectrum, 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 rights of use of spectrum, to impose conditions on spectrum hoarding and efficient use such as those referred to in Directive 2002/21/EC, to limit the amount of spectrum available for each undertaking, or to avoid excessive accumulation of rights of use of spectrum) to avoid distortions of competition in line with the principles underpinning Directive 2002/20/EC and Council Directive 87/372/EEC of 25 June 1987 on the frequency bands to be reserved for the coordinated introduction of public pan-European cellular digital land-based mobile communications in the Community¹ (the "GSM" Directive).

¹ OJ L 196, 17.7.1987, p. 85.

- (16) The establishment of an inventory of existing spectrum use together with an analysis of technology trends, future needs and demand for spectrum, in particular between 400 MHz and 6 GHz, should allow the identification of frequency bands in which efficiency could be improved, and of spectrum-sharing opportunities, to the benefit of both the commercial and public sectors. The methodology for establishing and maintaining an inventory of existing uses of spectrum should take due account of the administrative burden placed on the administrations and should aim to minimise that burden. Therefore, the information provided by the Member States pursuant to Commission Decision 2007/344/EC of 16 May 2007 on harmonised availability of information regarding spectrum use within the Community¹ should be taken fully into account when developing the methodology for establishing an inventory of existing uses of spectrum.
- (17) Harmonised standards under Directive 1999/5/EC are essential to achieve efficient use of spectrum 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 presents a challenge to current approaches to interference management. These should therefore be examined and reassessed together with receiver characteristics and more sophisticated interference avoidance mechanisms.

¹ OJ L 129, 17.5.2007, p. 67.

- (18) Member States should be allowed, where appropriate, to introduce compensatory measures relating to migration costs.
- (19) In line with the objectives of the Digital Agenda for Europe, wireless broadband could contribute substantially to economic recovery and growth if sufficient spectrum were made available, rights of use of spectrum were awarded quickly, and trading were allowed to adapt to market evolution. The Digital Agenda for Europe calls for all Union citizens to have access to broadband at a speed of at least 30 Mbps by 2020. Therefore, the spectrum that has already been covered by existing Commission Decisions should be made available under the terms and conditions of those Decisions. Subject to market demand, the authorisation process should be carried out in accordance with Directive 2002/20/EC by 31 December 2012 for terrestrial communications, to ensure easy access to wireless broadband for all, in particular within frequency bands designated by Commission Decisions 2008/411/EC¹, 2008/477/EC², and 2009/766/EC³. In order to complement terrestrial broadband services and ensure the coverage of most remote Union areas, satellite broadband access could be a fast and feasible solution.
- (20) More flexible arrangements governing the use of spectrum 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.

¹ Commission Decision 2008/411/EC of 21 May 2008 on the harmonisation of the 3400 - 3800 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community (OJ L 144, 4.6.2008, p. 77.).

² Commission Decision 2008/477/EC of 13 June 2008 on the harmonisation of the 2500 - 2690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community (OJ L 163, 24.6.2008, p. 37.).

³ Commission Decision 2009/766/EC of 16 October 2009 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 (OJ L 274, 20.10.2009, p. 32.).

- (21) Having nearly 500 million people connected to high-speed broadband in Europe would contribute to the development of the internal market, creating a globally unique critical mass of users exposing all regions to new opportunities, giving each user increased value and giving the Union the capacity to be a world-leading knowledge-based economy. The rapid deployment of broadband is therefore 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.
- (22) In 2006, the International Telecommunication Union (ITU) estimated 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) would be between 1280 and 1720 MHz in 2020 for the commercial mobile industry for each ITU region including Europe. It should be noted that the lower figure (1280 MHz) is higher than the requirements for some countries. In addition, there are some countries in which the requirement is larger than the higher figure (1720 MHz). Both these figures include the spectrum already in use, or planned to be used, for Pre-IMT systems, IMT-2000 and its enhancements. Without freeing up the spectrum required, preferably in a harmonised way at global level, new services and economic growth will be hindered by capacity constraints in mobile networks.

- (23) The 800 MHz band (790-862 MHz) 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 the Commission Recommendation of 28 October 2009 facilitating the release of the digital dividend in the European Union¹ calling for analogue broadcasting to be switched off by 1 January 2012, and given rapid national regulatory developments, that band should in principle be made available for electronic communications services in the Union by 2013. In the longer term, additional spectrum could also be envisaged in the light of the results of an 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.
- (24) 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 that sector.
- (25) Wireless access systems, including radio local area networks, may outgrow their current allocations on an unlicensed basis. The need for and feasibility of extending the allocations of unlicensed spectrum for wireless access systems, including radio local area networks, at 2,4 GHz and 5 GHz, should be assessed in relation to the inventory of existing uses of, and emerging needs for, spectrum, and depending on the use of spectrum for other purposes.

¹ OJ L 308, 24.11.2009, p. 24.

- (26) While broadcasting will remain an important platform for distributing 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.
- (27) In order to focus on the priorities of the multi-annual Programme, Member States and the Commission should cooperate to support and achieve the 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 those services to be widely available.
- (28) Since a common approach and economies of scale are key to developing broadband communications throughout the Union and to preventing competition distortion and market fragmentation among Member States, certain best practices on authorisation conditions and procedures should be identified in concerted action among Member States and with the Commission. Such conditions and procedures could include coverage obligations, spectrum block size, the timing of granting rights, access to mobile virtual network operators and the duration of rights of use of spectrum. Reflecting the importance of spectrum trading for increasing efficient use of spectrum and developing the internal market for wireless equipment and services, those conditions and procedures should apply to frequency bands that are allocated to wireless communications, and for which rights of use may be transferred or leased.

- (29) Additional spectrum might be needed by other sectors such as transport (for safety, information and management systems), research and development (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 a quick and 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 for Research, Technological Development and Demonstration Activities (2007 to 2013) require the examination of the spectrum needs of projects that might have a large economic or investment potential, in particular for SMEs, such as cognitive radio or e-health. Adequate protection against harmful interference should also be ensured to sustain R&D and scientific activities.
- (30) The Europe 2020 Strategy sets environmental objectives for a sustainable, energy-efficient and competitive economy, for example by improving energy efficiency by 20 % by 2020. The information and communication technology 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.

- (31) A coherent approach to spectrum authorisation in the Union should take full account of the protection of public health against electromagnetic fields which is essential for citizens' well-being. While observing Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)¹, 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.
- (32) Essential general interest objectives such as the 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 movement of safety services and devices and the development of 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 PPDR across the Union in the next five to ten years.

¹ OJ L 199, 30.7.1999, p. 59.

- (33) 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.
- (34) According to the relevant case law of the Court of Justice of the European Union, where the subject matter of an international agreement falls partly within the competence of the Union and partly within the competence of the Member States, it is essential to ensure close cooperation between the Member States and the institutions of the Union. That obligation to cooperate, as clarified in well established case law, flows from the principle of unity in the international representation of the Union and its Member States.
- (35) Member States might also need support on frequency coordination in bilateral negotiations with countries neighbouring the Union, including candidate and acceding countries, to meet their obligations under Union law on frequency coordination issues. This should also help avoid harmful interference and improve spectrum efficiency and convergence in spectrum use even beyond Union borders.
- (36) To realise the objectives of this Decision it is important to enhance the current institutional framework for the coordination of spectrum policy and management at the level of the Union, 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 CEPT.

- (37) 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 powers¹.
- (38) Since the objective of this Decision, namely to establish a multi-annual radio spectrum policy programme, cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale of the proposed action, be better achieved at the level of the Union, the Union may adopt measures in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality as set out in that Article, this Decision does not go beyond what is necessary in order to achieve that objective.
- (39) 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.
- (40) In drawing up its proposal the Commission has taken utmost account of the opinion of the Radio Spectrum Policy Group established by Commission Decision 2002/622/EC of 26 July 2002²,

HAVE ADOPTED THIS DECISION:

¹ OJ L 55, 28.2.2011, p. 13.

² OJ L 198, 27.7.2002, p. 49.

Article 1
Aim and scope

1. This Decision establishes a multi-annual 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 audiovisual policies.

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

2. This Decision is without prejudice to existing Union law, in particular to Directives 1999/5/EC, 2002/20/EC and 2002/21/EC, and subject to Article 6 of this Decision, to Decision No 676/2002/EC, and to measures taken at national level, in compliance with Union law.

3. This Decision is without prejudice to measures taken at national level in full compliance with Union law, which pursue objectives of general interest, 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 for defence. Where this Decision or measures adopted thereunder in the frequency bands specified in Article 6 affect spectrum used by a Member State exclusively and directly for its public security or defence purposes, the Member State may, to the extent necessary, continue to use that frequency band for public security and defence purposes until the systems existing in the band at the date of the entry into force of this Decision or of a measure adopted thereunder, respectively, 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 use. 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 Union-wide digital services and by 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) defining the technical conditions of the use of spectrum, taking full account of relevant Union 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 of this Article, 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 rights of use of spectrum for electronic communications networks and services and the transfer or lease of individual rights of use of 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 Decision, Member States and the Commission shall cooperate to support and achieve 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; to that end, every effort should be made to identify, based on the inventory established pursuant to Article 9, at least 1200 MHz of suitable spectrum by 2015. That 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 for 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 those 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 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 for new advanced technologies, and through the possibility of trading rights of use of spectrum, thereby creating opportunities for future Union-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;

- (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, the excessive accumulation of rights of use of radio frequencies by certain undertakings 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 the level of the Union by enhancing the 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 the efficient use of spectrum, and by 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 to secure efficient use of the digital dividend;
- (m) reduce the Union's carbon footprint by enhancing the technical efficiency and energy efficiency of wireless communication networks and equipment.

Article 4
Enhanced efficiency and flexibility

1. Member States, in cooperation with the Commission, shall, where appropriate, foster 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, in order to promote innovation and investment, through the possibility of using new technologies and through the transfer or lease of rights of use of spectrum.

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 in new technologies such as cognitive technologies and geolocation databases.

5. Member States shall put in place, where appropriate, selection criteria and procedures for granting rights of use of spectrum that promote competition, investment and the efficient use of spectrum as a public good, as well as promoting coexistence between new and existing services and devices. Member States shall promote the ongoing efficient use of spectrum for networks, devices and applications.
6. Where necessary in order to ensure the effective use of rights of use of spectrum and avoid spectrum hoarding, Member States may consider taking appropriate measures, such as financial penalties, incentive fees tools or the withdrawal of rights. Such measures shall be established and applied in a transparent, non-discriminatory and proportionate manner.
7. For electronic communications services, Member States shall, by 1 January 2013, adopt allocation and authorisation measures appropriate for the development of broadband services, in conformity with Directive 2002/20/EC, with the aim of achieving the highest possible capacity and broadband speeds.
8. In order to avoid the possible fragmentation of the internal market due to divergent selection criteria and procedures for harmonised spectrum allocated to electronic communication services and made tradable in all Member States pursuant to Article 9b of Directive 2002/21/EC, the Commission shall, in cooperation with Member States and in accordance with the principle of subsidiarity, facilitate the identification and sharing of best practices on authorisation conditions and procedures and encourage sharing of information for such spectrum 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 shall 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. For the purposes of the first subparagraph of paragraph 1 and without prejudice to the application of competition rules and to the measures adopted by Member States in order to achieve general interest objectives in accordance with Article 9(4) of Directive 2002/21/EC, Member States may adopt, inter alia, measures:
 - (a) limiting the amount of spectrum for which rights of use are granted to any undertaking, or attaching 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. Such additional conditions may be imposed only by the competent national authority;
 - (b) reserving, if appropriate in regard to the situation in the national market, a certain part of a frequency band or group of bands for assignment to new entrants;

- (c) refusing to grant new rights of use of spectrum or to allow new spectrum uses in certain bands, or attaching conditions to the grant of new rights of use of spectrum or to the authorisation of new spectrum uses, in order to avoid the distortion of competition by any assignment, transfer or accumulation of rights of use;
 - (d) prohibiting or imposing conditions on transfers of rights of use of spectrum, not subject to national or Union merger control, where such transfers are likely to result in significant harm to competition;
 - (e) amending the existing rights in accordance with Directive 2002/20/EC where 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 measures referred to in paragraph 2 of this Article, they shall act in conformity with the procedures for the imposition or variation of such conditions on the rights of use of spectrum laid down in Directive 2002/20/EC.
4. Member States shall ensure that the authorisation and selection procedures for electronic communications services promote effective competition for the benefit of citizens, consumers and businesses in the Union.

Article 6

Spectrum needs for wireless broadband communications

1. Member States shall, in cooperation with the Commission, take all steps necessary to ensure that sufficient spectrum for coverage and capacity purposes is available within the Union, in order to enable the Union to have the fastest broadband speeds in the world, thereby making it possible for 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 citizens and consumers in the Union, Member States shall make the bands covered by Decisions 2008/411/EC (3,4–3,8 GHz), 2008/477/EC (2,5–2,69 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 spectrum dividends in line with the principles of service and technology neutrality.

4. By 1 January 2013, Member States shall carry out the authorisation process in order to allow the use of the 800 MHz band for electronic communications services.

The Commission shall grant specific derogations until 31 December 2015 for Member States in which exceptional national or local circumstances or cross-border frequency coordination problems would prevent the availability of the band, acting upon a duly substantiated application from the Member State concerned.

If a Member State's substantiated cross-border frequency coordination problems with one or more countries, including candidate or acceding countries, persist after 31 December 2015 and prevent the availability of the 800 MHz band, the Commission shall grant exceptional derogations on an annual basis until such problems are overcome.

Member States to which a derogation has been granted under the first or second subparagraph shall ensure that the use of the 800 MHz band does not prevent the availability of that band for electronic communications services other than broadcasting in neighbouring Member States.

This paragraph shall also apply to the spectrum coordination 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 shall, in cooperation with the Commission, continuously monitor the capacity requirements for wireless broadband services. On the basis of the results of the analysis referred to in Article 9(4), the Commission shall assess and report to the European Parliament and the Council by 1 January 2015 on whether there is a need for action to harmonise additional frequency bands.

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

6. Member States shall, in cooperation with the Commission, promote access to broadband services using the 800MHz band in remote and 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 the transfer or leasing of rights of use of spectrum in the harmonised bands 790–862 MHz, 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 the 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 single digital market, Member States shall, in cooperation with the Commission, aim at ensuring there is sufficient spectrum available for satellite and terrestrial provision of such services, if 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 established under the Galileo programme¹, for the European Earth monitoring programme (GMES)², and for intelligent transport safety and transport management systems.
2. The Commission shall , in cooperation with the Member States, conduct studies on saving energy in the use of spectrum in order to contribute to a low-carbon policy, and shall 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.

¹ Regulation (EC) No 683/2008 of the European Parliament and of the Council of 9 July 2008 on the further implementation of the European satellite navigation programmes (EGNOS and Galileo) (OJ L 196, 24.7.2008, p. 1).

² Regulation (EU) No 911/2010 of the European Parliament and of the Council of 22 September 2010 on the European Earth monitoring programme (GMES) and its initial operations (2011 to 2013) (OJ L 276, 20.10.2010, p. 1).

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 with the least onerous administrative burden.
5. Member States shall, in cooperation with the Commission, seek to ensure the necessary frequency bands for PMSE, in accordance with 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 of standards and the harmonisation of spectrum allocation for IoT communication across Member States.

Article 9

Inventory

1. An inventory of existing uses of spectrum, for both commercial and public purposes is hereby established.

The objectives of the inventory shall be:

- (a) to allow the identification of frequency bands in which the efficiency of existing spectrum uses could be improved;
- (b) to help identify frequency 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' demand, and of the possibility to meet such needs;
- (c) to help analyse the various types of use of the spectrum by both private and public users;
- (d) to help identify frequency 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 sharing spectrum, to the benefit of both private and public users, while taking into account the potential positive and negative impact of allocation or re-allocation of such bands and of adjacent bands on existing users.

2. For the purposes of ensuring the uniform implementation of paragraph 1 of this Article, the Commission, taking utmost account of the views of the Radio Spectrum Policy Group, shall adopt implementing acts by 1 July 2013:

- (a) to develop practical arrangements 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 Decision No 676/2002/EC and the right of Member States to withhold confidential information are observed, taking into account the aim of minimising the administrative burden and existing obligations on the Member States under other Union law, in particular obligations to provide specific information;
- (b) to develop a methodology for the 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 frequency 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 13(2).

3. The Commission shall administer the inventory referred to in paragraph 1 in accordance with the implementing acts referred to in 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 on the results of that 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 within the competence of the Union, the Union position shall be established in accordance with Union law;
 - (b) if the subject matter of the international negotiations falls partly within the competence of the Union and partly within the competence of the Member States, 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 applying 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 countries neighbouring the Union, including candidate and acceding countries, in such a way that the Member States concerned can observe their obligations under Union law. In the provision of such assistance, the Union shall use all its legal and political powers to promote the implementation of Union 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 the spectrum policy objectives of the Union.

3. When negotiating bilaterally or multilaterally with third countries, 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 will implement such international agreements or commitments in accordance with their obligations under the Treaty on European Union and the Treaty on the Functioning of the European Union.

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 coordination at the level of the Union 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 the Union's 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 cooperate closely in technical issues to promote the efficient use of spectrum. To that 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 No 676/2002/EC. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.
2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 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 (EU) No 182/2011 shall apply.

Article 14

Compliance with policy orientations and objectives

Member States shall apply the policy orientations and objectives set out in this Decision by 1 July 2015 unless otherwise specified herein.

Article 15
Reporting and review

By ...^{*}, the Commission shall report to the European Parliament and the Council on the activities developed and the measures adopted pursuant to this Decision.

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

By 31 December 2015, the Commission shall conduct a review of the application of this Decision.

Article 16
Entry into force

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

^{*} OJ: please insert the date: two years after the entry into force of this Decision.

Article 17
Addressees

This Decision is addressed to the Member States.

Done at Strasbourg,

For the European Parliament
The President

For the Council
The President