

ECC Newsletter August 2020

Electronic Communications Committee adopts new strategic plan

Recognising an ever-growing demand for electronic communications services, the ECC Strategic Plan 2020-2025 looks to key issues for the sector over the next five years.

The Electronic Communications Committee (ECC) has adopted a new Strategic Plan for the period 2020-2025. This plan, which was accepted at the Plenary meeting in July, builds on earlier versions which covered the periods 2010-2015 and 2015-2020. It provides a high-level and easily accessible overview of the anticipated themes and key issues for the ECC over the next five years.

The new ECC Strategic Plan recognises the rapidly increasing demand for electronic communications services. It notes that new and diverse applications and services are constantly being developed which require access to one or more of the scarce resources managed under the guidance of ECC policies and regulatory measures. It sets out the primary mission of the ECC as enabling the efficient, effective and harmonised use of the radio spectrum, satellite orbits and numbering resources across Europe.

To achieve this mission, the Strategic Plan explains that the ECC will develop common proposals, policies and regulations consistent with cross-cutting and strategic principles as follows:

- The benefits that spectrum sharing, where technically feasible, can deliver in terms of facilitating effective and efficient use of spectrum, and promoting innovation in both licensed and unlicensed bands. The ECC will consider opportunities to promote spectrum sharing through its technical and regulatory work, including when undertaking compatibility analyses and defining coexistence conditions.
- The need to define appropriate parameters for both transmitters and receivers in co-channel bandwidth and in adjacent frequency bands. The ECC is committed to developing and/or updating relevant ECC Recommendations on appropriate characterisations of both transmitters and receivers and will intensify its co-operation with ETSI, Europe's leading standards development organisation in this field, in order to support efficient use of spectrum and spectrum sharing.
- The need to balance the diverse interests of all the different users of spectrum. The ECC will establish technical co-existence conditions for access to spectrum for new technologies and services – balancing the interests of incumbents and new entrants as appropriate – in order to facilitate optimal use of the spectrum and orbital resource.
- Ensuring non-discriminatory access to numbering and network resources, for both traditional operators and new entrants. The ECC will develop harmonised policies that promote non-discriminatory and technology-neutral access to scarce numbering resources. This will promote competition, foster innovation, ensure consumer protection and facilitate the continued evolution to high capacity networks of the future.

These principles will guide the work of the ECC over the next five years. The Strategic Plan also recognises that new technologies – including Artificial Intelligence and Blockchain – are emerging, as well as a range of other factors, which may influence how it manages the spectrum and numbering resource in the future. This includes issues related to global connectivity, cyber security, end-user protection, public safety and environmental considerations, including climate change.

A detailed description of the specific work items being addressed by the ECC is set out in the [ECC Work Programme](#). While this list of work items is long and diverse, the ECC has identified some topics which are particularly important and which embrace much of its key work in the medium term. These are:

- Reviewing future use of the UHF band (470-960 MHz);
- Wireless broadband and connectivity;
- Issues relating to general authorisations and licence-exempt use of spectrum;
- New initiatives and innovations, such as next generation satellite systems, which require technical and/or regulatory conditions;
- New business models, applications and services which emerge and require that sufficient numbering resources are made available;

- Number portability, ease of switching, end-user protection, public safety and building trust in electronic communications.

The ECC Strategic Plan sets out how the ECC will work collaboratively with a range of partner organisations – including the European Commission, ETSI and the International Telecommunication Union (ITU)– in taking forward its work and sharing best practice and knowledge. It also explains how the ECC will, with support from the European Communications Office, work more broadly with stakeholders in order to communicate and publicise ongoing activities. This includes conducting public consultations on all draft deliverables, organising workshops and exploring relationships with universities, scientific institutes and European research programmes, as well as maintaining and developing the EFIS database.

The ECC Strategic Plan is expected to be sufficiently high-level to remain relevant as technologies and markets develop over the next five years. It will, however, be subject to a mid-term review which will provide an opportunity to track progress against the plan and consider any amendments that may be necessary to ensure its continued relevance and usefulness.

The new ECC Strategic Plan is available at <https://cept.org/ecc/ecc-strategic-plan>.

Chris Woolford
ECC Chairman

CEPT begins the build-up to the 2023 World Radiocommunication Conference

Preparation is key ahead of the next World Radiocommunication Conference where administrators from across the globe will make hugely impactful decisions on the future of spectrum management.

The next World Radiocommunication Conference (WRC-23) will once again bring together thousands of spectrum and satellite orbit administrators. Their decisions will affect not just the entire information and communication sector but millions of people across the globe

Any outcomes arising from WRC-23 will need to ensure that society benefits and takes full advantage of both existing and upcoming technological innovations without disrupting the radiocommunications services currently provided to people worldwide. The quality of these decisions will depend on the quality of the studies conducted in the preparatory period before the conference.

WRC-23 agenda from the CEPT perspective

The agenda of the next conference has been compiled to a large extent following proposals from CEPT. In particular, 13 of 19 agenda items originate fully or partially from European Common Proposals to WRC-19. Therefore, many agenda items for WRC-23 are significant for CEPT.



Generally speaking, the whole agenda of WRC-23 falls broadly into four categories of issues: mobile broadband, satellite, transport and science.

It has become a tradition that the conferences deal with **mobile** broadband questions; the next conference is not an exception. However, except for the issue of UHF review, none of the questions in the mobile chapter of the conference have been suggested by CEPT. Nonetheless, CEPT will need to deal with agenda items on mobile thoroughly, especially because some bands in the middle frequency range are suggested for International Mobile Telecommunications (IMT) identification only in Region 1.

Another broad category of agenda items deals with **satellite** questions. Some of these aim to enhance the usage of existing satellite spectrum allocations, while others look for more spectrum for satellites. CEPT will certainly contribute to the related studies as all but one of these agenda items will come from European proposals to the conference. For example, when it comes to earth stations on aircraft and vessels communicating with geostationary space stations in the Ku-band, CEPT will seek that European harmonisation is extended at global level – we already have the corresponding ECC Decision (19)04. The same aspiration regards non-geostationary fixed-satellite service earth stations in motion in the Ka-band. Here, CEPT will work to mirror globally the requirements provided in ECC Decision (15)04. One cannot but mention also the protection of Galileo, the European global navigation satellite system, from amateur emissions in the 1240-1300 MHz range.

A number of items on the agenda of WRC-23 deal with aeronautical and maritime services, which can be designated as **transport** issues. On some of these agenda items CEPT has common interests with other regional organisations. An example is the usage of unmanned aircraft systems, where the technical and regulatory requirements are important for safety-of-flight operation. Some other agenda items on the transport chapter of the conference, including non-safety aeronautical applications, started out as purely CEPT proposals but have gained support from other regional organisations.

The fourth group of agenda items deals with **science** issues. CEPT is interested in, and supportive of, studies into the appropriate recognition of space weather sensors in the Radio Regulations. Furthermore, the identification of an appropriate regulatory solution for the agenda item on the Earth Exploration Satellite Service (passive) allocations around 250 GHz would be an important contribution to the Ice Cloud Imaging mission of EUMETSAT, the European Organisation for the Exploitation of Meteorological Satellites.

Tackling the issues at WRC-23

Of the many issues to be discussed at WRC-23, two are likely to be highly contentious and time-consuming.

Agenda item 1.5 calls for a review in Region 1 of the spectrum use and spectrum needs primarily of broadcasting and mobile services within the UHF frequency band 470-960 MHz. In fact, since WRC-2000, every second conference has taken a part of the UHF band and identified it for IMT: the so-called 900 MHz band in 2000, the 800 MHz band in 2007

and the 700 MHz band in 2015. One may recall the intense debates at WRC-15 following the proposal from some countries to identify the band below 694 MHz for IMT. On that occasion the conference took the wise decision to postpone the related discussion and resolution until 2023.

Unquestionably, a lot is at stake under this agenda item, especially for the broadcasting community – the terrestrial delivery of audio-visual content is still an important platform across the globe and in many European countries in particular. Nevertheless, if we find the way for real practical coexistence between broadcasting and mobile services, the discussions at the conference should converge quicker to a decision. In this respect, we may refer to and leverage the studies conducted by the ECC Task Group 6 and documented in ECC Report 224. Those studies revealed the feasibility of coexistence between broadcasting and mobile downlink networks and could be a starting point for this agenda item.

Another prominent issue at the next conference will be **agenda item 1.2**, which looks for IMT identification in certain bands of the middle frequency range. As far as Europe is concerned, the band 6425-7025 MHz, also referred as the C-band, is the focus. Different aspects will need to be considered and resolved in order to ease discussions at the conference.

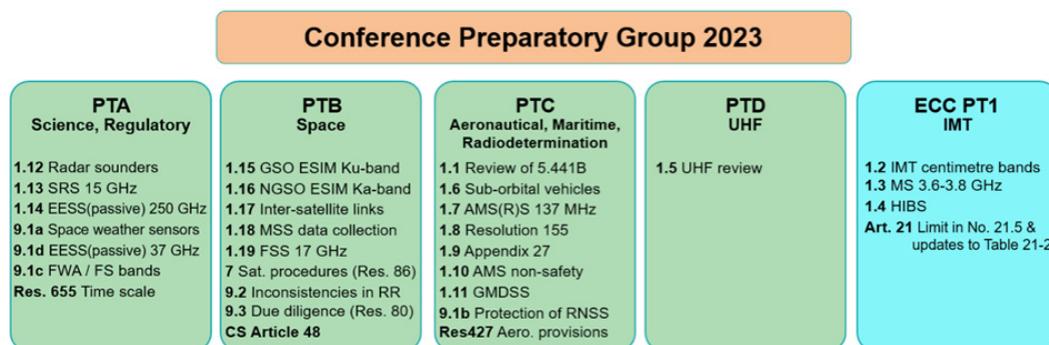
First, the protection of existing services, including the fixed and fixed-satellite services, should be studied. Noting that the co-existence between fixed and mobile services is primarily a national issue, the main effort must be focused on ensuring protection of the fixed-satellite service. Conceptually, the compatibility between IMT and the fixed-satellite service was already studied ahead of WRC-15 under agenda item 1.1 – it considered possible additional IMT identification in several bands. Those studies showed that sharing with C-band, fixed-satellite services would impose additional requirements on IMT stations – such as restricting IMT deployment to indoor and limiting the maximum emitted power of IMT base stations. However, IMT technology has advanced since 2015 and further mitigation improvements might be expected.

Another important element which puts an additional complexity to the studies is that the band 6725-7025 MHz serves for the uplink fixed-satellite service transmissions in Appendix 30B of the Radio Regulations. So, one would touch the planned satellite bands, which has always been a delicate issue in ITU Radiocommunication Sector (ITU-R). It is also necessary to mention the technology competition for the use of the band between IMT and wireless access systems, including radio local area networks. They would certainly add indirectly a further political flavour into the discussions under this agenda item.

The ECC prepares for WRC-23

The [ECC Conference Preparatory Group \(CPG\)](#) has made a successful start to CEPT preparations for WRC-23, making full use of the electronic working arrangements developed by the ECC. In particular, due to the COVID-19 pandemic and the inability to hold a physical meeting, the group worked by correspondence using the ECO Forum facilities and organised its first meeting remotely on 22 and 23 June 2020.

The preparation of European Common Proposals for WRC-23 will be piloted in five project teams under the guidance of CPG. The assignment of conference agenda items to the different project teams takes account of the allocation of the ITU-R preparatory work. It also ensures the workload balance between different groups, thus easing an efficient participation of the membership to CEPT’s studies.



The CPG management team will pursue transparency in the whole preparatory process, to facilitate and encourage contributions from the membership. In this respect and following the consolidated ECC tradition, CPG activities are open to all concerned stakeholders willing and able to contribute to the relevant studies.

It should also be recognised that different interests and needs exist across regional organisations in all three ITU-R regions. Therefore, CPG has already started and will maintain the dialogue and cooperation with these organisations throughout the whole study period in order to achieve the ultimate goal of a successful WRC-23.

Alexandre Kholod
Chairman, ECC Conference Preparatory Group

eCall: An update

On 31 March 2018, eCall became a mandatory requirement in new passenger car and light commercial vehicles sold in the EU. Two years on what is the state of play? In this, the third in a series of ECC Newsletter articles on eCall examines the progress that has been made, issues that have arisen and plans for the future

The eCall initiative is aimed at bringing swift assistance to drivers involved in a collision anywhere in Europe. When a crash takes place, in-vehicle sensors are activated and automatically call the pan-European emergency number 112. It is also possible for the occupant of a vehicle to make an eCall manually by pressing a button in the vehicle. Not only is a voice connection established with the relevant Public Safety Answering Point (PSAP), the PSAP also receives other available information, such as GPS coordinates, over the same communications channel. This provides the PSAP with much more information to facilitate an appropriate and timely response to an incident. The European Commission estimates that eCall can speed up emergency response times by 40% in urban areas and 50% in rural areas. The number of fatalities could decrease by at least 4% and the number of severe injuries by 6%.

This is the third in a series of ECC Newsletter articles on eCall. The first was published in the November 2015 edition and addressed the [eCall numbering challenge](#). The second was published in May 2017 which looked at all outstanding issues that needed to be addressed before the implementation date – [getting ready for 2018](#). That second article followed a very successful [ECC public workshop](#) hosted by the ECO in Copenhagen on 31 January 2017.

Penetration rate of eCall-enabled vehicles

Mandatory eCall applies to all passenger car and light commercial vehicles (categories M1 and N1) that have undergone the type approvals process on or after 31 March 2018. According to the European Automobile Manufacturers' Association, more than 40 new vehicle types from a range of manufacturers have been type approved since 1 April 2018. GSA, the EU's Global Navigation Satellite Systems Agency, [estimates](#) that there are 27 car brands offering over 65 models that are equipped with the system, with around 3 million vehicles sold on the EU market by the end of the first quarter of 2020. It will take some significant time for full penetration to be reached, though. Approximately 5% of the 300 million vehicles on European roads are upgraded each year.

As the number of eCall-enabled car sales increases, European PSAPs have started to experience a corresponding increase in the number of eCalls coming in. The European Commission’s Communications Committee (COCOM) [2019 Report](#), on the implementation of the European emergency number 112, provided some information on the number of eCalls placed in the EU in 2018 and 2019. This followed a survey of the 28 EU Member States.



Figure 1: eCalls placed in the EU. (Source: EC COCOM Working Document: Implementation of the single European emergency number 112 – Results of the thirteenth data-gathering round)

Two thirds of these eCalls were manually triggered and one third automatically triggered. It was also noted that these figures included test calls and no breakdown was provided between test calls, false calls and real life emergencies. Eleven Member States did provide more detailed information on the number of false calls which was estimated at 92% of all calls received.

Information available from France provides further insights. The PSAPs in France received around 12,000 eCalls in 2019. Some 83% were manually triggered and 17% were automatically triggered. Following a filtering process, only 3% were transferred to the 112 PSAP as real-life emergency calls. It was also noted that the Calling Line Identification (CLI) associated with 66% of these eCalls was an ITU global 15-digit number (+882/+883).

Feedback to date has been broadly positive demonstrating that the overall system for eCall is working well. However, there were some teething issues reported with faulty IVS systems, false calls from some after-market eCall devices, some issues related to roaming and some problems with eCall callback.

eCall Callback

If for some reason an eCall is dropped, the PSAP will initiate a callback to the vehicle. To do this, the PSAP must have a valid and dialable E.164 number to make the call. Many different types of numbering resources are being used for eCall and this involves many different actors in the supply chain, making a callback much more complex than the initial eCall. The following diagram provides an overview of the different actors involved in an initial eCall and an eCall callback to a +882/+883 ITU global number.

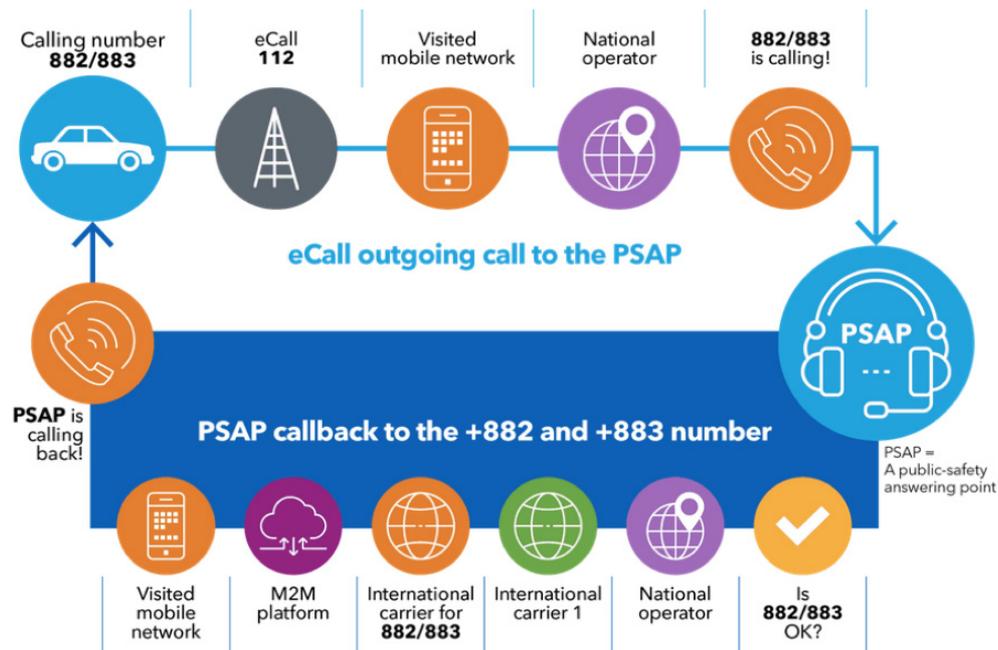


Figure 2: Actors involved in eCall and eCall callback (Source: ITU)

An eCall is originated and terminated nationally and, as an eCall is a call to 112, any network within the national territory can be used to convey the call. This is similar to the “emergency calls only” message you might see on a mobile handset when in an area of poor coverage or roaming on other networks. In those cases, a "Limited Service State" is permitted to make the emergency call. In Limited Service State, an originating CLI is not presented to the PSAP operator when a call is made.

In its work on the numbering aspects of eCall, the ECC’s Working Group on Numbering and Networks (WG NaN) anticipated that callback could be problematic given the many different types of numbering ranges used. Some problems were encountered during eCall testing and several issues were identified that contribute to the problem:

- The enterprise telephone system (Private Automatic Branch Exchange – PABX or PBX) was not configured correctly to process incoming CLI for long numbers (15-digit numbers) and only a truncated CLI was presented to the PSAP operator. A callback was then not possible.
- Outgoing calls to unfamiliar numbers were barred on the PBX configuration.

- The numbers in question were not configured on the PSAP service provider's network.
- No CLI was presented to the PSAP because the initial eCall came from a device in "Limited Service State".

In 2019, WG NaN and Orange France carried out a survey of European PSAPs where they were asked to call a +882/+883 number and confirm that they could make the call. The survey received 22 responses and approximately half of the respondents could not make the call. The survey served as an awareness-raising exercise and the issue has since been resolved in many countries. To further raise awareness, the ITU published information on the matter in its [Operational Bulletin](#) in September 2019 and in an [ITU Circular](#) in May 2020. The ITU also published [an article](#) on the subject in March 2020.

The callback issue is not exclusive to ITU numbering ranges. As already mentioned, there are many different national and international numbering resources being used for the service based on global agreements between car manufacturers and mobile operators. France, for example, recommended to car manufacturers at the last meeting of the European eCall Implementation Platform in November 2019 that they should pay attention to the nature of the SIM cards with which they equip their cars. If they come from a service provider which does not have a significant global footprint of roaming agreements then the risk of "Limited Service State" eCalls will increase, rendering callback impossible.

The ECC is proposing an amendment to ECC Recommendation (17)04 on Numbering for eCall in order to provide a central reference point for information on all numbering ranges used for its operation. Operators and service providers planning to use certain numbering ranges for eCall will be able to notify those ranges, and the information will then be accessible to all other operators. This amendment is currently under [public consultation](#) and comments are welcome by 3 September 2020. Operators and service providers will also be encouraged to apply appropriate tariffs at wholesale and retail level for calls to these numbers. Call costs, while not a technical barrier to callback may present an economic barrier. PSAPs rely on public funding and should not have to pay high call charges for calling back vehicles while trying to assist citizens in life-and-death situations.

The ECC is also preparing a report on eCall callback which looks at a broad range of issues contributing to the callback problem such as PBX configuration, Limited Service State and call costs. The report is expected to be approved for public consultation in 2021.

Next generation eCall

As the eCall stakeholder community resolves some of the teething problems identified since eCall was implemented, attention is gradually turning to the future. Improving on the current set of eCall features, extending the requirements to all categories of vehicles and developing standardised solutions for after-market eCall are now high on the agenda. Work on standards development, technical requirements and testing procedures is already under

way within the relevant standards development organisations (ETSI, CEN etc). The current regulated version of eCall is based on legacy 2G/3G circuit-switched network technology. Next generation eCall, based on 4G/5G technology, will need to co-exist with earlier systems. The current version of eCall must continue to be supported for the next 10 to 15 years as the move towards 4G/5G gathers momentum. PSAPs will also need to be upgraded to manage two types of incoming eCalls.

Some operators in Europe have announced plans for switching off 2G/3G services but switch off has far-reaching consequences for safety and security. In the context of eCall, regulatory certainty is required to inform investment decisions in new eCall technology, and a clearly defined migration path needs to be developed with input from all stakeholders. Switching off 2G/3G services may have similar impacts on other vertical sectors such as M2M/IoT, utility smart metering, smart grids and so on. There is still a long way to go in finding agreement on a migration path that meets the needs of all stakeholders.

After-market eCall is another area that is generating a lot of interest. [SAFE-112](#), a project co-financed by the Connecting Europe Facility of the EU, has started work on defining the standards and specifications to pave the way for deployment of after-market systems for eCall. SAFE-112 aims to identify minimum performance and conformance requirements for after-market 112-eCall systems and devices, in order to avoid overload of PSAPs with false calls. It also seeks to deal with the necessary variants of after-market eCall systems that will use the single emergency number of 112.

eCall and roadworthiness tests

Discussions are also under way about adding eCall to the items to be tested during the mandatory periodic technical inspections of road vehicles. This follows a positive [cost-benefit analysis](#), which concluded that adding eCall to roadworthiness tests would have a positive cost-benefit ratio. The concrete results vary depending on the complexity of testing. The extent of the testing is important. For example, if it is decided that a full end-to-end test is required then provisions will need to be made on electronic communications networks to handle test calls in a way that does not impact on PSAP daily operations. In the course of 2020 the European Commission plans to convene the respective expert group to discuss if eCall should be added to the periodic roadworthiness test by the means of a delegated act, and, if so, what should be the level of testing, the testing methods, reasons for failure and their severity.

In summary, a lot has been achieved in the last number of years to bring eCall to the market. As the penetration rate increases, road safety will improve and lives will be saved. The eCall journey is not over yet.

Freddie McBride
Deputy Director
European Communications Office
