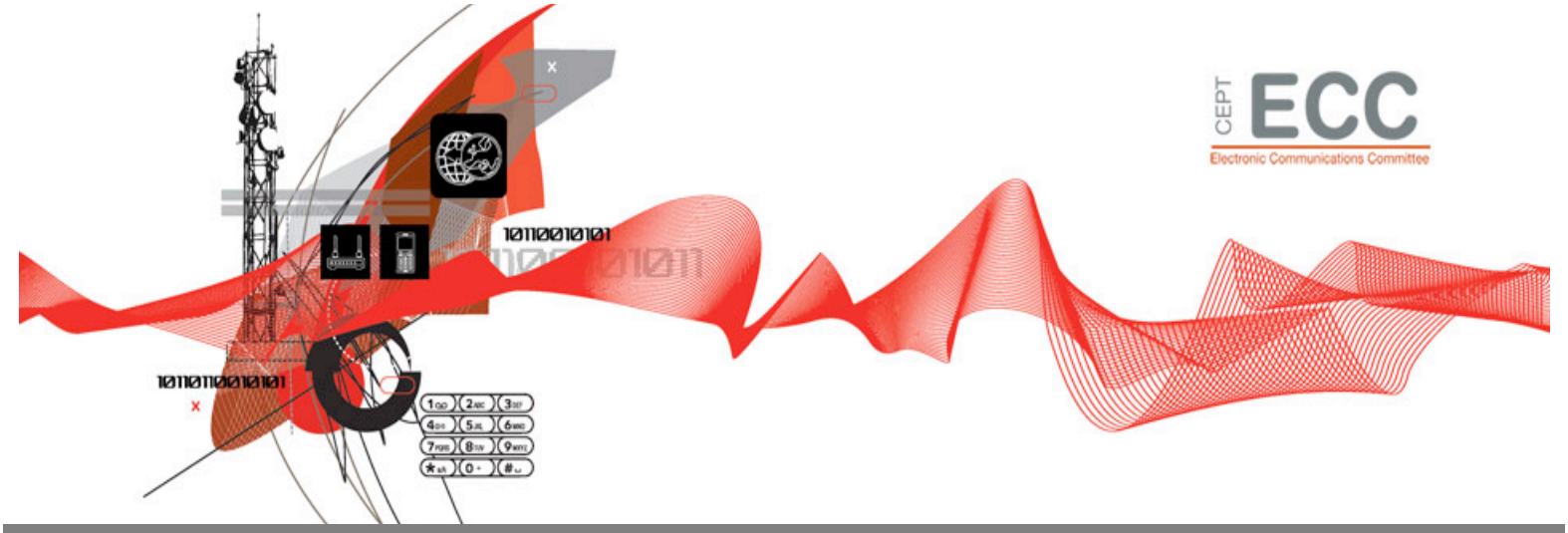



ECC NEWSLETTER **April 2013**

# From the ECC Hot Seat

Successful new technologies follow a pattern of dramatic impact, and then, over time, they become routine and even a necessity. Clean water and electricity at the turn of the 19th/20th century, and perhaps air travel is an example from the late 20th century. You could say the same about the use of radio waves. Some time ago, spectrum was an enabler of revolutionary new technologies which transformed the face of society as we know it. Broadcasting, worldwide connectivity through satellite communications, and then mobile phones started as exciting novelties which then became indispensable and tightly woven into our daily lives. Each of those developments required complex and high-profile international arrangements to secure the efficient and effective use of the spectrum.

Now we just expect radiocommunications systems to work and they are no longer regarded as some sort of miracle. Consequently, attention has shifted more to radiocommunications' impact on economic growth and social behaviour. This doesn't make our job any easier or less interesting; in fact the reverse is true. Technology improves all the time and allows us to exploit higher and higher frequencies. However, the laws of physics do not change and the frequencies which can be used for most applications are a finite resource where the demands for capacity and usability increase all the time. In effect, there are no new blank areas of spectrum, and we usually have to focus on spectrum sharing, and more flexible and evolutionary approaches.

Something else which doesn't change is the need to learn from experience. This demands that regulators anticipate how the future might evolve, whilst at the same time we have to be very cautious about relying too heavily on a single specific prediction or scenario from the self-proclaimed clairvoyants of megatrends.

The international dimension is as important as ever, with many developments needing common conditions across large market areas. I'm honoured to take the chairmanship of the ECC at such a time. We're in good shape, and I must thank my predecessors, notably Thomas Ewers as the most recent Chairman, for leading us to this point. We have a cooperative spirit across 48 European countries and a common understanding on the strategic developments in spectrum management.

An open and cooperative approach to users and our partners is important to our strategic understanding and especially for the technical expertise which complements that which our member administrations themselves bring to our work. These areas are where the ECC makes its distinctive contribution to the fair and objective decisions needed to serve such a wide variety of important functions which rely on spectrum; whether these are voluntarily harmonised in the ECC framework across 48 countries, or bound across the EU27 in the EU framework. And, whether they have a high profile or not.

In telecommunications, policy-makers, industry and consumers expect and demand more. Our challenge is to anticipate and meet the bandwidth demands of the 21st century as they continue to increase by developing the right technical conditions and harmonisation measures for the most effective spectrum outcomes.

Our strategic focus is articulated in our strategic plan. We agreed it in 2010, so the time will soon be right to look at it again, and particularly to take stock of where we are with our 'major challenges for the next five years'. But our workplan is constantly updated to respond to the demands from industry and stakeholders; one example where we are keen to take a strategic and technically-informed position is in the use of the UHF spectrum between 470 and 790 MHz. With a lot of comment and pressure on this band, talk of a further 'digital dividend' and concerns over a 'salami-slicing' approach to its evolution, we feel it is right to take a look at the issue through a longer lens. We expect to start a programme of study after our next ECC meeting in June.

By increasing flexibility in spectrum use, implementing regulatory solutions to share spectrum, and developing less restrictive technical conditions where possible, we're well on the way to delivering on many of our policy goals.

As well as our spectrum priorities, we are very active in numbering too. Traditional phone networks are relatively stable but the internet, IP networks and machine to machine communications bring a whole new set of issues. Numbering is a subject where I expect the ECC's expertise to make a difference to how effective and well managed the associated services will be. For example the ECC's Green Paper is a major contribution to the strategic understanding of this important but easily overlooked aspect of the Information Society. I look forward to giving this area of work my full attention in my Chairmanship.

But as I set out to illustrate in the introduction, technology is forever changing and the challenge for us is to continue to smooth the way for future development and innovation. As a society, we're becoming more interactive, mobile, connected and global and our dependence on intelligent devices has become a 21st century necessity. Maintaining a strong and reliable regulatory environment within a well-established collaborative structure for harmonisation ensures we keep moving in the right direction.

I look forward to working with our numerous partners across industry and user communities. Our close cooperation and complementary position with the European Commission is also vitally important to us, with 27 of our 48 members also being EU Member States. And I would like to congratulate Pearse O'Donohue, erstwhile Head of the CNECT's Radio Spectrum Policy Unit, on his appointment as Deputy Head of Cabinet to EC Vice-President Neelie Kroes. I believe our working relationship has matured and strengthened in recent years, and ultimately this benefits consumers. I look forward to working with Pearse, and his successor at the Head of the Spectrum Policy Unit, in the coming few years.

I believe strongly in the consensus model which is fundamental to the ECC's way of working. This gives a strength to the end result. And in those cases where we are supporting initiatives in the EU framework, it makes that process much smoother and helps the Commission and the member states – which are all ECC members - to work in the same direction.

I hope I have managed to convey my sense of purpose for what lies ahead and I look forward to engaging with as many of you as possible on these important issues. As the cornerstone of spectrum harmonisation in Europe, we are aiming to maintain and increase our visibility to the outside world. This will help us with ensuring strategic debate within the ECC on the most important spectrum issues at stake for the next few years.

**Eric Fournier,**
**Chairman of the ECC**

# Green Paper - Long Term Evolution in Numbering, Naming and Addressing

## 'When worlds collide' – Impact of convergence on Numbering, Naming and Addressing

The concept of 'convergence' in information and communications technologies has been discussed and debated for many years but has only really gathered momentum in recent times with the wide availability of broadband over a variety of access networks (including fixed, mobile and wireless), the proliferation of smartphone use in society and an increasing choice of compelling 'over-the-top' (OTT) services (such as video, television and other services which run over the internet rather than via a service provider's own dedicated network).

Numbering is a key enabler of communications services. Efficient management of National Telephone Numbering Plans has fostered competition, encouraged innovation and enhanced consumer protection in communications markets across Europe following market liberalisation. As convergence gathers momentum, the way we consume communications services is being transformed. What does this transformation of the communications landscape mean for numbering, naming and addressing policy in the future and what are the important issues that policy makers need to address after considering these technological and market developments?

## The Green Paper

In order to address the policy challenges, the CEPT/ECC Working Group on Numbering and Networks (WG NaN) took the initiative to prepare a strategic plan in the form of a Green Paper for numbering, naming and addressing that sets out a vision for the next 10 years. The Green Paper is designed to be thought-provoking by making predictions on how the market could look in Europe in 2022 and by encouraging discussion and debate on the policy challenges. Special attention is given to the measures proposed by the European Commission's Digital Agenda (2020) in the context of better harmonisation of numbering resources. It is expected that the Green Paper will provide a set of reference assumptions for WG NaN to use in the future.

## So, what's in it?

The Green Paper analyses consumer, operator and technology trends and puts forward a view on the potential impact of those trends for numbering policy.

## Consumers on the move

From a consumer perspective, the value of mobility will continue to rise and, accordingly, the preference for mobile services. Correspondingly, the number of traditional fixed line telephone subscriptions will continue to decline.

## The impact of OTT on consumer behaviour and operator business models

Some consumers will opt to retain their fixed access path for broadband only. With this approach, consumers will be able to choose different OTT services that can be delivered on underlying physical access paths. Operator business models will evolve to adapt to this decoupling of physical access from content provision. The physical access will be provided with different levels of quality of service offered based on consumers' needs and their willingness to pay. Policy makers will need to review national numbering plans so that conditions of use can accommodate nomadic, mobile and OTT voice services.

## The rise and rise of social media – and machines also talk to each other!

The popularity of social media is expected to continue to grow and much of the communications between users across all ages will be through these kinds of applications, thereby reducing the use of telephone numbers for traditional person-to-person communications. On the other hand, other types of addressing resources will be needed for mobile terminals (e.g. IP addresses) in order to ensure seamless communications between different network technologies. E.164 telephone numbering will therefore remain an integral feature of communications addressing and routing in the future. The Green Paper envisages two consolidated number ranges within national numbering plans – one for person-to-person communications (P2P) and one for machine-to-machine communications (M2M).

## Disruptive technologies

On the technology side, M2M, cloud computing, the Internet of Things and Smart Grids will require core and access networks capable of providing bandwidth and scalability. The move towards all IP based networks will continue and circuit switched networks will be phased out. VoIP services will continue to replace traditional voice services and national numbering plans will need to be flexible in order to provide numbering resources for the next generation of voice services.

## So what does all this mean for telephone numbering?

These trends suggest that telephone numbers will become less and less visible and it will be rare for individuals to dial numbers manually. Moreover, numbers will no longer be used to identify physical access paths and will be used predominantly as 'names' rather than 'numbers' with the traditional telephone number being translated into an underlying IP address.

The Green Paper goes on to explore specific policy challenges that could arise and identifies areas for further work by WG NaN on issues such as:

- The provision of information to the emergency services where calling line identification parameters can no longer be trusted to provide accurate location information;
- The continued support of numbering based competition enablers through number portability mechanisms;
- The use of telephone numbers extra-territorially;
- Facilitating legal interception by law enforcement agencies when necessary;
- Further harmonisation and consolidation of numbering resources; and
- The use of personalised domain names and email addresses.

## Developing the Green Paper

As part of a multi-stakeholder approach to developing the Green Paper, a workshop was organised and hosted by the European Communications Office (ECO) in Copenhagen, Denmark on 7 June 2012. The workshop brought together interest groups, operators, users, ministries and national regulatory authorities involved in numbering, naming and addressing. The WG NaN Strategy Task Force then met in Athens on 4-5 September 2012 to assess the outcome of the Green Paper workshop and prepare the first draft. The draft Green Paper was then circulated to the June workshop participants and WG NaN members for comments by 31 October 2012. Comments received were then deliberated upon at the WG NaN Stockholm meeting on 21-22 November 2012 and the Green Paper was then published. As the Green Paper is not a formal ECC deliverable, a public consultation is not planned. The WG NaN Strategy Task Force plans to review the Green Paper on an annual basis with the first review planned for September 2013.

## A call for continued collaboration

As convergence gains momentum and the communications landscape continues to be transformed, policy makers will need to understand the technological and market developments so that they can adequately inform their views on how to safeguard policy objectives, such as competition, innovation, consumer protection and respect for privacy in the converging communications marketplace of the future. It will therefore be increasingly important to maintain dialogue on new developments in numbering resources. The WG NaN will take steps to introduce the Green Paper in the global arena and we would encourage all stakeholders to continue to collaborate on the development of common numbering policies and to exchange views on best practice approaches.

The Green Paper is available here.

**Freddie McBride,**
**ECO Numbering and Networks Expert**

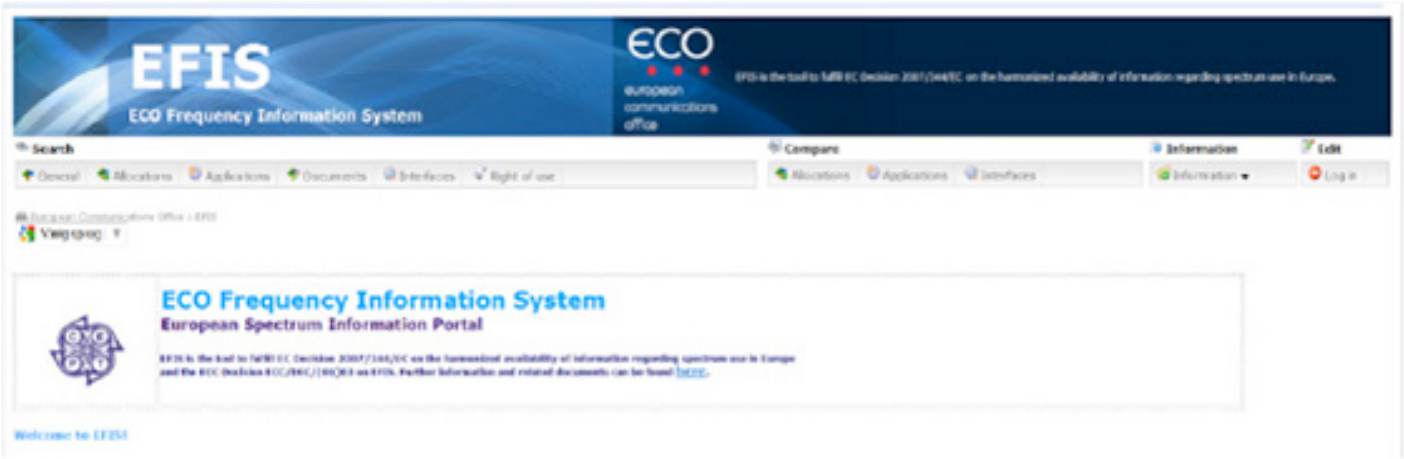
# Where to find information on spectrum use in Europe

## The ECO Frequency Information System - EFIS

### European Spectrum Information Portal

The huge expansion of communication services available across a wide variety of devices places a real need for robust and authoritative information on spectrum use. As the centre of expertise in electronic communications, the ECO provides a unique and high quality information tool on spectrum use and licensing conditions across Europe to improve understanding and advance regulatory solutions for the future allocation of this scarce public resource.

### Background




The ECO Frequency Information System EFIS contains searchable and comparable data from 42 European countries on their national spectrum use; in addition, it contains an ITU table (for Region 1) and the European Common Allocations (ECA) table.

EFIS was conceived and established to enable those with an interest in using radiocommunications at the European level to gain an overview of the regulatory and licensing framework in each European country. This relates also to strategic spectrum management, which is addressed by more recent developments of the tool.

Since its launch in 2002, EFIS has expanded considerably. More of CEPT's 48 national administrations now publish their data in EFIS, the scope of the content is wider and there are many more features and facilities. The ECC Decision ECC/DEC/(03)05 deals with the publication of national tables of frequency allocations and utilisations, while ECC/DEC/(01)03 on EFIS defines the data that the administrations shall enter and maintain.

In 2007, EFIS became the 'European Spectrum Information Portal', fulfilling EC Decision 2007/344/EC on harmonised availability of information regarding spectrum use in the 27 European Union Member States. The main idea behind this was that a single information point – EFIS - would ensure easy access and user-friendly presentation of spectrum information throughout the EU.

EU Member States are obliged under this Decision to publish their national frequency data, including radio interface specifications and information on individual rights of use (which may be limited to tradable frequency bands used for the provision of electronic communications services).

## Spectrum management information

Since early 2012, strategic spectrum management information has featured much more prominently in EFIS's development. A 'non-regulatory' section was introduced, which includes a wide range of information, mostly in the form of documents linked to the European Table of Frequency Allocations and Applications (known as the 'ECA table' or simply 'ECA'). The ECA table, which was previously stored in a separate database, was fully incorporated into EFIS in 2012, and the ERC Report 25 (containing the ECA table) is now generated from EFIS. CEPT questionnaire summaries for dedicated spectrum inventory purposes, ECC Reports and other useful information about the actual present and future planned spectrum usage are also available. By selecting the frequency range and/or the radio application term, users can find a comprehensive set of relevant documentation for one dedicated frequency range and/or application.

## Administration and cooperation

EFIS is administered by the ECO and managed under the supervision of the ECC through its ECO Frequency Information System Maintenance Group (EFIS/MG).

The tasks of the EFIS/MG are, inter alia, to further develop EFIS (taking into account the EC Spectrum Policy Framework and the R&TTE Directive), to prepare revisions of the ECC Decision on EFIS (including to define the terms used in EFIS), to exchange experience between national administrations and liaise with other ECC Working Groups and Project Teams, the European Commission and industry, while keeping under review the maintenance and development of EFIS.

Increasingly, cooperation with third parties, defined as 'partners' of CEPT/ECC, i.e. those having a Letter or Memorandum of Understanding with CEPT/ECC, has led to further relevant information being included in EFIS. Examples are system reference documents from ETSI and information on RTTE Equipment Classes (in cooperation with TCAM ADCO) or links to the ITU-R broadcast web. Often such information is linked to the ECA table for the purposes of search and display.

## Enhancements and improvements

During 2012, a considerable number of software enhancements were made. Many of these were additional features for and improvement of administrations' interface with EFIS. The issue of user-friendliness and efficiency in EFIS, also for national administrations, is always a matter of high priority in the development of the tool.

For the user, the visibility of information and clarity of display were improved via an increased use of icons/thumbnails, for example for notes/comments fields, to avoid displays getting too big and to make the appearance tidier. Cross-referencing of information was also introduced (for example display of ECA allocations and applications via thumbnails). Users can now also get auto-translated search results within EFIS.

## Mandate and reports

In September 2012, a new ECC Report 180 'Guidance on the interpretation of the requirements of ECC/DEC/(01)03 on EFIS' was published with the aim to provide assistance to administrations to implement this ECC Decision and to upload data to the EFIS database, in similar and comparable ways.

The European Commission in September 2012 gave CEPT another 'EFIS Mandate', on inclusion in EFIS of information on rights of use for all uses of spectrum between 400 MHz and 6 GHz.

This mandate recognises the existing role of EFIS and the potential to develop it in a way which would enable it to serve as a primary input to the spectrum inventory as defined in the Radio Spectrum Policy Programme adopted by the Council and Parliament of the European Union.

In response to this Mandate the ECC is producing two new CEPT Reports. The first of these, CEPT Report 46, which deals with the first three tasks of the Mandate, was approved by the ECC at its meeting in March 2013. Draft Report 47, dealing with the other two tasks, is expected to be approved at the next ECC meeting in June.

In parallel, EU Member States in the Radio Spectrum Committee decided in March 2013 on the Commission Implementing Decision defining the practical arrangements, uniform formats and a methodology in relation to the radio spectrum inventory. The Decision foresees that Member States shall ensure that the relevant information already collected pursuant to the Commission's 'EFIS' Decision (2007/344/EC) is provided by the European Communications Office to the Commission, so as to minimise the administrative burden, i.e. via EFIS. This latest Implementing Decision will also require Member States to cooperate with the Commission to increase the data available on spectrum use, in comparable formats (e.g. by using CEPT electronic questionnaires) for all frequency bands between 400 MHz and 6 GHz, in a step-by-step approach by 31 December 2015.

## Now and near future

EFIS is also being developed to improve the efficiency of some ECC processes. The generation of the 'Short Range Device Recommendation', i.e. ERC Recommendation 70-03, using EFIS as the vehicle for data entry, is planned for May-June 2013. This entails inclusion of all data in 70-03, including implementation information, as searchable (and updateable) data in EFIS.

Collection of information via CEPT electronic questionnaires, notably in connection with EFIS's role as the data collecting point for the EU spectrum inventory (starting summer 2013) is scheduled for implementation early July 2013. EFIS will receive data (in XML format) from the ECC website and store it as searchable data (updateable by administrations). It will be possible to generate summaries/reports. The concept of tagging and thumbnailing will be used to define different types of relevant information from questionnaires and link this to existing data in EFIS. The tags will be shown as thumbnails under applications (for ECA and for individual countries) and will indicate that information of a particular kind is available for that particular frequency band and application.

It is also planned to incorporate in and generate from EFIS the ECO Report 03 - Licensing of Mobile Bands. Implementation is expected to follow some time during 2013.

Yet another feature underway is a graphical presentation of EFIS data, which will provide an easy and user-friendly way to search and display data such as frequency bands + applications, selectable by country, frequency range, application(s), not only displayable on screen, but also printable.

As Europe's central resource for spectrum information, EFIS is constantly developing, not only in terms of the features and facilities it offers users, administrations, industry and other 'end users', but also in respect of content. A steadily increasing quantity of information populates the database. However, the ECO and the EFIS/MG, in cooperation with the European Commission and other interested parties, will continue to protect the quality of the data to help us meet the strategic spectrum management goals in support of technological growth.

**Pia Hammer Bloch**
**EFIS project manager and EFIS/MG Chairman**