

OUR MISSION

The European Communications Office (ECO) is the permanent office of the European Conference of Postal and Telecommunications Administrations (CEPT), an organisation where policymakers and regulators from 46 European countries co-operate and contribute to developing more vibrant and dynamic markets for electronic communications and postal services.

The ECO provides expert advice and administrative support to CEPT to help it to develop and deliver its policies and decisions effectively and transparently. The Office is a European centre of expertise in electronic communications providing a platform for CEPT member countries and concerned stakeholders to discuss, debate and collaborate on advancing European communications policy for the benefit of all Europe's citizens.

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SECTION ONE Overview





CHAIRPERSON'S FOREWORD

DIRECTOR'S STATEMENT

There is a line of thought that we do not learn by doing but rather we learn by reflection. If ever there was a time for the ECO to reflect, it is in the publication of our annual report. It is essential for both the Office and CEPT members to look back on the year that was and to examine ways in which we can build on our successes going forward.

Now, in my second year as Chair of the ECO Council, I am guite satisfied with how the Office continues to run. Throughout the following pages you will see terms such as "contributed", "participated", "assisted" and "supported". For me that is the essence of the ECO, and everything it does.

Over the past year, the Office has participated in meetings and events both within and outside of CEPT. It collaborated with the academic world, it maintained and updated tools such as SEAMCAT, it expertly organised and hosted meetings, while contributing to others. In short, it is an essential support for CEPT and its three committees, as you will see reflected in the following pages.

Some 36 countries are official contracting parties to the ECO convention, which is open for accession to all 46 CEPT members. Please allow me to use this opportunity to invite more signatories to the convention. Your financial contribution and your input into the Council will always be welcome.

Last year, we welcomed Ms Sidsel Huse of Norway as the new Vice-Chair of the ECO Council. Unfortunately, Sidsel's tenure was cut short as she took on another role and she had to leave us in November. I would like to thank Sidsel for all her work throughout the year. The Council has not yet started its search for a new Vice-Chair but we will be seeking the services of our skilful colleagues from across the administrations shortly.

One search that has now concluded is for the new ECO Director. After a comprehensive interview process, the Council appointed the very capable Thomas Ewers in November. I extend a warm welcome to Thomas as he starts his role in April 2023. Thomas has worked at a senior level in the electronic communications sector for several years, so we believe he has a unique insight and understanding of the challenges facing the CEPT community and those working in industry.

Finally, I wish Per Christensen a very fond farewell as his time at the ECO comes to an end. I would like to pay tribute to Per's dedication and service to the office over the past eight years. He has been a much liked, highly respected and indefatigable Director, and his impact on the Office will be felt for years to come.

Dr Samuel Ritchie Council Chairperson

This annual report marks my last as Director of the European Communications Office. Like the many colleagues that have gone before me, my eight-year tenure has come to an end, and I pass the baton on to the Office's next Director.

When I joined this organisation in 2015, 5G was garnering attention, and the demand for spectrum was growing thanks to a burgeoning Internet of Things economy. Indeed, new spectrum opportunities were identified for broadband in higher frequency ranges. Now, we are discussing 6G whilst looking to the future and all of the potential it holds.

In 2022, we continued to look ahead to the World Radiocommunications Conference, WRC-23, which will take place in Dubai, United Arab Emirates in November and December 2023, and will once more highlight the growing demand for spectrum and the fast-moving needs of evolving technologies. It is an exciting time to work at the ECO as we help CEPT finalise its preparations ahead of the conference.

Over this past year, the world has emerged from the Covid-19 pandemic to embrace hybrid working. At the ECO, hybrid meetings - where participants have the choice of attending online or in person – are becoming a valuable tool in how we communicate with CEPT members.

In November, we held a two-day satellite workshop, our first major in-person event since 2020. While nearly 150 people converged on a hotel in Copenhagen, 200 more "attended" online. As a traditionalist, I will always be a believer in the power of faceto-face meetings and the relationships it can build, but there is no denying that providing people with choice is the way forward.

The next chapter of the ECO sees Thomas Ewers of Germany take over the role of Director, with effect from April 1, 2023. I would like to take this opportunity to wish Thomas the best of luck in his new role and in his new life in Copenhagen; I hope he loves it as much as I have. With Jaime Afonso as his deputy, I have no doubt that the Office is in safe hands.

Being Director of the European Communications Office has been an honour and it has been a great pleasure to have witnessed the outstanding work that has been achieved by the ECO staff over the past eight years. Some have come and gone, while others are true stalwarts who were here before I joined and will be here long after I leave. I can take no credit for what we have achieved during my tenure; their hard work and dedication to the Office has been laudable.

At this moment in history, transparency has never been more important, and having experts who can provide unbiased and lucid information is essential. The work this Office does in providing advice and support to CEPT as it makes policy decisions is fundamental. Long may it continue.

Per Christensen ECO Director

The ECO: Our role, our team

Our role

The European Communications Office (ECO) provides expert advice and administrative support to CEPT and its three committees. We help CEPT to develop and deliver its policies and decisions effectively and transparently. Our duties are threefold: to provide a European centre of expertise in electronic communications; to support and contribute to the work of the three CEPT Committees; and to manage CEPT's day-to-day activities. We also have a core objective of maximising the effectiveness of CEPT's Electronic Communications Committee (ECC).

The primary objective of the ECC is to enable the efficient, effective and harmonised use of the radio spectrum, satellite orbits and numbering resources across Europe. To achieve its mission, the ECC develops common policies and regulations for Europe in the field of electronic communications taking into account European and international legislation. It also prepares European common proposals to represent European interests in international organisations, especially in the International Telecommunications Union (ITU).

The ECO supports the ECC by:

- providing a platform based on trust and openness to improve collaboration across its membership and extending its reach beyond Europe;
- ensuring its communications are transparent, consistent and effective;
- delivering new initiatives and providing strategic input to its work; and
- supporting CEPT's bottom-up approach to policy development by consensus.

We work effectively as a team, and we strive to identify new and innovative ways to maximise our impact and value to CEPT

Meet the ECO team

The ECO team comprises 12 people, usually based at its offices in Copenhagen, Denmark. The team includes the Director, six experts in the field of electronic communications – recruited internationally from across Europe – and five experienced team members from Denmark with responsibility for facilities management, IT, finance, human resources and general day-to-day administrative support to CEPT and its three committees.

Together, our team members have the expertise and experience necessary to deliver the specialist services required of the ECO. We work effectively as a team, and we strive to identify new and innovative ways to maximise our impact and value to CEPT.

The ECO team and their main areas of responsibility in 2022. Contact details are available here.



Per Christensen Director, Denmark



laime Afonso Deputy Director, Portugal (Frequency Management, Spectrum Engineering, EC co-ordination, ETSI co-ordination)



Peter Faris Ireland (Spectrum Engineering, Frequency Management, Mobile Broadband)



Doriana Guiducci Italy (Spectrum Engineering, Frequency Management, WRC Preparation, Liaison with academia and research bodies)



Robin Donoghue United Kingdom (Frequency Management, EFIS Management)



Zeljko Tabakovic Croatia (Spectrum Engineering, SEAMCAT, Frequency Management, Broadcasting Plan Management)



Vassil Krastev Germany (Com-ITU; Numbering and Networks)



Susanne Have Denmark (CEPT, ECO Council, CERP, SAT MoU, Administration)



Vibeke Hansen Denmark (Webmaster, Reception, Premises, Meetings, Administration)



Mette Tobiassen Denmark (Finance, Human Resources, Projects)



Anne-Dorthe Hielm Christensen Denmark (Public consultations, ECO Documentation Database, EFIS, Administration)



Kenneth Karlsson Denmark (IT Support and Development, Technical Enquiries, Projects)

Making hybrid meetings a success

The Covid-19 pandemic has created a monumental shift in the world of work. In 2022, it became clear that hybrid working was here to stay, at least for the foreseeable future.

However, that hybrid approach has extended way beyond day-today employment: it has become a prominent feature in the world of conferencing and business meetings.

Earlier in 2022, following the positive experience of the trial hybrid meetings, the CEPT presidency guidance made clear that in a post-pandemic world, this format of meetings was here to stay.

ECO's IT expert Kenneth Karlsson and the rest of the ECO team were tasked, in essence, with creating a bridge between the people attending meetings remotely and those attending them in person. It was important that all meeting attendees were accommodated.

"Hybrid meetings are the talk of the town. It is not a question of if we will have a hybrid meeting, it is more a question of when is the next hybrid meeting? Most of our meetings are hybrid these days," says Kenneth.

In 2021, the ECO carried out a survey on the GoToMeeting platform, which the Office had used for many years, and found there was "room for improvement". While software tools such as Zoom and Microsoft Teams were not dismissed initially, the ECO soon came to the conclusion that those tools did not have the functionality necessary for successful ECC meetings. So, the ECO decided to act: it developed its own web tool.

After a five-month project working with a team of software engineers, the Office introduced MeetingHub in 2021, as a "binding tool between the virtual and the physical".

By 2022, it became clear that hybrid meetings would be a more permanent fixture for CEPT members and ECC groups. This gave the ECO and its team of software engineers the impetus to work on a second version of the MeetingHub tool.

At the start of the year, a major upgrade for the platform was prepared which would eventually be introduced in the third quarter

The tool already had a range of capabilities on the management of meetings, including a raise-hands functionality and simple polling. Likewise, its security set-up meant that uninvited guests could not access meetings.

However, a major advance in 2022 was a redesign of MeetingHub. It now looks and feels different, and is integrated with the remote tool GoToMeeting into a single-window setup. This made the system easier to access.

"We also extended the key functionalities of the tool. For example, the 'raise hand' function is now located in multiple places. This ensures that attendees can say what they need to say during the meetings," says Kenneth.

In addition, the LiveQuestion functionality in the tool was also updated – thus creating a more inclusive environment when meetings are taking place. Just because you are logging in remotely doesn't mean that you should feel excluded from

"In version two, we also fortified some of the security structures, which is important when you consider some of the IT breaches that have occurred in recent years", says Kenneth.

The various upgrades have been deemed a success, with the proof very much in the pudding as hybrid meetings progressed throughout 2022.

Hybrid meetings have also presented host administrations with their own challenges. Throughout 2022, the ECO assisted some administrations to prepare for meetings, helping in the set up of the meetings remotely and also being on hand during

The year also saw the update of the audiovisual equipment in the ECO's Copenhagen offices.

Dynamic cameras were installed in the meeting rooms, which means that when a participant speaks the camera can move to focus on them. The ECO also had microphones installed in the ceiling to improve on the sound for remote listeners.

"The aim is to allow remote attendees to have as good an experience as those attending in person. It was important to give some visibility to remote participants of those who are speaking in the room," said Kenneth. Again, this improves the connection between remote participants and those attending meetings in person.

It has undoubtedly been a busy year for the Office. As well as the work around improving the hybrid meeting experience, the ECO also started to develop the next generation of the CEPT portal, a project that will take around two years to complete as the current platform is gradually replaced with a new one.

"The aim here is to enhance the functionality of the portal and to advance security measures," says Kenneth. "We are constantly trying to see how we can improve the user experience."





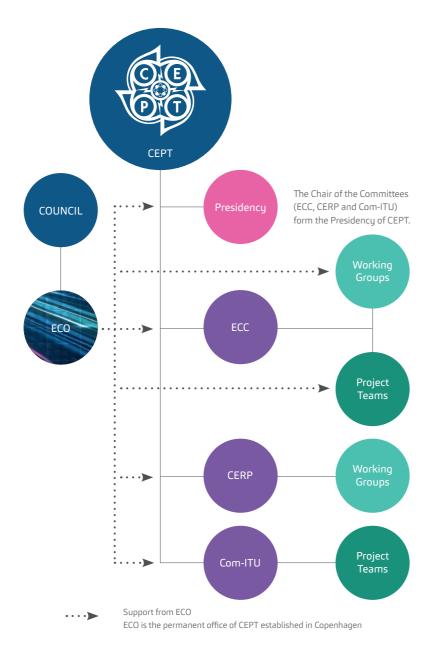




The ECO provides a secretariat for CEPT (including its Presidency) and its three autonomous business committees.



Our structure



CEPT has a Co-Presidency comprising the Chairs of the three committees.





The ECC develops common policies and regulations for Europe in the field of electronic communications and related applications and prepares European positions and common proposals to represent European interests in international organisations, especially in the ITU.

Mr Chris Woolford, UK, is Chairman of the ECC.





The European Committee for Postal Regulation (CERP) is responsible for postal regulation, as well as European co-ordination and preparation for meetings of the Universal Postal Union (UPU).

Mr Germán Vázquez, Spain, is Chairman of CERP.

The Committee for ITU Policy (Com-ITU) organises and co-ordinates CEPT actions for the preparation for, and during the course of, the activities of the ITU Council, ITU Plenipotentiary Conferences, WTDC, WTSA and other meetings as appropriate.

Ms Cristiana Flutur, Romania, is Chairwoman of Com-ITU.

The CEPT Co-Presidency co-ordinates the activities of the three business committees in order to contribute to developing more vibrant and dynamic markets for electronic communications and postal services. It does this for the social and economic benefit of all Europe's citizens.

As the permanent office of CEPT, the ECO supports the Presidency as follows:

- 1. It handles day-to-day correspondence to and from the Presidency, with some secretarial and advisory support for co-ordination between the Co-Presidents;
- 2. It provides and maintains content for the sections of the CEPT web portal that relate to the Presidency and CEPT as a parent organisation for its three committees;
- 3. It prepares reports to the membership on the activities of the Presidency and provides advice and assistance to the individual committee Chairs where appropriate;
- 4. It collects CEPT member financial contributions, used to pay for the ECO's support and external expenditure as required, namely the costs of CEPT Assemblies, and some of the facilities provided for CEPT delegations at international conferences; and
- 5. It makes logistical arrangements and provides secretariat support for CEPT Assemblies as required.

2022 in brief

We continued to strengthen world involved in research on spectrum issues

We participated in meetings and events outside of the CEPT framework, promoting our deliverables and the positions agreed within the committees

collaboration with the academic

The ECO team organised approximately 250 web meetings to support the work of CEPT Committees. Almost 10 000 delegates registered for participation in these meetings. 28 hybrid meetings were held in the ECO premises

Our Documentation Database (DocDB) received about 176 000 page views from around the world. Of our almost 800 ECC Deliverables in force, 40 000 copies were downloaded from DocDB

During 2022, almost 500 meeting days were used by all CEPT Committees

Our experts actively contributed to these meetings, shared mainly between the six international experts from our team, plus the Director

> 61 ECC Deliverables were published, including new, revised and editorially updated deliverables

We carried out 40 public consultations, which were used to inform the substance of new or revised ECC Deliverables. The office analysed and processed 105 responses to them

> In 2022, 36 countries contributed to the financing of the ECO

We published 3 ECC newsletters containing 7 specific articles on spectrum and numbering management topics

> The CEPT portal, managed by the ECO, had more than 1 million page views

The ECO created and managed 9 questionnaires and processed 232 individual responses in order to fully inform the work of the ECC

Review of the Year

Since the outbreak of COVID-19 in early 2020, the CEPT community has faced unprecedented challenges in delivering to the stakeholders. However, the ECO has played a pivotal role in promoting resilience and adaptability to respond to the challenges. While early 2022 was marked by continued pandemic-related disruptions, the adoption of the "hybrid meeting" format has greatly helped to facilitate a gradual return to normality in the work of CEPT Committees. In this annual report, we highlight the ECO's steadfast commitment to providing the highest level of service to CEPT, including active participation in working groups and project teams, promotion of CEPT deliverables, quidance on committee rules, conducting public consultations and questionnaires, and providing central information services. These achievements reflect our dedication to delivering high-quality support services to CEPT Committees.

2.1 Providing specialist support to the CEPT Committees

One of the ECO's core duties is to actively contribute to the work of the CEPT Committees, in particular the ECC. We aim to maximise the ECC's overall effectiveness by providing first-class administrative support, regulatory and technical expertise and a range of specialist support services.

Our work in supporting the CEPT Committees is manifold. In 2022, we:

- Participated in, and actively contributed to, Working Groups and Project Teams right across the ECC;
- Promoted the ECC's Deliverables externally and helped advance topics of interest internally;
- Supported the mid-term review of the 2020-2025 ECC Strategic Plan;
- · Assisted the CERP Chair with the development and distribution of the CERP newsletter, managed the meeting schedule and maintained the content on the CERP web page;
- Supported the Com-ITU Chair in preparing and distributing inputs to the ITU conferences;
- Continued to upgrade and improve our tools and services such as SEAMCAT, DocDB (ECO Documentation Database) and EFIS (ECO Frequency Information System);
- · Provided guidance on rules of procedure and working methods for each of the committees when required;
- · Conducted public consultations and questionnaires on behalf of CEPT Committees to fully inform their work;
- · Provided a central source for specialist information, and
- · Supported the CEPT Network of Women initiative to promote gender equality, equity and parity in the work of CEPT.

Contributing to the improvement of ECC's efficiency and its working processes

ECO experts strive to have a positive impact on the ECC's activities through their continuous work as embedded members of various Working Groups and Project Teams. Our team members participate as recognised observers in almost every meeting of the ECC and its many subordinate groups. We assist in the preparation and management of the meetings and the necessary follow-up work.

Our continued presence and active participation in these meetings demonstrate our important role in striving to continuously improve the ECC's efficiency, the effectiveness of its working processes and, ultimately, the quality of its deliverables.

We aim to maximise the ECC's overall effectiveness by providing first-class administrative support, regulatory and technical expertise and a range of specialist support

Structure of ECC - December 2022



SECTION TWO Review of the Year

We help prepare and submit contributions to meetings in areas where our expertise is both beneficial and relevant to the work. As described in subsequent sections, our experts analyse the responses from public consultations and from questionnaires, a task that is essential as an evidence-based approach to fully inform the development of ECC Deliverables. Our bespoke tools, such as EFIS, DocDB and SEAMCAT, facilitate the research and analysis that is required to provide sound reasoning and justification for the ECC's policy work. With EFIS, we contribute to ECC activities by analysing spectrum usage and related information. In DocDB we provide an easily accessible library of ECC Deliverables, the output of the work within the ECC committee. It contains, among other things, the national implementation of the ECC Decisions. With SEAMCAT, we provide a software tool to carry out detailed compatibility and sharing studies between radiocommunication systems.

Our bespoke tools, such as EFIS, DocDB and SEAMCAT, facilitate the research and analysis that is required to provide sound reasoning and justification for the ECC's policy work.

Our actions in 2022 were executed with the following objectives in mind:

- To promote the ECC's achievements through the development of electronic newsletters and communications initiatives;
- To facilitate an exchange of views through the organisation of workshops on thematic issues and the development of training sessions to increase stakeholders' awareness of ECC activities;
- To encourage the implementation of ECC Deliverables by CEPT administrations and to assist administrations in making proposals for studies within the ECC;
- To increase the visibility of the ECC through presentations at relevant workshops and events;
- To support the ECC through continuous co-operation with other bodies, including the European Commission, ETSI, other external organisations and academia;
- To respond to the needs of various stakeholders and provide the necessary support to administrations in maintaining their national data in the system.

Further details on the ECO's specific activities in support of these objectives are outlined in later sections.

As a result of our involvement in the full range of ECC activities and our important co-ordination role, we also contribute to fostering co-operation between different groups on topics of mutual interest. This is an integral role for us in order to increase efficiency and consistency within the ECC and to avoid duplication of effort across different groups.

When meetings are in progress, our primary role is to provide assistance to the Chairs and to advise and support the groups in their activities. Our central position and objective perspectives give us unique insights into the groups' work and often lead us to conduct drafting activities and to provide guidance on resolving specific issues.

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When a meeting ends, our support continues. We editorialise and process draft deliverables, as well as developing summaries of meeting outcomes for publication on the ECC web page. We also assist in general processes to make sure that the work in between meetings develops smoothly, for example, through the correspondence activity where so agreed.

In 2022, we actively contributed to the vast majority of ECC work items which led to new deliverables. Occasionally, the ECO is invited to provide a Chair for a Project Team or a Forum Group. Our leadership is called upon particularly in cases where we have been playing a central role in the related topic.

In this context, the Spectrum Engineering Expert Zeljko Tabakovic has chaired since October 2019 the Project Team SEAMCAT Technical Group (STG), which is responsible for the development of the CEPT compatibility tool, SEAMCAT, within the Working Group Spectrum Engineering (WG SE).

Supporting the ECC on procedural matters and working arrangements

The ECO plays a central role in the ECC's overall governance, in particular on matters related to rules of procedure and working methods. ECO experts develop and maintain an in-depth understanding of these fundamental documents. We are often called upon to clarify various articles and provisions by members on issues such as the principles for appointment of chairs and vice-chairs and participation of observers in meetings. The Office also endeavours to ensure that the ECC is driven by a consistent set of rules, that its working arrangements are efficient and that it makes the best use of electronic means as appropriate. One key element of the ECC's work to improve Europe's spectrum efficiency through different forms of harmonisation is provided mainly through its deliverables, namely Decisions, Recommendations and Reports. We publish these documents in the ECO's Documentation Database (DocDB). Recording and publishing the extent of national implementation of ECC Decisions, and some Recommendations, is also an important part of making these measures effective. Therefore, following the provisions in the Rules of Procedure and the Working Methods of the ECC, the Office encourages CEPT administrations to update their national implementation or alternatively to advise us of any changes to their implementation of Decisions and Recommendations as soon as they are made.

ECC Working Methods



Supporting the maintenance of partnership with other organisations

The Office maintains a set of co-operation agreements – Memoranda of Understanding (MoU) and Letters of Understanding (LoU) – between the ECC and its external partners. The Office has a standing objective to assist the ECC in identifying possible future LoU partners.

In 2022, two new LoUs were signed between the ECC and its partners to strengthen collaboration and foster co-operation with the European Organisation for Civil Aviation Equipment (EUROCAE) and the Wireless Broadband Alliance (WBA). Furthermore, an LoU has also been updated to reflect the changes in the former EMEA Satellite Operators Association (ESOA), now renamed as Global Satellite Operators' Association (GSOA).

Conducting questionnaires – promoting a fullyinformed approach to policy development

Questionnaires are an integral part of ensuring an evidence-based and fully informed approach to policy development within the framework of the three CEPT Committees: ECC, Com-ITU and CERP. These questionnaires are generally used to gather preliminary information from administrations and other stakeholders to improve the development of deliverables and to identify relevant technical, regulatory and market trends.

The ECO assists the relevant groups in the development of the questionnaires, acts as a contact point to release them and collects the corresponding responses. In most cases, the ECO also processes the information collected through the questionnaires and analyses and summarises the responses. Those responses are then considered by the responsible group in order to decide how to best utilise the information. Questionnaires can also be initiated by national administrations seeking to benefit from the experiences of colleagues in other countries on certain topics.

In 2022, the ECO managed nine questionnaires to CEPT administrations and other stakeholders on behalf of ECC groups and national administrations. The questionnaires addressed a wide range of topics in the spectrum and numbering management areas, and the ECO processed 232 responses in total.

All of these questionnaires were managed using the ECO's online questionnaire tool which has been available on the CEPT portal since 2013. The tool facilitates the distribution of the questionnaires and collates the responses received, which makes the task of analysing the results much more efficient. We now have the results of almost 180 questionnaires stored in our system. This is a valuable repository of information and a first point of reference for CEPT administrations when considering a new policy proposal or work item.

QUESTIONNAIRES MANAGED BY THE ECO IN 2022	Replies received
Electronic questionnaires triggered by ECC groups	
WG FM questionnaire to CEPT administrations on the availability of spectrum for BB-PPDR	27
Survey on the CEPT NOW4WRC23 Mentoring Programme	20
WG NaN Refunding remaining credit on pre-paid services	19
WG FM questionnaire to administrations on the demand for HDFSS in the space-to-Earth direction in bands 47.5-47.9 GHz, 48.2-48.54 GHz and 49.44-50.2 GHz	22
WG FM questionnaire to CEPT administrations on Interference Statistics 2021	34
Current use and future trends for the fixed service in Europe	32
Questionnaire on technical characteristics and FS parameters for sharing and compatibility studies	17
Electronic questionnaires on numbering and network matters triggered by national administrations	
Croatia: Caller location information for emergency communication	
Electronic questionnaires triggered by the ECO	
Survey on SEAMCAT hybrid workshop 2022	24
Electronic questionnaires triggered by Com-ITU	
National co-ordination for ITU Conferences/Assemblies	37
CERP questionnaires	
None	

Developing the SEAMCAT spectrum analysis tool

SEAMCAT in brief

The Spectrum Engineering Advanced Monte Carlo Analysis Tool (SEAMCAT) is a software tool which is useful for modelling, simulation and analysis of sharing and compatibility scenarios between radiocommunications systems. SEAMCAT is managed, developed and maintained by the ECO as an open source and free-of-charge tool in co-operation with the SEAMCAT Technical Group (STG), a project team of the ECC Working Group Spectrum Engineering (WG SE), and stakeholders. The user community contributes to the constant improvements of the tool functionalities. SEAMCAT as a tool is platform independent, reliable and transparent in calculations, flexible to simulate different scenarios, user friendly and of reasonable computation speed on personal computers.

The algorithms in SEAMCAT use the process of repeated random sampling of parameters which allows statistical modelling of diverse complex spectrum engineering and wireless compatibility scenarios. SEAMCAT can assess the potential interference between different radiocommunication systems that operate in shared, overlapping or adjacent frequency bands. SEAMCAT is distributed with a predefined set of libraries that are at the user's disposal but allows the user to build customised libraries – such as for radio systems, antennas, spectrum masks, propagation models etc. SEAMCAT is not designed as a black box: users can design, adapt, and exchange system and simulation parameters, as well as view intermediate results of calculations. They can also export results. Users are welcome to join the SEAMCAT community to contribute to the development of the software and its libraries.

Interested in joining the SEAMCAT development community? More information at: https://seamcat.cept.org

Development of SEAMCAT continued with four test version releases in 2022. Version 5.4.2 has been proved as stable and reliable for sharing and compatibility studies. SEAMCAT development is actively focused on administration and other user needs encountered in simulation studies, enhancements and introducing new features, as well as reliability and quality improvements of the tool. During 2022, a change of the source code developer for the SEAMCAT project resulted in a lower number of releases than originally planned. However, in 2022, 57 different items were included in the software including new features, additions, enhancements and corrections.

In 2022, major new developments have been undertaken for enabling use of terrain features in SEAMCAT including:

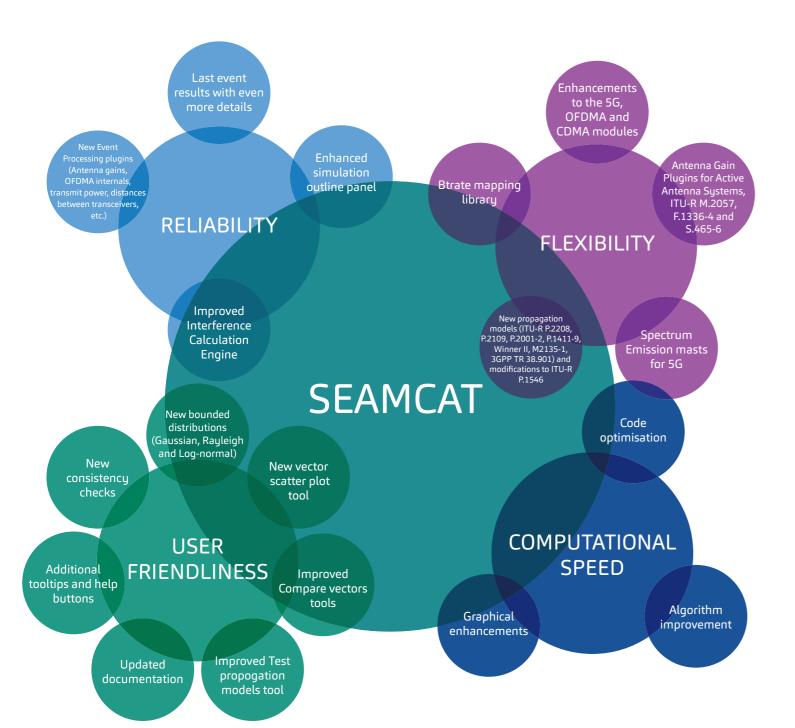
- · extracting terrain profiles from the digital terrain model;
- implementation of terrain profiles in calculating transmission loss in simulation;
- tools and event processing plugins (EPPs);
- extending three propagation model plugins (PMPs) to calculate transmission loss considering the terrain profile;
- terrain consistency check implementation; and
- new terrain data readers.

The ECO has also continuously updated the online SEAMCAT handbook and developed a revision of ECC Report 252 in order to help users in handling the tool. Work has also been performed on the issue tracking system and code repository enhancements.



The tool is updated on a regular basis and is downloadable free of charge at: https://seamcat.cept.org

EUROPEAN COMMUNICATIONS OFFICE SECTION TWO Review of the Year



As well as maintaining and developing SEAMCAT, the ECO continues to raise awareness of the tool.

The following timeline presents the main activities related to SEAMCAT during 2022:

January	Release of SEAMCAT v5.4.3 Alpha 3
March	Release of SEAMCAT v5.4.3 Alpha 4
April	Release of SEAMCAT v5.5.0 Alpha 1
October	CEPT SEAMCAT workshop for beginners
November	Release of SEAMCAT v5.5.0 Alpha 2

Responding to the ECC needs for SEAMCAT development

The main purpose for the continuous development of SEAMCAT is to provide the ECC and its stakeholders with an open-source, free-of-charge software tool that allows them to perform co-existence studies. With that objective in mind, the ECO and the SEAMCAT Technical Group (STG) work in close co-operation with the relevant ECC groups and respond to their needs.

It is important to remember that SEAMCAT was conceived as a co-operative project in which CEPT administrations contribute not only with ideas and suggestions but also with specific proposals for the enhancement of the tool. In that respect, the ECO continuously encourages CEPT administrations and industry stakeholders to increase their involvement in the development of the tool, as they are the main beneficiaries of this work. To this effect the ECO promotes contributions to the tool through regular workshops and training sessions.

It is an incredibly positive endorsement of the efforts made within CEPT that regulators, spectrum engineers, industry and research institutions involved in co-existence studies outside of Europe can also benefit from access to a continuously evolving tool.

SEAMCAT Technical Group

The STG is a project team under WG SE which joins the expertise of administrations and industry with the aim to:

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- Provide technical support on the development of SEAMCAT, including the drafting of supporting user manuals;
- Liaise with and contribute to relevant groups within the ECC to respond to their needs related to SEAMCAT implementation; and
- · Promote SEAMCAT in Europe and beyond.

STG decides which changes should be made to the software to respond to the needs both of ECC Working Groups and Project Teams. In 2022, STG addressed a wide range of topics, including:

- new terrain features and its integration in the core SEAMCAT engine;
- improvements to achieve bitrate in cellular systems calculations;
- cellular systems calculation algorithm enhancements;
- development of the CommandLine application enabling users to run fast simulations and extract results without UI and its enhancements;
- introduction of a new active antenna system sub-array model;
- · receiver intermodulation enhancement;
- compare workspace tool feature improvements;
- introduction of new and updated propagation models;
- · advancements in systems;
- improved calculation speed; and
- improvements to the graphical user interface.

The importance of the work of STG is vital for the development of ECC Deliverables that encompass co-existence studies between wireless systems that require the use of a Monte Carlo simulator. Therefore, stakeholders involved in activities in WG SE project teams are regularly invited to take part in STG's work.

EUROPEAN COMMUNICATIONS OFFICE SECTION TWO Review of the Year

Conducting consultations to deliver better policies

The ECC adopts a transparent and evidence-based approach to developing its deliverables. Listening to, and carefully considering, the views of all concerned stakeholders is critical to delivering fair and effective policies and regulations. Central to the success of this approach is the public consultation process; the ECO takes responsibility for conducting consultations on behalf of the ECC (available at https://cept.org/ecc/tools-and-services/ecc-consultation).

Listening to, and carefully considering, the views of all concerned stakeholders is critical to delivering fair and effective policies and regulations.

The role of the ECO in the consultation process is two-fold:

Administrative responsibility: This includes the
editing and formatting of the draft deliverables, the launching
of the consultation process, the collection of the responses
and, in many cases, the submission of a formal response to the
consultation.

• Expert analysis: We perform a detailed analysis of the responses received. Those responses can include general comments, which provide views on the topics under consideration, and specific proposals (editorial, substantive or technical) intended to inform the draft deliverable under consultation. An amended version of the draft ECC Deliverable is then produced which takes due account of the views expressed by all stakeholders. The output of this activity frames the discussions that lead to the final approval of ECC Deliverables and, ultimately, their adoption and publication in the ECO Documentation Database (DocDB).

In 2022, we carried out 40 public consultations, which were used to inform the substance of new or revised ECC Deliverables. In total, we processed and analysed a total of 105 public consultation responses from administrations and other stakeholders.

Maintaining a record of important deliverables (DocDB)

The ECC's policies on spectrum and numbering matters are given effect through its deliverables, namely ECC Decisions, Recommendations and Reports. Once these deliverables are approved at ECC or Working Group level, we make them publicly available in DocDB.

In 2022, 61 ECC Deliverables were published, including new, revised and editorially updated deliverables. This comprised 32 ECC Decisions, 9 ECC Recommendations, 19 ECC Reports and 1 CEPT Report.

DocDB also provides access to related European Commission Decisions and applicable EU legislation for each ECC Deliverable thereby providing a one-stop shop for those seeking context and background for these policies.

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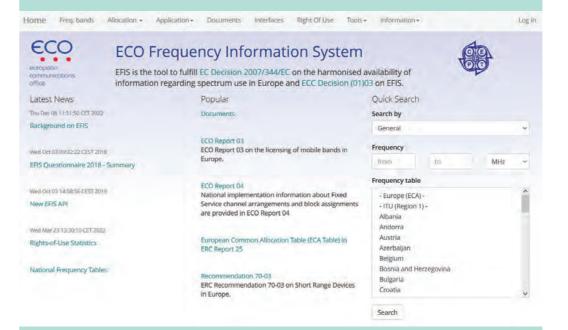
In 2022, there were over 176 000 page views of DocDB from users all over the world. They had access to all the documents available in DocDB, including almost 800 ECC Deliverables in force, an improved archive of withdrawn or superseded deliverables and many additional informative documents. This corresponds to 473 ECC/ERC Reports, 82 CEPT Reports, 107 ECC Recommendations and 117 ECC/ERC Decisions. These documents were downloaded roughly 40 000 times in 2022.

What is EFIS?

Since its establishment in 2002, the ECO Frequency Information System (EFIS) has been administered by the ECO and managed under the supervision of the ECC through its EFIS Maintenance Group (EFIS/MG). ECC Decision (01)03 defines the needs for EFIS for the whole CEPT membership.

In 2007, EFIS became the 'European Spectrum Information Portal'. By doing this it fulfilled EC Decision 2007/344/EC on the harmonised availability of information regarding spectrum use in European Union Member States.

Some popular documents are automatically created from the data held within EFIS. This includes the European Common Allocation Table (ECA Table) in ERC Report 25.



In 2022 there were enhancements made to the EFIS both from a user perspective and for the CEPT administrations that provide the information relevant to their national frequency allocations. Some software bugs were rectified in respect of user account management and the recording of national implementation. The Search Result display of EFIS was updated and enhanced to make the display easier to read and download. The user experience was enhanced, with better scroll functionality and country names being added alongside the flag in certain implementation tables. Some 31 tasks were initiated in 2022 of which 16 are already finalised and incorporated in the live FFIS.

In 2022, the EFIS webpage was visited by more than 23 000 users.

The 46 CEPT administrations now publish national frequency information in EFIS. All information in EFIS is available to the public at https://efis.cept.org/.

Providing a central source of specialist information

To support the ECC in its goal to be a focal point in Europe for information on electronic communications, the ECO provides relevant information on various topics. It does this through the ECC website and through our suite of tools, which are further described in this Report. A short, non-exhaustive guide is provided below. It describes the main types of information made available on the ECC website and in our databases and includes links to the respective areas.

	SUBJECTS	DOCUMENTS	NATIONAL INFORMATION	SPECIALIST SERVICES	EVENTS
ECC Website https://cept.org/ecc	Group area: provides access to information on ongoing activities and progress within each group belonging to the ECC structure Topics: information on a wide range of topics and long-term studies on which the ECC is currently working or has recently developed regulations	Meeting documents: access to contributions, working documents and meeting reports from all groups within the ECC Newsletters: three to four ECC electronic newsletters published each year to promote ECC work items and their context within regulatory and market developments Framework: reference documents which set up the framework and targets of ECC activities	Contact points: national contacts of CEPT administrations and on special topics Regulatory information: information on national regulations applicable in specific spectrum and numbering topics	Consultation: information on public consultations and links to draft deliverables under consultation Questionnaires: links to current and past questionnaires carried out to fully inform the development of ECC Deliverables	ECC Meeting calendar: information on upcoming meetings News: information outcomes of recent meetings, events and monthly summaries of ECC activities Workshops: information, presentations and summary Presentations: made by ECO and ECC officials at different fora
ECO Documentation Database (ECODOCDB) https://docdb.cept.org		Deliverables: library of Decisions, Recommendations, Reports approved by ECC with associated archive and related information Related documentation: links to relevant documents (from EC and ETSI) related to ECC Deliverables	Implementation status: national implementation of ECC Deliverables		
ECO Frequency Information System (EFIS) https://efis.cept.org/	Modules: specific features gathering information (ECC Deliverables, national usage, associated statistics) on key spectrum topics (short range devices, mobile bands, fixed service, PMSE)	Regulatory references: links to ECC, EC and ETSI relevant documents Spectrum inventory: library of information documents for spectrum inventory purposes	Frequency tables: tables of frequency use in national CEPT administrations Spectrum inventory: national information on frequency usage and spectrum rights		
ECC Work Programme Database (ECC WP DB) https://eccwp.cept.org/	Work items: follow the progress of, and find additional information on, individual items in the work programme of ECC and its subordinate groups				
SEAMCAT https://seamcat.cept.org	Software: access to SEAMCAT software, source code, release information and system requirements	SEAMCAT Handbook and ECC Report 252 as well as links to the document area of the SEAMCAT Technical Group		SEAMCAT community: information on bug reporting, related templates, bug reporting instructions and practical tips	SEAMCAT Workshops: links to information on upcoming SEAMCAT workshops
700 MHz Information Repository https://700mhz.cept.org/ countries			700 MHz repository: national information on the co-ordination status in the 700 MHz band		

In addition to the tools and services described in other sections of this Report, the ECO develops and maintains several pages on the ECC website dedicated to key topics such as those highlighted in the ECC Strategic Plan. They are designed to respond to some of the needs identified within the ECC by CEPT administrations and other stakeholders.

The main objective is to reflect on the progress made in the ECC Work Programme on work items related to these topics, to develop material which may complement, inform, support or promote ECC Deliverables, and to make specific information – i.e. national contact points, national regulatory frameworks etc – available to stakeholders. For historical purposes, we also maintain an archive of past topics which were previously the focus of ECC work.

ECO Bulletins

The purpose of the ECO Bulletin is to highlight technical, regulatory and market developments in the area of electronic communications in regions outside of Europe. The ECO brings to each ECC meeting a bulletin on relevant activities in radio communications and numbering in other regions outside CEPT. This specialist information, compiled by the ECO, validates and further informs the ECC's work by examining and comparing the policy approaches taken in other regions of the world. It also helps identify issues that could potentially be addressed in Europe in the near future. In 2022, we produced three ECO Bulletins, which were submitted to each of the three ECC Plenary Meetings, and then disseminated them to the relevant subordinate groups. They addressed 32 topics covering a broad range of developments around the world.

ECO Reports

As a regular task, the ECO manages information from CEPT administrations on implementation of CEPT harmonisation measures. As a result, updates were published in 2022 on:

- ECO Report 03 which provides information on the licensing of mobile bands in CEPT within EFIS. Administrations with recently concluded assignments in mobile bands (e.g. 5G auction outcomes) were requested to update their national information within EFIS in order to ensure the overall picture for CEPT is correct.
- ECO Report 04 on "Fixed Service in Europe Implementation Status" contains national implementation information for the FS channel arrangements covered by ECC/ERC Recommendations as well as any related national restrictions. Administrations were invited to update their related national information through EFIS.
- ECO Report 05 on "CEPT, ECC and EC Deliverables" reflecting the most up to date CEPT, ECC and EC Deliverables as well as the latest amendments to the EFIS Decision, ECC Decision (01)03.

Furthermore, ECO Report 06 on "Country Determination Capability" has been approved in 2022 and deals with national use of the 5725-5850 MHz frequency band by WAS/RLAN devices with maximum power higher than 25 mW and up to 200 mW e.i.r.p. in CEPT countries.

Providing support to Com-ITU in its international engagement

The ECO ensured that the Committee for ITU Policy (Com-ITU) and its four project teams were well organised in their preparations for the World Telecommunications Standardisation Assembly (WTSA-20), the World Telecommunication Development Conference (WTDC-22), and the Plenipotentiary Conference (PP-22). The ECO organised 10 meetings (including hybrid and online) during the year for Com-ITU's co-ordination activities for these conferences. The ECO facilitated the development of European Common Proposals and CEPT Briefs and coordinated the work between the region and ITU. Com-ITU's Project Team on strategic ITU-T issues (PT TU-T) prepared a total of 34 European Common Proposals to WTSA-20, which was held in Geneva, Switzerland, from 1 to 9 March 2022. Com-ITU's project team, responsible for the region's preparations for the WTDC-22 conference, prepared 19 European Common Proposals to WTDC-22, which was held in Kigali, Rwanda, from 6 to 16 July 2022. The two Com-ITU project teams on policy topics (PT PP22-Policy) and on financial, management and organisational issues (PT PP22-FIMO) prepared 27 European Common Proposals for PP-22, which was held in Bucharest, Romania, from 26 September to 14 October 2022.







2.2 Meeting the objectives of the ECC Strategic Plan

The ECO plays an important role in assisting the ECC to implement its five-year strategic plan as outlined in previous sections. The strategic plan outlines the policy goals, key challenges and priorities that lay the foundation for the ECC's activities over the course of the five-year period. The ECO contributes to the overall fulfilment of the plan through its specialist support, which is outlined in the following sections of this report. We are also assigned particular tasks in the context of the ECC's role as a focal point in Europe on electronic communications and its co-operation with other bodies.

CEPT Roadmap for 5G and beyond

The CEPT Roadmap for "5G and beyond", launched in November 2020, builds on the previous CEPT 5G Roadmap and identifies new topics which are foreseen as relevant in the short/medium term related to 5G and its evolution towards future technologies. It takes into account the 2020-2025 ECC Strategic Plan which identifies wireless broadband and connectivity as a major topic to be studied during this period.

The Roadmap contains a comprehensive list of elements on spectrum harmonisation and the related relevant ECC Deliverables. Other spectrum challenges are also addressed such as the use of active antenna systems, the possible role of new technologies such as artificial intelligence and blockchain in spectrum management, and the regulatory options and challenges for frequencies in the 'THz' range.

The CEPT Roadmap for "5G and beyond" is regularly reviewed in order to report on the progress of ECC activities as well as to update the list of actions where appropriate. ECO assists this review process by identifying necessary amendments, e.g. to reflect the ongoing development of ECC Deliverables. In 2022, three updates were provided and agreed by the ECC.

ECO also maintains a **topic page** on the ECC website on 5G developments within CEPT, in order to keep the wider user community informed on the ECC's activities related to the Roadmap. This page is regularly updated with information on new deliverables and progress of work items.

The CEPT Roadmap for "5G and beyond" is regularly reviewed in order to report on the progress of ECC activities as well as to update the list of actions where appropriate. ECO assists this review process by identifying necessary amendments, e.g. to reflect the ongoing development of ECC Deliverables. In 2022, three updates were provided and agreed by the ECC.

ECO also maintains a **topic page** on the ECC website on 5G developments within CEPT, in order to keep the wider user community informed on the ECC's activities related to the Roadmap. This page is regularly updated with information on new deliverables and progress of work items.

Mid-term review of the ECC Strategic Plan

The 2020-2025 ECC Strategic Plan was reviewed to track the progress made against the plan and to consider any amendments which may be necessary to ensure its continued relevance. The ECO contributed to this mid-term review by providing an overview of the main outstanding activities carried out in the ECC family, in the light of the strategic principles, topics and other policy priorities contained in the ECC Strategic Plan. The review concluded that the ECC's work since 2020 is generally aligned with the goals identified in its strategic plan in various areas including mobile/5G, satellite and IoT/M2M related areas. Overall, it is considered that the activities undertaken thus far by the ECC are about right in terms of the goals set out in the ECC Strategic Plan and, as such, no amendments were deemed necessary.

WRC-23 preparation

In 2022, CEPT has heated up the engines to be ready for the World Radiocommunication Conference, taking place in less than a year. The Office has been progressively more engaged in assisting the Conference Preparatory Group (CPG) and the Project Teams tasked with preparation of WRC-23. The CPG management and the entire team of CEPT Coordinator has been supported by the Office during and in between meetings, helping to define the CEPT preliminary positions and the development of the European Common Proposals for the agenda items under discussion at the Conference.

In particular, the ECO continuously maintains a dedicated space for the co-ordination team on the ECC website, to provide them comprehensive and timely information to be used in the CEPT preparation.

More generally, the Office assists the whole process of the development of the European Common Proposals, providing expert assistance for their development, checking and editing the documents to ensure compliance with the ITU tools and supporting the process for their final adoption. In 2022, CPG has already proceeded with the final adoption of the first European Common Proposals. The MeetingHub tool, as provided by the Office, has been instrumental in supporting the CPG decision-making process, e.g. ensuring that administrations could properly express their views in the hybrid meetings, also tailoring the LiveQuestion functionality in the tool. Also, as the WRC-23 approaches, the Office has dedicated more work and attention to support the Heads of Delegation during the CPG meetings, including in the dedicated sessions.

The ECO tools, such as the Forum or the mail reflectors, have been profitably employed for the correspondence work in between meetings. The electronic tools developed by the Office to support CEPT co-ordination have been used. In particular, the chat system has been extensively employed during ITU-R Working Parties and Task Group meetings, as well as meetings of regional organisations. The chat will also be employed during WRC-23.

As the CEPT Secretariat, the ECO acts as a permanent focal point with other Regional Telecommunication Organisations recognised by the ITU. The ECO is the contact point in the preparations for WRC-23. The Office assists and is part of the CEPT delegations attending WRC-23 preparatory meetings outside CEPT. It takes care of the compilation and maintenance of the informative material on the status of the WRC-23 preparation in CEPT, which is distributed to other regional organisations and to the ITU. In the last year, the Office has also accommodated the increasing interest from other regions on knowing more about our experience, tools and work in support of CEPT to prepare for WRC-23.

The CEPT Network of Women for WRC-23

The CEPT Network of Women for WRC-23 (NOW4WRC23) is the European initiative to support the principles of gender equality, equity and parity in the work of CEPT towards WRC-23. The NOW4WRC23 is an integral part of all the groups tasked for the preparation of the conference.

In 2022, the NOW4WRC23 continued addressing specific needs of women delegates within CEPT and promoting women's leadership in CEPT preparation for WRC-23, also through the work of its co-ordination team which includes the ECO expert at CPG. During the year, the series of invited keynotes from Europe and other Regions has been continued. More than 30 speakers have now joined the CPG and PT's meetings, sharing their personal and work experience with CEPT delegates. ECO has helped with the preparation of these sessions, provided support during the meetings and assisted the invited quests as appropriate.

The NOW4WRC23 has also started organising its activities for the WRC-23 and for the Conference Preparatory Meeting taking place at the end of March 2023. The main goal is to inform and promote CEPT initiatives, while providing useful support to female delegates and strengthening the co-operation and mutual exchange with the other regions. The Office is involved in the definition of these activities and takes care of the practicalities for their realisation.

The numerous activities in progress are displayed and promoted on the section of the ECC website dedicated to the CEPT NOW4WRC23. This was developed by the Office.

The CEPT NOW4WRC23 Mentoring Programme was launched in September 2021 for women newcomers who participate in the CEPT preparatory process towards WRC-23. The programme promotes gender equality, equity and parity in CEPT, providing development and the sharing of knowledge and experience.

Female newcomers have been paired with experienced delegates who participate in CEPT preparation, without regards to gender. Some 20 mentee pairs, with 16 mentors and 19 mentees overall, were formed with the help of the Office, which has collected the applications, considered the requests, provided information to the NOW4WRC23 co-ordination team and kept continuous contact with the delegates. Mentors and mentees have continued their exchange during the year, and new requests received during the year have also been accommodated.

ECO supports the implementation of the CEPT Mentoring Programme and has recently conducted a survey to receive feedback from mentors and mentees. The survey was conducted during summer 2022 and 20 respondents, equally split between mentors and mentees, provided their view. The results demonstrated overall satisfaction with the programme and provided a better understanding of the actual needs of mentees, as well as the elements for the way forward to further improve the programme. The ECO compiled a brief overview of the replies, available on the CEPT NOW4WRC23 homepage.

FUROPEAN COMMUNICATIONS OFFICE SECTION TWO Review of the Year

Promoting ECC Deliverables and activities through electronic newsletters and communications initiatives

As the administrative office of CEPT, the ECO leads in promoting the work of the three business committees. In particular, the Office has an explicit role in developing a communications programme to promote the activities, results and achievements of the ECC towards all its stakeholders, internal and external. As part of this brief, the ECO publishes a periodic online newsletter three to four times per year. The ECC Newsletter is designed to provide readers with a greater insight into the world of spectrum management and numbering in an accessible form while providing information on some of the important technology, regulatory and market developments in Europe.

In 2022, the Office released three editions of the ECC Newsletters containing seven articles on various spectrum and numbering subjects. In addition to the publication and distribution of the three published editions, we also identified the topics for inclusion, and our experts authored all articles covered in those editions.



- In the May edition, two articles were featured, both of which focused on spectrum management. The first article explored the regulations surrounding Autonomous Maritime Radio Devices, which takes into account recent advances in technology and several innovations to enhance safety of navigation for both the pleasure sailor and those operating small commercial vessels. The second article delved into the studies on the 28 GHz frequency range, addressing advanced techniques that enable opportunistic use by fixed-satellite service earth stations while employing active and passive mitigation techniques to protect fixed service links.
- In the August edition, two articles were published. The first article explored the challenges of measuring both in-band and unwanted emissions from 5G active antenna systems in the field, to help administrations to check compliance with regulations and perform interference investigations. The second article discussed the ECC's technical proposals for a new innovative millimetre wave security scanner within the frequency range 60-90 GHz, taking into account the potential use scenarios such as airport terminals, major shopping centres, and stadiums.
- · The most recent edition of the newsletter, published in December 2022, comprised three articles. The first article discussed recent advances in satellite technology, including mega-constellations and M2M/IoT applications, as well as the regulatory challenges associated with these advancements. This topic was covered during a CEPT workshop in November 2022 (see section below on Thematic workshops), and the article looked into the main outcomes of the workshop. The second article explored the need for a new IP-based emergency communications network and how emergency services and citizens will benefit from the technological migration from circuit-switched to packet-switched technologies. The third article focused on recent developments in the ECC regarding harmonisation of the millimetre-wave frequency bands at 40.5-43.5 GHz and 66-71 GHz for 5G. The article explored the ECC's efforts to harmonise 5G in these bands, which are crucial to enable the provision of high capacity 5G urban hotspots, while ensuring the protection of existing services.

The newsletters were distributed electronically to almost 2 900 stakeholders and were published on the ECC website. You can subscribe to the ECC Newsletter for free on our ECC newsletter page, where an online archive of earlier editions is also available.

Throughout the year, the ECO also informed ECC Newsletter subscribers about the ECC's main activities and events, such as the outcomes of the ECC Plenary meetings and other developments, e.g. updates on MeetingHub and meeting registration procedures. Subscribers were also notified about questionnaires, public consultations and any releases of new versions of our tools and services.



The publication of ECC Newsletters and of news releases are backed up by short notifications, disseminated through the ECC Twitter account, @CEPT_ECC, which is managed by the ECO. Our use of Twitter continues to remain focused on the communication of factual information, rather than opinions, concerning the ECC's activities. During ECC workshops and major conferences, such as WRC, we endeavour to provide frequent updates to our Twitter followers on relevant issues and insights as they arise.

In order to describe the more routine activities within the ECC in greater detail, we also maintained our efforts in the development and publication of monthly news summaries on the ECC website. These monthly summaries provide a snapshot of the main outcomes of ECC Working Group and Project Team meetings and events that take place each month. They are developed from contributions provided by the ECO experts responsible for the various ECC groups. Throughout the year, the monthly summaries were published as news items on the ECC web page. (https://www. cept.org/ecc).

ECC MONTHLY NEWS SUMMARY DECEMBER 2022

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This summary provides a roundup of the main outcomes of ECC Working Group and Project Team meetings which have taken place in December 2022.

- Included for this period:
- . 5-9 December: CPG PTB progressed the CEPT preparation on WRC-23 agenda items relating to Space issues
- 12-15 December: \$£19 agreed on the draft revision of ECC Report 173 on FS current use and future trends

 14-16 December: FM44 discussed various issues and reviewed the ECA table entries for satellite:
- 19-21 December: SE7 discussed technical work on review or the technical analysis for Audio PMSE in the 700 MHz duplex gap and

5-9 December 2022 - The Conference Preparatory Group B on Space issues met in a hybrid format at the ECO in Copenhager CPG PTB progressed the preparation for the WRC-23 agenda items falling under its responsibility

CPG revised and amended the draft Briefs, including the Preliminary CEPT Positions and developed sevaral draft European Commo source and american was sensity intercently the Terminally UEP1 Posterors and developed 5 issais (ECP3). These will be submitted as appropriate to the next meeting of the Conference Preparelle - France) for their consideration and approval.

Five CEPT inputs were agreed to CPM23-2 (27 March – 6 April 2023, Geneva, Switzerland) providing proposals for the dnaft CPM Text on agenda items 1,15 (GSO ESIM Ku Band), 1,16 (NGSO ESIM Ka Band) and Topics B, D2 and J of agenda item 7 (Satellite procedures), A dedicated PTB were meeting will take place next 27 January 2023, to further address the preparation of CPM23-2 in relation to agenda item 1,17 and agenda item 7 Topics A and J.

Organising workshops on thematic issues and developing training sessions to increase awareness of ECC working methods and activities

Thematic workshops provide an excellent platform for exchanging information, raising awareness of ECC activities and informing ECC Deliverables and follow-up activities. The ECO plays a central and leading role in organising these events.

Workshop on European Spectrum Management and the WRC process

21 June 2022, Copenhagen, Denmark

The ECO organised a one-day workshop on 21 June on spectrum management for newcomers to the CEPT community, with a particular focus on the European process for preparation towards WRCs. The workshop was specifically designed for newcomers to the area of regulation for electronic communications and for those who wanted to broaden their knowledge of modern regulation of spectrum management in Europe and globally. It also formed part of the activities for newcomers within the Network of Women for WRC-23 initiative with the aim to encourage and empower more women to participate actively at the WRC-23. The workshop, held in a hybrid format, was attended by almost 240 people from CEPT administrations, operators, manufacturers, research institutions and other organisations. Feedback from the workshop participants was very positive, acknowledging the excellent presentations given during the event by the speakers. The material from this workshop is available on the workshop page.

SEAMCAT beginners' workshop

19-20 October 2022, Copenhagen, Denmark

The ECO organised a SEAMCAT workshop for beginners on 19 and 20 October 2022. This workshop aimed to assist colleagues in using SEAMCAT to define system parameters and to develop a compatibility and sharing scenario from start to finish, including familiarisation with the layout and features of the tool, and practical examples of running a scenario and interpreting the results.

The workshop, held in a hybrid format, was attended by around 95 participants from CEPT administrations, administrations from other regions, ETSI members, equipment producers, operators, research institutions and other organisations.

The workshop was well received and feedback from participants was very positive. Suggestions were received for the organisation of future events and SEAMCAT software improvements in future releases. The material from this workshop, including exercises, examples and workspaces, is available on the SEAMCAT Technical Group documentation area.

CEPT workshop on satellite innovations and regulatory challenges

21-22 November 2022, Copenhagen, Denmark

On 21 and 22 November, the ECO held a workshop on satellite topics, which addressed the technical and regulatory challenges raised by new satellite technologies and applications, including megaconstellations, satellite M2M/IoT, ESIM, satellite 5G/NTN, as well as the need to continue to meet the requirements of existing applications.

Around 135 participants attended the physical event in Copenhagen, with a further 200 registered to attend remotely. The presentations from the workshop are available on the workshop page, and a summary of the workshop is available in the ECC Newsletter from December 2022.

Increasing the visibility of the ECC through presentations at events

During the year, ECO experts attended a range of conferences and workshops where we delivered presentations on thematic topics while promoting the work of the ECC on related matters. These events provide the Office with an opportunity to share information with relevant stakeholders and to increase awareness and understanding about the ECC's areas of expertise, its policies and regulations.

European Emergency Number Association (EENA) Conference 2022

An expert from the ECO was invited as speaker to the EENA Conference 2022, where a presentation was made on various technical and regulatory challenges related to eCall and ECC's work to tackle these. In addition, the ECO had produced a leaflet on the PSAP Directory and engaged with several countries in a dedicated PSAP Directory session during the conference.

Presentation at RED-CA

The Radio Equipment Directive Compliance Association (RED-CA) is an association of notified bodies under the Radio Equipment Directive. It meets twice a year. The RED-CA hosts these meetings to discuss current issues relating to radiocommunications with representatives of the EU Commission, ECC, ETSI, ADCO RED and authorities from MRA countries. The ECO presented at both web-meetings in May and November 2022. In our presentations, the ECO highlighted the recently published ECC Deliverables, information about Automotive Short Range Radar, WPT including EV-WPT, Drones, Autonomous Maritime Radio Devices and the ninth update of the EU decision for short range devices.

Presentation to the ITU Regional Radiocommunication Seminar 2022 for Europe (RRS-22-Europe)

The ECO **presented** at the seminar both on CEPT activities on spectrum management and the ECO tools EFIS and DocDB. The presentation on our activities set out our mission, organisation and history. It provided some statistical information on our activities. The presentation on the ECO tools EFIS and DocDB gave an overview of these tools, showing the information within that is available freely to everyone.

Supporting the ECC and CEPT through continuous co-operation with other organisations

The ECC represents European interests in the ITU on matters related to the use of the radio spectrum, satellite orbits and numbering resources. The ECC also recognises the benefits of a strong partnership with all key stakeholders, including ETSI and the European Commission, to facilitate the delivery of technologies and services for the benefit of society. In this context, the ECO plays a fundamental role in building effective working relationships with these key partners of the ECC so that policy, regulation and standards development activities are aligned. In order to increase the visibility of the ECC's achievements, the ECO is also active in helping the ECC extend its reach on a range of topics towards other external organisations, including the other regional telecommunication organisations, and also towards universities and research institutions.

The ECO plays a fundamental role in building effective working relationships with these key partners of the ECC so that policy, regulation and standards development activities are aligned.



ETSI

The European Telecommunications Standards Institute (ETSI) is an essential partner of CEPT and its committees, in particular the ECC. The ECO plays an important role in this partnership through its direct participation in ETSI activities and its close co-operation with the ETSI Secretariat.

The primary objective of our involvement in ETSI activities is to ensure that the technical requirements resulting from the regulations and studies developed by the ECC are understood and properly taken into account in the related standardisation activities within ETSI.

The ECC and ETSI's arrangements for co-operation on standardisation and regulation for radiocommunications devices and systems is formalised in a MoU.

The ETSI Technical Committee on EMC and Radio Spectrum Matters (TC ERM) is our main focus concerning radio spectrum issues. It is within this forum that the co-operation process is initiated in response to an industry proposal for a new system, service or application. A work item is created and considered for adoption in accordance with the ETSI Technical Working Procedures which are part of the ETSI Directives. The ETSI work programme is then updated accordingly (https://portal.etsi.org/).

Sometimes a proposal for a new or revised radiocommunications system, service or application is first presented within the ECC, typically within the ECC Working Group Frequency Management (WG FM). In such cases, the relevant ECC group will inform ETSI TC ERM about the proposed new work item and, when relevant, will advise the promoter of the new system to initiate a system reference document (SRdoc) and/or European standard through the relevant ETSI mechanisms. You can read more about the cooperation process at cept.org

One of TC ERM's duties is to be responsible for ETSI's interface with the ECC on radio matters. In 2022 the ECO closely followed the TC ERM to contribute to the continued consistency between ECC and ETSI activities. The ECC website contains a dedicated page (https:// **cept.org/ecc/ecc-and-etsi**) describing how our two organisations work together. It includes a set of documents and tools designed to strengthen the synergy between ECC and ETSI.

This page contains useful reference information, developed in co-operation with the ETSI Secretariat, including:

- A **SRdoc mapping spreadsheet** providing a mapping of ETSI SRdocs (published and drafts) and the resulting ECC activities (mainly work items from the ECC Work Programme Database and then, once approved, corresponding deliverables in the ECO DocDB);
- A **relationship matrix** reflecting the work and information connections between groups within both organisations, including where there is ongoing co-operation between the different ECC and ETSI groups. The matrix is updated several times per year, subject to requirements;
- A brochure which provides an introduction to the regulatory environment in Europe for radio equipment and spectrum;
- Published ETSI Harmonised Standards (covering article 3.2 of the Radio Equipment Directive) which contain requirements that relate to the efficient use of radio spectrum in order to avoid harmful interference. Also referred to is the list with the references to harmonised standards published by the Commission in the Official Journal of the European Union.

In the field of numbering and networks, the ECC and ETSI maintain close co-operation on numbering and networks matters through technical liaison and participation by representatives of both parties in relevant working group, project team and technical committee meetings in accordance with the MoU. In 2022, the ECO, representing ECC interests, continued its participation in ETSI's Technical Committee on Emergency Telecommunications (EMTEL). The work of EMTEL is relevant inter alia for ECC's WG NaN project team NaN3 on Emergency Communications, which is currently addressing next-generation emergency communications and the migration from circuit-switched to packet-switched technologies.

European Commission and European Union relevant activities

The ECO continued its task of providing regular support to the ECC as an observer representing the ECC at all the 2022 meetings of both the Radio Spectrum Committee (RSC) of the European Commission (EC) and of the Radio Spectrum Policy Group.

In particular, the ECO prepared the summary report of ECC activities for each RSC meeting and supported the ECC Chairman during his presentation, when required. In 2022, we also participated in two ECC-EC consultation meetings held in March and October as part of the ECC delegation.

Our involvement in these activities is mainly driven by the need to ensure an efficient interface between the ECC and the EC in implementing the Radio Spectrum Decision. Furthermore, it provides us with valuable background information that we can feed into our activities within the relevant ECC groups, in particular when developing CEPT Reports in response to mandates from the EC.

The Radio Equipment Directive Expert Group (RED EG) has been set up by the Commission's Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs ("DG GROW"). It assists the European Commission in questions concerning the implementation of the Radio Equipment Directive (2014/53/EU, RED) and in the preparation of legislative proposals and policy initiatives concerning radio equipment. The RED EG is composed of the Member States' authorities, European standardisation bodies, the association of conformity assessment bodies and organisations based in Europe such as manufacturers, industrial users, equipment vendors and others. In June and December 2022, the ECO participated in the 15th and 16th meetings of the RED EG.



ADCO RED and RED-CA

Directive 2014/53/EU, "The Radio Equipment Directive (RED)", specifies requirements that products must meet in order to be placed on the market and put into service. It includes the essential requirements for radio equipment to both use and support the efficient application of radio spectrum in order to avoid harmful interference. The implementation of the RED at European level involves several organisations including the European Commission and ETSI. The ECC has a key role to play in this area through its

technical expertise in radio spectrum. The ECO has been active for many years in supporting ECC in this context. It led us to act as an ECC focal point with two influential bodies for the implementation of the RED: the Administrative Co-operation in RED (ADCO RED) and the RED Compliance Association (RED-CA). Both of these are major groups of European regulators in the RED compliance area.

In 2022, we virtually attended two meetings of ADCO RED and provided an update of ECC activities to all three of their meetings. We virtually attended two meetings of RED-CA where the ECO also presented the ongoing activities in ECC, as described above.

ECO activities in relation to International Telecommunication Union (ITU)

ECO experts participate in the relevant study group meetings of ITU within the ITU-R (Radiocommunication) and ITU-T (Telecommunication Standardisation) sectors. Our participation in these meetings provides us with the opportunity to promote European achievements to other regions of the world and to engage and exchange views with regulatory experts on activities and developments outside of Europe. In 2022, participation in the relevant ITU-R and ITU-T activities was undertaken on a virtual basis.

Promoting relationships between CEPT and the other regional telecommunication organisations

As the CEPT secretariat, the ECO acts as a permanent point of contact with other regional telecommunication organisations recognised by the ITU. We are the point of contact in the course of preparations for the main ITU conferences. In 2022, CEPT's engagement with ITU was mainly dominated by preparations for the World Telecommunication Standardisation Assembly (WTSA-20), the World Telecommunication Development Conference (WTDC-21) and the 2022 Plenipotentiary Conference (PP-22).

The ECO organised the participation of CEPT delegations in meetings of the Inter-American Telecommunication Commission (CITEL), the African Telecommunications Union (ATU), Arab Spectrum Management Group (ASMG) and Asia-Pacific Telecommunity (APT) and vice versa. Our central position in the exchange between CEPT and the other regional telecommunication organisations helped us to facilitate closer working relationships and a spirit of co-operation, collaboration and compromise.

The co-operation with the other regional organisations continued also for the preparation of the World Radiocommunication Conference in 2023 as detailed above.

The ECO acts as a permanent point of contact with other regional telecommunication organisations recognised by the ITU.

2.3 Managing our operational support

The ECO is committed to delivering first-class support to CEPT and its committees through the provision of a wide range of administrative, operational and expert services. This back-end support is vital in the day-to-day operations of CEPT as it provides our stakeholders with timely and relevant information on technical, regulatory and market developments, as well as providing a central point for enquiries and facilitating communications between our members throughout Europe.

Our objective is to ensure that relevant information is available to people when they need it, and we do this through managing, maintaining and updating various information sources on our web portal throughout the year. We also provide meeting facilities, both physical and virtual, as well as offering administrative support to CEPT and its committees as required.

Managing CEPT's family of websites



The CEPT portal provides a window for the world to explore the work of CEPT and its committees. It provides a common platform to the websites of CEPT, its three business committees (ECC, Com-ITU and CERP) and its permanent Office (ECO) – the five entities that constitute the CEPT family.

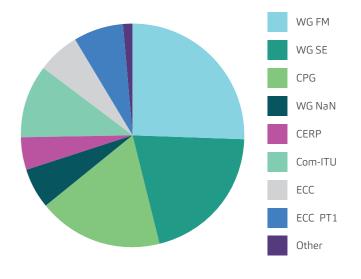
Throughout the year, we deployed a few releases which all consisted of a series of minor error corrections and updates and one major update – the redesigning of the meeting registration procedure. We have also launched a redesigned MeetingHub, where the major novelty was the integration of MeetingHub and the remote tool Goto into a single-window setup.

In 2022, we began developing the next generation of the CEPT portal after conducting a comprehensive evaluation of the system's hardware and software components. The new portal will be built on the latest web technology platform and implemented in a two-year plan with gradual migrations from the current platform to the new one. This upgrade will bring many benefits, including improved user experience, enhanced functionality, and increased security measures. End-users can expect a seamless transition with minimal downtime.

At the ECO, we prioritise the protection of personal data and take GDPR compliance seriously. We want to ensure that the information is accurate and up-to-date, which is why we're reminding all administrations and stakeholders registered on the CEPT website to verify their personal data in our systems. This verification is a routine process that occurs on a yearly basis. As result of this update around 2 900 users were registered on the CEPT portal at the end of 2022. To learn more about how we use and protect your personal data, please read our data policy here.

THE CEPT PORTAL IN 2022	
Visits	221 184
Page views	1 022 226

Membership of CEPT Groups in 2022



Managing our databases

Apart from EFIS, DocDB and SEAMCAT, the ECO also manages and updates other important online information systems on which our main European stakeholders and other interested parties rely.

Maintaining and upgrading the ECC Work Programme Database



The ECC Work Programme Database (WP DB) is part of a suite of software tools developed by the ECO to provide the ECC and its constituent bodies with online facilities for maintaining and updating their respective work programmes on an ongoing basis. It provides our external stakeholders with visibility on our work items and associated timelines. ECO experts supporting the work of the various ECC groups take the lead on maintaining the information on work items in the WP DB.

This provides users with useful features in terms of providing an overview of current and past work items, a search and filtering facility and the ability to create Gantt charts to illustrate the work of any ECC group. The WP DB has become an integral tool for managing the ECC's work while providing interested parties with a high-level view on the overall scope of the ECC's activities.

At the end of 2022, the WP DB contained information related to over 647 ECC work items, either active or finalised, including an up-to-date status on the 69 work items which were in progress over the course of 2022. The WP DB is available at https://eccwp.cept.org/.

The WP DB has become an integral tool for managing the ECC's work while providing interested parties with a high-level view on the overall scope of the ECC's activities.

The PSAP Directory

The PSAP Directory is a directory containing contact information for Public Safety Answering Points (PSAPs) to be used as a backoffice support tool for PSAPs to contact each other when a need arises. For example, the directory would be used in the event of an emergency call where assistance may be required in another country. The PSAP Directory came into service on 1 December 2018 and now contains contact information for 25 PSAPs from 20 countries across Europe. In 2022, PSAPs from Greece and North Macedonia joined the directory. The ECO continues to promote the PSAP Directory and is in contact with several other European countries that have expressed interest in joining the PSAP Directory. The information contained in the PSAP Directory is confidential in nature and is only accessible to participating PSAPs.



Information repository on progress for co-ordination of the 700 MHz band

Following the implementation of the digital dividend in the 700 MHz band (i.e. change of use of the band 694-790 MHz from broadcasting to mobile services), the ECO developed a tool that allows users to monitor and review the progress of bilateral and multilateral co-ordination negotiations between CEPT countries on the use of this band. The repository is available on the website with the possibility for administrations to continue to upload information when appropriate.



Promoting electronic working arrangements

The CEPT Committees are committed to improving the efficiency of working processes by making use of electronic methods of working to complement physical meetings. In this respect, we provide our stakeholders with access to four main tools and services dedicated to electronic working:

- Web-meeting facilities: Our web-meeting facilities are based on the use of the commercial 'GoToMeeting' platform combined with the meeting management features integrated into our portal. This platform together with the MeetingHub became the key cornerstone to support different groups within the three business committees. ECO experts can arrange on request the use of GoToMeeting to accommodate virtual participation in meetings hosted externally;
- Group email facilities: For the three CEPT Committees and their subordinated groups, we provide and manage a range of dedicated group email addresses to facilitate ongoing communications between the individual members of each group and across groups. The group mail functionality is enabled through an email list server which is integrated with the CEPT portal. When a user joins a group, they are automatically added to the email list for that group. An email group can relate to working group, project team or a group set up for collaboration on a particular work item. Users can customise their participation in various groups in their CEPT profile settings. In 2022, we managed more than 78 email reflectors to assist CEPT groups;
- CEPT Forum: The Forum features have been integrated into the CEPT portal since 2012 and have been further improved since then. The extent of its use depends upon the individual groups and project teams' needs. The CEPT Forum serves to complement physical meetings, web meetings and the email reflectors to progress the work on specific work streams and to exchange views on emerging topics of interest;

- **CEPT Chat system:** ECO has developed electronic tools to support CEPT co-ordination at major events. The chat function is integrated with the CEPT portal and includes a feature to access the chat facility from a mobile device. This chat system is widely used for CEPT co-ordination e.g. during ITU-R Working Parties and Task Group meetings as well as during meetings of ECC groups. Information on how to use the chat can be accessed here;
- MeetingHub: Following the release of the MeetingHub tool in 2021, an **upgraded version** was implemented in 2022 with several major features, including a new overall design, a single-window setup that combines MeetingHub and GoToMeeting applications, breakout sessions, new options on the raise hand feature;
- Meeting-registration procedure: A new meeting registration procedure was redesigned and deployed in 2022. The new system records the categories of participation in more detail in line with the procedures built in the ECC Rules of Procedure and Working Methods. The procedure for registration to hybrid meetings has also been simplified. An online **guidance** was also developed for a full explanation of the new process.

EUROPEAN COMMUNICATIONS OFFICE SECTION TWO Review of the Year

Providing facilities for collaborative working

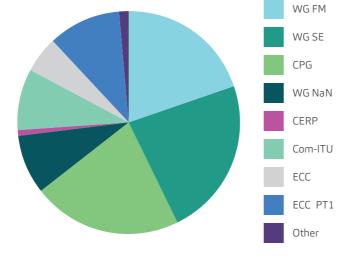
CEPT's work is characterised by close collaboration between regulatory bodies and industry representatives from different countries across Europe. Our headquarters have been located at Nyropsgade 37 in central Copenhagen since May 2014, and we strive to provide first-class meeting facilities for all our stakeholders. Our meeting rooms are equipped with hi-speed internet access, audio/visual facilities, and advanced remote participation capabilities. In recent years, we have made significant upgrades to our facilities, including dynamic cameras and GoTo meeting platform integration, to ensure that all remote participants have a seamless and high-quality audio/visual experience. Following the initial experimentation in the ECO premises, in late 2021, of the "hybrid meeting" format, we were able to hold a total of 28 meetings in our premises during 2022.

Overall, during 2022, the ECO has supported the realisation of roughly around 250 meetings (including fully online meetings) which attracted roughly 10 000 participating delegates across all CEPT committees. These meetings ranged from small working sessions with 10 participants to larger events accommodating more than 200 participants.

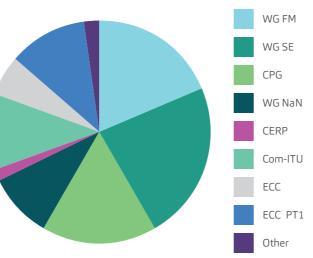
Number of meeting days per Committee and ECC subgroups in 2022







Number of meetings per Committee and ECC subgroups in 2022



Providing meeting facilities at the ECO

The three CEPT autonomous committees develop harmonised policies in the fields of electronic communications and postal services with a strong spirit of co-operation and collaboration where decisions are taken mainly by consensus.

Achieving consensus requires trust and empathy, and face-to-face meetings allow participants to build trust, develop friendships and foster closer working relationships. Meetings at the ECO provide our clients with a platform for informal discussions and networking over coffee and lunch which can be just as important as the formal proceedings of the meetings themselves.

We have three meeting rooms at the ECO – Hamlet Plus, Ophelia and Gertrude – whose names are inspired by Shakespeare's famous tragedy which of course is set in Denmark.

> Further information on meetings at ECO is available on our website including on our meeting facilities, how to reach ECO and on hotels nearby.

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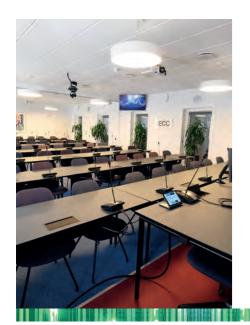
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HAMLET PLUS

Total capacity 60 Participants **Layout** Classroom



OPHELIA

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Total capacity 25 Participants **Layout** Boardroom



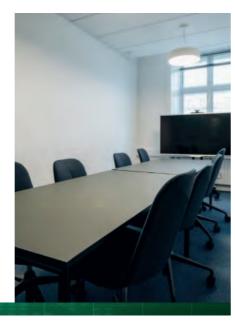
GERTRUDE Total capacitu

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Total capacity 10 Participants **Layout** Boardroom



AMENITIES

- Large co-view screens
- Projector with computer connections (HDMI, VGA, adaptors for iOS devices)
- Multiple screens for the chairmen's table
- Microphone and sound system
- Advanced Camera system
- Remote participation facilities based on MeetingHub and GoToMeeting
- Wi-Fi
- 230v standard European power sockets at each seat
- Flipchart(s)
- Whiteboard
- Event co-ordinator's setup support

Hamlet Plus can be split into two smaller meeting rooms (Hamlet and Horatio) with capacity for 40 and 20 participants respectively.

AMENITIES

- Large co-view screens
- Projector with computer connections (HDMI, VGA, Clickshare, adaptors for iOS devices)
- Sound system
- Advanced Camera system
- Remote participation facilities based on MeetingHub and GoToMeeting
- Wi-Fi
- 230v standard European power sockets at each seat
- Flipchart(s)
- Whiteboard
- Event co-ordinator's setup support

Ophelia was expanded in 2019 thereby increasing the capacity of the room from 15 to 25 participants.

AMENITIES

- Large screen with Computer connections (HDMI, VGA)
- Remote participation facilities based on MeetingHub and GoToMeeting
- Video conferencing facilities
- Wi-Fi
- 230v standard European power sockets
- Whiteboard
- Event co-ordinator's setup support

Gertrude is our newest meeting room and can accommodate up to 10 people. It is ideal for holding breakout sessions from larger meetings taking place.



Supporting the CEPT Presidency

Throughout 2022, the CEPT
Presidency and the ECO endeavoured
to keep updated the plans for
CEPT meetings, and the CEPT
Presidency and ECO published three
communications during the year.

The ECO provided support to the CEPT Presidency in keeping stakeholders informed about the developments concerning the coronavirus pandemic and its impact on the overall CEPT activities.

In early 2022, following the decision to resume physical, face-to-face meetings while allowing for remote online participation, the meeting facilities at the ECO premises in Copenhagen were reopened.

Moreover, following the decision of the CEPT Presidency to suspend indefinitely the memberships of the Russian Federation and Belarus in CEPT, the Office was requested to take all necessary measures in order to set in place the above-mentioned decision.

The ECO has also assisted the CEPT Presidency in the routine activities, such as invoicing and collection of CEPT member financial contributions, correspondence with the CEPT Co-Presidency, responding to requests about CEPT, and maintenance of the sections of the website related to the CEPT Presidency.

Supporting the European Committee for Postal Regulations (CERP)

Following the UPU Congress held in Côte d'Ivoire in 2021, the WG UPU focused on the key topic of opening the UPU to other stakeholders. To facilitate this, the WG decided to double the number of regular web meetings from two to four per year, analysing and studying documents published for the two annual sessions of the Council of Administration of UPU.

The WG Policy had also a very intensive year. During 2022, the WG worked intensively to send a draft proposal to the Council in response to the report of the EU Commission about the reform of the postal regulations and asking for the immediate start of the reform of the postal regulation.

Finally, the annual CERP plenary meeting was held in Madrid. A joint meeting with the UPU and the postal restricted union of America (PUASP – Postal Union of America, Spain, and Portugal) took place with more than one hundred attendees.

The ECO maintained its operational support to CERP and its Working Groups in 2022. This involved secretarial support, correspondence with the CERP Chairmanship, responding to correspondence from external bodies and maintenance of the CERP section of the website and CERP documentation.

Supporting the satellite monitoring Memorandum of Understanding

Due to the highly specialised and costly nature of satellite monitoring facilities, a group of European national authorities have established an agreement under the Satellite Memorandum of Understanding (SAT MoU) to share access to the space radio monitoring station located in Leeheim, Germany. The agreement facilitates satellite monitoring activities within CEPT, particularly to investigate interference involving satellites. In 2022, the signatories of the agreement are: Cyprus, France, Germany, Liechtenstein, Luxembourg, The Netherlands and Switzerland.



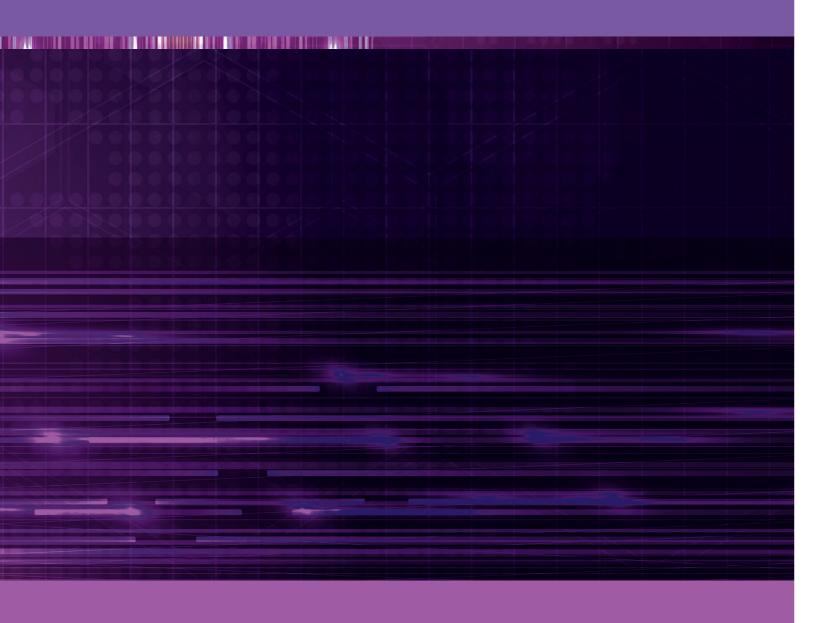
Satellite monitoring

In 2022, the Leeheim monitoring station undertook fixed-satellite service measurements on behalf of its member administrations. In this context, the ECO provides secretariat support to the SAT MoU management committee and manages CEPT's SAT MoU account, which was set up to cover the costs of using the Leeheim facilities. The ECO also acts as the interface between the SAT MoU and the ECC.

In terms of the promotion of the SAT MoU, the ECO maintains a **document** describing SAT MoU activities since July 2003 and a **leaflet** that summarises the importance of the SAT MoU in the satellite monitoring activities. Further information can be found **here**.

SECTION THREE

Governance and Financial Summary



Structure and Governance

The ECO is governed by the ECO Council which consists of representatives of the Contracting Parties to the Convention for the establishment of the European Communications Office ('The ECO Convention'). The Convention inter-alia defines the terms of reference for the ECO and its funding arrangement.

In 2022, 35 countries were officially contracting parties to the ECO Convention while 36 countries contributed to the financing of the ECO. The Council has governance responsibilities, which include agreeing the ECO's budget and work programme on an annual basis. These are prepared by ECO staff under the guidance of the Director. The Council's preferred method of working is by consensus.

The ECO Council convened twice in 2022, holding its 26th and 27th meetings in May and November, respectively. During the 27th meeting, the Council appointed Mr. Thomas Ewers, from Germany, as the new Director of the ECO effective from 1 April 2023. Mr. Ewers succeeds Mr. Per Christensen, who stepped down from the position of ECO Director at the end of March 2023 upon the expiration of his contract.

Financial Summary

The ECO was financed by the following 36 countries in 2022:

Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Spain, Sweden, Switzerland, Türkiye, the United Kingdom, and Vatican City.

Additional financing was earned from directly funded services (e.g. administration of the CEPT and the Satellite MoU).

The following figures provide a financial summary for 2022:

Statement of income and expenses	DKK	EUR
INCOME	16 620 317	2 231 754
EXPENDITURE		
Staff Costs (salaries, pension contributions, etc.)	12 430 249	1 669 117
Operating Expenses (outsourcing, projects, professional fees, travel)	4 287 110	575 667
Office Facilities (rent, building related expenses)	1 763 640	236 819
Expenditure total	18 480 999	2 481 604
Operating balance for end of year	-1 860 682	-249 850

Based on exchange rate of DKK 1 = EUR 0.134

Countries participating in the ECO Council

In 2022, the following 36 countries were part of the ECO Council: Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Spain, Sweden, Switzerland, Türkiye, the United Kingdom and Vatican City.

