

Annual Report Summary of actions

Annual Report 2020 Summary of actions





Table of Contents

6 About EETT

- **9** Actions for the year 2020
- **17** 2000-2020: 20 years since the liberalization of the electronic communications market

About EETT

The Hellenic Telecommunications and Post Commission (EETT) is an independent authority with administrative and financial autonomy. It acts as the National Regulatory Authority (NRA) in matters of provision of services and networks for electronic communications, related facilities and services, and postal services: Its operation is governed by articles 6 to 11 of Law 4070 (Government Gazette 82/A/2012).

EETT regulates, supervises and monitors:

- The electronic communications market, which is primarily dominated by companies/providers of fixed and/or mobile telephony, wireless communications and Internet.
- The use of the radio frequency spectrum, having, inter alia, the competency to grant, revoke or restrict the usage rights for radio frequencies and the licensing of antenna constructions as well as matters relating to the conditions for placing on the market and use of radio equipment.

• The postal market, in which postal services providers operate.

EETT also operates as competition commission, with all relevant powers and monitoring rights, for the implementation of the national and European legislation regarding competition in the above markets. In this context, EETT ensures the smooth operation of the markets, effectively addressing the risks of distorting competition and defending users' rights.



Important milestones in the operation and development of EETT				
1992	The Hellenic Telecommunications Committee (EET) is established by Law 2075/1992 as an independent state authority with competencies in the field of radio frequency spectrum, the under liberalization market of telecommunications services and activities, including the granting of licences and also the task to ensure compliance with competition rules.			
1995	EET starts operating.			
1998	EET is assigned the additional competency for the supervision and regulation of the postal services market by Law 2668/1998, which determines the organization and operation of the relevant market. The Authority is renamed to Hellenic Tel- ecommunications and Post Commission (EETT).			
2000	Law 2867/2000 strengthens the regulatory, supervisory and monitoring role of EETT in the electronic communications market, now fully liberalized after the abo- lition of OTE's exclusive rights and legal monopoly on the fixed (voice) telephony and fixed telephone network.			
2003	EETT's competencies in the postal market are strengthened by amendment of Law 2668/1998. The new framework is defined by Law 3185/2003 on the gradual opening of the postal market to competition and the strengthening of EETT's responsibilities in this market.			
2006	The framework for the provision of electronic communications networks and ser- vices and related facilities is set out, and EETT's competencies are expanded. The new framework is defined by Law 3431/2006 on electronic communications, which incorporates more recent European regulations.			
2012	EETT's competencies are extended, as provided for by Laws 4070/2012 and 4053/2012, regarding the responsibility of managing the radio frequency spectrum for terrestrial digital broadcasting services and ensuring greater transparency and efficiency, in matters such as the licensing of antenna constructions, market analysis and consumer protection.			
2020	Law 4727/2020 incorporates the European Electronic Communications Code, as established with Directive (EU) 2018/1972 into the Greek legislation. The Code updates and replaces the existing package of directives regarding the regulation of the sector. On this basis, Law 4727/2012 replaces most of Law 4070/2012.			



Actions for the year 2020

Summary of actions per sector

In 2020, EETT took initiatives in order to ensure that consumers (both private and corporate) can make the best possible use of the available options, among a variety of services and providers, and to ensure that they have access to reliable services that meet the increased demands and the special conditions due to the COVID-19 pandemic. In this context, EETT made the necessary interventions for the benefit of consumers and implemented targeted informative actions.

At the same time, EETT focused on the implementation of the strategic goals it had set at a regulatory, supervisory and monitoring level. In this light, EETT ensured the smooth operation of the electronic communications and postal services markets, as well as the optimal utilization of the radio frequency spectrum, enhancing competition and creating growth opportunities for the benefit of both consumers and the economy.

An important action in this respect was the granting of radio frequency usage rights for the deployment of 5th generation (5G) mobile communication networks that will yield multiple benefits to the electronic communications market. It will also contribute to the deployment of new services for the benefit of consumers and will favor the implementation of significant investments in critical infrastructures, accelerating the country's digital transformation.

The most important actions are summarized below.

Consumer issues

EETT Consumer Service Sector handled approx. 15,000 written requests/complaints regarding electronic communications and postal services. The complaints were evaluated and EETT intervened on a regulatory and monitoring level, where deemed necessary, in order to ensure consumers' rights.

In 2020, as the use of electronic communications and postal services increased during the restrictive measures due to the COVID-19 pandemic, EETT took initiatives to respond to the new conditions. Its main concern was the systematic information, in order for consumers to be aware of their rights, on the one hand, and to use the above services effectively, on the other. On this basis, it posted tips on its website for a fast and reliable Internet connection. At the same time, it addressed recommendations to the postal services users on issues relating to the receipt of postal items, in the context of e-shopping, and launched an online campaign on the subject. EETT also conducted a public opinion poll on the public's experience and attitude towards Internet services during the period of restrictive measures. In addition, EETT posted information about Premium Rate Services (PRS) provided via SMS, through the use of 5-digit numbers.

Electronic communications sector

Market analysis:

- Leased Lines (LL) markets: The final measure concerning the LL markets both at retail and wholesale level was adopted. For the price control and costing obligations, EETT will develop a Bottom-up LRIC+ model, according to which the prices of wholesale products will be derived.
- Interconnection markets:
 - Wholesale calls originating from the public telephone network provided at a fixed location: The market ceases to be subject to ex ante regulation.
 - Wholesale call termination to end-users at a fixed location: It was deemed that each fixed network provider has Significant Market Power (SMP) in its own fixed public telephone network.

Bottom-up LRIC+ model: The Bottom-up LRIC+ techno-economic model for the calculation of access prices to new generation and copper networks was finalized.

Reference offer for wholesale local access to services: A modification of the OTE 2018 reference offer was approved, regarding the utilization of idle lines and the implementation of a new procedure for new Local Loop Unbundling (LLU) connections and Virtually Partially Unbundled (VPU) Light services.

Rural networks - Ultra-fast broadband infrastructure:

• *Reference offers:* Following the required prior approval of the Information Society, amendments were adopted to the approved reference offers of the companies that deploy broadband infrastructure in "white areas" of the country.



 Price auditing methodology for ultra-fast broadband infrastructure: A methodology was approved for the determination of wholesale prices of ultra-fast broadband infrastructure providers.

General Authorizations Regulation: The amendments proposed by EETT to the General Authorizations Regulation have been subject to public consultation, mainly regarding the protection of consumer rights and changes that occurred in the context of the issuance of Law 4727/2020.

Universal Service (US): A decision was issued amending the Regulation setting out performance targets in the context of US provision, regarding public telephones and directory enquiry services.

Open Internet: The National Open Internet Regulation came into full force.

National Numbering Plan: A decision was issued regarding the management and allocation of numbering resources of the National Numbering Plan.

Premium Rate Services (PRS): The Code of Conduct for PRS was amended.

Domain names [.gr] and [.ελ]: By the end of 2020, a total of 495,187 domain names with the extensions [.gr] and [.ελ] were assigned, resulting to an increase of approx. 5.5% compared to 2019.

Trust services: A Recommendation was submitted to the Minister of Digital Governance setting out the requirements for remote identification of persons during the issuance of approved certificates for trust services.

Electronic Communication Service Quality Indicators: Amendments to the Regulation on Electronic Communications Services Quality Indicators have been subject to public consultation.

Number portability: A minimal decrease (approx. 0.3%) of the total numbers ported was noticed, compared to 2019.

Audits and hearings:

• Examination of OTE's bundled offers: More than 550 bundled offers by OTE were examined for margin squeeze, and 33 related decisions were issued.

- Methodology of margin squeeze assessment: After completion of the relevant public consultation, the methodological framework has been finalized, and will be utilized for the development of the new margin squeeze model.
- Universal Service Net Cost Audit: The audit of the costing data of the Universal Service Provider-USP (OTE) for the years 2012-2014 was completed.
- Audits of OTE LL offers: Upon examination of the retail offers by OTE, it was found that there is no profit margin squeeze in any offer.
- Rural networks Price audit: The prices of the wholesale access services provided by "OTE RURAL NORTH for Development and Management of Broadband Infrastructure", "RURAL CONNECT BROADBAND NETWORKS" and "OTE RURAL SOUTH for Development and Management" were approved.
- Inspections of providers' network infrastructures: A total of 24 inspections and audits were carried out on the infrastructures of electronic communications networks.
- Audits regarding the compliance of providers with their obligations towards consumers: A total of 140 inspections were conducted at retail shops of fixed/mobile and Internet service providers, throughout Greece.

Implementation of competition law: In close cooperation with the European Commission's Directorate-General for Competition, an examination of the agreement between the providers VODA-FONE and WIND was performed on the sharing of their networks and the notification of a merger, according to which they separate the passive infrastructure sectors and contribute said sectors to a new company.

Dispute resolution: Dispute resolution requests were examined between providers and municipalities regarding rights of way and relevant fees.

Radio frequency spectrum sector

Spectrum allocation tender for the deployment of 5th generation (5G) networks:

The tender process for the granting of radio spectrum usage rights in the 5G bands, 700MHz, 3400-3800MHz, 26GHz, and 2GHz was successfully completed. Providers COSMOTE, VODAFONE and WIND who participated in the process, were awarded all the available spectrum. The total price amounted to 372.26 million euros.

The following actions were implemented to prepare the tender process:

- Three public consultations were conducted on issues such as technical conditions, reorganization of the sub-bands, conditions for the granting of rights, coverage obligations for the provision of voice/data services, and broadband services.
- Existing radio frequency usage rights were extended and new rights were granted for the 5G trials.
- Existing radio frequency usage rights in the 700MHz and 3400-3800MHz bands were modified in order to free up bandwidth.
- EETT's electronic application for the support of auctions was updated, in accordance with the requirements of the tender process.

Renewal of 410-430MHz usage rights: Following public consultation, the usage right granted to OTE for the provision of TETRA public digital mobile services was extended until 2022.

Granting of radio frequency usage rights: Radio frequency usage rights for fixed service, Private Mobile Radio (PMR) networks and terrestrial satellite station services were granted and modified, as appropriate.

Electronic Application Submission System for antenna constructions: New and amended licences for land-based antenna constructions were granted. Acts were issued as well for the subsumption of land-based antenna constructions under the scope of Environmental Commitment Standards.

Audits and hearings:

• Ex-officio inspections of proper use of the spectrum were carried out and requests/complaints were investigated on issues relating, inter alia, to interference in the frequencies of mobile telephony base stations, operation of PMR and amateur radio stations, interference and complaints on the provision of data, legality controls, compliance with technical broadcasting standards, illegal broadcasting/installations of radio/television stations and antennas, as well as operations to cease illegal broadcasting. Priority was given to the protection of wireless networks relating to the protection of human life, as well as public and national security.

- EETT conducted audits on 16 radio equipment devices in order to verify their compliance with the legislation.
- EETT held 230 hearings and imposed 448 fines, mostly for fixed/mobile telephony antenna constructions, as well as broadcasting and radio equipment issues.

Postal services sector

Verification of the Universal Service Net Cost: EETT verified the Universal Service Net Cost of the USP (ELTA) for the year 2019. The project is expected to be completed in early 2021, with the submission of the relevant report to the Minister of Digital Governance.

US quality measurement: The quality of the US for 1st priority domestic mail was measured. The speed index for 2020 was estimated at 59.8%, showing a significant fall compared to 2019. The reliability index was estimated at 91.0%, slightly decreased in relation to 2019. It should be noted that the USP was below the quality targets set out for the years 2019 and 2020.

Reforming of the Universal Service content: A Recommendation was submitted to the Minister of Digital Governance regarding the reform of the US content and quality.

Approval of cluster mailbox installations: Installation of 461 outdoor cluster mailboxes was approved in order to serve 420 households in two areas and two municipalities with incomplete numbering or without unique street names.

Measures taken in the context of the pandemic: Actions were taken to ensure the uninterrupted operation of the postal market during the COVID-19 pandemic.

Postal services providers registry: EETT handled



304 requests for registration/deletion from the postal services providers registry or modification of the data in the initial declarations.

Collection and publication of postal market data: EETT continued the collection of quantitative and qualitative data on the activity of registered postal services providers.

Study for the development of the postal market: A study started on the quantitative and qualitative analysis of the postal market, the trends, the further strengthening of competition, and the evaluation of the existing regulatory framework.

Implementation of the Regulation on cross-border parcel delivery: Data were collected from the liable providers with regard to the services of crossborder parcel delivery.

Investigation of complaints regarding violations of competition law: Complaints were examined from postal services providers, with an Individual Licence, against the USP for violations of competition law. The complaints concerned the adoption of abusive practices. A relevant hearing was held in September 2020, the findings of which are expected to be issued.

Audits and hearings:

- A total of 20 audits were carried out on the premises of postal services providers in order to ascertain the degree of compliance with the legal framework and the terms of their licence.
- Postal services providers were called to hearings on the major problems that occurred during the COVID-19 pandemic.

International co-operations

EETT held the Presidency of the European Regulators Group for Postal Services (ERGP), with renewal of its term for 2021. During its Presidency, EETT managed important issues such as the new Directive on postal services and the implementation of the Regulation on cross-border parcel delivery.

At the same time, with its know-how, EETT contributed significantly to the work of the European/ international groups in which it participates or has a co-ordinating role. On this basis, it co-forms the developments in matters of regulation, technology and competition and intervenes in key regulatory issues, promoting our country's positions.

Key data

14

495,187

assignments of domain names by the end of 2020

3,518

providers' requests carried out regarding antenna constructions

622 inspections of antenna constructions

15,183

consumer complaints about electronic communications and postal services

1,592

granted radio frequency usage rights for fixed service

461

cluster mailboxes approved for serving 420 households

350

inspections for radio/television stations 304

licence requests carried out for the provision of postal services

182

companies' requests carried out for General Authorizations regarding electronic communications

164

inspections on premises and retail shops of electronic communications providers inspections regarding fixed/mobile services and Private Mobile Radio networks

170

100

decisions on the granting of rights for Private Mobile Radio networks



• 2020



372.26 million euros

revenue for the state budget from the tender process regarding the deployment of 5G networks (partial payments by providers)

1,083 Plenary decisions

269 hearings 453 decisions imposing fines

2,567

teleconferences through the e:Presence.gov.gr application



20 years since the liberalization of the electronic communications market

2000-2005

20 years since the liberalization of the electronic communications market

The year 2020 marks two decades since the beginning of the liberalization of the electronic communications market. This section presents the most important actions taken by EETT during the 2000-2020 period, in terms of regulation, supervision, and competition.

Market liberalization

Summary

- The regulatory framework for the liberalization of the market is defined (following the issuance of Law 2867/2000): EETT is assigned the responsibility to issue Individual Licences, and rules for the entry of new providers are laid down.
- Competition is promoted for the benefit of consumers and the smooth operation of the market is ensured: By the end of 2005, 297 General and 65 Individual Licences have been issued. A significant number of new providers become active in the market, offering new possibilities to consumers (e.g. number portability, carrier pre-selection/selection).
- Through tender process, licences are granted for:
 - 2G mobile communication: Unallocated spectrum is utilized, a new provider enters the market and competition is strengthened. Also, radio frequency spectrum is allocated for the Extended Global System for Mobile communications (EGSM).

- 3G mobile communication: Advanced mobile telephony services and applications are provided. Timely granting of licences ensures the deployment of the networks required in the context of hosting the Olympic and Paralympic Games in Athens, in 2004.
- Fixed Wireless Access (FWA): Needs of residents are met, mainly in semi-urban and rural areas, for fixed telephony and data transmission.
- TETRA services: Mobile enhanced security services are provided for the communication of autonomous, mainly, user groups (e.g. motorists) and for making calls.

The above procedures rendered approx. 733.7 million euros to the state budget.

- Mobile telephony connections amount to 12.5 million by the end of 2005.
- The new National Numbering Plan is implemented: A smooth transition of users to the 10-digit dialing is implemented, ensuring sufficiency of numbers in the long run.



- Regulatory interventions in the Interconnection, Leased Lines (LL) and Local Loop Unbundling (LLU) markets are intensified, with particular emphasis on issues of cost-oriented pricing, as well as the interventions by EETT, as the competent competition authority, regarding practices of abuse of dominant position: The aim is to remove barriers to market entry for new providers, to establish competition on a level playing field for all providers, and to ensure the smooth operation of the market.
- The management and supervision of the radio frequency spectrum are assigned to EETT: The regulatory framework and the procedure for the granting of radio frequency usage rights are laid down, and staff members are trained and equipped with the necessary technical means. As a result, the processing time of requests is reduced and interferences are dealt with more effectively. Citizens are protected from uncontrolled broadcasting, and legal spectrum users from harmful interferences. Emphasis is given mainly to high priority networks, e.g. Civil Aviation Authority (CAA).
- The implementation of the National Spectrum Management and Monitoring System

is started: A more effective management and supervision of the radio frequency spectrum is achieved with the use of the appropriate software and the utilization of fixed/mobile stations and control centres. Uninterrupted provision of telecommunications services and effective co-ordination/monitoring of wireless systems is ensured during the Olympic and Paralympic Games.

- The first EETT regional office is established in Thessaloniki: Its aim is to supervise the radio spectrum and immediately intervene upon detection of interferences in Macedonia, Thessaly and Thrace.
- The regulatory framework for domain names with the [.gr] extension enters into force: Limits on the number of assigned names are lifted and the assignment process is simplified.
- EETT is assigned the supervision and monitoring of the radio equipment and telecommunications terminal equipment market: The aim is to ensure that the equipment available on the market complies with defined specifications.

Key actions



- The provision of telecommunications activities is liberalized with the issuance of Law 2867/2000 and according to the requirements of EU law.
- The first tender process of EETT: FWA licences are granted (3.5GHz and 25GHz bands).
- Spectrum management and supervision, as well as granting of Individual Licences are delegated to EETT.
- Licences are granted, through tender process, for the deployment of 2G and 3G mobile communication networks.
- The new National Numbering Plan is implemented.
- The first OTE Interconnection model is approved as the negotiation basis for agreements between OTE and alternative providers.
- The Costing System of OTE is evaluated and audited.
- Consumers are given the opportunity to receive for free a basic level of itemized billing.
- Radio frequency spectrum is allocated for EGSM.
- Implementation of the National Spectrum Management and Monitoring System is started.
- Licences for TETRA digital mobile services are granted through a tender process.
- New possibilities are provided to consumers: Carrier pre-selection/selection -

Personal numbers.

- Actions are implemented regarding the effective monitoring of radio equipment and telecommunications terminal equipment compliance with legislation.
- The regulatory framework for the management and assignment of domain names with the [.gr] extension is implemented.

Key regulations/decisions

Regulations/decisions are issued, inter alia, on the following subjects:

- General and Individual Licences.
- National Numbering Plan.
- Antenna constructions licences.
- Regulation of Universal Service (US) issues, and more specifically determination of its content, affordability and designation of liable provider.
- Number portability.
- Carrier pre-selection.





 Number portability is available to consumers.

- A Bottom-up model is developed for Interconnection, LLU and LL services.
- The EETT Consumer Service Sector is established.
- The first EETT regional office is established in Thessaloniki.

2004

• Utilization of the National Spectrum Management and Monitoring System ensures smooth and safe operation of radio communications during the Olympic and Paralympic Games in Athens.

• The National Reference Database for Portability is installed and launched.

• Fixed/mobile telephony packages are

• The first market analysis concerning mobile call termination is completed.

Domain names with Greek characters and

posted on EETT website for providing information to consumers.

• The implementation of the Registars-Registrants-Registry scheme for domain names with the [.gr] extension is started.

[.gr] extension are available for assignment.

- Management and allocation of numbers according to the National Numbering Plan.
- Costing and pricing principles for LL, Interconnection, and LLU.
- Allocation of individual radio frequencies or radio frequency bands under the Individual Licence regime.
- Determination of spectrum usage fees and allocation of radio frequencies for private use.
- Licence-exempt microcell antenna systems.
- Radio equipment notification.
- Management and assignment of domain names with the [.gr] extension.
- Voluntary accreditation of Certification Service Providers.

Broadband promotion Summary

- EETT responsibilities are strengthened, as well as greater transparency and efficiency is ensured, pursuant to Laws 3431/2006, 4070/2012 and 4053/2012: The changes concern issues such as market analysis, enforcement of regulatory obligations and compliance monitoring, consumer protection, as well as radio frequency spectrum.
- Facilitation of entry of alternative providers on equal terms with the provider that holds Significant Market Power (SMP): The aim is to develop the market for the benefit of consumers.
- Radio frequency rights are granted in the 900MHz and 1800MHz bands, through a tender process: Deployment of new wireless technologies/services and 3G/4G networks is enhanced.

The process renders approx. 380.5 million euros to the state budget.

• Radio frequency rights for FWA are granted in the 3.5GHz band (via WiMAX technology), through a tender process.

The price of the tender process amounts to approx. 20.5 million euros.

• Provision of 4G mobile services is started

with the granting of digital dividend in the 800MHz band: Advanced broadband services and infrastructure are provided to consumers.

- Further specification of the US provision framework: Basic electronic communications services are provided for all users at an affordable price.
- Introduction of the regulatory framework for providers' co-location in the urban centres of the SMP provider: Alternative providers are allowed to use OTE's existing/ new infrastructure as well as systems/infrastructures for the connection and operation of equipment.
- Definition of obligations of providers with Significant Power in the individual markets: Effective competition is ensured through market analysis.
- Reduction of mobile telephony termination fees: Retail prices of calls to mobile networks are reduced as an immediate result.
- Protection of consumer rights when using Premium Rate Services (PRS): The aim is to obtain transparency in charges and to adequately inform consumers, including socially vulnerable groups, as well as to avoid



arbitrary charges. A special application allows consumers to be informed about the company to which a PRS number has been allocated.

- Drastic reduction of the processing time for number portability: The service is activated in 3 (from 10) working days from the date subscriber's application is being accepted.
- Launch of the "foritotita.gr" application: Consumers have the opportunity to look for the providers of specific numbers in fixed/mobile telephony.
- Enhanced transparency in telephone service charges: The minimum information that must be provided to consumers regarding charges in their bill (Minimum Level of Itemized Billing) is defined.
- Intervention of EETT, as the competent authority for competition, with measures against abuse of dominant position, in order to ensure the proper operation of the market.
- EETT regional offices are established in Crete and Patras.
- Activation, for the first time in the public sector, of a one-stop online procedure for the licensing of antenna constructions: The Electronic Application Submission System for antenna constructions is launched.

- Launch of the Antenna Constructions Information Portal, "keraies.eett.gr": Consumers may be informed about antenna constructions.
- Transition into the digital television era with the granting of spectrum for terrestrial digital broadcasting: Additional services are provided with better picture and sound quality, and at the same time the radio frequency spectrum is utilized more efficiently.
- Launch of the system for performance evaluation of broadband connection services ("SAPES"-"HYPERION"): Consumers can evaluate the quality characteristics of their fixed broadband connection.
- Launch of awareness campaigns to inform the public about broadband.
- Quality indicators for electronic communications are published (e.g. connection quality, frequency and time of fault restoration): Consumers may compare the quality of services offered by different providers.
- Launch of the Geographic Information System (GIS): The GIS combines information for electronic communications networks with geographic data. Consumers are able to be informed about areas with "fast" Internet (ADSL), as well as the estimated access speed.

Key actions

2006	 Law 3431/2006 defines the framework for the provision of electronic communi- cations services, incorporating EU law. Individual Licences are abolished (with the exception of those for the allocation of radio frequency spectrum) and the li- censing framework (statement of regis- tration) is simplified. The process of analyzing the individual electronic communications markets is started. SMP providers and their regula- tory obligations are identified. More spe- cifically: For the first time, mobile termination fees are set out based on a Bottom-up 	 model. Fees are gradually reduced and providers are obliged to apply accounting separation. The SMP provider is obliged to provide wholesale broadband access and LLU. Cost control of the SMP provider in the fixed telephony market is systematized. Usage rights for FWA radio frequencies are granted in the 3.5GHz band (WiMAX technology), through a tender process. Licensing procedures for wireless networks W-LANs are simplified.
2007	 The regulatory framework based on Law 3431/2006 is completed. The framework for the provision of US is defined: Relevant Ministerial Decisions are issued upon proposal by EETT. The reference offer for wholesale broadband access of the SMP provider is approved. The conversion of Individual Licences for providers of electronic communications networks/services into usage rights of 	 radio frequencies is completed. New responsibilities are assigned to EETT regarding the conditions for the installation and operation of television stations. The SMP provider in the broadband market is found to abuse its dominant position and a fine of 20 million euros is imposed.
2008	 A regulatory intervention is issued re- garding the costing and accounting sep- aration methodologies/principles of the SMP provider. Codes of Conduct are issued for elec- tronic communications and PRS. 	 The LLU reference offer of the SMP provider is approved. Usage rights for mobile telephony are converted to technologically neutral in the bands of 900MHz and 1800MHz.

2009	 Fees regarding rights of way are defined in order to lay down uniform rules for the deployment of infrastructures, with the aim to provide broadband services to all citizens. The accounting separation obligation of OTE, as SMP provider, is implemented. The terms of use for individual radio fre- 	 quencies or radio frequency bands are revised. Radio interfaces for Short Range Devices (SRD) are updated. GIS for electronic communications is launched.
2010	 The processing time of number portabil- ity applications is significantly reduced. The Code of Conduct for PRS is modified. An online application for the submission of licensing requests is developed. The approval of the reference offer for wholesale broadband access allows alter- native providers to offer consumers with retail services similar to those of OTE. 	• With the issuance of the Regulation on the Minimum Level of Itemized Billing, consumers have the opportunity to re- ceive basic information, through their bill, in order to verify and control charges.
2011	 Radio frequency usage rights in the bands of 900MHz and 1800MHz are granted through a tender process. The obligation of avoiding price squeeze for its retail offers is imposed on the SMP provider. The 28GHz band becomes available for FWA, in a wide geographical area. EETT regional offices are established in Crete and Patras. 	 The application system for performance evaluation of broadband connections is developed. A special application is developed which allows consumers to search for the companies to which PRS numbers are allocated.

 One-stop online licensing procedure for antenna constructions (Law 4070/2012) is activated through the Electronic Application Submission System for antenna constructions.

- Upon EETT's Recommendation, a Joint Ministerial Decree on the granting of rights of way is issued.
- Mobile call termination fees are further reduced.
- The process for the development of a
- A tender process for the allocation of terrestrial digital broadcast television channels is launched.
- The number portability procedure is modified.
- Retail markets of publicly available telephone services provided in a fixed position are deregulated.
- For the first time, an agreement on the sharing of mobile providers' network is evaluated in the context of EETT's competencies regarding competition.

Bottom-up model is started in order to define termination fees for fixed telephony.

- The reference offer for wholesale broadband access of the SMP provider is approved.
- A process for the cessation of analogue television broadcasting is implemented in the broadcasting centres of Mt. Ymittos and Mt. Chortiatis, in the context of the transition to digital television.
- The Electronic Application Submission System for antenna constructions becomes fully operational.
- The new system for performance evaluation of broadband connection services "HYPERION" is launched.
- A price monitoring system for retail electronic communications products is set in pilot operation.
- An application is launched for the measurement and presentation of service quality indicators for electronic communications.

Key regulations/decisions

Regulations/decisions are issued, inter alia, on the following subjects:

- General Authorizations (General Licences).
- Management and allocation of numbering resources.
- Number portability.
- Use and granting of usage rights for radio frequencies under the General Authorizations regime.
- International Roaming.
- Wholesale lines leasing.
- Public consultation procedure.



2014	• Usage rights of radio frequencies in the bands of 800MHz (digital dividend) and 2.6GHz are granted through a tender process for the deployment of 4G mobile	 Call termination fees in fixed networks are reduced by EETT's regulatory intervention. The framework regarding the terms of use
50	 communication networks. The tender process for the allocation of terrestrial digital broadcast television channels is completed. A tender process is held for the granting of radio frequency usage rights in the 3600MHz band. 	 for individual radio frequencies or radio frequency bands is revised. A campaign is launched to monitor the transition to digital television, by recording the capability of reception and demodulation of the available digital television signal.
2015	 A procedure is started for the granting of radio frequency usage rights in the 24.5-26.5GHz band. The Antenna Constructions Information Portal, "keraies.eett.gr", is developed. 	 sion of the Virtually Partially Unbundled (VPU) Light product is approved. A regulation is issued for the co-location and common facilities use.

- Co-location and common facilities use.
- Rights of way fees and usage rights.
- Land-based antenna constructions licences.

• The reference offer by OTE for the provi-

- Terms of use for individual radio frequencies or radio frequency bands.
- Access network loop management.
- Spectrum and power injection management.
- Transfer of radio frequency usage rights.
- Publication of radio interfaces.
- Granting of an annual antenna installation and operation fee to the Greek Atomic Energy Commission.

Deployment of next generation access networks

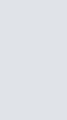
Summary

• Through a tender process, radio frequency rights are allocated for the deployment of 5G networks: Ultra-fast services and innovative applications will be provided to users, contributing to the country's digital transformation.

The procedure yields 372.26 million euros to the state budget.

- The new General Authorization Regulation is issued: The aim is to further ensure the rights of consumers and monitor charges for telephony and Internet.
- "Pricescope", the price observatory, is launched: Consumers have the opportunity to compare retail prices for fixed/mobile telephony and Internet products.

- Higher Internet access speeds and improved quality of service are ensured for users through Next Generation Access networks:
 - Providers perform the installation of optical fibers in the access network, as an alternative to copper infrastructures, resulting in higher transmission speeds over longer distances from the out-door cabinet to the urban centre.
 - The process for the deployment of VDSL Vectoring technology, under conditions of fair competition, is established, upgrading the access networks.
- The regulatory framework for the granting of radio frequency usage rights



2016-2020



under the General Authorization regime is amended: Procedures are optimized, the framework for granting rights for networks trial operation is specified, and the conditions for placing radio equipment on the market are updated.

- **Open Internet measures are established:** Fixed network subscribers are informed about realistically expected connection speeds and not only for nominal speeds.
- New number portability regulatory interventions come into force: The aim is to enhance consumer protection.
- Assignment of domain names with the [.ελ] extension is started.

• EETT's competencies in the fields of electronic communications, radio frequency spectrum, postal services and competition are consolidated with the transposition of the European Electronic Communications Code in the national legislation.

Key actions

S

201

- The tender process for the implementation of FWA broadband networks in the 26GHz band is completed.
- The national market of wholesale local access provided at a fixed location is defined, as well as the SMP provider and the relevant obligations. The procedure regarding the allocation of areas for the deployment of VDSL Vectoring and Fiber to the Home (FTTH) technologies is defined.
- Regulations regarding markets for access to the public telephone network are removed.
- For the first time, the Universal Service Provider (USP) is designated through a tender process.
- The OTE reference offer for IP technology interconnection is approved.
- Open Internet measures are established.
- The price observatory, "Pricescope", is launched.
- The rights of electronic communications users are further guaranteed by the issuance of a new General Authorizations Regulation (implementation in three stages).
- The tender process for part of the 1800MHz band for mobile broadband communications is completed.
- Radio frequency usage rights for the 410-430MHz band are renewed.
- Annual assignments of cabinets for the deployment of VDSL Vectoring and FTTH technologies is started.

- Technical specifications for wholesale product Virtual Local Unbundling (VLU) are laid down.
- Presidential Decree 98/2017 is issued, regarding the availability of wireless devices on the Greek market, and according to which EETT continues to be the competent body, exercising the relevant market supervision.
- A directive is issued to providers for the mandatory inclusion of fees and VAT in their listed retail prices.

Key regulations/decisions

Regulations/decisions are issued, inter alia, on the following subjects:

- General Authorizations.
- Number portability.
- Open Internet.
- Definition of rights of way fees and usage rights.
- Co-location.
- Terms for the granting of radio frequency usage rights for the trial operation of 5G networks in the 3400-3800MHz and 24.25-27.5GHz bands.



• Preparations are started for the allocation of spectrum regarding the deployment of 5G networks: Regulatory framework, public consultations, trial operation of networks.

- The new measures laid down in the National Open Internet Regulation enter into force.
- New regulations are applied for number portability.
- The investigation and determination of

the impact that the Long Term Evolution (LTE) mobile networks technology, operating on the 2600MHz band, have on the air traffic management radars of CAA, operating on the adjacent band of 2700-2900MHz, is completed.

- The merger of providers CYTA and VODA-FONE is approved.
- Assignment of domain names with the [.ɛʌ] extension is started.

2019

 Preparations regarding the allocation of spectrum for the deployment of 5G networks continue: Issues are examined relating to the terms and phases of granting of rights, starting price, infrastructure sharing, extended coverage in "white areas", feasibility study regarding incentives for newcoming provider and access of vertical markets to 5G networks, as well as trial operation of networks.

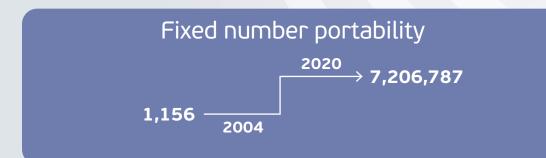
• The LL market analysis is performed:

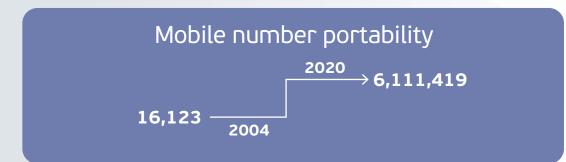
Wholesale prices are determined based on a Bottom-up model. The obligation of not causing margin squeeze on the retail LL offers is imposed on the SMP.

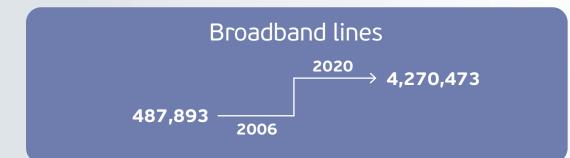
- The Electronic Application Submission System for antenna constructions is adapted to the requirements of the new Regulation on the licensing of land-based antenna constructions, which specifies procedures and regulates relevant issues.
- Through a tender process, usage rights of radio frequencies for the deployment of 5G networks are granted in the 700MHz, 2GHz, 3400-3800MHz and 26GHz bands.
- The new Regulation on number management is published, fully harmonized with the European Electronic Communications Code.
- Temporary LL wholesale prices are set, according to retail minus methodology.
- The Code of Conduct for PRS is modified.
- The techno-economic Bottom-up LRIC+ model for the calculation of access prices to next generation access and copper networks is finalized.

- Use and granting of rights for radio frequencies under the General Authorizations regime.
- Antenna constructions licensing.
- Terms of use for individual radio frequencies or radio frequency bands.
- Provision of trust services.
- Operation of the price observatory for retail telecommunications and postal retail products as far as electronic communications products are concerned.
- Operation of the Electronic Application Submission System for antenna constructions.

32





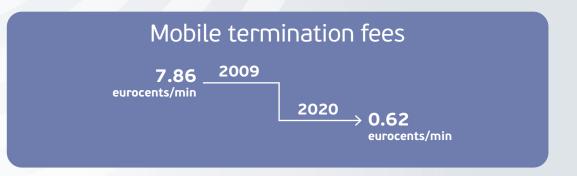


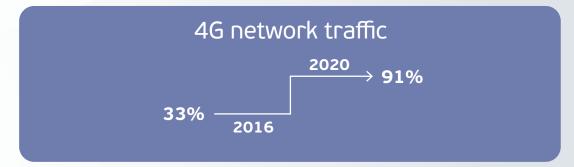
Nominal broadband download speeds								
2006	201	5	2020	C				
≤2Mbps: 100%	>30Mbps: 10-30Mbps: 2-10Mbps: <2Mbps:	77.4% 14.5%	>100Mbps: 30-100Mbps: 10-30Mbps: 2-10Mbps:	32.8% 61.1%				

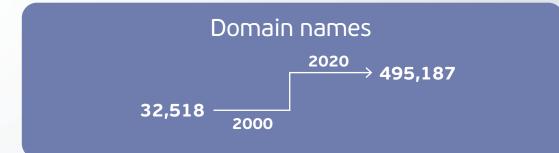


2000-2020

R3







Revenues for the state budget from the allocation of spectrum through tender processes (2000-2020)



Note: Data refer to the end of each year.



Hellenic Republic Hellenic Telecommunications & Post Commission

60, Kifissias Ave., 151 25 Maroussi, Greece **T** 210 615 1000 **E** info@eett.gr **WWW.eett.gr**