



Benchmark Report 2021

Report on Market Trends and Regulatory Activities of EMERG Members 2021

EMERG (21) 03

EuropeAid/136489/DH/SER/MULTI

Study for
EURO-MEDITERRANEAN REGULATORS GROUP
(EMERG)

By:
Detecon International GmbH

Cologne, May 2022

Content

Figures	3
Tables	3
1. Introduction	4
Objectives	4
Process	4
2. Trends in the telecommunications markets in the EMERG countries	6
Status of the digital economy	7
Consumer outcomes	9
Competition indicators	16
3. Institutional issues	20
NRA's independence	20
NRA's governance	21
NRA's competencies and powers	23
NRA's accountability and transparency	28
4. Regulatory development in the EMERG countries	31
Market access	31
Licenses	31
Access to scarce resources	32
Regulatory market analysis and imposition of obligations	36
5. Consumer issues	40
6. Universal service	44
7. Net Neutrality	46
8. Promotion of broadband services	48
9. Regulatory fiches	50
Bosnia & Herzegovina	51
Croatia	58
Cyprus	69
Egypt	75
France	80
Germany	91
Israel	92
Italy	97
Jordan	107
Lebanon	116

Malta	122
Montenegro	133
Morocco	138
Palestine	146
Portugal	152
Spain	167
Switzerland	181
Tunisia	190
Turkey	195

Figures

Figure 1: GDP per capita in EMERG countries, 2020 (thousands of current US\$)	7
Figure 2: Network Readiness Index WEF, 2021	8
Figure 4: Coverage over population of 3G and 4G mobile networks, 2020 (% of population)	9
Figure 5: Mobile cellular penetration & GDP pc, 2020 (lines/ 100 inhabitants & 1000s of \$) .	11
Figure 6: Individuals using Internet in EMERG countries 2018, 2019 and 2020 (% of total individuals)	12
Figure 7: Proportion of mobile subscriptions by contract modality, 2020 (% of total subscriptions)	13
Figure 8: Mobile broadband penetration and fixed broadband penetration, 2020.....	13
Figure 9: Fixed broadband penetration 2018, 2019 and 2020.....	14
Figure 10: Penetration and growth of fixed broadband in EMERG countries, 2019-2020.....	15
Figure 11: Households with Internet access, 2018, 2019 and 2020	16
Figure 12: Market share of leading firm in the main retail markets, 2020 (% of lines / total) ..	17
Figure 13: Distribution of broadband lines by supporting technology, 2020 (% of total lines)	18
Figure 14: Fixed telephony penetration and proportion of VoIP lines, 2020	19
Figure 15: NRA's independence	20
Figure 16: Competencies in telecommunication sector	24
Figure 17: NRA's competencies	25
Figure 18: Powers of enforcement.....	26
Figure 19: Advisory role.....	27
Figure 20: NRA's accountability	28
Figure 21: Number of employees in NRAs.....	29
Figure 22: Recruiting and budget	30
Figure 23: Sourcing of budgets.....	31
Figure 24: Provided licenses	32
Figure 25: Spectrum management and licenses.....	34
Figure 26: Spectrum trading and refarming	34
Figure 27: Spectrum assignment.....	35
Figure 28: Market analysis and SMP	36
Figure 29: Market reviews	37
Figure 31: End user protection	41
Figure 32: Complaints, tariffs, contracts	42
Figure 33: QoS legislation and penalties	43
Figure 34: Operators bound to QoS.....	43
Figure 35: Number portability	44
Figure 36: Services under USO.....	45
Figure 37: USO competencies.....	45
Figure 38: Net neutrality	47
Figure 39: Promotion of broadband services	49

Tables

Table 1: Governance regimes	22
Table 2: Fixed voice telephony remedies in EMERG countries.....	38
Table 3: Mobile voice telephony/SMS remedies in EMERG countries	39
Table 4: Fixed broadband market remedies in EMERG countries	40

1. Introduction

Objectives

Since 2009 the Euro-Mediterranean Regulators Group (EMERG) has undertaken an annual benchmark of its member National Regulatory Authorities (NRAs). The results form the basis for the evaluation of the level of approximation of the southern Mediterranean countries (hereinafter also referred to as MENA countries) with respect to the European Framework for the electronic communications sector and the formulation of the Group's Annual Work Plan.

The structure of the 2021 EMERG Benchmark follows the same structure as the 2020 Benchmark report. Like the previous report, the 2021 Report seeks to quantify the rapprochement between MENA and European countries by showing the evolution of individual indicators over time. Like in previous reports information about key performance indicators and trends of the telecom sector has been collected and an update on the regulatory activities of the EMERG members in 2020 is provided. However, it must be noted that only one of the digitization indices, the Network Readiness Index, could be updated. As of today, the ITU Development Index 2018 still has not been published, this is due to a revision of the indicator set. After a pause of three years between 2016 and 2019, the Network Readiness Index is published annually again, i.e., also in 2021. The latest results are therefore part of the Benchmark Report again.

EMERG also welcomes a new member, Montenegro's EKIP. The corresponding responses to the questionnaire and trends have been considered in this report.

Chapter 1 of the Report is an introduction. Chapter 2 describes the main trends in the telecommunication markets (fixed and mobile) in the EMERG countries based on data provided by EMERG members and other sources such as ITU, the World Bank, etc. Chapters 3 to 8 focus on regulatory developments (institutional issues, market entrance conditions, consumer issues, etc.) in EMERG countries. Finally, chapter 9 includes Regulatory Fiches from the Member States that have participated in the survey.

Process

An extensive regulatory questionnaire on regulatory market developments together with a data sheet to be filled out with relevant market indicators was circulated to the National Regulatory Authorities (NRAs) in October 2021. The survey was based on the existing literature as well as on previous research on the topics conducted by the EMERG and the European Commission (EC).

In total 17 EMERG members answered to the data sheet relevant for chapter 2:

Bosnia & Herzegovina, Croatia, Cyprus, Egypt, France, Germany, Israel, Italy, Jordan, Malta, Montenegro, Morocco, Palestine, Portugal, Spain, Tunisia, and Turkey. As was the case in previous reports, some figures in chapter 2 have been elaborated with other sources of data, especially from ITU and World Bank. In addition, this report also includes benchmarks from the World Economic Forum (Network Readiness Index).

In general, the data and information included in the Benchmark Report refer to 31st December 2020.

With respect to chapters 3 to 9 in total, a number of 18 EMERG members answered to the regulatory questionnaire: Bosnia & Herzegovina, Croatia, Cyprus, Egypt, France, Germany, Israel, Italy, Jordan, Malta, Montenegro, Morocco, Palestine, Portugal, Spain, Switzerland, Tunisia, and Turkey.

2. Trends in the telecommunications markets in the EMERG countries

There is a number of common market trends in the set of countries that are part of the EMERG. In relation to fixed network services, fixed telephony lines stagnate at an average penetration of 29 lines/100 inhabitants. There has not been a significant development in this indicator since 2015. The total fixed broadband lines and the penetration with fixed broadband services showed an increase in almost all member countries. On average, the increase in fixed broadband penetration has been larger in non-EU than in EU countries for the past few years. Nonetheless, there is still a substantial gap in absolute fixed broadband penetration between the two groups. While most MENA countries exhibit a penetration rate of less than 10% (except for Israel, Tunisia, and Turkey), there is no EU country with a penetration rate below 25%. The comparison to fixed-line penetration shows that just looking at legacy networks, there is still room for growth.

Services based on mobile networks have stabilized. Mobile telephony subscriptions reached a penetration figure (measured as number of mobile lines per 100 inhabitants) of 115.4 on average across all EMERG countries, an increase of 1.6 percentage points compared to 2019. Across all EMERG countries, an average reduction of 1.15% in the mobile cellular penetration was recorded, with higher reductions in Algeria, Bosnia, Greece and Palestine¹. Mobile broadband is globally the most successful service in recent years and also in the EMERG countries. The region as a whole recorded an average coverage with 3G/4G networks of 98.3%², approaching the overall mobile network coverage (2G/3G/4G networks) of 99.6%. In many countries, the gap between mobile broadband penetration and fixed broadband penetration widens considerably (see Figure 7).

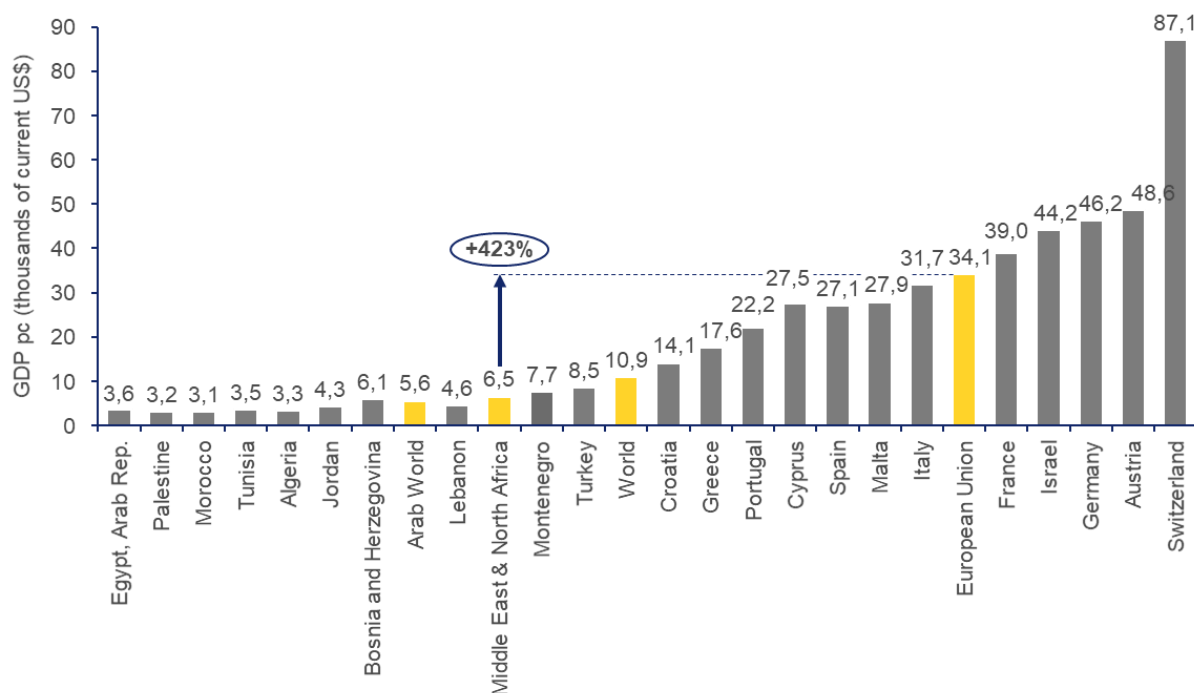
Comparing performance indicators across the EMERG countries is a difficult task. The very wide differences in per capita income, living conditions and regulatory frameworks make comparisons an exercise that must be taken with caution. World Bank data suggests that the financial gap between member countries of the European Union (EU) and countries from the Middle East and North Africa (MENA) is decreasing. The gap between the EU aggregate and the MENA aggregate has varied in the past years. It increased by 9% from 348% in 2016 to 357% in 2017, from 2017 to 2018 it has decreased to 355% percent again and further in 2019 to 337%. In 2020, the decreasing trend turned around reaching the highest level of the past years with a gap of 428%. This increase may have possibly been caused by the effects of the COVID-19 pandemic.

As will be shown in this report, the significant differences in GDP per capita across the countries considered do not translate directly in the same magnitude to coverage and penetration of different telecommunications services.

¹ In Palestine decreasing penetration rates since 2017 can be explained by an update in the statistical measurement method. The definition and registration of active SIM cards was changed to a narrow approach

² Note: Palestine didn't have 3G/4G coverage by the end of 2017 due to the political situation which imposes restrictions on the allocation and use of needed frequency bands. 3G has been implemented in 2018, taking into account that the coverage provided represents only West Bank not all of Palestine. In Gaza, the imposed restrictions still prevent any 3G or 4G frequency allocation and, thus, service coverage.

Figure 1: GDP per capita in EMERG countries, 2020 (thousands of current US\$)



Note: Aggregations Arab World, Middle East & North Africa, World and European Union include all countries as per definition of the World Bank. Aggregates are not limited to EMERG members

Source: World Bank.

In the following sections basic indicators of usage, penetration, and coverage are presented for the set of countries for which data is available, - either obtained directly from the NRAs or from other sources -, notably ITU. The objective is to extract the main trends occurring in the marketplace.

Status of the digital economy

To introduce the telecommunication-specific data obtained from each NRA, this section gives a brief summary of the progress each country has made with respect to the development of its information and communication technology (ICT) sector and its propensity to exploit the opportunities offered by ICT. This overview is developed with the help of third-party analyses – namely the Network Readiness Index³ issued by the World Economic Forum and the ICT Development Index⁴ issued by the ITU.

³ <http://reports.weforum.org/global-information-technology-report-2016/networked-readiness-index/>

⁴ <http://www.itu.int/net4/ITU-D/idi/2017/>

The Network Readiness Index (NRI) is aimed at measuring the drivers for the global ICT revolution and is widely regarded as the most comprehensive assessment of how ICT impacts the competitiveness and well-being of nations. As of the 2021 NRI report, the index is made up of four main categories (pillars), 12 subcategories (sub-pillars), and 60 individual indicators distributed across the different pillars. The four main areas the index describes are *Technology*, i.e., access, content, and future technologies; *People*, i.e., individuals, businesses, and governments; *Governance*, i.e., trust, the regulatory environment, and inclusion; and *Impact*, i.e., the level of ICT adoption by society and broad economic and the broad economic and social impacts accruing from ICTs.

After not publishing the index in 2017 and 2018 the WEF handed over the production of the NRI to Soumitra Dutta and Bruno Lanvin in 2019 and 2020. A redesigned NRI ranks a total of 130 economies based on their performance across 60 variables⁵. The NRI 2020 is now a publication of the Portulans Institute (PI), in partnership with the STL, an integrator of digital networks providing 5G solutions.

In the group of EMERG countries, most European countries⁶ are ranked higher than non-European countries. Exceptions are Israel and Switzerland, with Switzerland being the highest-ranked country in the sample and Israel performing better than most European countries.

Figure 2: Network Readiness Index WEF, 2021

Country	NRI Rank 2015	NRI Rank 2016	NRI Rank 2019	NRI Rank 2020	NRI Rank 2021
Switzerland	6	7	5	5	6
Germany	13	15	9	9	8
France	26	24	18	17	14
Israel	21	21	22	24	22
Spain	34	35	25	25	23
Malta	29	34	26	26	27
EU member median	32	35	27	29	27,5
Portugal	28	30	28	31	31
Italy	55	45	34	32	28
Cyprus	36	40	36	36	39
Greece	66	70	43	45	46
Croatia	54	54	44	43	41
Montenegro					62
Turkey	48	48	51	57	45
Jordan	52	60	73	69	72
Bosnia and Herzegovina	0	97	81	87	86
MENA median	78	78	84	84	74,5
Tunisia	81	81	84	91	87
Lebanon	99	88	86	90	93
Morocco	78	78	87	93	81
Egypt	94	96	92	84	77

Source: <https://networkreadinessindex.org/>

⁵ <https://networkreadinessindex.org/>

⁶ Including Croatia, Cyprus, France, Greece, Germany, Italy, Malta, Portugal, Spain

The ICT Development Index (IDI) issued by the ITU has not been updated over the past five years and is therefore not considered within this report anymore.

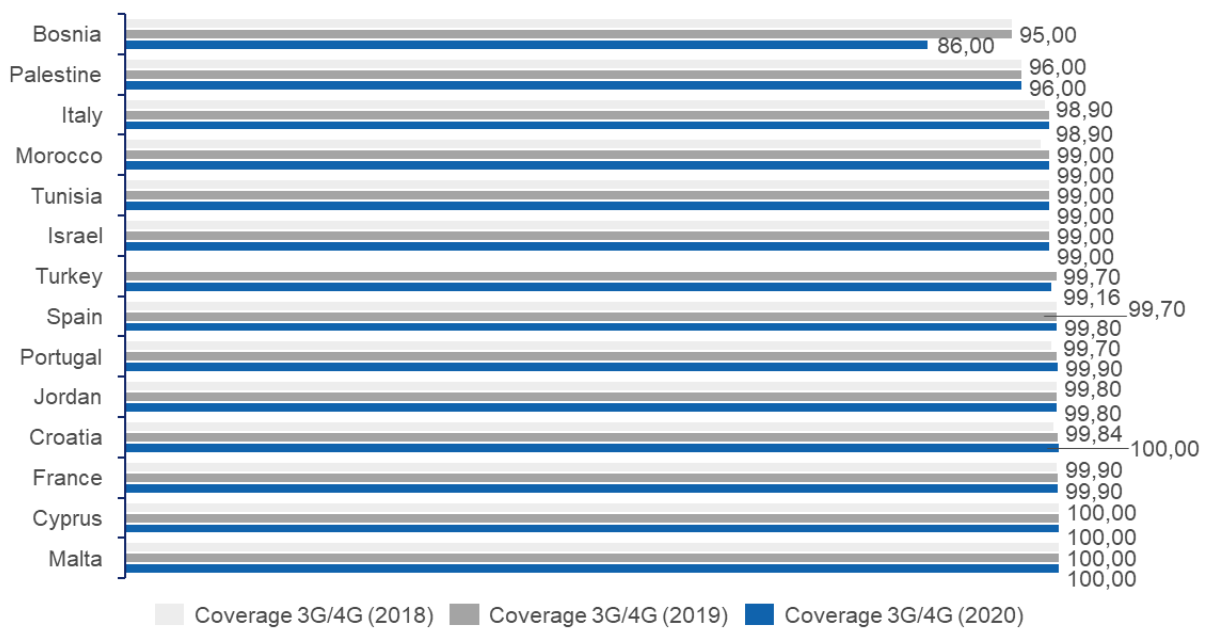
Consumer outcomes

Mobile services

One relevant development in telecommunications markets around the world is the strong extension of mobile networks in the last three decades. The deployment of mobile networks implies much lower costs than the ones implied for fixed networks and one evidence since the emergence of mobile telephony is the fact that in developing and emerging markets, coverage of mobile networks soon surpassed the coverage registered for fixed networks significantly. Nevertheless, in the longer term, it should be noticed that the deployment of fixed fiber-based infrastructure is necessary in order to support the increase of mobile internet connection volume. In particular, the emergence of 5G mobile access networks will provide end-users with bandwidth capacity in the downlink, which increases the need for fiber-based backhauling.

As it shall be depicted in this section, large differences in terms of penetration and use of final services do exist among more developed and less developed countries, but in terms of coverage of mobile networks, these differences are negligible. If coverage is measured in terms of the population covered by at least one mobile network- whatever the network standard used: 2G (GSM), 3G (UMTS), 4G (LTE), the coverage in all EMERG countries is practically the same, reaching between 99 and 100%. As a consequence, this technology-agnostic coverage is no longer displayed in figure four, but rather the yearly development of 3G and 4G network coverage.

Figure 3: Coverage over population of 3G and 4G mobile networks, 2020 (% of population)



Note: The population coverage of 3G and 4G networks only includes only the 3G technology in Palestine's West Bank (excl. of Gaza due to restricted frequency allocations).

Source: EMERG

Minor differences can still be observed when looking at 3G/4G coverage in the EMERG countries. But with Morocco and Tunisia reporting mobile broadband coverage rates of more than 95% in 2017, all fifteen respondents are converging towards full population coverage with 3G/4G. For 2018 Palestine has reported a mobile broadband coverage in the EMERG questionnaire for the first time, as the political situation prevented earlier frequency allocations and the import of equipment. The 96% mobile broadband coverage in Palestine is validating the general trend toward full coverage in the sample. Bosnia interestingly reported a lower population coverage as of 2020 than in the years before. As a next step, the population coverage with 5G networks is to be added to the survey. Network deployments in 5G have commenced in 2019 across Europe, consequently, the information provided on 5G network coverage by the NRAs for 2020 is limited and does not yet allow for analysis.

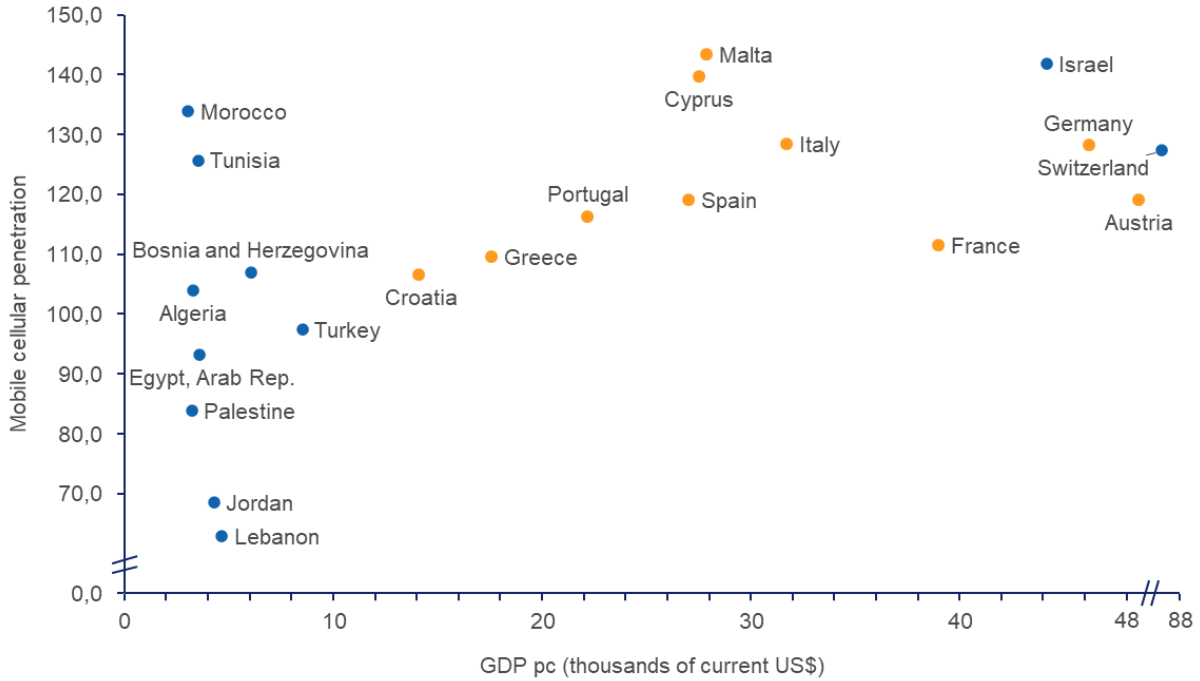
Contrary to the development in the previous years, mobile cellular subscriptions - which include voice and messaging services – have decreased from 2019 to 2020 in a lot of the EMERG countries. The increase per country is reflected in the total number of subscriptions across all EMERG members, which also slightly increased in 2020.

The highest growth rates in mobile subscriptions from 2019 to 2020 were observed in Morocco (5.9% or 2.7mn) and Israel (4.9% or 570k). However other countries experienced significant decreases in mobile subscriptions, such as Jordan (-10.2% or 790k) and Bosnia and Herzegovina (-6,6% or 245k).

The average penetration rate across all EMERG countries has slightly increased by 2% from 113% in 2019 to 115.4% in 2020. The subscriptions per 100 inhabitants lie above the 100 ratio in all but 5 EMERG countries.

Countries with penetration rates below 100, in general, have lower GDP pc, e.g. Egypt, Lebanon, Palestine, Jordan, and Turkey. In countries with ratios above 100 and higher GDP pc mobile penetration stagnate. Overall, a clear trend of converging mobile penetration rates in EMERG countries cannot be identified in 2020.

Figure 4: Mobile cellular penetration & GDP pc, 2020 (lines/ 100 inhabitants & 1000s of \$)

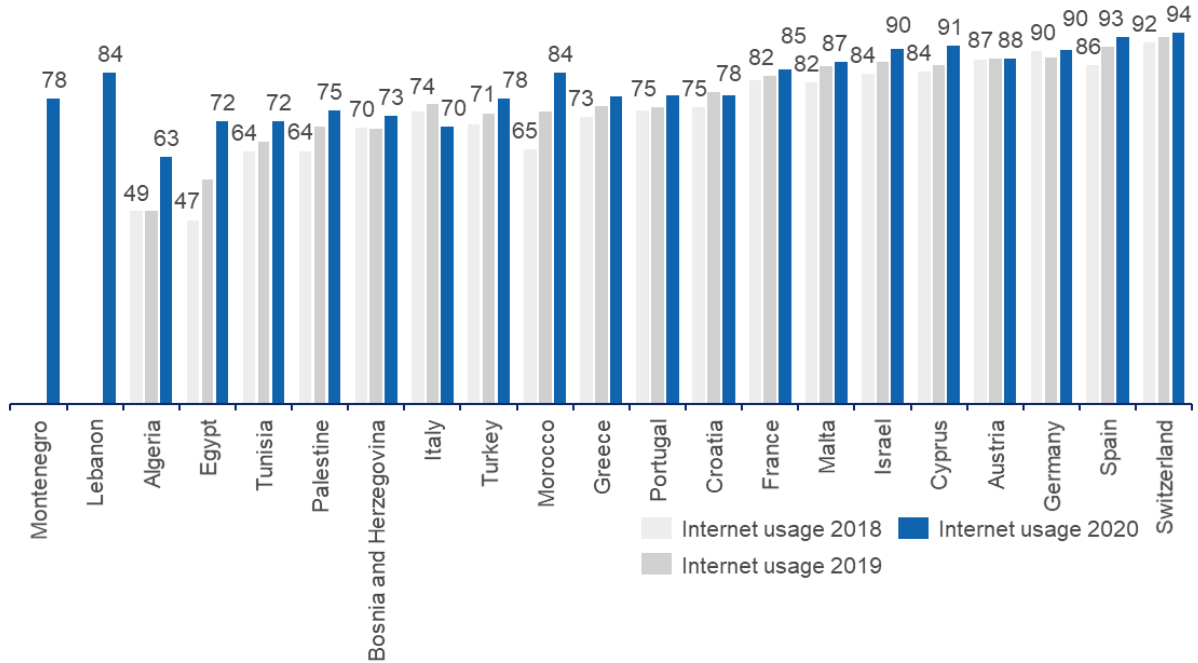


Source: World bank, EMERG and ITU.

Penetration of mobile cellular is much higher than penetration in fixed telephony in all countries, but especially in the MENA countries.

Based on ITU data regarding Internet usage by individuals across the countries, there is a significant gap in terms of internet usage between the most developed and developed countries in the EMERG. On average 84% of individuals use the Internet in the European EMERG countries, while in MENA countries 68% use it. Nonetheless, the average growth rate of internet usage is higher in MENA countries (6% from 2019 to 2020) than it is in European countries (around 1% from 2019 to 2020). In this respect, the internet usage in EMERG continues to gradually converge in 2020.

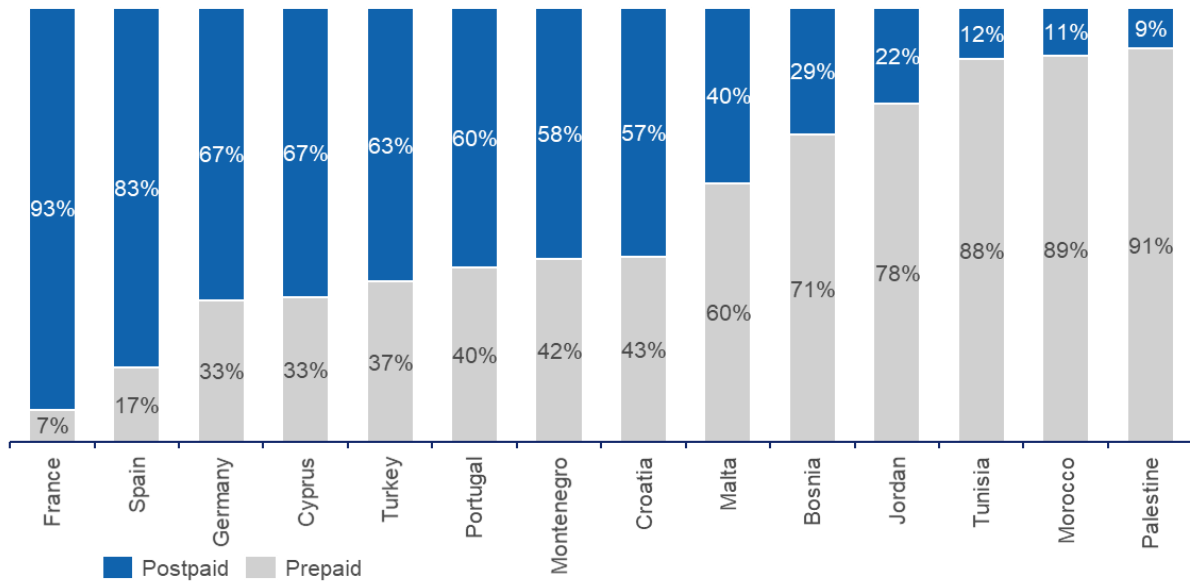
Figure 5: Individuals using Internet in EMERG countries 2018, 2019 and 2020 (% of total individuals)



Note: Indicator is defined in the „MANUAL for Measuring ICT Access and Use by Households and Individuals” published and updated by the ITU, “Three individual use indicators (HH5, HH7 and HH10) are presented as the proportion of individuals who used [equipment, Internet access] in the last 12 month”, „Indicator values for HH5, HH7 and HH10 are calculated by dividing the number of in-scope individuals using [equipment, Internet access] by the total number of in-scope individuals
Source: ITU (2017).

The prepayment modality is still the most common way of contracting mobile services in all the MENA countries. In 2020, Palestine (~91%), Morocco (89%), Tunisia (88%), and Jordan (78%) showed the highest proportion of prepayment subscriptions. Although not significant, all these prepaid heavy markets display a development towards a larger proportion of postpaid subscriptions. The average percentage of prepaid subscriptions for all countries considered was only 52% of subscriptions, this number has decreased each year since 2015 when the prepaid level was at 64%.

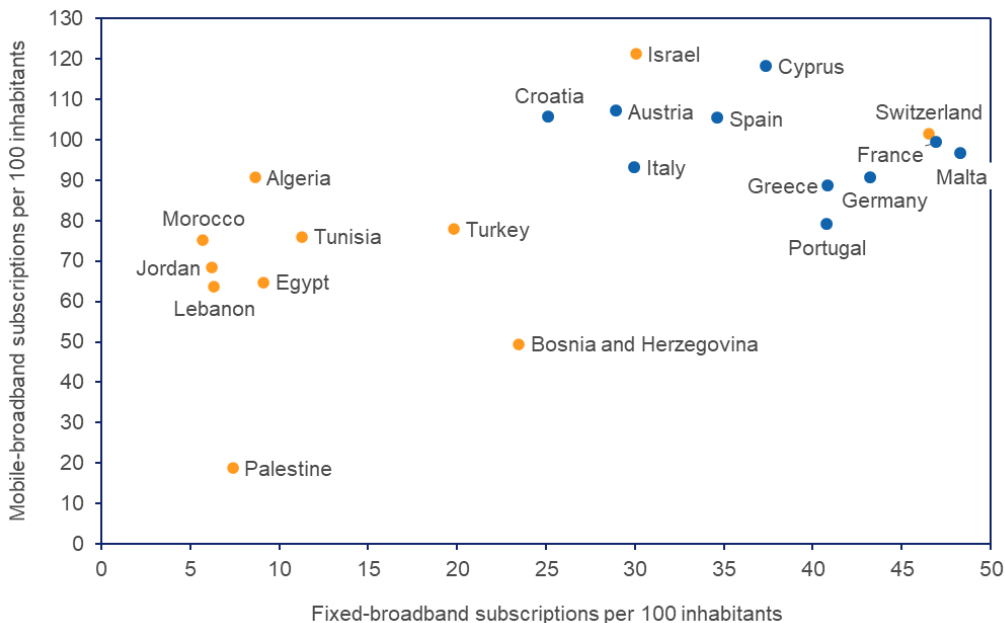
Figure 6: Proportion of mobile subscriptions by contract modality, 2020 (% of total subscriptions)



Source: EMERG.

As expected, the rise of mobile broadband and the upgrading of mobile networks in many lesser developed EMERG countries has reduced differences in penetration between all EMERG countries. In terms of mobile broadband penetration, all EMERG countries except for Palestine in figure 8 are in the corridor at or above 40%. At this point in time, only Israel, Turkey, and – as of this year – also Tunisia of the MENA countries exceed the 10% fixed broadband penetration rate, meanwhile all displayed EU EMERG members achieve a fixed broadband penetration of more than 25%.

Figure 7: Mobile broadband penetration and fixed broadband penetration, 2020



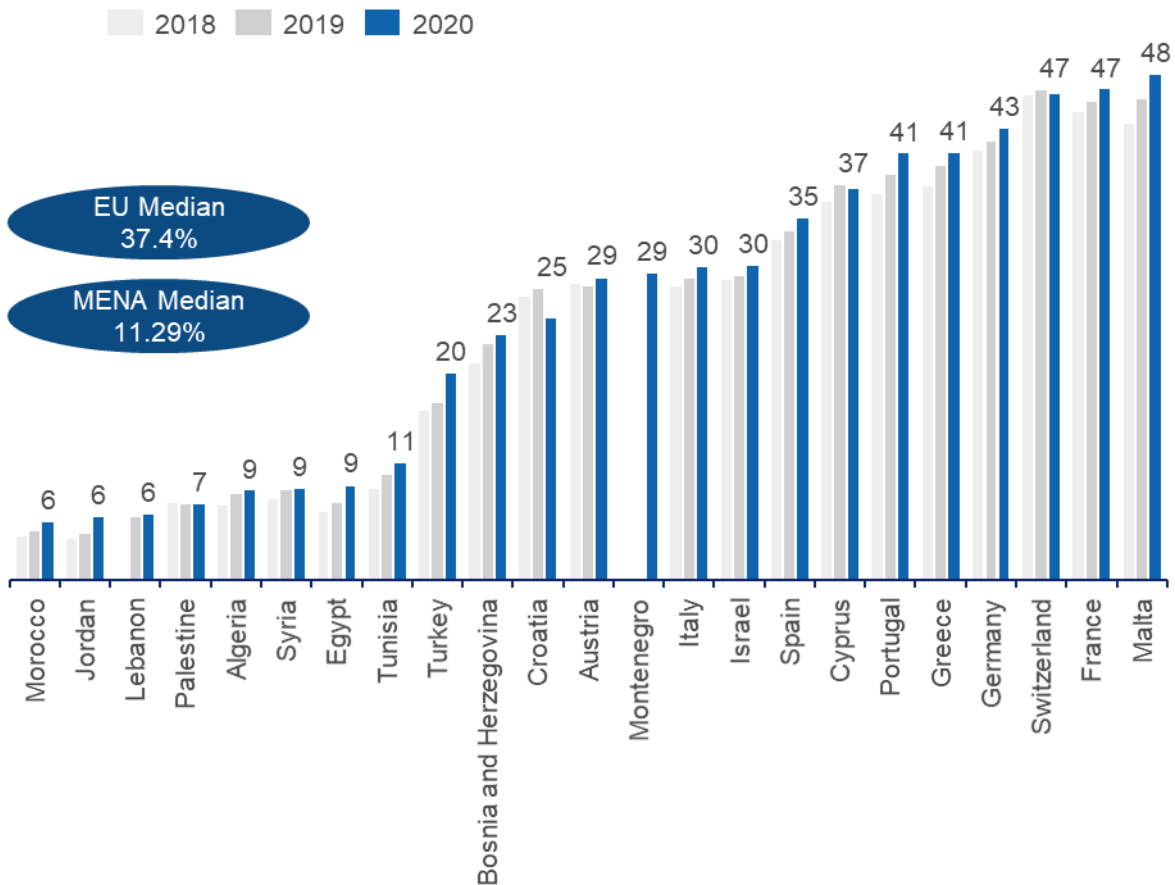
Source: EMERG and ITU.

Fixed Network Services

The penetration of fixed telephony in EMERG countries is still higher than that of broadband services. In most countries (both European and non-European) the majority of lines are still based on the legacy- copper wire- incumbent’s network (with xDSL and VDSL). Some countries benefit from the presence of a cable network while fiber rollouts are beginning to show a significant contribution to the technology mix in most countries (see also Figure 12).

In 2019 the median fixed broadband population penetration rate in EU member countries of EMERG was at 37,4% down from 38.3% in the previous year. In EMERG countries that are not part of the EU, the median penetration rate was 11.29%⁷ in the previous year. While absolute rates are significantly higher in EU countries, growth rates remain higher in non-EU countries. Some MENA countries continue the significant growth rates displayed from 2017 to 2020, the penetration in Egypt grew with a compound annual growth rate of 18.9%, in Tunisia with 17.2%, and in Turkey with 10.5% from 2017 to 2020. This indicates that, among EMERG member countries, in the last year there has been approximation in terms of fixed broadband.

Figure 8: Fixed broadband penetration 2018, 2019 and 2020



Note: According to figures from the ITU, fixed telephony and broadband penetration rates are provided on the basis of the population (per 100 inhabitants) because no relevant household data is collected. This also

⁷ The inactive members Algeria and Syria were not considered in the calculation of the median.

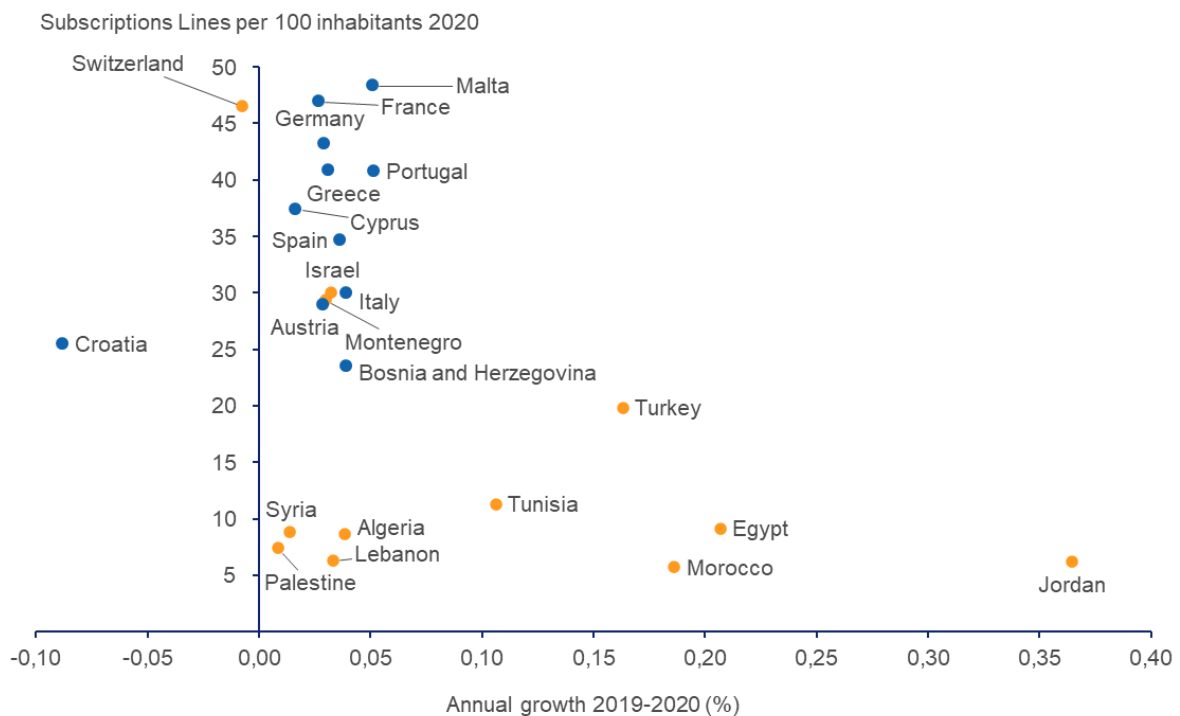
means that a direct comparison between European and MENA countries is difficult and depends on the average number of people living in a household.

Source: EMERG and ITU.

The evolution of broadband uptake has differed depending on the development of the country, among other factors. From the time series data, it becomes clear that rapidly increasing growth rates in most of the European countries took place in the initial period 2001-2006. The rest of the countries needed two to three years more. One relevant finding is that even if most of the European countries stand now in a mature stage of penetration, where growth rates are positive but decreasing, still very healthy rates of increase in the stock of broadband connections are taking place year after year. The supply of high capacity connections all across the EMERG set of countries, the bundling of broadband together with other services, and the lowering of prices in many cases, is helping in extending the penetration of broadband significantly.

From figure 10 it is apparent, that growth rates above 10% with regard to fixed broadband penetration in 2019 could only be realized in countries with a low initial penetration rate. The majority of MENA countries still reported fixed broadband penetration rates below 10% in 2020. Turkey and Israel are exceptions to that rule with the two showing penetration rates closer to the EU average. Tunisia also just for the first time passed the 10% penetration threshold. However, as already noted above, the comparison of fixed penetration rates in terms of individuals can be misleading as figures depend much on the average number of people living in a household. If one assumes that the number of inhabitants per household in southern Mediterranean countries is higher than in European countries, the values in the figure do not reflect the actual differences between these two groups of countries. To this extent, this analysis must be interpreted with caution.

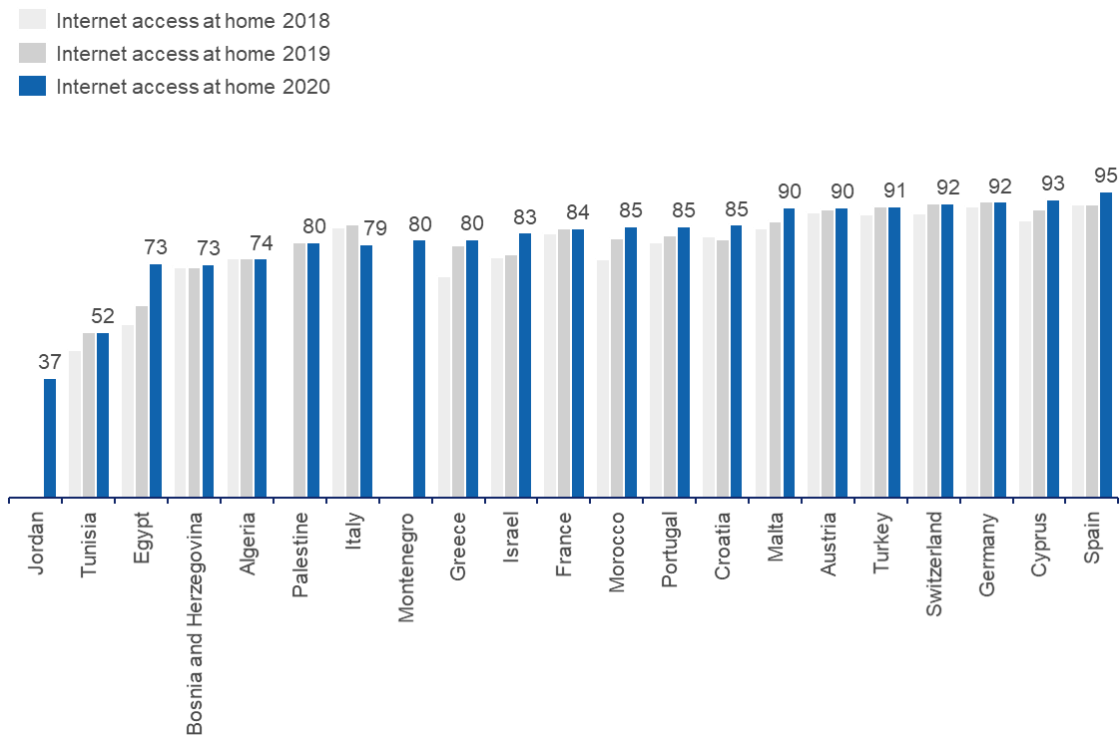
Figure 9: Penetration and growth of fixed broadband in EMERG countries, 2019-2020



Note: With regard to the fixed broadband penetration rates see previous comment in Figure 8.
Source: ITU and EMERG

Based on ITU figures on households with internet at home an interesting comparison can be made across all the EMERG countries in terms of real penetration of internet in households. Israel, Turkey and Palestine, most notably, achieved real penetration figures in 2020 in terms of internet access close to those reported in European countries. Nonetheless, the average household penetration in MENA countries is 71.7% (68.8% in 2019) compared to 87.4 (85.9% in 2019) in European countries. The gap between those averages has increased from 2017 to 2020 in both years, this can be explained by the significant improvements in the indicator in the European countries Greece and Cyprus. An approximation of internet access at home among the EMERG countries can be observed when looking at the growth rates in each country. The median compound annual growth rate from 2018 to 2020 for non-EU countries in EMERG is 3.31%, while in EU countries it is lower with a growth of 2.14%.

Figure 10: Households with Internet access, 2018, 2019 and 2020



Note: For Italy the values were sourced from the European Commission's Digital Scoreboard.
Source: ITU and EMERG

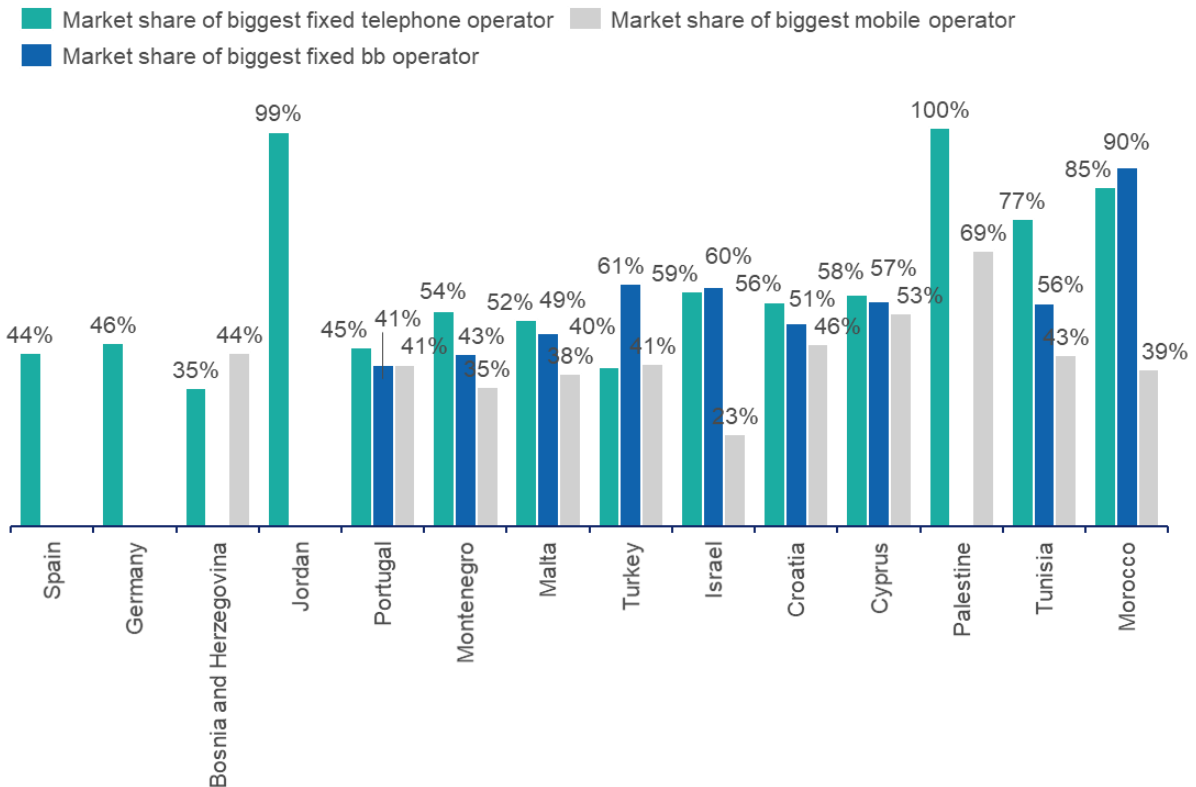
Competition indicators

The leading firm in fixed telephony is in all cases the historic incumbent, which in several cases practically still holds all of the retail markets, as in Egypt, Jordan, or the State of Palestine. Across all countries the average market share of the incumbent was 61% of all telephony lines in 2020, fixed broadband markets show a similar, high average market share of 64% in 2020. One clear trend that continues from 2018 and 2020 in most markets considered is the declining weight of the incumbent fixed telephone operator. In the last year, the market share of the leading firm in Turkey showed a further reduction b -8 pp to 40% in 2020. The declining market share must be considered as well in the context of a declining market in size, i.e., in the majority of EMERG countries, the stock of fixed telephony lines declined again during the period.

However, Egypt, Jordan, and Morocco experienced significant double-digit growth in absolute terms.

It is noteworthy that, although the average market share across all countries is similar, the market shares of the biggest operator in broadband are significantly lower than the share registered in the traditional fixed telephony service.⁸

Figure 11: Market share of leading firm in the main retail markets, 2020 (% of lines / total)



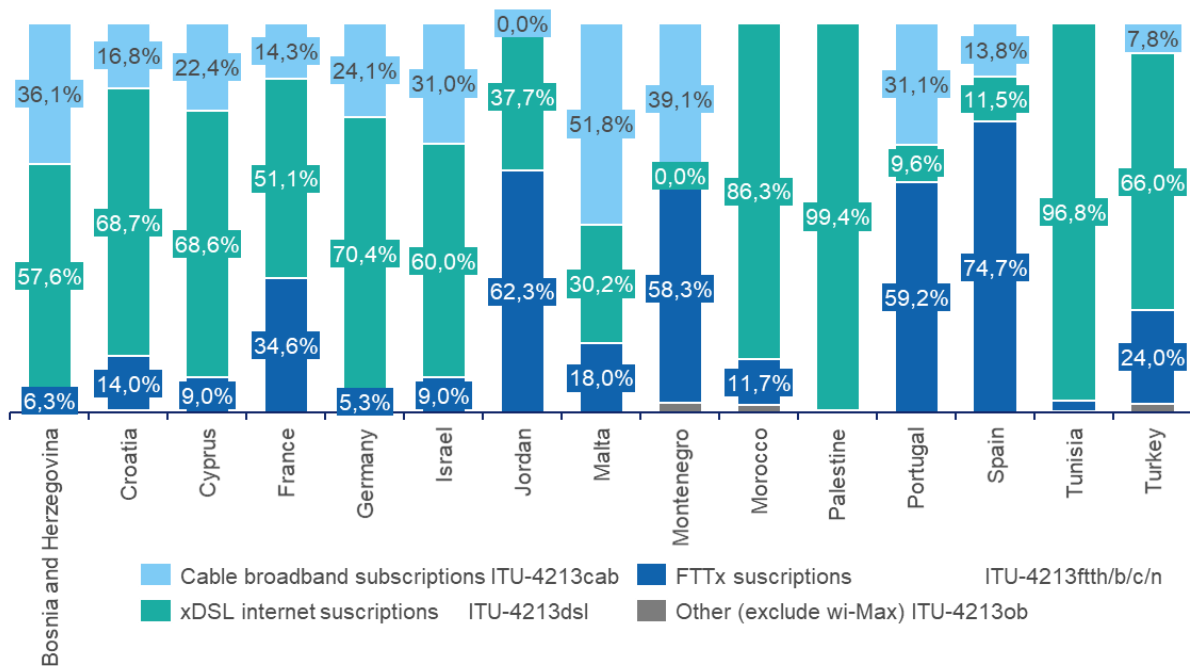
Source: EMERG

In a good number of countries, alternative fixed network infrastructures are a reality. All European countries and non-European countries in the EMERG have an alternative infrastructure in place in 2020, but many countries have a scarce alternative to the incumbent’s network. Both the absolute number of cable and FTTH lines showed a significant increase for all displayed EMERG countries. Most EU countries reported a decrease in xDSL lines in the past. Hence, the relevance still of the legacy incumbent-fixed network for the provision of broadband services is clear. All European countries and some MENA countries as well have introduced unbundling of the local loop and other wholesale regulations in order to facilitate the entry of alternative operators, though as can be seen from the market shares of the leading firm, still there is a long way to go in the process of achieving more competition and benefits for the consumers derived from more players in the market.

⁸ It must be noted that in Morocco Fixed Telephony includes restricted mobility and restricted mobility is offered by the third operator Wana Coporate

The development of alternative fixed infrastructures varies widely across countries. In Bosnia and Herzegovina, Malta, Portugal, Jordan Israel, Switzerland, Spain, Italy, France, and Turkey alternative networks, either cable- FC or FTTx-based, are providing more than 30% of broadband connection. In Portugal, Jordan, Montenegro, and Spain measures to promote FTTH connectivity have proven to be effective, the four countries display fiber ratios of more than 50%.

Figure 12: Distribution of broadband lines by supporting technology, 2020 (% of total lines)



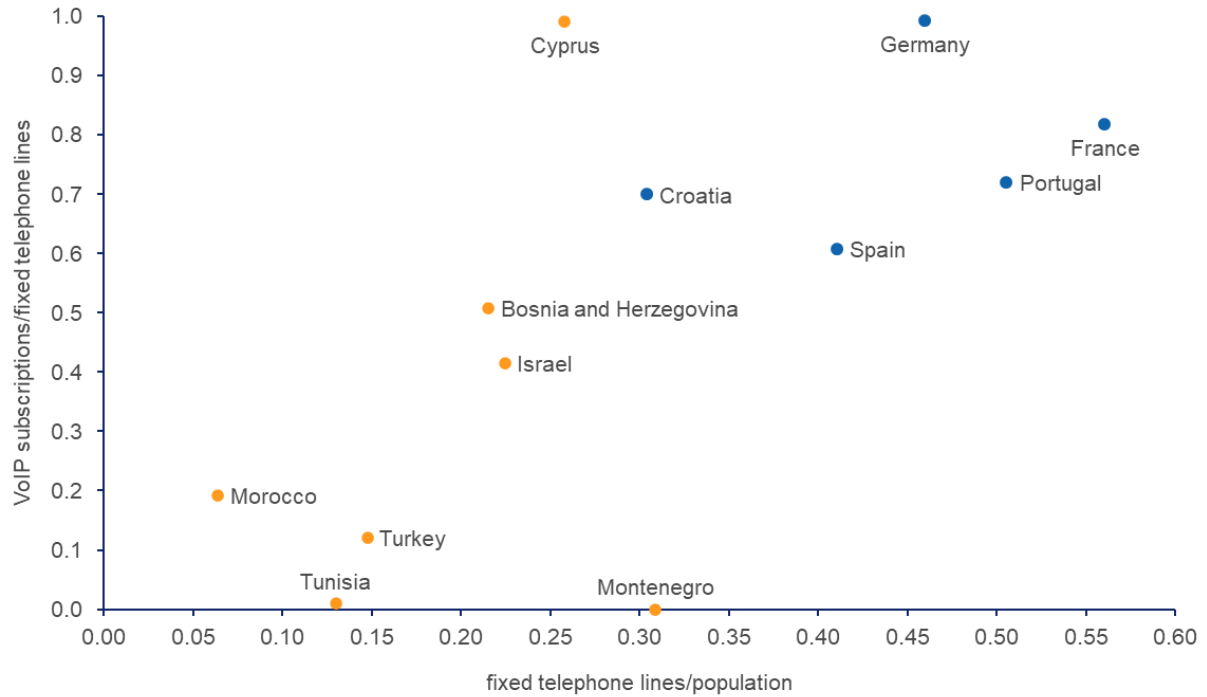
Source: EMERG

Alternative providers may construct their own independent physical network, as the cable or some FTTx operators have done, or else they may use any wholesale regulated service on the incumbents' legacy network to make entry into the market possible. In those countries where no significant deployment of an alternative physical network has been achieved it is crucial to regulate the network of the incumbent and to monitor the functioning of these wholesale services so that entry occurs and a level playing field for competition to take place is created. The regulation of the incumbent's network, based either in direct access- with the unbundling of the local loop-, or the indirect access- with a definition of a bitstream service-, has created big welfare gains in the European countries that implemented it.

Voice services are being predominantly provided based on the traditional legacy –copper wired based- network in most of the countries. However, in some countries due to unbundling of wholesale services at the local loop and, in some cases, due to the deployment of alternative fiber-based infrastructures, Voice over IP (VoIP) services have a significant presence, as in France, Croatia, Germany and Portugal more than 60% of fixed active fixed telephony lines are based on VoIP. All countries that are part of the 2020 sample have increased the ratio of VoIP line, most notably, Portugal with a growth of 9.9 pp and Bosnia and Herzegovina with a growth of 9.4 percentage points. For the moment countries in the southern Mediterranean have reported significantly lower VoIP subscription rates, however, Turkey and Tunisia have

reported high growth rates with 30.9% and 18.1%, respectively. As NGA networks are being deployed, a growth in this type of voice service is expected all across the set of countries.

Figure 13: Fixed telephony penetration and proportion of VoIP lines, 2020



Note: VoIP is defined according to ITU indicator ITU-112IP and includes VoIP subscriptions through fixed wireless, DSL, cable, fibre optic and other fixed-broadband Internet platforms that provide fixed telephony using IP. It excludes software-based VoIP applications (e.g. VoIP with Skype using computer-to-computer or computer-to-telephone).

3. Institutional issues

The first section examines the general institutional framework and legal environment in which the National Regulatory Authorities (NRAs) and market players operate.

The European Legal and Regulatory Framework approved in 2009 for electronic communications -and in particular the Framework Directive- introduced specific provisions relating to the sectorial NRAs' independence and accountability. On 21 December 2020 European member states were instructed to transpose the Directive (2018/1972) into national law establishing the European Electronic Communication Code (EECC), the Directive repealed the previous four main directives of the Telecom package. In 2021 provisions of the European Electronic Communications Code shape the institutional layout of the European NRAs.

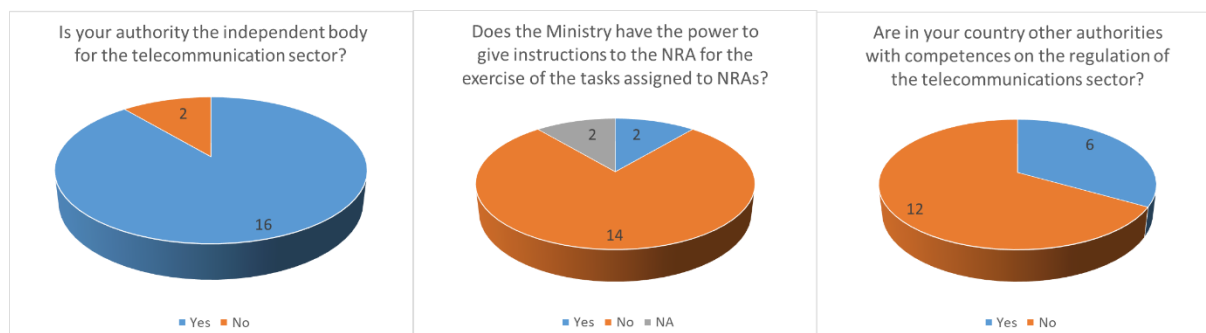
NRA's independence

The NRAs are supposed to act independently of both political bodies and market players.

In the EU Regulatory Framework, apart from the general obligation for all NRAs to be independent of the market operators, Recital 13 and Article 3.3a of the Framework Directive 2009/140/EC introduce the principle of NRAs' independence from any political pressure in their activities related to ex-ante regulation and dispute resolution. In the directive (EU) 2018/1972 Article 6 addresses the independence of regulatory authorities and other competent authorities from any natural or legal person providing electronic communications networks, equipment or services. Recital 1 refers to independence as the right of the NRAs to exercise their powers *“impartially, transparently and in a timely manner”*.

Article 8 lays down the political independence with Recital 1 stating that *“authorities shall act independently and objectively, including in the development of internal procedures and the organisation of staff, shall operate in a transparent and accountable manner in accordance with Union law, and shall not seek or take instructions from any other body.”*

Figure 14: NRA's independence



In most of the EMERG countries, there are independent regulatory authorities for the regulation of the telecommunication sector (see Figure 14). Exceptions are Israel and Palestine. In Israel, the Ministry of Communications assumes the role of the regulatory body, and in Palestine, the Ministry of Telecommunications also acts as a regulator.

Regarding the independence from political bodies, in a majority of the EMERG countries, the Government explicitly has not any power to give instructions to the independent NRAs in the exercise of the tasks assigned to them. In Malta, the Minister may, in relation to matters which

appear to him to affect the public interest, give directions 'of a general character' on the policy to be followed by the NRA. In Italy, some competencies are shared between the NRA and the ministry. In the case of Switzerland, there are however some provisions that establish the possibility for the Government/Ministry to give directions on certain issues related to the sector. In Israel, other regulators (such as the Competition Authority, the Consumer protection commissioner, and the Privacy Authority) have generalized competence in some areas but the Ministry retains primary competence for these issues in the telecom sector.

NRA's governance

As explained in the section above, Articles 6 and 8 of the European Electronic Communication Code formalize the principle of political independence of the NRAs, and Articles 5 and 7 define the responsibility of regulatory authorities of ex-ante market regulation and dispute resolution in the performance of the tasks assigned and lay down several provisions in order to ensure this principle. For instance, the Directive states that NRAs' heads or Board members shall not be dismissed unless they no longer meet the requirements predetermined by national law for the performance of their tasks; also, any decisions in this respect shall be reasoned and made public.

Governance systems that have been set up to regulate the telecommunication sector by the countries examined vary considerably across the countries examined. It is important to note that a one-size-fits-all concept cannot be devised.

Appointment procedures of the Heads

The Head of the National Regulatory Authority is usually appointed by (i) the Prime Minister, the President or the government (France, Italy, Israel, Palestine, Turkey, Tunisia, Morocco), (ii) by the Minister in charge of the telecommunication sector (Egypt) or (iii) by a council of ministers (Cyprus, Bosnia and Herzegovina, Jordan, Portugal, Switzerland, Lebanon, Palestine). In Malta, the Chairman and Board members are appointed by the Minister responsible for communications, whereas the Chief Executive Officer who is responsible for the day-to-day administration and organisation of the Authority is appointed by the Board according to set criteria following a call for applications – both the Chairman and the Chief Executive Officers are vested with the legal representation of the Authority. In Croatia the Chairman of the Agency's Council (as well as other Council members) is appointed and dismissed by the Croatian Parliament upon proposal of the Government of the Republic of Croatia. In Germany, the BNetzA President and two Vice Presidents are proposed by the Advisory Council to the BNetzA (consisting of 16 members of the Federal Parliament and 16 members of the Federal Council) and appointed by the German Federal Government.

In some of the countries examined (i.e. Spain, Italy), the Heads are elected after having consulted the Parliament or the relevant Parliamentary committees (Cyprus). In the case of Spain, the Parliament has a veto right, whereas in none of the MENA countries the Parliament plays a role in the election of the Head.

In the vast majority of the EU countries, the appointment procedure is transparent and set in law. Moreover, in most of them sector-specific requirements are established (expertise, knowledge, reputation, etc.). This is the case, for example, of Turkey, Cyprus, Jordan and Portugal.

Table 1: Governance regimes

NRA	Length of Head's mandate	Is the mandate renewable	Is removal possible	Are grounds for dismissal defined
Bosnia and Herzegovina – CRA	4 years	once	yes	yes
Croatia – HAKOM	5 years	n.a.	yes	yes
Cyprus – OCECPR	6 years	once	yes	yes
Egypt – NTRA	2 years	multiple time		no
France – Arcep	6 years	not at all	no	no
Germany – BNETZA	5 years	once	yes	yes
Greece – EETT				
Israel – MOC	n.a.	n.a.		no
Italy - AGCOM	7 years	not at all	no	yes
Jordan – TRC	4 years	once	yes	yes
Lebanon – TRA	5 years	not at all	yes	yes
Malta – MCA	3-6 years (Chairman) 3 years (CEO)	once (Chairman), multiple times (CEO)	yes	yes
Montenegro – EKIP	5 years	once		no
Morocco – ANRT	n.a.	n.a.		no
Palestine – MTIT	n.a.	multiple times		no
Portugal – ANACOM	6 years	not at all	yes	yes
Spain – CNMC	6 years	not at all	yes	yes
Switzerland – ComCom	n.a.	n.a.	yes	yes
Tunisia – INTT	5 years	once	yes	no
Turkey – BTK	4 years	multiple times	yes	yes

Source: EMERG.

The average term of the mandate of Heads and Board members varies between 5 and 6 years, whereas in Italy it is 7 years and in Egypt just 2 years. Montenegro's terms fall into an average with 5 years. In the majority of countries, the renewal of the mandates of the Head and the Board members is possible once. This is the case of Bosnia and Herzegovina, Cyprus, Jordan, Tunisia. In Turkey, and Switzerland, the Head of the NRA can even be reappointed multiple times. In Malta, The Chairman and Board members may be appointed by the Minister for a term of not less than 3 years but not exceeding 6 years, which term can be extended only once. However, the CEO shall be appointed by the Board for a period of 3 years, which appointment may be extended multiple times for further periods of 3 years each. In Croatia, France, Italy, and Portugal the Head and the Board Members cannot be reappointed. There is no distinction between European and MENA countries in this regard.

Grounds for dismissal

Removal of the Heads of the Board members is possible in the vast majority of the EMERG countries. Italy and France are an exception. In the French case, it is explicitly indicated that removal is not possible, and in case of resignation, a replacing member is appointed for the remaining period of office of his predecessor. For Italy, the President of the Authority cannot be dismissed.

Article 7 of the European Electronic Communications Code clearly states that grounds for dismissal shall be defined in advance by the national law. This condition is naturally fulfilled by all the European EMERG countries. In every European country, provisions are in place determining the circumstances for the dismissal of the Head or Board members. However, these provisions are heterogeneous and vary from country to country.

On the contrary, in most of the South Mediterranean countries, the grounds for dismissal are not explicitly defined in advance in law. This is the situation in Egypt, Israel, and Tunisia. Turkey and Jordan have defended the grounds for dismissal in national law. Morocco has also set out the grounds of dismissal in national law and applies to all public authorities.

NRA's competencies and powers

The European Electronic Communications Code provides for a wide range of powers, responsibilities and tasks to be vested in NRAs in order to ensure effective competition between market players. The NRAs play a central role in effectively implementing the regulatory framework since many relevant powers and tasks are directly assigned to them.

Some of EMERG members confirmed that independent NRAs are responsible of the whole range of tasks applicable to the regulation of the telecommunication sector.

However, in a majority of countries responsibilities of the regulation of the sector are split between different bodies or agencies or between the independent authority and the Ministry. In Cyprus, the independent regulator is the competent authority for all electronic communication regulatory issues apart from consumer protection. In Turkey, BTK is competent for the regulation of the whole telecommunication sector with the exception of the rights of way, attributed to the Ministry of Transport and Infrastructure. In Spain the management of numbering resources and the registry of operators functions have been granted to the Ministry of Energy, Tourism and Digital Agenda (now the Ministry of Economic Affairs and Digital Transformation) in 2014 but is still being exercised by the CNMC on an interim basis. In Palestine and Switzerland, the competencies in the area of consumer protection are shared or executed in cooperation with the ministry of economics.

Competencies for the regulation of the telecommunication sector

Article 5 of the European Electronic Communications Code lays down that ex-ante market regulation and dispute resolution between undertakings shall fall under the remit of the independent NRA's competencies.

It can be concluded that this requirement is fulfilled by all the EMERG countries participating in the survey when designing the institutional setup of the regulatory bodies. In particular, all the NRAs positively affirmed that they are competent for the regulation of the market analysis, for the imposition and control of obligations, the resolution of disputes, numbering, and quality of service. 15 out of 17 NRAs also confirmed that they have attributed competencies to quality of services and 14 for consumers' protection.

Figure 15: Competencies in telecommunication sector



Source: EMERG.

Converging NRAs in the EMERG countries

There is a worldwide trend to converge different independent authorities from the different sectors into one-single NRA with broad powers for the regulation of various economic sectors.

In the EMERG countries, the majority of the NRAs exercise some converging competencies, in particular in relation with the postal sector (13 of 17 responding NRAs).

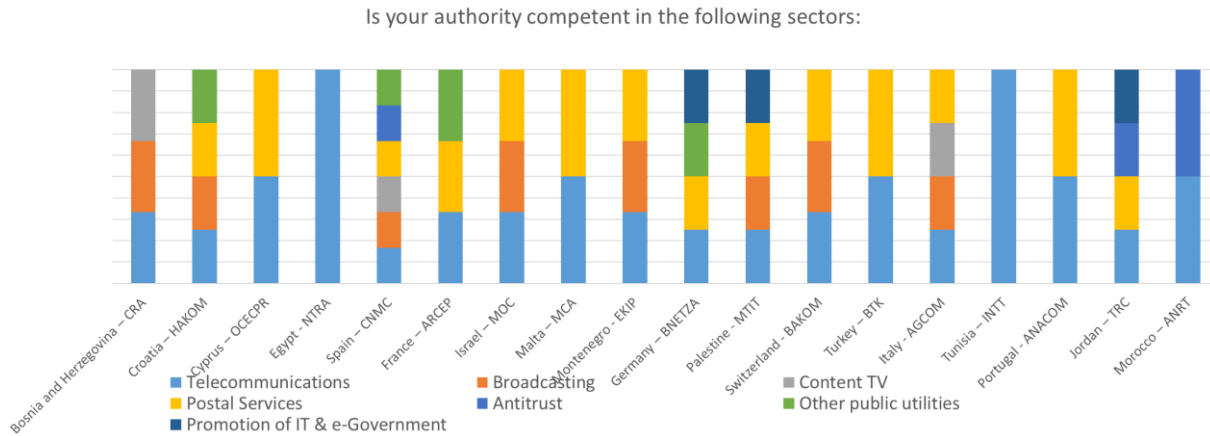
As for the audio-visual sector, a total of 7 NRAs have partial competencies concerning broadcasting. This is the case of Bosnia and Herzegovina, Croatia, Spain, Israel, Palestine, Switzerland, and Italy. However, it should be noted that the scope of competencies in the media sector is not homogeneous. For instance, only Switzerland, Spain, and Italy are competent with respect to audio-visual content, whereas Turkey and Palestine are responsible only for the allocation of spectrum.

Only a few countries have vested the independent NRA with competencies in antitrust. This is the case of Spain, Jordan, and Morocco, with some particularities. In the case of Morocco, ANRT acts as an antitrust authority only for the telecommunication markets. In Malta, the MCA is only empowered in relation to competition on an ex-ante basis.

With respect to the converging NRAs in the field of IT promotion and e-Government, they are only present in 2 countries, namely Jordan and Palestine. The MCA in Malta is competent in the regulation of e-commerce. In Morocco, a dedicated agency in charge of topics surrounding digitalization has been founded.

New development with regard to NRA competencies has taken place in Portugal. ANACOM assumes the powers and responsibilities of the Space Authority, on a temporary basis, under Decree-Law no. 16/2019, of 22 January.

Figure 16: NRA's competencies



Source: EMERG.

Request of information

All the EMERG regulators confirmed that they have the powers to request information to the sector agents in the performance of their tasks.

Powers of enforcement

The European Electronic Communications Code provides for a comprehensive set of tools to ensure the enforcement of the decisions taken by the NRA. It mainly consists of remedies (sanctioning procedures and fines), judiciary review measures, and consultation procedures in order to ensure transparency and predictability of the legal framework.

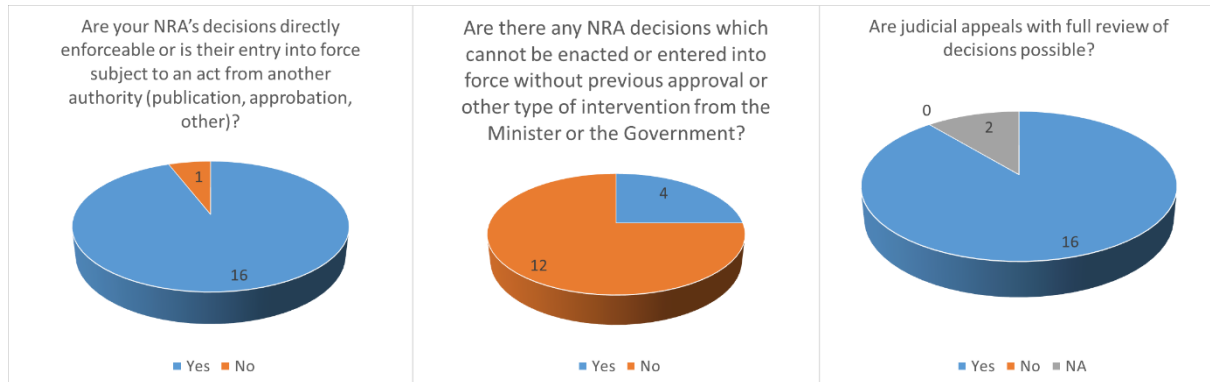
With respect to the survey, the vast majority of the EMERG countries provided a positive answer concerning the direct enforceability of their decisions, i.e. that the entry into force of their decisions is not subject to an act from another Authority. Only one country provided a negative answer, Egypt.

As for France, some of Arcep’s decisions have a general regulatory scope and require the prior homologation of the Ministry of Telecommunications, without this entailing a discretionary veto power. These decisions have to be published at the “Journal Officiel de la République”.

In Israel, all decisions by the MOC that involve direct tariff control need to be confirmed by the Minister of Finance. Similarly, in Palestine decisions related to licenses depend on the approval of the cabinet, e.g. the introduction of a new license, or changing the license fees.

In Turkey, the Authority’s decisions are enforceable directly without being subject to an act from another authority. However, according to the Electronic Communications Law, the Board shall publicize proper decisions by appropriate means foremost under the internet environment. Regulatory decisions of the Board as by-law, after being consummated by the Board, shall be forwarded to the relevant Ministry to be published in the Official Gazette.

Figure 17: Powers of enforcement



Source: EMERG.

Imposition of fines

With the exception of Palestine⁹, all the EMERG regulators have powers to impose fines or monetary sanctions. In some cases (Palestine, Jordan and Egypt), the legal framework of the country does not specify whether the NRA has the power to impose penalties at all.

In Jordan, the enforcement powers are stipulated in Article 40 of the law, where the TRC has the Authority to cancel either partial or fully license in the circumstances of not applying the TRC's decisions. The terms and conditions of the license also give TRC further enforcement powers as licensees are obliged to comply themselves to the legislations including TRC's instruction as stipulated within the License's granted to them. Further, TRC's fine decisions are considered administrative and collected on the base of granting the TRC powers to such fines where the state procedures are applied to collect the fines.

In Cyprus, Article 42 of the Telecommunication law specifies that the Commissioner has to invite the undertaking to a hearing where the undertaking states its views. After a hearing proceeding, the Commissioner may impose a proportionate administrative fee. Where the Commissioner has evidence of serious and repeated breaches, he may prevent the undertaking from providing its services by revoking the undertaking's general authorization.

In the case of France, changes to the legal provisioning concerning the imposition of sanctions have occurred. Order No. 2014-329 concludes the decision of 5 July 2013, wherein the Constitutional Council considered the legal provisions concerning Arcep's power to impose sanctions in the electronic communications sector to be unconstitutional. It introduces a new sanctions procedure in the postal and electronic communications sectors, based on the CNIL (French data protection authority) model whose constitutionality has been validated by the "Conseil d'Etat", France's highest administrative court. The new provisions in the French Postal and electronic communications code introduce a separation of the proceedings and the adjudication functions by assigning them to different members of the Arcep Executive Board. A body composed of four Board members, including the Chairman of Arcep, will adopt

⁹ For Palestine, The current telecom law doesn't include fines or monetary sanction, but operator's license agreement (fixed & mobile) allow MTIT to impose fines. A new law is being drafting which will allow the regulator to impose fines or monetary sanctions.

decisions on formal notices, investigations, dispute settlements and inquiries, and a second body composed of the Board's three other members will adopt decisions concerning sanctions.

Still in almost no MENA country, secondary legislation has been set out identifying the steps to be followed in a sanctioning proceeding, the practical steps taken to grant transparency and participation in the proceeding by operators and citizens, or the possibility to access the documents. As a result, the sanctioning procedure adopted by the NRAs is often very unclear and it might fail to generate a feeling of trust among the NRA and the operators or the citizen.

Judicial review

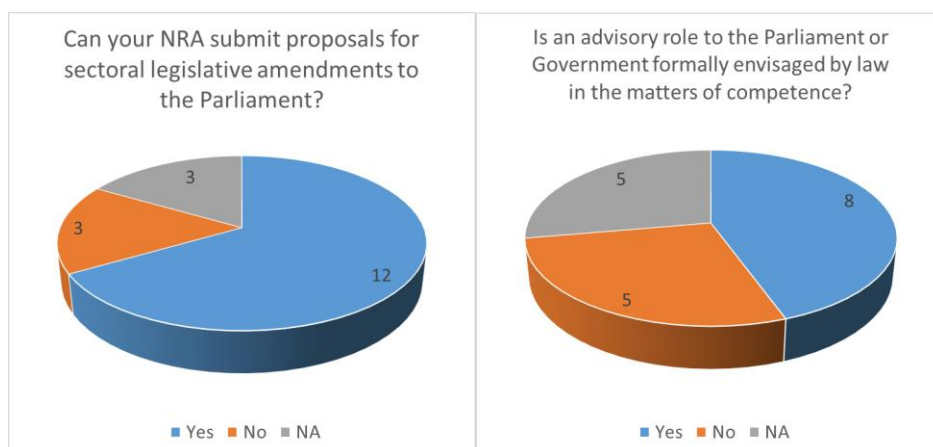
Although all MENA countries, besides Morocco, declared that a full review of the NRA's decisions is possible, the approaches taken by the MENA countries often differ from the European best practice.

Advisory role

As for the ability to submit proposals for sector-specific legislative amendments to the Parliament, 10 NRAs confirmed that they have this power. In particular Israel, France, Morocco, Switzerland, Palestine, Portugal, Malta, Germany, Cyprus and Italy, whereas 5 regulators confirmed that they cannot formally make proposals, i.e. Bosnia and Herzegovina, Egypt, Croatia, Jordan, Tunisia and Turkey. In some cases, the proposals are channeled to the competent Ministry (Malta, Croatia, Palestine, Lebanon and Morocco). In the Maltese case, the NRA informally submits proposals to the competent Ministry. However, it is then entirely up to the minister, through the Cabinet, whether such proposals are submitted to Parliament in the end.

On the other hand, the NRAs advisory role in their matters of competence is formally envisaged by law in the majority of the responding EMERG members. This is the case of Israel, Portugal, France, Malta, Tunisia, Cyprus, Spain and Italy. In Spain, this encompasses the power of the NRA to provide opinions on legislative amendments in sectors subject to its supervision. However, in the other 9 members, this role is not envisaged, including in 5 southern MENA countries (Jordan, Morocco, Turkey, Germany, Egypt, Palestine Croatia, Switzerland and Bosnia and Herzegovina).

Figure 18: Advisory role



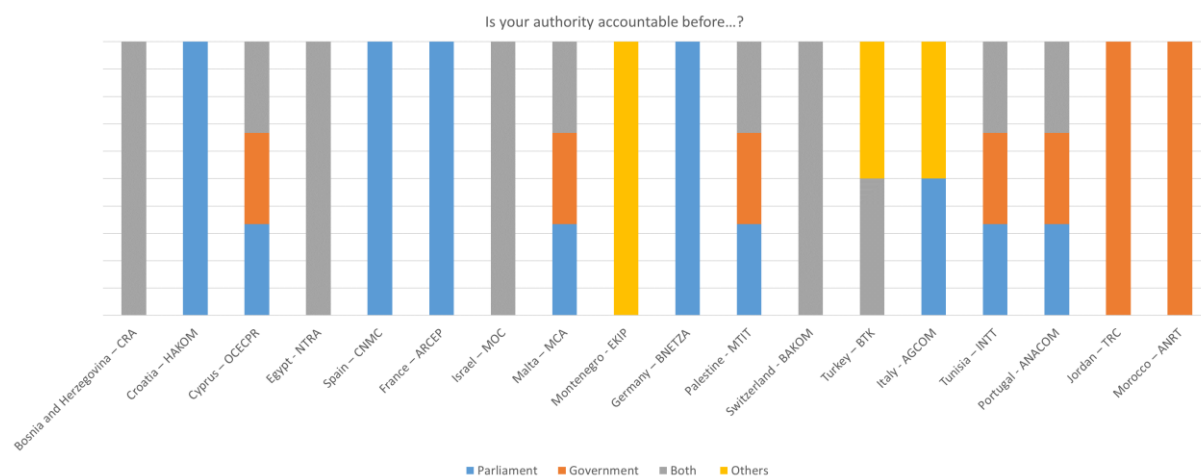
Source: EMERG.

NRA’s accountability and transparency

The majority of the EMERG members report both to the Parliament and to the Government (10), four countries only report to the Parliament¹⁰ and two only to the Government (see Figure 19). In Portugal and Turkey NRAs are subject to jurisdictions of courts. In both cases the NRAs are subjected to financial accountability and are audited by courts.

It is noteworthy that the European Electronic Communications Code continues the legislative approach of the European regulatory framework in electronic communications, pursuant to Article 7 and Article 7a of the Directive 2002/21/EC, as amended by Directive 2009/140/EC. In some cases (i.e., as for the identification of relevant markets and the SMP assessment) the European Commission can also issue a “veto” on NRAs’ decisions. The Union mechanism allowing the Commission to require national regulatory authorities to withdraw planned measures concerning the market definition and the designation of undertakings as having significant market power has contributed significantly to a consistent approach in identifying the circumstances in which ex-ante regulation may be applied.

Figure 19: NRA’s accountability



Source: EMERG.

As to consultation processes before issuing decisions, the European Electronic Communications Code (Article 23) provides for an obligation on NRAs to consult all interested parties on proposed decisions, allowing them a reasonable timeframe. NRAs should take any relevant comment into account before adopting the decision.

For the large majority of regulators carrying out consultation procedures before adopting relevant decisions is a mandatory procedure, with the exception of Switzerland, Palestine, Morocco, Tunisia and Egypt where there is not a legal obligation specified in the law. In Palestine, there is an obligation on MTIT as part of (fixed and mobile) license agreements

¹⁰ In this case, an Activity Report is issued every year to the Parliament listing all the activities of the NRA, but there is no direct accountability foreseen in the law.

which require consultations to be made. With respect to the publication of decisions, all the regulators publish their decisions, usually on their website.

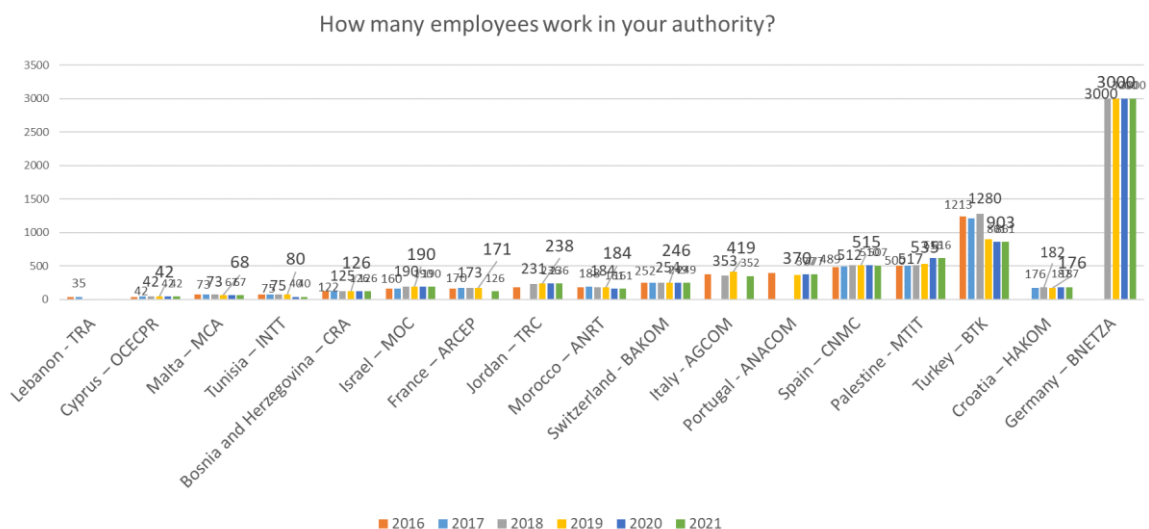
Staffing and budget

The European Electronic Communications Code refers to the need of ensuring financial and human resource available to NRAs as a further tool to ensure political independence. Articles 8 and 9 lay down that NRAs shall be endowed with all the necessary resources. Recital 1 of Article 9 explicates that the NRA should have its budget allowing them to recruit a sufficient number of qualified staff.

Figure 20 shows an overview of the staff employed by EMERG members. It cannot be easily outlined any conclusion due to the lack of homogeneity among regulators in terms of competencies attributed to them. One prominent competency that requires a significant size of staff is the monitoring of the assigned spectrum. In Switzerland, Palestine, Malta and Portugal the NRAs reported being responsible for this task and with the exception of Malta the three NRAs display staffing number in the top half of the sample, independent of the total population of the respective country. With the exception of Israel, Jordan, and Palestine all NRAs can autonomously recruit their staff. In Spain, the ability to recruit staff depends on the prior approval of the vacancies by the government.

The 2019 regulatory questionnaire specified the question on NRA employees, NRAs were asked to specify the staff that is working on tasks concerning the telecommunication sector. Six NRAs specified the staff of the departments responsible for telecommunications. In Bosnia and Herzegovina 17 of 126 employees work in the telecommunications department, at Spain’s CNMC 60 of the 507 staff work specifically on telecommunication affairs, Palestine specified that 412 of the 616 employees belong to the postal sector department, and at AGCOM in Italy 39 of the 352 employees are devoted to the telecommunication sector. In Portugal 147 of 377 staff is working directly in telecommunications.

Figure 20: Number of employees in NRAs

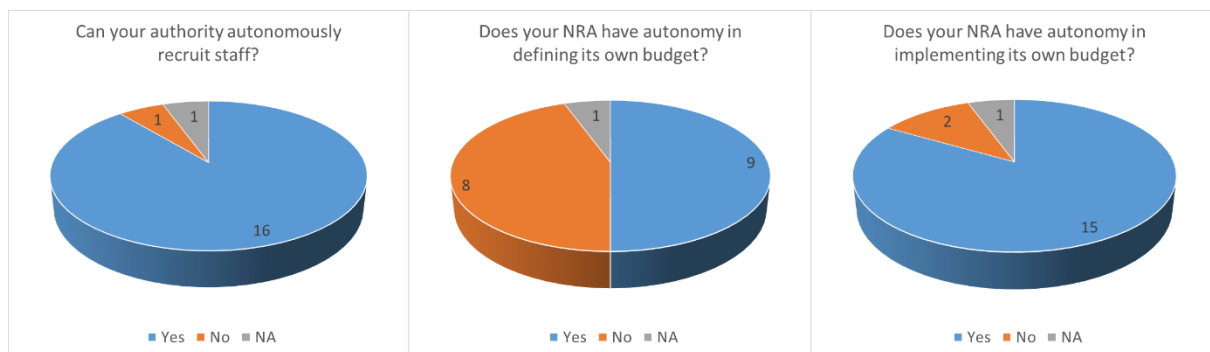


Source: EMERG.

Concerning the definition of the NRA’s budget, 8 members declared that they have autonomy to design and prepare their own budget: Croatia, Egypt, Spain Malta, Morocco, Turkey, Italy and Tunisia (see Figure 21). However, it is generally assumed that certain Government guidelines are assumed by the NRAs when preparing the draft, related to issues such as general budgetary restrictions, travel expenses, remuneration policy for staffing, and so forth.

With the exception of Bosnia and Herzegovina, Jordan, and Israel, the rest of the EMERG members reported that they could autonomously implement the allocated budget. In the case of Portugal, ANACOM has full control over its budgeted expenditure¹¹, subject only to an independent audit. However, since 2011, in the context of the Portuguese Financial and Economic Assistance Programme, ANACOM was required to apply the reduction in staff remuneration approved by the Parliament (State Budget Law) that determined a salary cut for public employees and the staff of public institutions subject to a special scheme; meanwhile, all career progression and other salary updates have been frozen since 2011. Spain’s CNMC is obliged to prepare and approve a draft budget and submit it to the Ministry of Finance and Public Administrations through the Ministry of the Economic Affairs and Digital Transformation for further processing and approval.

Figure 21: Recruiting and budget



Source: EMERG.

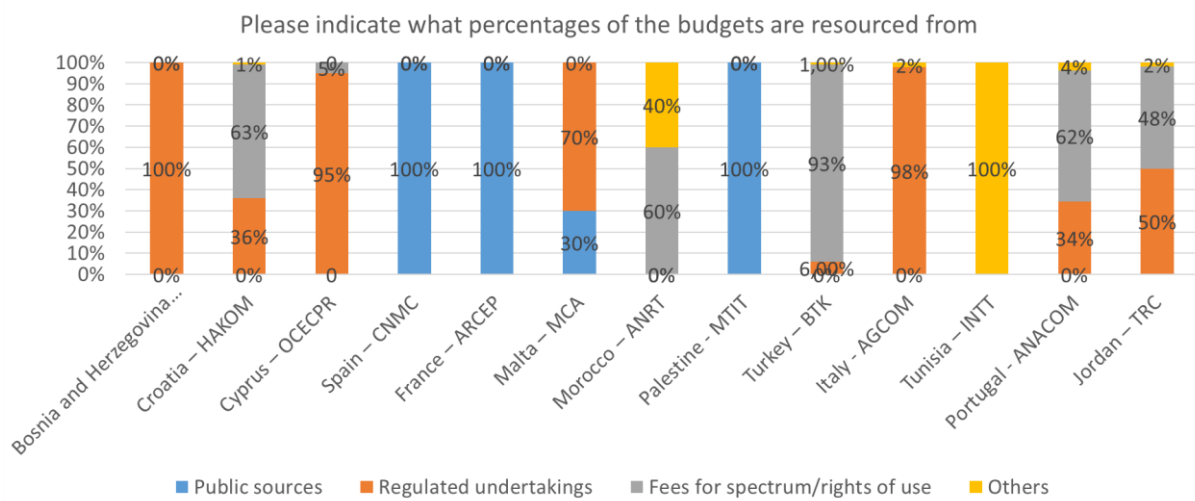
The budgets of EMERG members vary significantly, reflecting the differences in responsibilities and the complexity of internal structures and roles. Most NRAs rely on several sources to finance their activities, mostly from public funding, collection fees and charges from regulated entities, spectrum fees and other sources which vary from country to country (minor contributions from bank interest in Portugal, Croatia and Turkey, fines and training contributions of operators in Morocco, numbering resource in Tunisia). For the sources of their incomes, the EMERG countries fall into the following groups:

- Countries where almost all revenues come from public sources: France (100%), Palestine (100%), Spain (100%), Lebanon (100%).

¹¹ The government in charge of the areas of finance and communications can refuse its approval of the budget by means of a decision based on illegality or detriment to ANACOM’s assignments or to the public interest, safeguarded the independence of this Authority in the exercise of its regulatory powers.

- Countries where a significant part of the revenues comes directly from regulated undertakings: Italy (97%), Cyprus (77%), Jordan (50%) Bosnia and Herzegovina (100%) and Malta (70%).
- Countries where a significant part of the revenues comes from the spectrum management: Morocco (60%), Turkey (93%) Croatia (63%), Jordan (49%) and Portugal (62%).¹²

Figure 22: Sourcing of budgets



Source: EMERG.

4. Regulatory development in the EMERG countries

Market access

Licenses

According to the European Electronic Communications Code, Article 12, in line with a system of general authorizations, no explicit decision or administrative act by the NRA is required. Any procedural requirements are limited to notification (registration) only. After notification, a provider of electronic communication network or services can start commercial activities in the telecommunications market(s) of its choice. From that moment on, it has the right to negotiate interconnection agreements and access to facilities with players that have significant market power (SMP).

¹² Information refers to the 2015 survey for Portugal and Croatia

Holders of a general authorization have to pay a yearly administrative fee ('charges') to the NRA. These fees have to be cost-based i.e. should only cover the actual administrative costs for the activities conducted by the NRA (Article 16).

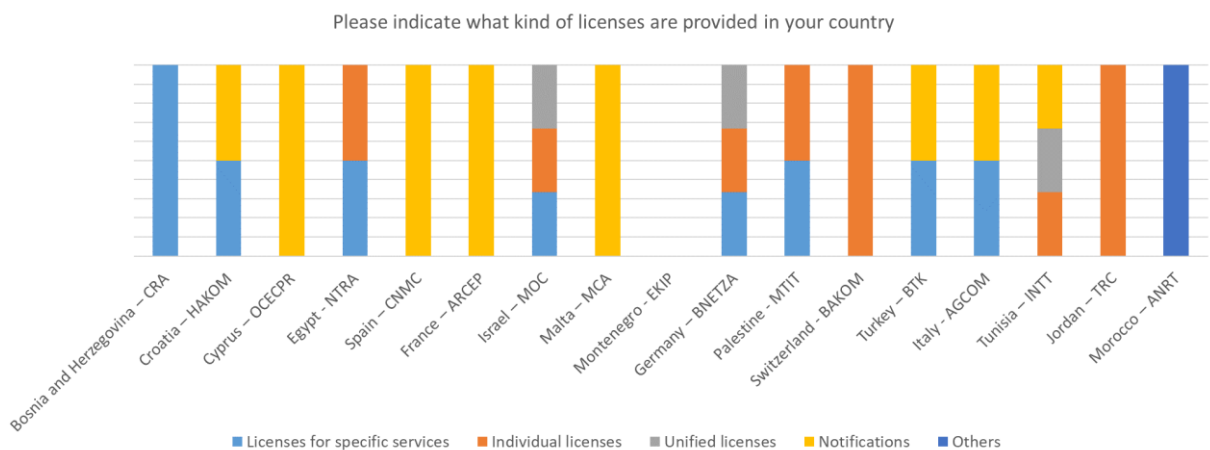
Regarding providers of electronic communications networks and services, which do need scarce resources, the situation is different. These providers need to be granted with individual usage rights. The procedure for assignment of radio frequencies should in any event be objective, transparent, non-discriminatory and proportionate. This procedure could either be a comparative tender ("beauty contest") or a competitive tender ('auction). NRAs may levy usage fees for the use of radio frequencies and numbers as an instrument to ensure that these resources are used efficiently.

While in most of the European countries (Croatia, Cyprus, France, Italy, Malta, Portugal, and Spain) notification is required in order to officially enter the market, in MENA countries this only occurs in Turkey and Tunisia.

Bosnia and Herzegovina, Egypt, Israel, Morocco, Switzerland, Palestine, Turkey, Germany, and Italy provide licenses for specific services. Israel provides individual licenses for multi-services. Israel, Germany, and Tunisia provide unified licenses (global).

In Jordan, there is a simplified licensing regime given that any potential entrant to the telecom market can choose from two types of licenses, namely individual or class license. Differences between these two types rely mainly on the use of scarce resources, as in the case of individual licenses. However, both licenses are general licenses and not specific to any particular telecom services. Finally, spectrum use has its own licensing management process.

Figure 23: Provided licenses



Source: EMERG.

Access to scarce resources

Rights of way

The European Electronic Communications Code, namely Chapter 2, Article 43, establishes non-discriminatory procedures that aim to grant public rights of way to undertakings providing electronic communications networks or services to the public. In fact, permits issued to undertakings providing electronic communications networks and services allowing them to

gain access to public or private property are essential factors for the establishment of electronic communications networks or new network elements. Unnecessary complexity and delay in the procedures for granting rights of way may therefore represent important obstacles to the development of competition.

Consequently, the acquisition of rights of way by authorized undertakings should be simple. National regulatory authorities should be able to coordinate the acquisition of rights of way, making relevant information accessible on their websites.

Further, in certain cases, Member States may impose the sharing of facilities or property on an undertaking operating an electronic communications network. This type of decision is used when there is limited access to resources due to the need to protect the environment, health or public safety or when it is not possible to reproduce the infrastructures. These sharing and coordination arrangements may include rules for apportioning the costs of facility or property sharing adjusted for risk where appropriate.

When asked if the NRA is empowered to grant rights of way, 7 members (Croatia, Cyprus, Egypt, Israel, Tunisia, Germany, and Palestine¹³) answered indicating that their authorities are empowered to grant rights of way. On the contrary, 10 of them (Bosnia and Herzegovina, France, Italy, Jordan, Morocco, Malta, Portugal, Spain, Switzerland, and Turkey) answered negatively to this question.

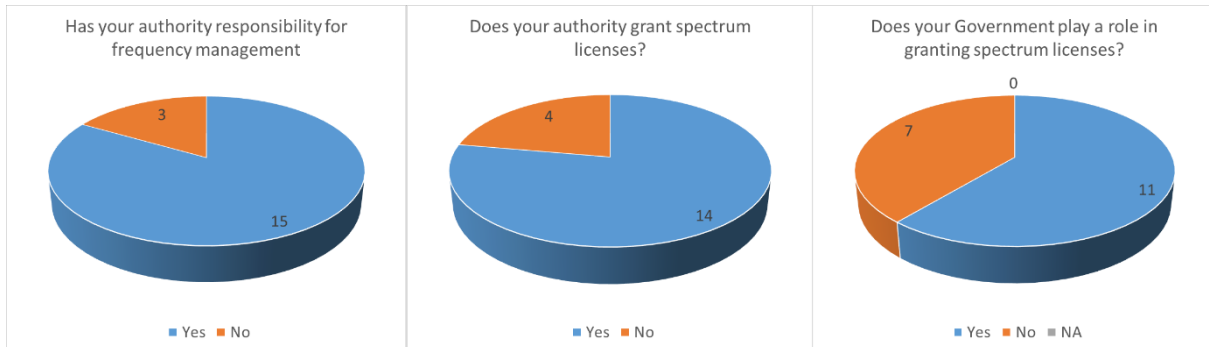
Radio Spectrum

NRAs play a key role in planning, allocating and ensuring that spectrum is used efficiently. Some NRAs have been heavily involved in the reallocation of spectrum from analog broadcasting to mobile communications, and from military use to civilian use. Some of this work requires close cooperation with other countries. In other cases, this involvement relies on the role of the ministries.

In a large majority of countries, the NRAs are responsible for frequency management (see Figure 24). In Cyprus, Tunisia, and Spain the regulators have no competencies in the field. In Spain, the role of the NRA is limited to the provision of its opinion on the draft measures put forth by the Government in this domain. Italy's AGCOM is in charge only of the frequency planning and the draft of the National frequency plan which is the basis for the frequency management and assignment, a task of the Ministry of Economic Development.

¹³ The right of way is subject to other authorities fees and additional regulations, i.e municipalities and local governance. It's also subject to political situation and restrictions imposed on Area "C".

Figure 24: Spectrum management and licenses

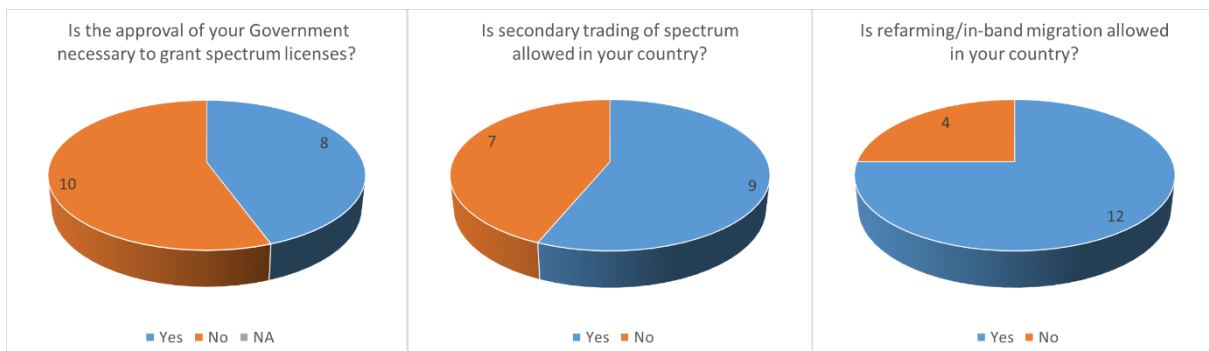


Source: EMERG.

Seven NRAs (Bosnia and Herzegovina, Croatia Jordan, Egypt, Germany, Portugal and Switzerland) have full responsibility for frequency management and grant spectrum licenses while there is no involvement from the government. In many EMERG countries (Cyprus, France, Spain, Israel Morocco, Palestine¹⁴, Portugal, Italy Tunisia and Turkey) the approval of the government is necessary to grant spectrum licenses (see Figure 25).

8 out of 15 NRAs (Croatia, Cyprus, Spain, France, Malta, Turkey, Italy, Portugal) confirm that in their countries secondary trading of spectrum is allowed (in the case of Turkey, it is in a limited way). In Bosnia and Herzegovina, Egypt, Jordan, Morocco, Palestine, Switzerland and Tunisia, this kind of trading is not allowed. Refarming/in-band migration is allowed by all members, except in the cases of Germany, Jordan, Morocco and Egypt (see Figure 25).

Figure 25: Spectrum trading and refarming



Source: EMERG.

Digital dividend

¹⁴ It worth mentioning the special case of Palestine and the political situation which impose restrictions on the frequency allocations and management and hence hinder the right of Palestine to have full control over the full spectrum, an example is the limited frequency assigned for mobile operators for 2G which is 4.8MHz for each operator, and the fact that 3G mobile services was introduced early 2018, and 4G mobile services is not seen in the near future.

A digital dividend decision was taken in the cases following members: Portugal (Digital Dividend I, 790-862 MHz), Germany (790-862 MHz was auctioned off for mobile services), France (60 MHz awarded in 2012 and 2015), Jordan (mainly for LTE services), Israel Turkey, Lebanon, Palestine, Malta, Tunisia, Croatia, Spain and Italy. Finally, in Bosnia and Herzegovina the new rule for the utilization of the 800 MHz is in the process of adoption, whereas the Rule for utilization of the 700MHz (694-790 MHz) band is planned for adoption.

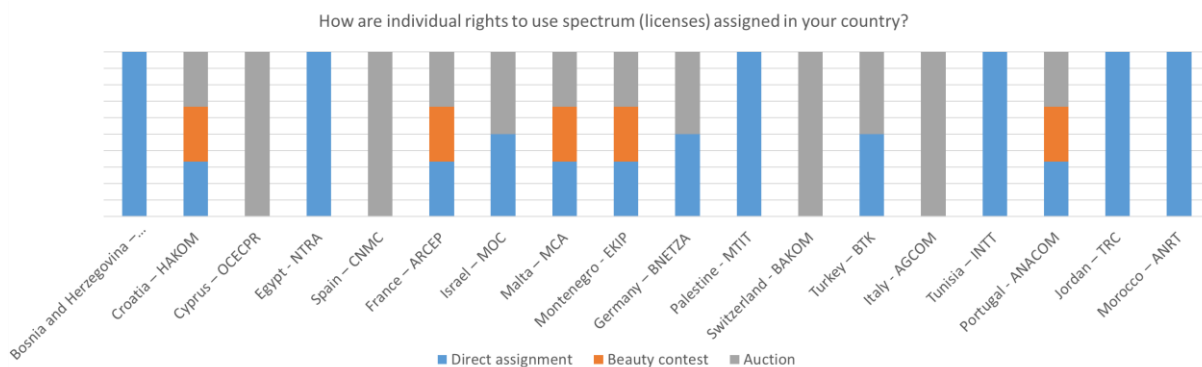
As for the EU countries, the 800 MHz was allocated in all countries. In all the cases, the band was assigned to provide electronic communication services, in particular, mobile broadband services and wireless broadband (LTE). With respect to the 700 MHz bands, in France, 30 MHz duplex in the 700 MHz band have been awarded in December 2015 to the four main MNOs.

In the cases of Lebanon and Palestine¹⁵ a decision has been made with regard to the use of the digital dividend band, but no action has been taken so far. Meanwhile, the authorities are studying the possibility of allocating part of UHF band for international mobile telecommunications (IMT). Palestine is planning

In Turkey, the 800 MHz frequency band has been assigned to mobile operators in a technology-neutral manner. The release of 694-790 MHz band (700 MHz band) from broadcasting services has been completed in 2019 to enable mobile broadband services in this band.

The most common practice of spectrum assignment among the EMERG members is auctioning. All European countries responding to the survey use auctioning to assign spectrum. Only Bosnia and Herzegovina, Egypt, Tunisia, and Palestine renounce auctioning and directly assign spectrum. Morocco does not explicitly renounce auctioning but has not used it up to now.

Figure 26: Spectrum assignment



Source: EMERG.

¹⁵ In the case of Palestine, the usage of spectrum bands is subject to Israeli approval and frequency assignment.

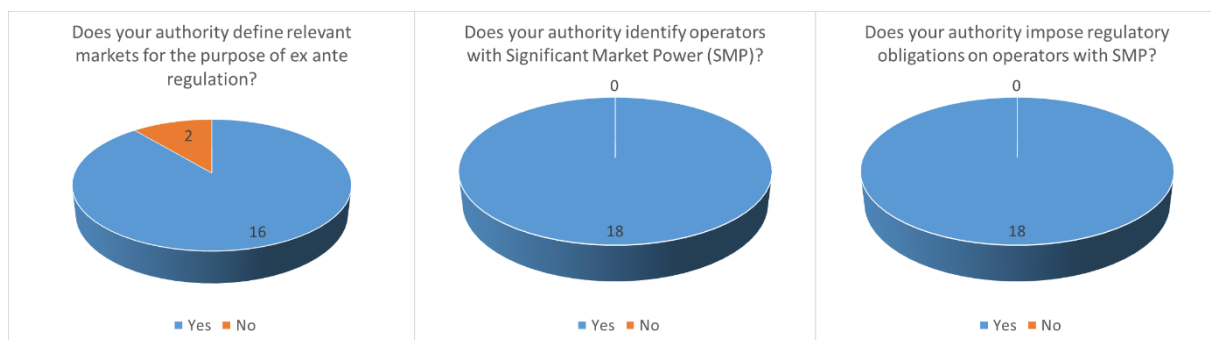
Regulatory market analysis and imposition of obligations

EU Member States have harmonized market analysis practices by virtue of the European legislation entered into force since 2002. In this regard, the European Electronic Communications Code assigns to the national authorities the tasks on the market analysis procedure. The procedure is defined in the Commissions Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation in accordance with Directive (EU) 2018/1972 (the European Electronic Communications Code)

The responses on the framework for market analysis point out that the application of the methodologies used under the competition law has become a consolidated, common approach to regulate electronic communication markets within EU member states as well as in non-EU countries belonging to the EMERG.

As regards the non-EU countries, a very similar approach arises from the responses to the questionnaire. Indeed, in countries like Jordan, Morocco, Tunisia, and Turkey national regulators carry out a complete market analysis procedure, based on competition law principles, proceeding from the relevant market definition to the imposition of obligations on SMP undertakings. The only exception is Switzerland, where market reviews are only conducted upon the request of market players. All NRAs identify operators with Significant Market Power (SMP) and impose regulatory obligations on operators with SMP (see Figure 27).

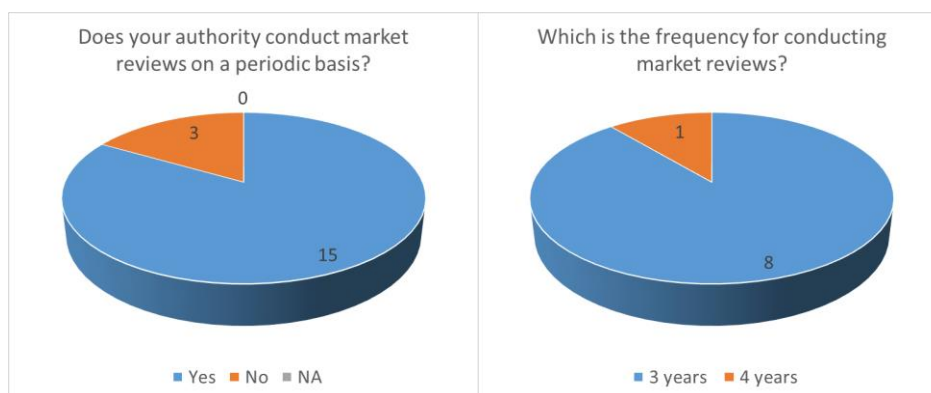
Figure 27: Market analysis and SMP



Source: EMERG.

In addition, it should be noted a slight distinction between the periodical review and the frequency of re-examination of market conditions within this group of countries. Some of them (e.g. Jordan, Lebanon, and Morocco) conduct market analysis on a regular and stated period while Israel, Palestine, and Switzerland are more flexible in carrying out the analysis when market developments suggest reconsidering the competitive situation or upon request from a market player. The usual frequency for conducting a market review is three years in EMERG countries.

Figure 28: Market reviews



Source: EMERG.

Remedies

The European Electronic Communications Code sets out how the NRAs should define the relevant national electronic communications markets and analyses whether there are any operators with SMP on those markets. In the event of finding that there are undertakings with SMP in the relevant markets, NRAs must impose appropriate regulatory remedies to ensure that effective competition is restored. Under Articles, 69 to 74 and Articles 76 and 80 remedies are foreseen and defined.

Articles 69 to 74 and Articles 76 and 80 lay down a range of obligations to be imposed on undertakings with significant market power, namely transparency, non-discrimination, accounting separation, access, and price control including cost orientation.

Universal Service Directive obligations include regulatory controls on retail services, regulatory controls on the minimum set of leased lines, and carrier selection and carrier pre-selection.

The following tables show the implemented obligations separately for the fixed voice telephony markets, the mobile voice telephony/SMS markets, and the fixed broadband markets.

Fixed voice telephony markets

In the case of the fixed voice telephony markets, most countries have access & origination and termination remedies in place. Exceptions in case of access & origination are Malta and Greece. 9/17 countries (Bosnia & Herzegovina, Germany, Israel, Italy, Jordan, Morocco, Palestine, Switzerland, and Tunisia) also have transit remedies in place. In Spain, these remedies touch solely upon obligations of interconnection. Only 5/17 countries also impose retail remedies (Bosnia & Herzegovina, Jordan, Morocco, Palestine, Germany).

Table 2: Fixed voice telephony remedies in EMERG countries

Fixed voice telephony market	Access & origination	Termination	Transit	Retail
Bosnia and Herzegovina – CRA	(1), (2), (3), (6)	(1), (2), (3), (6)	(1), (2), (3), (6)	(8), (9)
Croatia – HAKOM	(1), (2), (3), (4), (5), (6), (7)	(1), (2), (3), (4), (5), (6), (7)		
Cyprus – OCECPR	(1), (3), (4), (5), (6), (7)	(1), (3), (4), (5), (6), (7)		
Egypt - NTRA	(1), (2), (3), (5)	(1), (3)		
France – ARCEP	(1), (2), (3), (4), (5), (6), (7)	(1), (2), (3), (4), (5), (6), (7)		
Germany – BNETZA	(1), (2), (3), (4), (6), (7)	(1), (2), (3), (4), (6), (7)	(1), (2), (3), (4), (6), (7)	(9)
Greece - EETT				
Israel – MOC	(3), (4), (5), (7)	(1), (3), (4), (6)	(3), (4)	
Italy - AGCOM	(1), (2), (3), (5), (6), (7)	(1), (2), (3), (5), (6), (7)	(1), (2), (3), (5), (6), (7)	
Jordan – TRC	(1), (2), (3), (4), (5), (6), (7)	(1), (2), (3), (4), (5), (6), (7)	(1), (2), (3), (4), (5), (6), (7)	(10)
Lebanon - TRA	(1), (2), (3), (4), (5), (6), (7)	(1), (2), (3), (4), (5), (6), (7)		
Montenegro - EKIP	(1), (2), (3), (4), (5), (6), (7)	(1), (2), (3), (4), (5), (6), (7)		
Malta – MCA		(1), (2), (3), (4), (5), (6), (7)		
Morocco – ANRT	(1)	(2), (3), (4), (5), (6), (7)	(2), (3), (4), (5), (6), (7)	(8), (10)
Palestine - MTIT	(1), (2), (3), (4), (6), (7)	(1), (2), (3), (4), (6), (7)	(1), (2), (3), (4), (6), (7)	(9)
Portugal - ANACOM	(1), (2), (3), (4), (5), (6), (7)	(1), (2), (3), (4), (5), (6), (7)		
Spain – CNMC	(1), (2), (3), (4), (5), (6), (7)	(1), (2), (3), (4), (5), (6), (7)		
Switzerland - BAKOM	(1), (2), (3), (4), (6), (7)	(1), (2), (3), (4), (6), (7)	(1), (2), (3), (4), (6), (7)	
Tunisia – INTT	(1), (2), (3), (6), (7)	(1), (2), (3), (6), (7)	(1), (2), (3), (6), (7)	
Turkey – BTK	(1), (2), (3), (4), (5), (6), (7)	(1), (2), (3), (4), (5), (6), (7)		

Note: (1) Obligation of interconnection, (2) implementation of wholesale offer, (3) transparency-RO, (4) Non-discrimination, (5) accounting separation, (6) Price control, (7) cost accounting, (8) tariff rebalancing, (9) retail price cap control, (10) other regulation of retail tariffs

Source: EMERG.

Mobile voice telephony/SMS markets

In the case of the mobile voice telephony/SMS markets, all countries have termination remedies in place, except for Greece and Lebanon. 13/17 countries impose access & origination remedies (Bosnia & Herzegovina, Cyprus, Egypt, France, Israel, Jordan, Montenegro, Morocco, Palestine, Portugal, Spain, Tunisia and Turkey). Finally, only two countries report that they impose remedies in retail tariffs, Morocco and Germany.

Table 3: Mobile voice telephony/SMS remedies in EMERG countries

Mobile voice telephony market	Access & origination	Termination	Retail
Bosnia and Herzegovina – CRA	(1), (2), (3), (5), (6)	(1), (2), (4), (5), (6), (8)	
Croatia – HAKOM		(1), (2), (4), (5), (6), (7), (8)	
Cyprus – OCECPR	(1), (4), (5), (6), (7), (8), (9)	(1), (5), (6), (7), (8), (9)	
Egypt - NTRA	(1), (3), (5)	(1), (5)	
France – ARCEP	(4)	(1), (2), (5), (6), (7), (8), (9)	
Germany – BNETZA		(1), (2), (4), (5), (6), (8), (9)	(10)
Greece - EETT			
Israel – MOC	(3), (5), (6)	(1), (5), (6)	
Italy - AGCOM		(5), (7), (8), (9)	
Jordan – TRC	(1), (2), (4), (5), (6), (7), (8), (9)	(1), (2), (4), (5), (6), (7), (8), (9)	
Lebanon - TRA			
Montenegro - EKIP	(1), (2), (3), (4), (5), (6), (7), (8), (9)	(1), (2), (4), (5), (6), (7), (8), (9)	
Malta – MCA		(1), (2), (3), (5), (6), (7), (8), (9)	
Morocco – ANRT	(1), (4), (5), (6), (7), (8), (9)	(1), (2), (4), (5), (6), (7), (8), (9)	(11)
Palestine - MTIT	(1), (2), (5), (6), (8), (9)	(1), (2), (5), (6), (8), (9)	
Portugal - ANACOM	(1), (3), (4)	(1), (3), (4), (5), (6), (8)	
Spain – CNMC	(1), (3)	(1), (3), (5), (6), (7), (8), (9)	
Switzerland - BAKOM		(1), (2), (5), (6), (8), (9)	
Tunisia – INTT	(1), (2), (4), (5), (8), (9)	(1), (2), (4), (5), (8), (9)	
Turkey – BTK	(1), (2), (3), (4), (5), (6), (7), (8), (9)	(1), (2), (4), (5), (6), (7), (8), (9)	

Note: (1) Obligation of interconnection, (2) implementation of wholesale offer, (3) Access to MVNOs (4) Collocation facilities, (5) Transparency (6) Non-discrimination (7) Accounting Separation (8) Price control (9) Cost accounting, (10) Retail price cap control, (11) other regulation of retail tariffs

Source: EMERG.

Fixed broadband markets

With regards to the fixed broadband markets, where there is SMP, almost all NRAs except for Egypt and Lebanon have imposed remedies to considerably varying degrees (see Table 4):

Countries with remedies for duct access, local loop unbundling (LLU), and bitstream access in place: 11/17 countries, most of them European (Cyprus, France, Germany, Israel, Italy, Montenegro, Portugal, Spain, Israel, Germany, and Turkey), have imposed wholesale access for LLU and bitstream as well as duct access. Switzerland imposes LLU and duct access but has no bitstream regulation in place. Jordan has implemented remedies for LLU and bitstream access. For duct access, Morocco has imposed a transparency and non-discrimination remedy. Malta has imposed LLU but no bitstream access, while Palestine has imposed bitstream and non-discrimination for LLU and duct access. Finally, Bosnia-Herzegovina has imposed transparency and non-discrimination for access to the LLU. In addition to physical local loop unbundling, Malta has also implemented VULA.

Table 4: Fixed broadband market remedies in EMERG countries

Fixed broadband market	Duct access	Unbundling of local loops	Bitstream access
Bosnia and Herzegovina – CRA		(3), (4)	
Croatia – HAKOM	(1), (2), (3), (4), (5), (6)	(2), (3), (4), (5), (6)	
Cyprus – OCECPR	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)
Egypt – NTRA		(1), (2)	(1), (2)
France – ARCEP	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)
Germany – BNETZA	(1), (2), (3), (5), (6)	(1), (2), (3), (5), (6)	(1), (2), (3)
Greece – EETT			
Israel – MOC	(1), (2), (3), (4), (5)	(1), (2), (3), (4), (5)	(1), (2), (3), (4), (5)
Italy – AGCOM	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)
Jordan – TRC		(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)
Lebanon – TRA			
Montenegro - EKIP	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)
Malta – MCA		(1), (2), (3), (4), (5), (6)	
Morocco – ANRT		(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)
Palestine – MTIT			(1), (2), (3), (4), (5), (6)
Portugal – ANACOM	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)
Spain – CNMC	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)
Switzerland – BAKOM	(1), (2), (3), (6)	(1), (2), (3), (6)	
Tunisia – INTT			
Turkey – BTK	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)	(1), (2), (3), (4), (5), (6)

Note: (1) implementation of wholesale offer (2) Transparency (3) Non-discrimination (4) Accounting Separation (5) Price control (6) Cost accounting

Source: EMERG.

5. Consumer issues

The protection of consumers and of the right for having access to affordable services is at the heart of the responsibilities of regulators. Part 3 of the European Electronic Communications Code contains several provisions aimed to secure the interests and rights of end-users beyond their access to the services falling under the scope of universal service.

These provisions are of various types: on the one hand, they evolve around the principle of providing end-users with information on the applicable prices and tariffs, standard terms and conditions and the quality and affordability of the publicly available communications services.

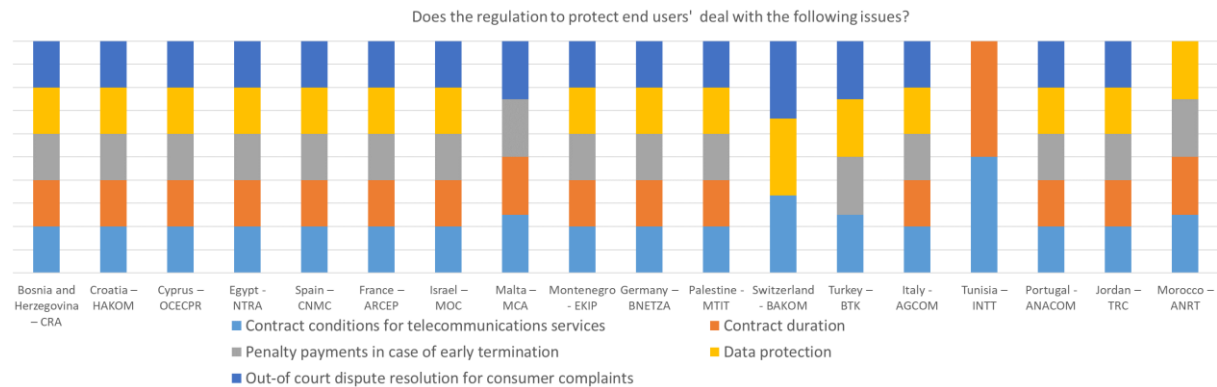
On the other hand, it sets the conditions applicable to contracts for users. Finally, it establishes the obligation for the EU Member States to ensure transparent, non-discriminatory, simple and inexpensive out-of-court procedures available for dealing with unresolved disputes.

EMERG members have included a concise questionnaire tackling issues related to the legislative framework regarding consumer protection as well as specific questions to understand better the specificities in each country related to the empowerment of NRAs in that regard, the publication of tariffs, and the minimum contract period.

All EMERG members that responded to the questionnaire have adopted specific legislation to protect telecommunications’ end users’ rights.

Out of those countries that have adopted specific legislation, all deal with contract conditions for telecommunication services. With the exception of Switzerland and Turkey, the contract duration for end-users is regulated in all countries.

Figure 29: End-user protection



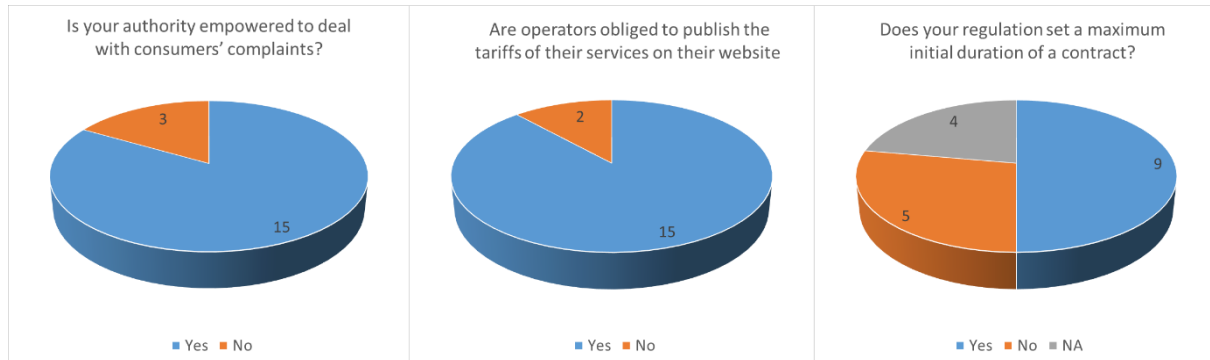
Source: EMERG.

Most NRAs, except for France, Tunisia, and Spain, are empowered to handle consumers’ complaints (see Figure 30). Morocco specified that ANRT is empowered to receive complaints from other consumer associations, although they intervene only within their competent authorities.

In all EMERG countries, except in Switzerland, Germany and Spain's operators are obliged to publish the tariffs of all services on their websites. In Spain, operators are obliged to provide information about tariffs but not specifically through their website. In Israel, only the incumbent SMP operator has such an obligation.

In Bosnia and Herzegovina, Switzerland, Spain, Israel, Germany, Palestine, and Turkey, NRAs do not set a maximum initial duration of the contract. In the case of Croatia, the maximum period is not set by the NRA (see Figure 30). Spanish legislation broadly set all the terms to include in a formal contract with a consumer, among others, the notice period to roll over a contract, contract change notifications and termination fees. The maximum contract period is also set in the normative.

Figure 30: Complaints, tariffs, contracts



Source: EMERG.

In Croatia, Cyprus, Malta¹⁶, Montenegro, Portugal, and Italy NRAs publish periodically information on tariffs of telecommunications services on their website in order to allow end-users to compare offers in a transparent manner. In some cases, such as for ANACOM and OCECPR for example, the NRAs are responsible for the platform used as a comparison tool; service providers are responsible for information provisioning. In Italy, private service providers have developed a tool that allows consumers to compare prices and offers of the telecommunication providers.

Quality of Service

Article 84, on Universal Service Obligations of the European Electronic Communications Code empowers Member states to define the adequate requirements in terms of quality of service in order to prevent the deterioration of the service and the obstruction or slowing down of traffic on the networks. The Directive also establishes the information on the quality of service that undertakings should make publicly accessible in order to ensure that end-users, including disabled end-users, have access to comprehensive, comparable, reliable, and user-friendly information.

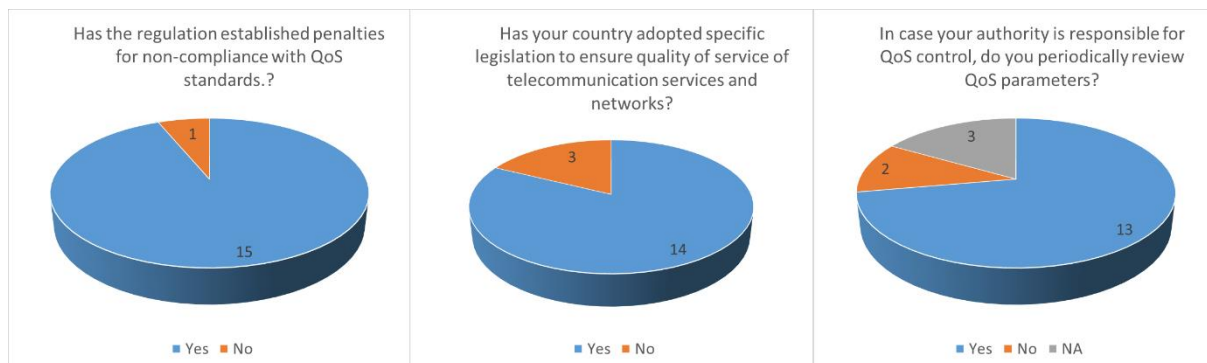
All EMERG countries, except for France and Jordan, have adopted specific legislation to ensure quality of service in telecommunication services and networks. In France, a certain degree of quality of service is required in operators' authorizations (fixed operators) and licenses (mobile operators). Arcep notes, that it is also in the terms of the USP operator obligation. In Portugal there is a regulation on Quality of Service (Fixed Telephone Service), it establishes the obligation to measure and publish information on the quality of service and the parameters to be measured, while it does not define the levels of quality of service to be ensured (it is up to the providers to define the levels to achieve). Additionally, there is also specific legislation to ensure the quality of service of telecommunication services and networks in the case of the USP (cf. Universal service – Universal service QoS is established by ANACOM, by decision following a public consultation.

In all EMERG countries, except for Bosnia and Herzegovina, Israel, Jordan and Palestine, the regulation related to Quality of Service (QoS) defines penalties in case of non-compliance with

¹⁶ <https://www.telecosts.com/>

the standards. In the case of France, although there is no specific legislation, this is part of operators’ obligations and Arcep publishes periodical benchmarks presenting a wide range of indicators to check that operators respect their obligations and give back information to consumers. For Switzerland, penalties are defined in the legislation, however, they have not been applied up to now.

Figure 31: QoS legislation and penalties

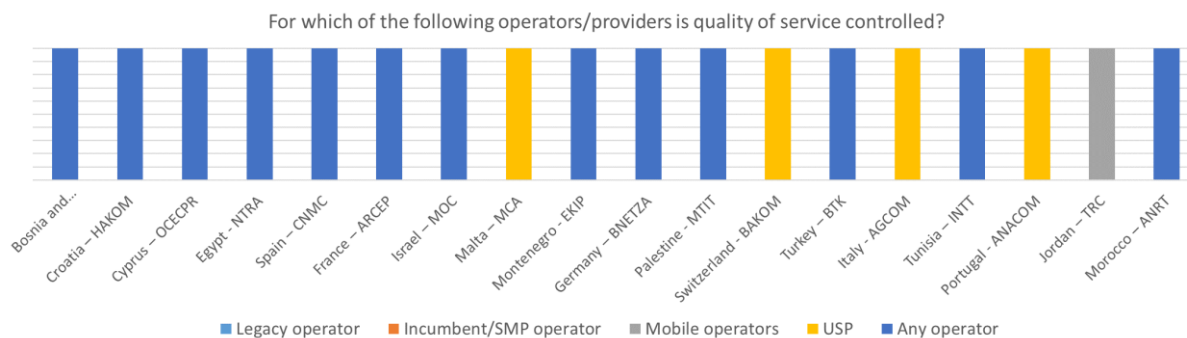


Source: EMERG.

In Morocco, two approaches are used to monitor the quality of service: (1) an analysis dashboard KPIs (Key Performance Indicators) or those submitted upon ANRT’s request during significant or unusual events; (2) campaigns field measurements for evaluating the quality of service as perceived by users. Thus, the ANRT conducts regularly on the basis of significant samples, measurement campaigns and survey indicators QoS.

In most EMERG countries all operators are bound to QoS standards (Figure 32). In Switzerland, there is specific legislation for services and network connections in relation to Universal Service Obligations. These rules apply only to universal service providers.

Figure 32: Operators bound to QoS



Source: EMERG.

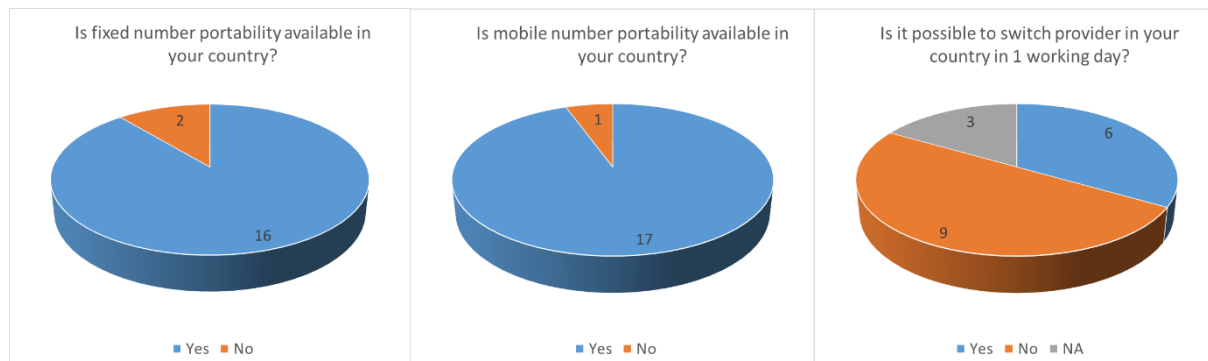
Number portability

The only country within EMERG which still has not introduced number portability in fixed and mobile services is Jordan. Palestine has introduced mobile number portability in the last quarter of 2020.

Apart from the aforementioned countries, all of EMERG countries have imposed number portability for both mobile and fixed services (see Figure 33).

The process of switching the mobile service provider in 1 working day is available in 6 out of 17 EMERG countries: Israel, Portugal, Spain, Malta, Italy and Turkey. In the other cases the process of switching varies from 3 to 6 days.

Figure 33: Number portability



Source: EMERG.

Roaming

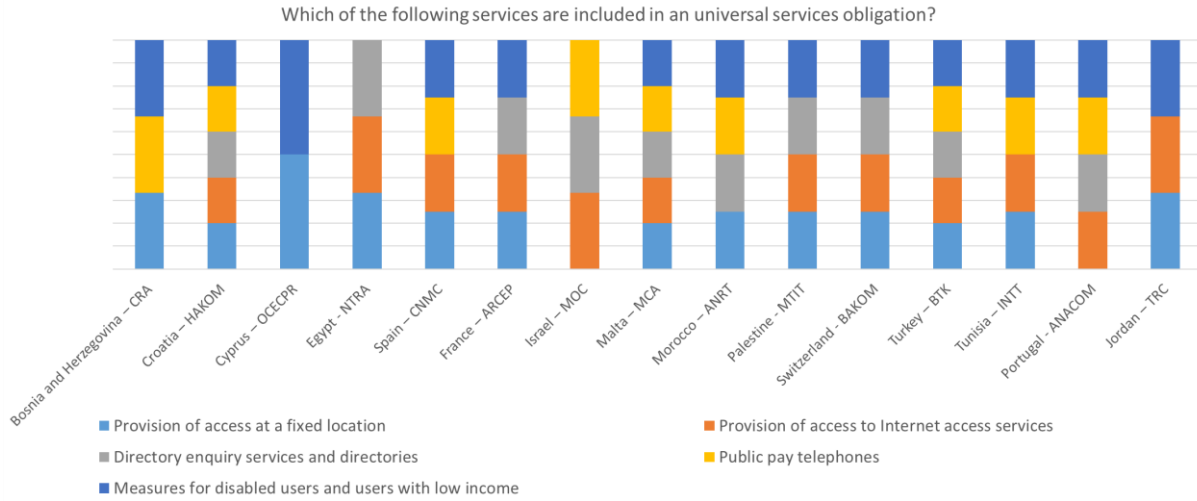
11 out of 17 countries responded positively when asked whether international roaming was regulated in their countries. European countries are regulated via Regulation (EU) No 531/2012 on roaming on public mobile communication networks within the Union and EEA. In Bosnia and Herzegovina a multinational agreement with Montenegro, Serbia and Macedonia based on the EU model could be reached on 29 September 2014.

6. Universal service

Increasing reach of people to different types of communication tools, has been imposed on certain service providers by the universal service obligation. For example through the expansion of coverage areas of telecom networks the availability of basic services of electronic communication services is secured.

Figure 34 shows which types of telecommunication services are offered under the universal obligations in EMERG countries.

Figure 34: Services under USO

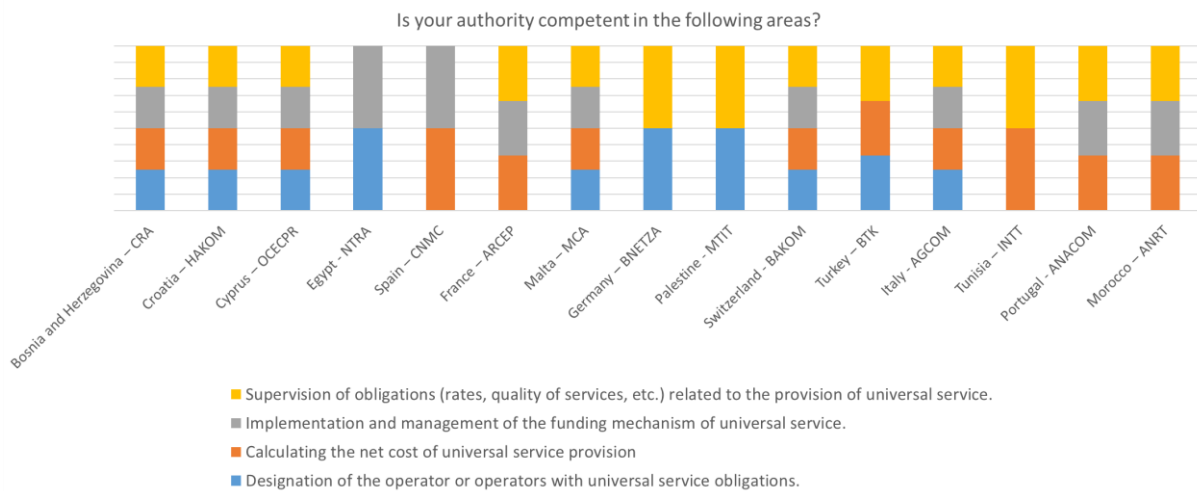


Source: EMERG.

8 out of 17 EMERG countries that participated in the survey reported that the universal service was financed by a fund: Egypt, Spain, France, Morocco, Tunisia, Turkey, and Portugal. In Cyprus, the provision of the fund has not yet been triggered.

With regard to the individual competence areas of the NRAs in the context of the USO, most NRAs supervise the obligations related to the USO. In 8 countries, NRAs designate which operator(s) have to comply with the USO: Bosnia and Herzegovina, Croatia, Cyprus, Egypt, Italy, Malta, Palestine, and Switzerland. 10 NRAs also have the task to implement and manage the funding mechanism of the USO (see Figure 35).

Figure 35: USO competencies



Source: EMERG.

The NRAs added additional specifications related to universal service provision in EMERG countries:

- Croatia's HAKOM designated two providers in 2015 for a 4-year period to provide a variety of services including: one provider for access to public telephone directory and another one (incumbent) for publicly available telephone services at a fixed location allowing end-users to make and receive local, national and international telephone calls, facsimile communications, and data communications at data rates that are sufficient to permit functional Internet access and special tariff systems adjusted to the groups of end-users with special social needs.
- In Israel, two operators were designated as universal service providers. The Incumbent Bezeq and HOT telecom, a multi-service cable operator are required to offer all services, including broadband internet connectivity, throughout the country.
- In Jordan until it is determined following the USO instructions that effective competition has been established to the fixed-line incumbent's (Jordan Telecom JT then) provision of a Public Switched Voice Service, JT shall continue to be the USP in all geographic areas and that JT shall continue to bear the entire cost of the USO under the terms of its licenses and these USO Instructions. The obligation includes basic public telephone services that have to be provided in all municipalities with a population of more than 300 permanent inhabitants. In addition, certain obligations are also placed on other operators as Mobile Network Operators (MNO) as indicated in section 1.6.3 of US policy mentioned above in the provided link; stating that the "Government would like all operators offering Basic Public Telephony Services and Licensed mobile operators to provide directory inquiry facilities that include the placement of the call by the operator..."
- In Morocco, an interdepartmental committee called the "Committee of management of the Universal Service Telecommunications (CGSUT)" is primarily responsible for the definition and validation of the Universal Service programs. The funding is provided by the Universal Service Fund (FSUT) created for this purpose by the Finance Act 2005. The FSUT is powered by contributions from telecommunications operators up to 2% of their turnover. The fund may also receive other contributions in the form of donations and bequests allocated in the development programs of Universal Telecommunications Service.
- The Federal Communications Commission (ComCom) designated Swisscom as the universal service Provider from 1 January 2018 till end of 2022. Swisscom, which majority state-owned, has refrained from applying for any financial compensation from the funding system.

7. Net Neutrality

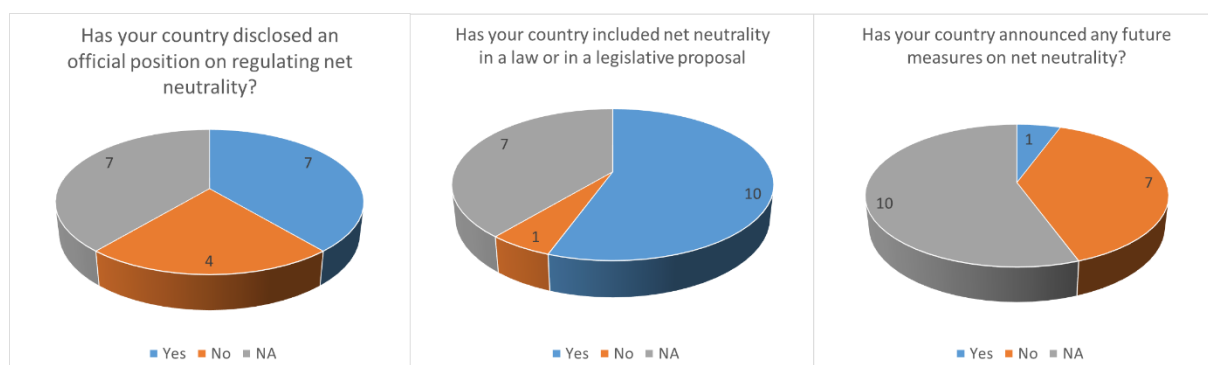
As of 30 April 2016, the European rules on the open internet (net neutrality) apply. The rules follow the adoption of EU Regulation 2015/2120 on 25 November 2015 that lays down measures concerning open internet access and amend Directive 2002/22/EC on user's rights relating to electronic communication network and services as well as the Regulation (EU) No 531/2012 on roaming within the Union.

The regulation creates the individual and enforceable right for end-users to access and distribute internet content and services of their choice. Common EU rules on net neutrality ensure that the same provisions apply across Europe.

Consequently, all European members of EMERG have disclosed an official position on regulating net neutrality. Next to the European countries also Israel, Tunisia, and Switzerland have taken an official stand in the matter (see Figure 36). In Israel, the Telecommunication law prohibits operators to block or restrict services, applications or telecommunication equipment.

10 out of 18 countries (Cyprus, Spain, France, Israel, Germany, Italy, Palestine, Switzerland, Portugal and Tunisia) have included net neutrality in law or legislative proposal.¹⁷ In general national law in the European countries follows the adoption of European regulations on open internet access and of the BEREC guidelines¹⁸. On the other hand, in Tunisia, the principle of neutrality is enshrined at the level of the license agreements. The article on neutrality requires that the holder guarantees that its service is neutral regarding the information content transmitted over its network. Thus, under current regulations, he is obliged to take all necessary measures to guarantee the neutrality of its staff concerning the content of messages transmitted over its network. For this purpose, he provides the services without discrimination, whatever the nature of the transmitted messages and takes the appropriate measures to ensure its entirety.

Figure 36: Net neutrality



Source: EMERG.

¹⁷ For European countries the provisions of the European net neutrality regulation apply directly in each Member State and do not require their transposition into national law. However, national legal provisions may be needed to define the institutional framework for net neutrality, and to ensure compliance in individual Member States.

¹⁸ BEREC guidelines (on the Implementation by National Regulators of European Net Neutrality Rules) constitute recommendations which NRAs should take utmost account of. However this does not mean that national law must follow them

8. Promotion of broadband services

The EU Digital Agenda has the targeted year 2020 to ensure widespread deployment and availability of ultra-fast broadband throughout the European Union.¹⁹ To achieve this, the Commission has channeled some of its public funds, via different instruments, to invest in broadband infrastructure. Next to that, Member States are encouraged to set their own initiatives to promote the deployment of ultra-fast broadband services.

However, having arrived in the final year of the agenda to achieve the set-out objectives, we are seeing different progress across the EU. While some countries are still constructing how they can achieve them, others have achieved remarkable progress in this regard, other European countries lag behind (see chapter 0).

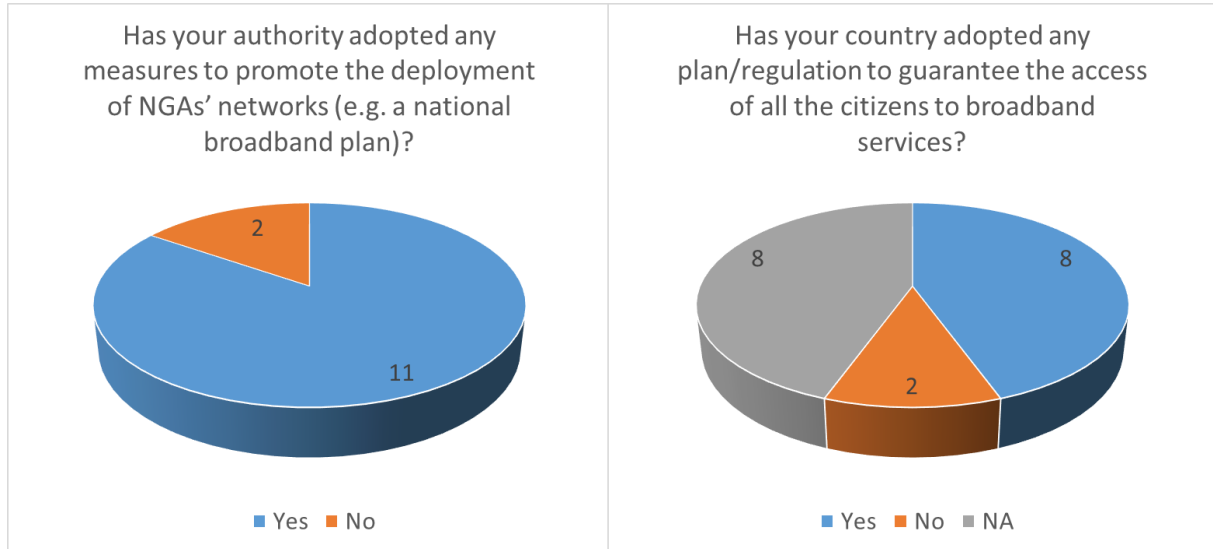
Concerning EMERG Members, all except for Bosnia and Herzegovina and Germany have adopted measures to promote the deployment of NGA networks (see Figure 37). In Malta, The MCA as an NRA has not as such “promoted” the deployment of NGA networks but has ensured that the necessary underlying building blocks were in place.

Ten EMERG countries (Egypt, France, Italy, Jordan, Malta, Morocco, Portugal, Palestine, Spain and Switzerland) have also adopted concrete plans to guarantee the access of all the citizens to broadband services.

- In Europe, Portugal, Spain and France have National Broadband plans in place. Italy focusses its efforts on wholesale access obligations for next-generation networks. The MCA has designated an operator to provide the universal service obligation in Malta, the designated USP is required to provide a broadband connection at a guaranteed access line speed of 4 Mbps.
- Jordan, in its Government policy year 2012 has set out an obligation on the regulator (TRC) to consider the deployment of high-speed internet (i.e. Broadband services), since it is a national goal: to increase the penetration of broadband access, being fast, reliable and affordable for all users, and availability to be through wired and wireless technologies, particularly mobile access. A follow-up program has been launched to cover more areas in Jordan.
- Morocco has also adopted a national broadband plan in 2012, setting general targets to deploy 4G mobile networks, Wifi and fiber optical networks in newly constructed areas.
- In Turkey, the National Broadband Strategy and Action Plan (2017-2020) was published on December 21st, 2017. The Plan includes many activities that promote the deployment of NGAs’ Networks.

¹⁹ The European Commission Digital Agenda for Europe (2010) sets targets for universal availability of 30Mbit/s broadband and for 50% of households to be taking up 100Mbit/s by 2020. <http://eur-lex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:52010DC0245&from=EN>

Figure 37: Promotion of broadband services



Source: EMERG.

9. Regulatory fiches

9.1	Bosnia & Herzegovina
9.2	Cyprus
9.3	Egypt
9.4	France
9.5	Israel
9.6	Italy
9.7	Jordan
9.8	Lebanon
9.9	Malta
9.10	Morocco
9.11	Palestine
9.12	Portugal
9.13	Spain
9.14	Switzerland
9.15	Tunisia
9.16	Turkey

Bosnia & Herzegovina

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	95,00	95,00	91,28	95,00	95,00	95,00	96,00	1,1%
Mobile cellular penetration	91,28	90,15	96,79	98,09	104,13	113,77	106,98	18,7%
Internet Usage	na	65,07	54,7	69,5	70,12	69,95	73,21	12,5%
Fixed broadband subscriptions/100 inhabitants	14,18	16,62	18,84	19,81	20,87	22,60	23,48	41,3%
Portion of HH with Internet access at home	na	na	61,50	66,00	72,00	72,00	72,80	n/a

Institutional layout

The Communications Regulatory Agency (CRA) was established on March 2nd, 2001 combining the competencies of the Independent Media Commission and the Telecommunications Regulatory Agency, which had previously operated separately. The Agency operates on the state level, and its mandate is defined by the Law on Communications of Bosnia and Herzegovina (the Official Gazette of Bosnia and Herzegovina, no.31/03), which was originally imposed by the Decision of the High Representative in October 2002, and the Parliamentary Assembly of Bosnia and Herzegovina adopted it in September of the year 2003.

The Agency is a regulator with combined competencies, developed on the model of similar processes in other European countries, and reflects the convergence of technologies in telecommunications and broadcasting in a way that can respond to market needs.

Director General is appointed by Council of Ministers, based on the proposal of CRA Council. The term is 4 years and can be renewed once. Grounds for dismissal can be:

- Illness rendering the Director General of CRA incapable of performing his/her duties
- Conviction of a crime punishable by imprisonment
- A conflict of interest by the Director General, or a member of the Council of CRA, as defined in the CRA Code of Ethics
- Resignation
- Failure of the Director General to perform his/her duties pursuant to above-mentioned Law, internal RAK rules or contract of employment
- Violation of the RAK Code of Ethics

The Agency is managed by a Director General who is nominated by the Council of the Agency and approved by the Council of Ministers. Director General is responsible for all regulatory functions of the Agency. In addition, the Director General is responsible for all administrative functions of the Agency including, but not limited to the implementation of this Law and other relevant laws, all staffing issues, and the establishment of internal procedural rules.

The Agency has a Council that guides the Agency with regard to strategic issues of law implementation and confers with and receives reports from the Director General. The Council of the Agency adopts codes of practice and rules for broadcasting and telecommunications. Additionally, the Council of the Agency serves as an appellate body for decisions of the Director General.

The Agency has 126 employees and a budget of 3.618.413 Euro in 2020.

NRAs competencies and powers

The RAK is competent in the following sectors:

- Telecommunications

- Broadcasting TV transmission
- Content TV

Within the Telecommunications sector the authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Networks' security
- Allocation of spectrum
- Quality of service
- Consumer protection
- Privacy and data protection

According to the Rule 54/2011 on Electronic Communications Market Analysis, CRA may impose the following regulatory obligations for the operators with significant market power:

- a) The obligation of transparency;
- b) The obligation of ensuring equal treatment – non-discrimination;
- c) The obligation of accounting separation;
- d) The obligation of access to, and use of, specific network elements;
- e) The obligation of price control and cost accounting;
- f) The regulation of the retail services;
- g) The obligation of providing a minimum set of leased lines;
- h) The obligation of providing carrier selection and carrier pre-selection.

CRA may impose fines directly. Maximum amount of the fine is €76,695 (BAM 150,000). In case of repeated violations, amount of fine to €153,390 (BAM 300,000).

Council of Ministers, based on a proposal of CRA:

- defines scope of universal service and financing mechanism and designates telecommunication operators responsible for provision of USO services (Article 12 of the Law on Communications);
- adopts the schedule of infractions and resulting penalties that may be imposed by CRA (Article 46 of the Law on Communications).

Neither the Council of Ministers, nor individual Ministers nor any other person shall in anyway interfere in the decision-making of CRA in individual cases (Article 36, Section 2 of the Law on Communications)

As policy maker, the Council of Ministers issues obligatory policy guidelines (sectoral policy). The sectoral policy defines the regulatory priorities and the action plan for CRA, although it does not influence individual CRA decisions.

NRAs accountability and transparency

The Council of Ministers and the Agency according to the respective competencies as set out in the Law of Communications shall take all reasonable measures that are aimed at achieving the following objectives:

- a) The promotion of fair competition in order that users derive maximum benefit in terms of choice, price and quality;
- b) That there is no distortion or restriction of competition in the communications sector according to the Council of Ministers' sector policies;
- c) That efficient investment in infrastructure is encouraged and innovation promoted;
- d) That copyright and other intellectual property, as well as personal data and privacy, is protected;

CRA signed the Memoranda of understanding with Competition Council of Bosnia and Herzegovina in march 2016.

In February 2017 CRA and BH Competition Council signed an cooperation agreement with the aim to, through mutual cooperation, protect competitiveness of the telecommunications market, following the best practice of EU countries. The main objectives of the agreement are:

- a) promotion of competition in the telecommunications market;
- b) emergence of new telecommunications services;
- c) development of innovative technologies;
- d) preservation of service quality;
- e) the prevention of abuse of the dominant position of operators in the telecommunications market, as well as related neighbouring markets.

Market entrance conditions in electronic communications

Authorization regime

Licenses for specific services are provided.

Rights of way, radio spectrum and frequency management

No rights of way are granted by the CRA.

The CRA is responsible for the frequency management and has the duty to grant spectrum licenses. The government is not involved.

Refarming is allowed.

Regarding the Digital dividend (700/800MHz), the new Rule for utilization of the 800MHz (790-862 MHz) is adopted, containing technical conditions as per the ECCDEC(09)03. The Rule for utilization of the 700MHz (694-790 MHz) band is planned for adoption in 2019 and it will be based on and ECCDEC(15)01. Currently, 700MHz is used for TV systems and 800MHz is free..

Numbering management

The NRA is competent in the following areas:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers.

Regulatory framework for market analysis

Relevant markets

CRA defines relevant markets for the purpose of ex-ante-regulation and applies competition law principles when defining them. SMP operators are identified.

Reviews on relevant markets stated in Rule 54/2011 on Electronic Communications Market Analysis is on periodical base – not exact period defined. As for relevant markets for which are needed Three Criteria Test, they are reviewed upon decision of the Agency.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection	X	X	X	
Implementation of wholesale offers	X	X	X	
Transparency (reference offer)	X	X	X	
Non-discrimination	X	X	X	
Accounting separation				
Price control				
Cost accounting				
Tariff rebalancing				X
Retail price cap control				X
Other regulation of retail tariffs				

MOBILE VOICE TELEPHONY / SMS MARKETS			
	WHOLESALE		RETAIL
	Access origination	& Termination	Retail
Obligation of interconnection	X	X	
Implementation of wholesale offers	X	X	
Access to Mobile Virtual Operators (MVNOs)	X		
Collocation facilities		X	
Transparency (reference offer)	X	X	
Non-discrimination	X	X	
Accounting separation			
Price control			
Cost accounting			
Retail price cap control			
Other regulation of retail tariffs			

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers				
Transparency (reference offer)		X		
Non-discrimination		X		
Accounting separation				
Price control				
Cost accounting				
Retail price cap control				
Other regulation of retail tariffs				

Consumer issues

Consumer protection

The CRA deals with the following issues with regards to consumer protection:

- Contract conditions for telecommunication services.
- Contract duration.
- Penalty payments in case of early termination.
- Data protection:
 - As stated in Rule 69/12, Article 25 Protection from Excessive Consumption: For the purpose of protecting end users, public telecommunications operators are required to monitor the user's usual behaviour regarding service usage and alert consumers to each unusual increase in costs as soon as possible.
- Out-of-court dispute resolution procedure for handling complaints by consumers.

The CRA is empowered to deal with consumers' complaints. (Deleted question 4.1.5., answer now NO)

Maximum initial contract durations no longer than 24 months are imposed.

Quality of service (QoS) and switching

Legislation regarding QoS is imposed by the CRA:

- Instruction on the methodology of testing the quality of telecommunications services in fixed telecommunications networks.
- Decision on measurement of quality of GSM service in relation to Article 8 of License for provision of GSM services.

QoS is controlled for any operator. However, in case of non-compliance no penalties are established.

Switching in case of fixed and mobile numbers is possible, but not within one day.

International Roaming

Roaming is regulated regionally between Bosnia & Herzegovina, Republic of Serbia, FYROM and the Republic of Montenegro.

The following services are regulated:

- Wholesale voice calls
- Wholesale data
- Retail voice calls
- Retail SMS
- Retail data

Universal Service

A universal service obligation (USO) is imposed for the following services:

- Provision of access at a fixed location
- Public pay telephones
- Measures for disabled users and users with low incomes

The US is not financed by a fund.

The Authority is competent in the following areas:

- Designation of the operator with universal service obligation
- Calculating the net cost of universal service provision
- Implementation and management of the funding mechanism of universal service
- Supervision of obligations (rates, quality of service etc.) related to the provision of universal service.

In accordance with the Article 12 of the BiH Law on Communications, the CRA has prepared and submitted to the Council of Ministers for adoption a Decision on the scope of universal telecommunications services. This Decision did not receive the necessary approvals of the BiH Ministry of Communications and Transport and has not yet been adopted by the Council of Ministers of BiH.

Net Neutrality

No net neutrality considerations.

Promotion of broadband

Bosnia and Herzegovina completed a public consultation process for the document "Broadband Development Strategy in B-H for the period 2019-2023. The Strategy should be adopted in Q1 2020. The strategy has not been adopted yet.

Croatia

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	98,95	98,95		99,34	99,40	99,84	100,00	1,1%
Mobile cellular penetration	104,43	103,77	104,77	103,01	105,58	106,64	106,59	2,7%
Internet Usage	68,57	69,80	72,70	67,10	75,29	79,08	78,32	12,2%
Fixed broadband subscriptions/100 inhabitants	23,04	23,18	24,77	26,20	27,13	27,96	25,11	8,4%
Portion of HH with Internet access at home	68,40	76,70	77,30	76,50	81,50	80,50	85,00	10,8%

Institutional layout

Croatian Regulatory Authority for Network Industries (HAKOM), with its seat in Zagreb, is a legal entity with public authority within the scope and competence prescribed by the Electronic Communications Act that entered into force on 1st July 2008 and a special law regulating the field of postal services and railway services. HAKOM is an independent, autonomous and non-profit legal entity with public authority. The work of HAKOM is public. The founder of HAKOM, and founding rights are exercised by the Croatian Parliament and the Government of the Republic of Croatia. HAKOM is governed by the Council consisting of five members, including the Chairman and Deputy Chairman.

The Chairman of the Agency's Council (as well as other Council members) is appointed and dismissed by the Croatian Parliament upon proposal of the Government of the Republic of Croatia.

In the procedure for the proposal of the Chairman of the Agency's Council the Government of the Republic of Croatia publishes a public invitation to propose candidates for members of the Agency's Council.

To be appointed as Chairman of the Agency's Council (as well as other Council member) a person must be Croatian citizen domiciled in the Republic of Croatia with completed graduate studies or specialized graduate studies in electronic communications, postal services, law, economics or railway services, adequate work experience and active knowledge of at least one foreign language (English, French or German). At least one member of the Agency's Council must have a completed a graduate course or a specialized graduate course in the field of electronic communications, postal services or railway services, law and economics. The Chairman of the Agency's Council (as well as other Council members) must have at least five years of work experience in the electronic communications sector or postal services sector. Electronic Communications Act does not have a provision that regulates the possibility of renewal of council member's mandate. However, as this Act does not explicitly prohibit the possible renewal of the mandate, it can be concluded that taking into account the prescribed appointment procedure, the new council members can be the same as from the previous elections.

The Croatian Parliament shall dismiss the Chairman of the Agency's Council before the expiry of his term of office, upon proposal of the Government of the Republic of Croatia, in the following cases:

1. upon his/her request;
2. if it is established that, when he/she was proposed to become a member of the Agency's Council, he/she gave false information or failed to give information about circumstances important for his/her appointment;

3. if his/her work or behavior questions his/her reputation or reputation of the Agency, or his/her independence or independence of the Agency
4. inability to properly carry out his/her duty for more than six months in the row;
5. permanent loss of ability to perform his/her duty;
6. final conviction of a criminal offence;
7. non-fulfilment of objectives and tasks defined in the Agency's annual work program
8. occurrence of circumstances regarding conflict of interest

HAKOM can autonomously recruit staff and has autonomy in defining and implementing its own budget. The Authority has 176 employees and a budget of 11.897.600 Euro in 2020. The government is responsible for approving the budget. As of January 1st 2017, the budget of HAKOM became a part of State Budget and therefore prior approval of the budget will not be necessary. The budget is sourced for regulatory undertakings by 36%, 63% come from fees for spectrum rights or use and 1% from interests and refunds.

NRAs competencies and powers

The HAKOM is competent in the following sectors:

- Telecommunications
- Broadcasting
- Postal services
- Railways

Within the Telecommunications sector the authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Networks' security
- Allocation of spectrum
- Consumer protection
- Privacy and data protection is shared with the Data Protection Agency

The Authority has the power to request information from operators and decisions are directly enforceable. Regarding the findings of market analysis, the Agency has the power to impose behavioral as well as structural remedies which would achieve effective competition.

Regulatory measures that can be imposed are as follows:

- transparency in relation to interconnection and/or access
- non-discrimination in relation to interconnection and/or access
- accounting separation of certain activities related to interconnection and/or network access

- obligations to meet reasonable requirements for access to and use of specific network elements and the associated infrastructure and associated facilities
- obligations relating to cost recovery and price controls, including obligations for cost orientation of prices and obligations concerning cost accounting systems, for the provision of specific types of interconnection and/or access
- regulatory control on retail services
- accounting separation and financial reports
- access and interconnection
- functional separation of vertically integrated operators
- voluntary separation of vertically integrated operators.

Functional separation of vertically integrated operators can be imposed, on an exceptional basis, if all other regulatory measures did not achieve sustainable competition and if there are crucial and permanent difficulties in competition.

HAKOM has jurisdiction to resolve disputes between operators, and between operators and end users. Against HAKOM's decisions administrative proceedings can be issued before the Administrative Court (decisions in disputes between operators and end users) or High Administrative Court (decisions in disputes between operators).

The provisions of the General Administrative Procedure Act are applied in administrative proceedings under the competence of the Agency to issues not regulated by Electronic Communications Act. The Agency's Council adopts decisions by a majority vote of all members of the Agency's Council. Decisions and other administrative acts of the Agency are final in the administrative procedure and may not be appealed, but administrative proceedings may be initiated before the High Administrative Court of the Republic of Croatia. Exceptionally, administrative proceedings against the Agency's Council decisions in disputes between end users and operators may be initiated before the Administrative Court of the Republic of Croatia, in accordance with the provisions regarding territorial jurisdiction.

A decision or another administrative act of the Agency is enforced after service to the party unless another deadline for enforcement has been determined by a decision or another administrative act. In case of failure to act upon the decision or another administrative act of the Agency an electronic communications inspector may issue a misdemeanor order or propose the filing of a motion to initiate misdemeanor proceedings.

There is a division of competencies when deciding on matters that are by Electronic Communications Act prescribed as HAKOM's jurisdiction. Some of the decision are issued by the Director and some by the Council. The Agency's Council adopts decisions by a majority vote of all members of the Agency's Council. In administrative proceedings before HAKOM the provisions of the General Administrative Procedure Act are applied.

Decisions and other administrative acts of the Agency are final in the administrative procedure and may not be appealed, but administrative proceedings may be initiated before the High Administrative Court of the Republic of Croatia. Exceptionally, administrative proceedings against the Agency's Council decisions in disputes between end users and operators may be initiated before the Administrative Court of the Republic of Croatia, in accordance with the provisions regarding territorial jurisdiction.

A decision or another administrative act of the Agency is enforced after service to the party unless another deadline for enforcement has been determined by a decision or another administrative act.

Also, electronic communications inspector is authorized to conduct proceedings (also administrative proceedings) regarding supervision of applying the provisions of the Act or a decision of the Agency. In case a noncompliance with the decision of the Agency or the provisions of the Act is determined, inspector may issue a misdemeanor order or propose the filing of a motion to initiate misdemeanor proceedings. Also, inspector has the right to issue fines for noncompliance with relevant provisions/decisions. This fine can be subject to the appeal to the Misdemeanor court.

HAKOM may impose fines directly. Proposals for sectoral legislative amendments can be submitted to the ministry for electronic communications, direct proposals to the parliament are not envisaged.

NRAs accountability and transparency

It is mandatory for the NRA to make public consultations before adopting regulatory decisions. Those decisions are published. HAKOM is accountable before Parliament.

Regulatory functions regarding electronic communications, postal services (since 2008.) and railway services (since 2014.) are under the competence of Croatian Regulatory Authority for Network Industries (HAKOM).

The application of provisions of Electronic Communications Act does not influence the scope and competence of the competition protection authority established in accordance with a special law, as well as consumer rights, which are regulated by a special law. Furthermore, the provisions of this Act do not apply to contents produced, conveyed or published by means of providing electronic communications networks and services.

In the implementation of the provisions of the Act the Agency particular cooperates with the following bodies:

- the competition protection authority in such a manner that it requests the opinion of this authority or proposes the institution of proceedings before this authority in all cases of prevention, restriction or distortion of competition, in accordance with a special law regulating competition protection
- the consumer protection authority, in accordance with a special law regulating consumer protection;
- the authority competent for electronic media, in accordance with this Act and a special law regulating electronic media;

- the authority competent for data protection, in accordance with this Act and a special law regulating data protection
- the authority competent for harmonizing prevention and protection from computer endangerment to information system security, in accordance with special law regulating information security and ENISA guidelines
- the national security authority in accordance with special law regulating that area.

Market entrance conditions in electronic communications

Authorization regime

Notification regime and licenses for specific services are provided.

Rights of way, radio spectrum and frequency management

Rights of way are granted by HAKOM.

The HAKOM is responsible for the frequency management and has the duty to grant spectrum licences. The government is not involved.

Refarming is allowed.

Regarding the Digital dividend 800 MHz is used for mobile communications. 700 MHz is currently used for television broadcasting but planned to be used for mobile. Currently Strategy for 700 MHz is underway, along with international negotiations.

For provision of public mobile services, public call, tender or invitation can be used (decision of Agency's Council). Parameters are determined in each individual case.

Method of assignment of individual rights of use of spectrum depend on frequency band and actual use. For example rights of use for DTV and MFCN can be assigned through first come first served, beauty contest or auction while for microwave links rights of use are assigned directly. Method of assignment for all bands and uses is given in National allocation plan.

Numbering management

The NRA is competent in the following areas:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers.

Regulatory framework for market analysis

Relevant markets

HAKOM defines relevant markets for the purpose of ex-ante-regulation and applies competition law principles when defining them. SMP operators are identified.

HAKOM is obliged by Electronic Communications Act to conduct market analysis every 3 years, which is also in accordance with Framework Directive.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection	X	X		
Implementation of wholesale offers	X	X		
Transparency (reference offer)	X	X		
Non-discrimination	X	X		
Accounting separation	X	X		
Price control	X	X		
Cost accounting	X	X		
Tariff rebalancing				
Retail price cap control				
Other regulation of retail tariffs				

MOBILE VOICE TELEPHONY / SMS MARKETS			
	WHOLESALE		RETAIL
	Access origination	& Termination	Retail
Obligation of interconnection		X	
Implementation of wholesale offers		X	
Access to Mobile Virtual Operators (MVNOs)			
Collocation facilities		X	
Transparency (reference offer)		X	
Non-discrimination		X	
Accounting separation			
Price control		X	
Cost accounting			
Retail price cap control			
Other regulation of retail tariffs			

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers	X	X	X	
Transparency (reference offer)	X	X	X	
Non-discrimination	X	X	X	
Accounting separation		X	X	
Price control	X	X	X	
Cost accounting		X	X	
Retail price cap control				
Other regulation of retail tariffs				

Consumer issues

Consumer protection

Croatia has adopted specific legislation to protect end users right and deals with the following issues with regards to consumer protection:

- Contract conditions for telecommunication services.
- Contract duration.
- Penalty payments in case of early termination.
- Data protection:
- Out-of-court dispute resolution procedure for handling complaints by consumers.

HAKOM is empowered to deal with consumers' complaints. Maximum initial contract durations no longer than 24 months are imposed.

Information on telecommunication tariffs are frequently on the website:

<http://procjenitelj.hakom.hr/>

Croatian set of legislation regulating consumer protection and electronic communications is fully in line with the EU.

Quality of service (QoS) and switching

Quality of service on telecommunication services and networks are defined in the Ordinance on the Manner and Conditions for Provision of Electronic Communications Networks and Services (Official Gazette, 154/2011, 149/2013, 82/2014, 24/2015 and 42/2016).

QoS is controlled for any operator. However, in case of non-compliance penalties are only established for the USO providers.

Switching in case of fixed and mobile numbers is possible, but not within one day if we accounting the period of porting in way: from the moment when the customer requested porting the number until the moment when the service is activated in an another network .

Number Portability in Croatia is by Article 76, paragraph 6 of the Electronic Communications Act (Official Gazette No. 73/08, 90/11, 133/12, 80/13, 71/14 and 72/2017.), and on Ordinance on number portability (Official Gazette no. NN 24/15 and 71/16).

Number portability is managed using Central Administrative Database of Ported Numbers (CADPN) which is administrative tool for number portability process that all operators have to use. CADPN's location is in HAKOM (NRA) premises and HAKOM is responsible for installation, developing, testing, maintaining and managing the CADPN.

International Roaming

The following services are regulated:

- Wholesale voice calls
- Wholesale SMS
- Wholesale data
- Retail voice calls
- Retail SMS
- Retail data

Universal Service

A universal service obligation (USO) is imposed for the following services:

- Provision of access at a fixed location
- Provision of access to Internet access services
- Directory enquiry services and directories
- Public pay telephones
- Measures for disabled users and users with low incomes

The US is not financed by a fund. According to the Electronic Communications Act there is a possibility for the universal service provider to request for the compensation of net costs of the universal service provision if these costs represent unfair cost burden for the universal service operator. The recovery of net costs may not be requested by the universal service operator with more than 70% share in the total revenue earned on the market of these services.

If there is a request for the compensation the procedure is stipulated in Electronic Communications Act. In general, HAKOM that has to decide upon this request, using one of the following procedures:

- calculation of the net cost of the universal service provision, while taking into account any market benefit realized by the universal service operator, or
- taking into account net costs of the universal service provision enclosed by the universal service operator in the tender.

HAKOM shall calculate net costs of providing universal services as a difference between net costs of business operations of the operator designated to provide universal service and costs of its business operations without this obligation.

The calculation must accurately estimate the costs that any universal service operator would have chosen to avoid had there been no universal service obligations. The calculation shall also estimate the benefits of universal service operators, including intangible benefit, whereby double counting of any direct or indirect benefits and costs shall not be allowed.

The calculation must be based on costs attributable to:

- elements of the identified universal services which can only be provided at a loss or provided under cost conditions falling outside normal market rules, which shall, in particular, include the installation of certain public pay telephones and the provision of certain communications services or equipment for disabled people,
- specific end-users or groups of end-users who, taking into account the cost of providing the specified network and service, the revenue generated and any geographical averaging of prices imposed can only be served at a loss or under cost conditions falling outside normal market rules, whereby these end-users or groups of end-users would not be served by a commercial operator which did not have an obligation to provide universal service.

Funds for the recovery of net costs shall be secured from a special account opened with the Agency.

The recovery mechanism shall comprise the funds from contributions by all operators of public communications services with share in total revenue on national retail markets for publicly available telephone services exceeding 2%. The amount of contribution by any individual operator of publicly available telephone services must be proportionate to the share of its annual revenue in relation to the total annual revenue of all operators who are under the obligation to make contributions. The total amount must correspond to the amount for the recovery of net costs established by the decisions of the Agency.

HAKOM designated two providers (in brackets) in 2019 for a 3-years period for the following services:

access to public telephone network and publicly available telephone services at a fixed location allowing end-users to make and receive local, national and international telephone calls, facsimile communications and data communications at data rates that are sufficient to permit functional Internet access, taking into account prevailing technologies used by the majority of subscribers, as well as their technological feasibility; (HT d.d.)

access of end-users to at least one comprehensive directory of all subscribers of publicly available telephone services, in a form approved by the NRA, whether printed or electronic, which must be updated on a regular basis; (Imenik d.o.o.)

access of end-users, including users of public pay telephones, to a telephone directory enquiry service; (Imenik d.o.o.)

installation of public pay telephones at public and always accessible places in accordance with reasonable needs of end-users in terms of the geographical coverage, disabled users; (HT d.d.)

special measures for disabled users including access to emergency services, directory enquiry services and directories, equivalent to that enjoyed by other end-users, and an adequate choice of operators available to the majority of end-users; (HT d.d., Imenik d.o.o)

special tariff systems adjusted to the groups of end-users with special social needs. (HT d.d., Imenik d.o.o)

In 2019. two providers have been designated universal service providers for the period of three (3) years for the following services:

access to public telephone network and publicly available telephone services at a fixed location allowing end-users to make and receive local, national and international telephone calls, facsimile communications and data communications at data rates that are sufficient to permit functional Internet access, taking into account prevailing technologies used by the majority of subscribers, as well as their technological feasibility; (HT d.d.)

access of end-users to at least one comprehensive directory of all subscribers of publicly available telephone services, in a form approved by the NRA, whether printed or electronic, which must be updated on a regular basis; (Imenik d.o.o.)

access of end-users, including users of public pay telephones, to a telephone directory enquiry service; (Imenik d.o.o.)

installation of public pay telephones at public and always accessible places in accordance with reasonable needs of end-users in terms of the geographical coverage, disabled users; (HT d.d.)

special measures for disabled users including access to emergency services, directory enquiry services and directories, equivalent to that enjoyed by other end-users, and an adequate choice of operators available to the majority of end-users; (HT d.d., Imenik d.o.o)

special tariff systems adjusted to the groups of end-users with special social needs. (HT d.d., Imenik d.o.o)

Net Neutrality

As EU member state Croatia directly applies the TSM regulation. The rules on penalties applicable to infringements of Articles 3, 4 and 5 of Regulation (EU) 2015/2120 and the necessary measures are implemented through amendments to Electronic Communications Act.

HAKOM will continue to monitor the implementation of the transparency measures, monitor and enforce open internet provisions, use monitoring mechanism on speed and other QoS parameters (HAKOMetar, HAKOMetar Plus) consistent with Regulation (EU) 2015/2120 and aligned with the BEREC Guidelines.

Promotion of broadband

Croatian Government adopted Act on measures to reduce the cost of deploying high-speed electronic communications networks (NN 121/216), while HAKOM in 2016. adopted Ordinance on manner and conditions of access and shared use of electronic communications infrastructure and other associated facilities OG 36/16.

National Strategy and Programme:

1.) Strategy for the Development of Broadband Access in Republic of Croatia in the period 2016.-2020.

2.) National Framework programme for the Development of Broadband Infrastructure in Areas lacking Sufficient Commercial Interest for Investments Rules for sharing physical infrastructure:

Ordinance on manner and conditions for access to and shared use of electronic communications infrastructure and other associated facilities (OG 136/11, 44/12 and 75/13)

Ordinance of Optical Fiber Distribution Network (OG 57/14)

Ordinance of technical requirements for cable ducts (OG NN 114/10, NN 29/13)

This ordinance aims to facilitate and incentivize the roll-out of high-speed electronic communications networks by promoting the joint use of existing physical infrastructure and by enabling a more efficient deployment of new physical infrastructure. Ordinance also setting up detailed measures regarding transparency concerning physical infrastructure as well as measures concerning planned civil works.

Additionally through a USO obligation, minimum internet speed is defined at 1 Mbps as of 1st of January 2015.

Cyprus

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	89,30	89,30	99,97	100,00	100,00	100,00	100,00	12,0%
Mobile cellular penetration	96,34	131,40	133,42	138,48	138,90	143,85	139,64	6,3%
Internet Usage	69,33	71,72	75,90	80,74	84,43	86,06	90,80	26,6%
Fixed broadband subscriptions/100 inhabitants	21,13	22,38	32,77	34,21	36,27	37,79	37,40	67,1%
Portion of HH with Internet access at home	68,60	71,20	74,40	79,40	86,20	89,60	92,80	30,3%

Institutional layout

OCECPR was created through Act L112(I)/2004 and is the independent National Regulatory Authority with competencies on

Telecommunications, Broadcasting –TV Transmission-, Postal sector, and Cybersecurity, The NRA is NOT competent in the fields of Spectrum Management and Data (Deputy Ministry of Research Innovation and Digital Policy is responsible). The competition authority is responsible for ex-post regulation OCECRP has the ex-ante regulatory power. The Ministry has no power to give instructions to the NRA for the exercise of the tasks assigned to the NRA.

Next to OCECPR the following authorities have competencies in the telecommunication sector.

- Competition authority is responsible for ex-post OCECRP has the ex-ante
- Spectrum is handled by the Deputy Ministry of Research Innovation and Digital Policy
- There is a different authority for radio and tv
- Data Protection authority

OCECPR Commissioner is appointed for six years and the term can be renewed only once. The Commissioner is to be selected with 2 main criteria:

- Well known professional in the fields of Telecoms/ Law/ IT/ Economics/ Engineering.
- No affiliation to a political party.

Grounds of dismissal are:

- Inability to carry out duties due to illness
- Gross misconduct.

OCECPR does not act as a collegiate body and it currently employs around 42 employees.

NRA budget is not autonomously defined (approval by Council of Ministers and Parliament is needed) but it is independently implemented. For 2020 the budget was 4.7 Million € and for 2019 4,32 Million €, 95% coming from Regulated undertakings (e.g. annual administrative charges) and the rest from other sources.

NRA's competencies and powers

It has competence on Telecommunications and Postal sectors.

Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Standardization of equipment

- Quality of service
- Consumers' protection – competencies also lie with Consumer Protection Authority
- Networks' security
- Privacy and data protection – in concert with the Data Protection Commissioner

When it comes to OCECPR powers, the Ministry cannot give instructions to the NRA for the exercise of the tasks assigned to this authority. However, the Ministry formulates and publishes the policy in the sector.

The NRA has the power to request information from operators. The main remedies that can be imposed by OCECPR are all kinds of remedies within the European Regulatory Framework. NRA's decisions are directly enforceable and judicial appeals with full review of decisions are possible at the Supreme Court. Dispute settlement body is a separate body from NRA.

Fines and penalties are imposed by OCECPR. According to Article 42 of the Law, where the Commissioner has sufficient evidence to indicate that an undertaking may not comply with the legislation or the conditions of the general authorization governing the undertaking's activity in the sector, he invites that undertaking to a hearing where the undertaking states its views. After a hearing proceeding, the Commissioner may impose a proportionate administrative fee. Where the Commissioner has evidence of serious and repeated breaches, he may prevent the undertaking from providing its services by revoking the undertaking's general authorization.

NRA can submit proposals for sectorial legislative amendments to the Parliament, as it also has an advisory role to the Ministry. An advisory role per request of the parliament has been undertaken in the past, but it is not foreseen in the law.

NRA's accountability and transparency

It is mandatory for the NRA to make public consultations before adopting regulatory decisions. Those decisions are published. OCECPR is accountable before Parliament, the Government and the Supreme/Administrative Court. Co-ordination takes place between OCECPR and Ministry of Transport, Communication & Works, Ministry of Commerce, Ministry of Interior, Ministry of Foreign Affairs, the Competition Authority Data Protection Authority, the Spectrum Management Authority and the Content Regulation Authority

Market entrance conditions in electronic communications

Authorization regime

OCECPR follows the general authorizations EU Telecom framework regime, based on notifications.

Rights of way, radio spectrum and frequency management

OCECPR is empowered to grant rights of way. However, it cannot grant spectrum licenses. NRA has no competency in frequency management.

The 700/800 MHz frequencies are used for 4G and DVB-T, respectively. Individual rights to use spectrum are granted through an auction.

Numbering management

NRA is responsible for:

- Development of the National Numbering Plan.

- Assignment of rights to use numbers, addresses and names.

Regulatory framework for market analysis

Relevant markets

Cyprus identifies relevant markets and it does apply competition law principles. It also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP. Market Reviews are undertaken with a periodicity of 3 years in order to allow the Regulatory Authority to evaluate the impact of Regulatory Measures adopted during the previous review, as per the current European Regulatory framework.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of Interconnection		x		
Implementation of wholesale offers		x		
Transparency (reference offer)		x		
Non-discrimination		x		
Accounting separation		x		
Price control		x		
Cost accounting		x		
Tariff rebalancing				
Retail price cap control				
Other regulation of retail tariffs				

MOBILE VOICE TELEPHONY / SMS MARKETS				
		WHOLESALE		RETAIL
		Access origination	& Termination	Retail
Obligation of Interconnection	x		x	
Implementation of wholesale offers	x		x	
Access to Mobile Virtual Operators (MVNOs)				
Collocation facilities	x		x	
Transparency (reference offer)	x		x	
Non-discrimination	x		x	
Accounting separation	x		x	
Price control	x		x	
Cost accounting	x		x	
Retail price cap control				
Other regulation of retail tariffs				

FIXED BROADBAND MARKETS					
		WHOLESALE			RETAIL
		Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers	x		x	x	
Transparency (reference offer)	x		x	x	
Non-discrimination	x		x	x	
Accounting separation	x		x	x	
Price control	x		x	x	
Cost accounting	x		x	x	
Retail price cap control					
Other regulation of retail tariffs					

Consumer issues

Consumer protection

As for Cyprus, specific legislation for consumer protection for Electronic communication services has been adopted. In that sense, it deals with:

- Contract conditions for telecommunication services.
- Contract duration.
- Penalty payments in case of withdrawal.
- Procedure for handling complaints by consumers.
- Data protection

Additionally, OCECPR is empowered to handle consumers' complaints and regulation does set a maximum initial duration of contract no longer than 24 months. Operators are obliged to publish periodically information on tariffs of telecommunication services and OCECPR publish periodically information on tariffs of telecommunication services on this website: <http://cycompare.ocecpr.org.cy/>

Quality of service (QoS) and switching

In Cyprus, specific legislation to ensure quality of service on telecommunication services and networks has been adopted. (<http://www.ocecpr.org.cy/el/content-menu/1-poiotita/1-deiktes-poiotitas>)

Current QoS legislation establishes QoS indicators regarding fixed and mobile telephony services. OCECPR is in the process of establishing QoS indicators for fixed broadband. Service control can be required of Universal Service Operator(s). Regarding switching, OCECPR is responsible for mobile and fixed portability. Number portability in Cyprus has no cost for consumers, whereas for operators there is a porting fee on both fixed and mobile number portability.

Universal Service

OCECPR is responsible for:

- Provision of access at a fixed location.
- Measures for disabled users and those of low incomes.

Universal service is financed by a fund in Cyprus. OCECPR is competent in designating the operator/s with universal service obligations, calculating the net cost of universal service provision, implementing and managing the funding mechanism of universal service and, finally, it also supervises obligations related to the provision of universal service. (as per EU directive)

International Roaming

In Cyprus, international Roaming is regulated according to the European Regulation 2015/2120 as it follows:

- Wholesale voice calls
- Wholesale SMS
- Wholesale data

Net neutrality

OCEPR has included the European Directive on Net Neutrality by Decree 03/2017.

Promotion of broadband

OCECPR puts in place an incentive regulation in order to promote the deployment of NGAs' networks. Regulatory Strategy for promoting investment in NGA has been published. Strategy for the creation of conditions for Information Society is under implementation.

Egypt

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mobile cellular penetration	114,31	110,99	102,20	105,54	95,29	94,97	93,18	-16,0%
Internet Usage	31,70	37,82	41,2	45,0	46,9	57,3	71,91	90,2%
Fixed broadband subscriptions/100 inhabitants	3,68	4,52	4,67	5,43	6,69	7,57	9,14	102,2%
Portion of HH with Internet access at home	36,80	39,20	46,10	49,20	53,90	59,90	73,00	86,2%

Institutional layout

NTRA is the independent National Regulatory Authority with competencies on Telecommunications, referring to the Act number 10 Year 2003. The Ministry has no power to give instructions to the NRA for the exercise of the tasks assigned to the NRA and there are no other institutions in Egypt with competencies on the regulation of the Telecommunications sector. NTRA President is appointed for two years by the Prime Minister and it can be renewed multiple times. NTRA does not act as a collegiate body. NRA budget is autonomously defined independently implemented as it can autonomously recruit staff.

NRA competencies and powers

It has competence on Telecommunications sector. Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Standardization of equipment
- Quality of service
- Consumers' protection
- Allocation of spectrum

When it comes to NTRA powers, the Ministry cannot give instructions to the NRA for the exercise of the tasks assigned to this authority. The NRA has the power to request information from operators. The main remedies that can be imposed by NTRA are both behavioural and structural. NRA's decisions are not directly enforceable and judicial appeals with full review of decisions are possible. Dispute settlement body is not a separate body from NRA. Fines and penalties are imposed by NTRA.

NRA's accountability & transparency

Despite not being mandatory for the NRA, NTRA makes public consultations before adopting regulatory decisions as does it publish its decisions. NTRA is accountable before Parliament and Government. The NTRA cooperate effectively with other ministries, entities, and institutions. For example, The NTRA signed a cooperation protocol with the Competition Authority to ensure fair competition in the market and mutual transfer of experience and knowledge. The NTRA also signed MoUs with different ministries for providing ICT services and broadband connections to social communities (e.g. schools, hospitals, youth centers, etc).

Numbering management

NRA is responsible for: Development of the National Numbering Plan, the assignment of rights to use numbers (only on some exception) and the management and control of the rights to use numbers (only on some exception).

Market entrance conditions in electronic communications

Authorization regime

Licenses for specific services and Individual licenses (multi-services) are provided. Moreover, the NTRA is currently in process to issue the unified license regime in Egypt.

Rights of way, radio spectrum and frequency management

NTRA is empowered to grant rights of way. Additionally, NRA grants spectrum licenses given the fact that the Government does not play a role for granting spectrum licenses and its approval is not needed for NTRA to grant them. NRA has competency in frequency management, while secondary trading of spectrum and refarming is not allowed in Egypt. Individual rights to use spectrum are directly assigned.

Regulatory framework for market analysis

Relevant market

Egypt identifies relevant markets and it does apply competition law principles. It also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection	x	x		
Implementation of wholesale offers	x			
Transparency (reference offer)	x	x		
Non-discrimination				
Accounting separation	x			
Price control				
Cost accounting				
Tariff rebalancing				
Retail price cap control				
Other regulation of retail tariffs				

MOBILE VOICE TELEPHONY / SMS MARKETS				
		WHOLESALE		RETAIL
		Access origination	& Termination	Retail
Obligation of interconnection	x		x	
Implementation of wholesale offers				
Access to Mobile Virtual Operators (MVNOs)				
Collocation facilities				
Transparency (reference offer)	x		x	
Non-discrimination				
Accounting separation				
Price control				
Cost accounting				
Retail price cap control				
Other regulation of retail tariffs				

FIXED BROADBAND MARKETS					
		WHOLESALE			RETAIL
		Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers					
Transparency (reference offer)					
Non-discrimination					
Accounting separation					
Price control					
Cost accounting					
Retail price cap control					
Other regulation of retail tariffs					

Consumer issues

Consumer protection

As for Egypt, specific legislation for consumer protection for Electronic communication services has been adopted. Additionally, NTRA is empowered in Article 5 of the telecommunications law to handle consumers' complaints and regulation does not set a maximum initial duration of contract, but after twelve month the contract is automatically renewed if there are no legal impediments or if the user does not want to terminate. Any user has the right to change from an operator to another at any point in time, if he wishes so. No operator signs contracts with the end-users stipulating an initial duration. Operators are obliged to publish periodically information on tariffs of telecommunication services.

The Regulation deals with the contract conditions for telecommunication services, whereby the NTRA issued a list of binding provisions to be met in contracts between service provider / End user regarding Fixed/ Mobile / bulk SMS and Internet services. Further contract duration can only be changed with the permission of the NTRA. Last, the agency has defined penalty payments for early termination, deals with data protection and allows for out-of-court settlement through the "Contract Center Dispute Resolution Procedure".

In Egypt any user has the right to change from an operator to another at any point in time , if he wishes so. No operator signs contracts with the end-users stipulating an initial duration. NTRA is conducting consecutive awareness campaigns to raise consumers awareness regarding their Rights & Obligations, Services and Contracts terms,through: public meetings, Social media Platforms , Awareness leaflets & videos , Press releases.

Quality of service (QoS) and switching

In Egypt, specific legislation to ensure quality of service on telecommunication services and networks has been adopted. Current QoS legislation establishes QoS indicators and NTRA periodically revises them. Service control can be required to any operator, except the Universal Service Operator.

- Legacy operator
- Incumbent/dominant/SMP operator
- Mobile operators

Regarding switching, NTRA is responsible for mobile portability fixed portability is available in Egypt .

International Roaming

In Egypt, international Roaming is regulated as it follows:

- Retail voice calls
- Retail SMS
- Retail data

Universal Service

NTRA is responsible for:

- Provision of access at a fixed location.
- Provision of access to Internet services.
- Directory enquiry services and directories.

Universal service is financed by a fund in Egypt. NTRA is competent in designating the operator/s with universal service obligations and implementing and managing the funding mechanism of universal service.

Net neutrality

No net neutrality considerations.

Promotion of broadband

NTRA adopted measures to promote the deployment of NGAs' networks (<http://www.tra.gov.eg/emisr/>). Egypt's national broadband plan e-misr address three main targets: Availability target that aims to enhance the infrastructure deployment and ensure access to broadband network and services across Egypt. Penetration target that aims to increase the number of broadband subscribers to reach the critical mass that can boom the industry. Social target that aims to provide broadband connection to citizen in order to improve the service offered in other sectors such as education, health, agriculture, etc.

France

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	99,80	99,80	99,80	99,80	99,80	99,90	99,90	0,1%
Mobile cellular penetration	101,21	102,61	104,40	106,21	108,36	110,61	111,46	8,6%
Internet Usage	83,75	84,69	85,6	80,5	82,0	83,3	84,80	0,1%
Fixed broadband subscriptions/100 inhabitants	40,17	41,34	42,74	43,92	44,78	45,69	46,92	13,5%
Portion of HH with Internet access at home	83,00	82,60	82,60	79,80	82,40	84,00	84,00	1,7%

Institutional layout

Arcep is the independent National Regulatory Authority with competencies on economic regulation of electronic communication and postal sectors, referring to the law n° 96-659, 26th July 1996 (<https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000733177>).

The chairman of the Authority (whose term is for 6 non-renewable years) is appointed by the President of the Republic on proposal of the Prime Minister. Since the Act of 5 March 2007 on the future television, he is appointed after consulting the relevant parliamentary committees on electronic communications and postal sector (Committee on Economic Affairs, Environment and Territory to the National Assembly and Committee on Economic Affairs for the Senate). All Board members (6 year term) are irrevocable and Arcep works as a collegiate body.

ARCEP has 130 employees and its budget (non-autonomously defined but with autonomy in its implementation) for 2020 was 21 million € and 21 million € for 2019 coming 100% from Public sources. The budget increased due to exceptional financial resources needed to commit the new building rental lease (9 years) in 2018, and the exceptional expenses required to implement the transition to the new building before December 31, 2018.

NRAs competencies and powers

It has competence in Telecommunications and Post sectors.

Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Allocation of spectrum (shared with Ministry)
- Quality of service (as per operator obligations)

When it comes to Arcep powers, the Ministry cannot give instructions to the NRA for the exercise of the tasks assigned to this authority. Not only has Arcep the power to request information from operators but also can it impose both behavioural and structural remedies (coming from EU framework).

Additionally, some of Arcep's decisions have a general regulatory scope. These decisions have to be homologated by the Ministry and have to be published in the Journal officiel de la République.

ARCEP can impose fines and penalties and judicial appeals with full review of decisions are possible.

In terms of infringement procedures Order No. 2014-329 draws conclusions on the decision of 5 July 2013, wherein the Constitutional Council considered the legal provisions concerning Arcep's power to impose sanctions in the electronic communications sector to be unconstitutional. It introduces a new sanctions procedure in the postal and electronic communications sectors, based on the CNIL (French data protection authority) model whose constitutionality has been validated by the "Conseil d'Etat", France's highest administrative court. The new provisions in the French Postal and electronic communications code introduce a separation of the proceedings and the adjudication functions by assigning them to different members of the Arcep Executive Board. A body composed of four Board members, including the Chairman of Arcep, will adopt decisions on formal notices, investigations, dispute settlements and inquiries, and a second body composed of the Board's three other members will adopt decisions concerning sanctions. The terms of application for this new sanctions procedure has been specified in a decree of 3rd, August 2014 (the decree is available only in French): <http://www.arcep.fr/fileadmin/reprise/textes/decrets/2014/d-2014-867.pdf>.

As for dispute settlement, Arcep has the power to settle disputes between operators (cf. L.36-8 CPCE, I, and L. 34-8), in case of refusal of interconnection (the linking of telecommunications networks in order to allow one operator' subscribers to communicate with another operator's subscribers) or refusal of access (network to which customer equipment is directly connected, giving access to services); in case of a failure of commercial negotiation, or in case of dispute over the conclusion or execution of an interconnection or access agreement. Arcep needs to be requested to intervene and is also competent in case of a failure of commercial negotiation in particular matters (cf. L.36-8, II) : the conclusion or execution of national roaming, the technical and financial conditions for providing a subscriber list, the conditions and possibilities of operators sharing existing facilities installed on public domains or private property, etc. The parties that bring a claim before Arcep to settle disputes, benefit from procedural guarantees stemming from fair trial regulations: adversarial action and a reasonable time to take a decision (4 months max). The Decision is prepared by 2 "reporting/investigating judges nominated by the Director of the legal department. They carry out technical, economic and legal consultations or evaluations, respecting the confidentiality of investigations. They can send preliminary questions to operators, conduct visits, etc. They finally write a report to the College of the Arcep, read during the hearing and the College decide to approve it or to ask for some changes before it. This decision could be cancelled in appeal. If agreement between the parties: procedure can be stopped whenever, on demand of both parties. Arcep adopts a decision considering their withdrawal.

NRAs accountability and transparency

It is mandatory for the NRA to make public consultations before adopting regulatory decisions as does is it for decisions to be published. NRA is accountable before Parliament.

An annual activity report is issued every year to the parliament listing all activities of Arcep, but there is no direct accountability foreseen in the law. Moreover Arcep receives each year questions from Members of Parliament and Arcep representatives are often heard by the Parliament on different topics. Since Macron Act of 6 August 2015, ARCEP may be asked for an opinion by the ministers responsible for electronic communications and positions on any matter within its jurisdiction.

Arcep cooperates with the Ministry for the Economy and Finance. The Minister approves part of Arcep regulatory power, together with the Ministry of Cohesion of Territories and with the

State Secretariat for Digital affairs. It has very straight institutional relationship with the Competition Authority, across advice regarding Decisions.

Furthermore, Arcep collaborates with the Broadcasting Authority, which is in charge of contents regulation and radio and TV services provision and the National Commission on Informatics and Liberty whose mission is to ensure that data privacy law is applied to the collection, storage, and use of personal data. Last, collaboration occurs with the National Cybersecurity Agency of France which is a French service, responsible for computer security.

Regarding frequencies, Arcep is in charge of the organization and allocation procedures of the frequencies assigned by the Prime Minister for the electronic communication sector; the National Agency for Frequencies (ANFR) is in charge of spectrum planning. Finally, there is collaboration with the Broadcasting Authority, which is in charge of contents regulation and radio and TV services provision.

Market entrance conditions in electronic communications

Authorization regime

For entering the telecoms market, notification is the general rule and individual licenses only exist for specific spectrum assignment (when it is proved that frequencies have to be considering as scarce resources). This authorization regime comes from the EU framework. Next step will be more open licensing system in accordance with EU Framework. One operator already achieves the right to deliver 4G services with frequencies he first acquires for 2G uses

Rights of way, radio spectrum and frequency management

ARCEP is not empowered to grant rights of way.

Regarding spectrum licensing, Prime Minister approves the granting process proposed by Arcep and launching the beauty contest or auction but Arcep choose the winning bidder(s). Additionally, NRA is the authority for frequency management, and secondary trading of spectrum is allowed in France as is refarming migration. France has taken a decision on the digital dividend and the 800 MHz band has been allocated to three of the main telecom operator to deliver 4G services. In December 2015 the 700MHz band was awarded to the main 4 Mobile Network Operators (10 MHz duplex to 2 MNOs and 5 MHz duplex to 2 MNOs).

The 900 MHz and 1800 MHz bands were the first bands assigned in the 90's, for 2G services, to 3 MNO (Orange, SFR, Bouygues Telecom) in a balanced way. Each MNO has access to 900 MHz band and to 1800 MHz band.

In 2008, 900 MHz band was opened to 3G services.

2G/3G spectrum allocation to French mobile operators: 3 mobile bands were allocated for 2G and 3G networks: 900 MHz (2G/3G), 1800 MHz (2G/3G but only used in 2G), 2,1 GHz (3G). Each MNO has access to low and high frequencies in a balanced way.

First allocations of 3G spectrum in France is the early 2000's in band 2,1 GHz

- 2001: Orange France and SFR
- 2002: Bouygues Telecom
- 2010: Free Mobile is authorized as the 4th MNO, 3G-only

In the late 2010's, Arcep took appropriate measures to conform with the growth of the 3G market France was the first country in Europe to open the 900 MHz band to 3G in 2008, therefore contributing to provide a broad coverage of population by 3G networks.

New 3G frequencies (10 MHz) were made available in 2010 in band 2,1 GHz, preventing from a capacity crunch (allocated to Orange and SFR).

A fourth MNO, Free Mobile was authorized in 2010 as a 3G-only operator, with frequencies in the 900 MHz and 2,1 GHz bands.

In the meantime, Arcep was preparing the allocation procedures of 4G frequencies. In the longer term, these frequencies are meant to offer higher data rate to consumer and alleviate the heavy load of 2G/3G networks

The allocation of 4G licenses took place at the end of 2011 in France. Allocation of bands 800 MHz and 2.6 GHz occurred through 2 separate procedures, which were launched simultaneously in May 2011. The 2.6 GHz FDD band, offering a complement of capacity in the dense zones, was allocated in October 2011. The 800 MHz band, providing good properties of propagation for a broad coverage, was allocated in January 2012.

Three main objectives have been set for the award of 2.6 GHz FDD and 800 MHz:

First, digital regional development, which was the top priority set for the allocation of the 800 MHz band. The selected operators are subject to a very ambitious roadmap whose ultimate target is coverage of at least 99.6% of the population of mainland.

Second, competition strengthening in the mobile market. As a result of the auctions, each of the four existing mobile operators will notably be able to deploy 4G services and improve the capacity and quality of their network.

Third, monetizing the State's intangible assets. The total income resulting from the auctions for the State budget is close to €3.6 billion, compared to a reserve price of €2.5 billion. Digital regional development was a priority objective of the Government for the allocation of the 800 MHz band, resulting from the digital dividend and it is written in the Law. Therefore, Arcep defined the following three provisions:

First, ambitious coverage targets, both nationwide and at the departmental level

- National : 99,6% of pop in 15 years - 98% of pop in 12 years
- Department : 95% of pop in 15 years - 90% of pop in 12 years

Second, an obligation to perform rollouts in sparsely populated areas first. A priority rollout area has been defined (18% of pop and 63% of surface). Specific deployment obligations are attached: 90% of population in 10 years - 40% in 5 years.

Third, the system includes measures for encouraging operators to share their network and their frequencies in these areas that are hard to cover.

An operator in the lower 20 MHz of band 800 MHz will have to agree on sharing in the "priority rollout area", when asked to by such another operator. RAN-sharing contributes to reduce rollout costs, and thus facilitates coverage of rural areas.

Arcep will closely follow the roll-outs of 4G networks. As for 2G and 3G networks, Arcep will carry out field measurements of 4G coverage. The launch of 4G services and prospects on

future 4G frequencies are now in process. French mobile operators launched 4G LTE networks in 2014. After the allocation procedures, mobile operators are to roll-out their 4G networks.

In March 2012, all four MNO announced the launch of their 4G services in 2013. Arcep will closely follow the roll-outs of 4G networks, with first coverage obligations to be controlled in 3 years. The refarming of band 1800 MHz is now available for LTE, in terms of spectrum management and Bouygues Telecom already use this band to offer 4G services.

The frequencies used for digital television broadcasting will gradually become available across France between April 2016 and July 2019. The procedure took the form of a multiple round ascending auction.

The procedure included coverage obligations that are as strong as those attached to the 800 MHz band. In addition, it included new obligations aimed at improving mobile data availability on-board everyday trains. These obligations has been completed by a more detailed quality of service audit for all railway lines (including TGV high-speed trains) and underground lines, to encourage operators to increase the quality of service they provide.

30 MHz duplex in the 800 MHz band have been awarded in January 2012 to three of the main mobile network operators (MNOs) to deliver very high speed services for a period of 20 years. (10 MHz duplex each)

30 MHz duplex in the 700 MHz band have been awarded in December 2015 to the 4 main MNOs to deliver very high speed services for a period of 20 years. (10 MHz duplex to 2 MNOs and 5 MHz duplex to 2 MNOs)

A observatory of deployment is publicly available on Arcep website: <http://www.arcep.fr/index.php?id=8161&L=1>.

Technology neutrality :

- 900 MHz band is available for 2G and 3G services.
- 2,1 GHz, 1800 MHz, 800 MHz and 700 MHz authorizations are neutral.

Numbering management

NRA is responsible for:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers, addresses and names.

Regulatory framework for market analysis

Relevant markets

France identifies relevant markets but it does not apply competition law principles since it applies relevant markets defined by European Commission. Arcep also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP after periodically market review rounds, every 3 years.

Article 67(5) of the EEC has modified the regime. It is now provided that market reviews must be carried out every 5 years. This provision shall enter into application in member states by 31 December 2020.

Remedies

FIXED VOICE TELEPHONY MARKETS					
		WHOLESALE			RETAIL
		Access & origination	Termination	Transit	Retail
Obligation of interconnection	of	x	x		
Implementation of wholesale offers	of	x	x		
Transparency (reference offer)		x	x		
Non-discrimination		x	x		
Accounting separation		x	x		
Price control		x	x		
Cost accounting		x	x		
Tariff rebalancing					
Retail price cap control					
Other regulation of retail tariffs					

MOBILE VOICE TELEPHONY / SMS MARKETS				
		WHOLESALE		RETAIL
		Access origination	& Termination	Retail
Obligation of interconnection	of		x	
Implementation of wholesale offers	of		x	
Access to Mobile Virtual Operators (MVNOs)				
Collocation facilities		x		
Transparency (reference offer)			x	
Non-discrimination			x	
Accounting separation			x	
Price control			x	
Cost accounting			x	
Retail price cap control				
Other regulation of retail tariffs				

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers	X	x	x	
Transparency (reference offer)	x	x	x	
Non-discrimination	x	x	x	
Accounting separation	x	x	x	
Price control	x	x	x	
Cost accounting	x	x	x	
Retail price cap control				
Other regulation of retail tariffs				

Consumer issues

Consumer protection

As for France, consumer protection for Electronic communication services is part of Consumer Law. There is no specific Law for the sector.

- Contract conditions for telecommunication services.
- Contract duration.
- Penalty payments in case of withdrawal.
- Data protection (specific provision in electronic communications law)
- Out-of-court dispute resolution procedure for handling complaints by consumers. (general provision in consumer law (before 2016, specific provision in consumer law, was applied specifically in the EC sector))

However, Arcep is not empowered to handle consumers' complaints and regulation sets a maximum initial duration of contract, no longer than 24 months.

In particular Arcep missions regarding consumer protection are:

- To ensure an effective competition for consumer benefits (art. L32-1, Code des Postes et des Communications Electroniques - CPCE).
- To ensure high level of consumer protection, in particular: consumer information, tariffs and uses conditions transparency for electronic communication services (art.L32-1, CPCE).
- To fix minimum quality of service expectations (art.L36-6/5°, CPCE).
- To ensure that the minimum legal informations required by the Code de la consommation (art. L121-83) are duly stipulated in the contracts signed by consumers.

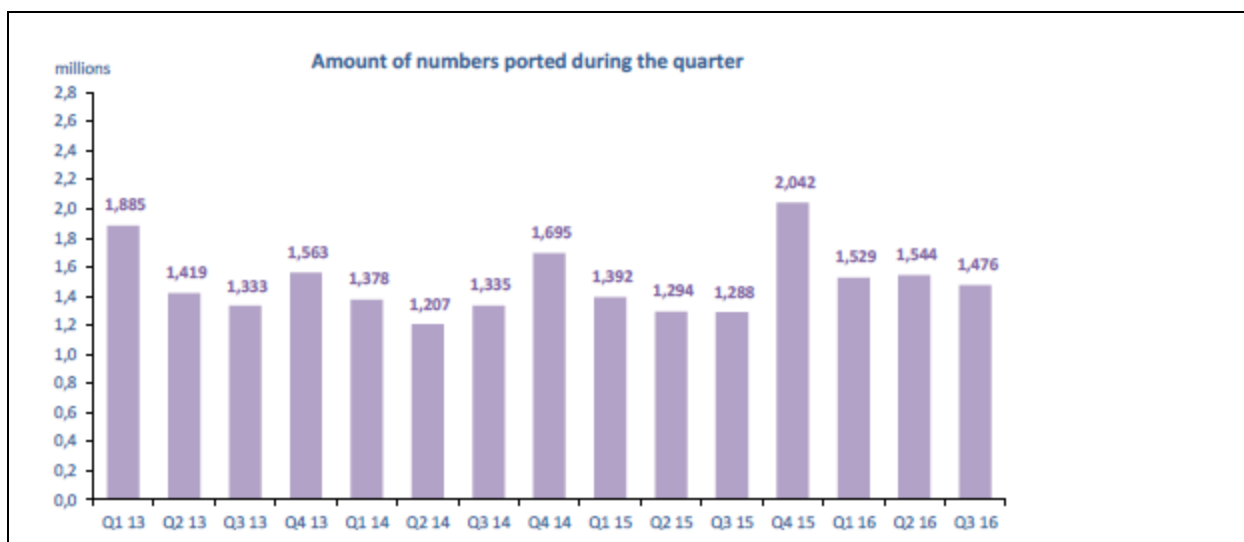
This supervision prerogative is exercised according to the terms of the Code des postes et des communications électroniques (art. L130). ARCEP therefore puts forward recommendation on regulatory texts published jointly by the Ministry in charge of consumer protection and the Ministry in charge of electronic communications regarding this issue.

Quality of service (QoS) and switching

In France, a certain degree of quality of service is required in operators' authorizations (fixed operators) and licenses (mobile operators). It is also in the terms of the Universal service provider operator obligation.

Regarding switching, ARCEP is responsible for fixed and mobile portability.

Mobile portability : Since the beginning of 2016, after a peak of more than two million ported numbers in the fourth quarter of 2015, the number of mobile numbers retained by customers following a change of operator remains at a high level of around 1,5 million per quarter. In 2016 (Q4 2015-Q3 2016), the total amount of mobile portability is around 6,591,000 compared to 5,660,000 in 2015 (Q4 2014-Q3 2015), so an increase of 16%.



Fixed portability : The number of fixed telephone ported numbers during 2016 (Q4 2015-Q3 2016) is approximately 2,440,000. It has been rising since the beginning of 2016. In 2015, the number was 2,309,000. So, there is an yearly increase of 5,7%.

International Roaming

In France, international Roaming is regulated in the following sections:

- Wholesale voice calls
- Wholesale SMS
- Wholesale data
- Retail voice calls
- Retail SMS
- Retail data

Universal Service

Obligations:

- Provision of access at a fixed location.
- Provision of access to Internet services.
- Measures for disabled users and those of low incomes.
- Directory enquiry service and directories.

The authority is competent in calculating the net cos of the universal service provision.

In France, Orange has been designated to provide universal service regarding component number 1 (Provision of access at a fixed location) for the period 2017 – 2020

Directory enquiry services and directories. Act No. 2015-990 of 6 August 2015, known as the "Macron Act", specified that the directory services could be in printed or electronic form. In practice the market players provides it. So the obligation exists but there is no designation of US supplier.

The concept: in network industries such as telecommunications, electricity, gas, water and postal services, universal service obligations provide a baseline level of services and goods, at a price which make them affordable to consumers who might not otherwise be able to afford them.

Services inclusion criteria	Basic service, used by the majority of subscribers
	<u>Its non-availability can cause social exclusion</u>
Designation	Access and quality telephone service available to everyone at an affordable price in case of market failure
	One or several operator(s)
Financial compensation	If the net cost of providing universal services constitutes an excessive burden for the designated operator(s)

In France, the « Universal Service » includes only: A connection and telephone service: (art. 4 of “Universal Service” Directive) ; this covers the connection to the fixed public telephone network and the provision of a quality telephone service, which implies a sufficiently high quality access to the internet (at the speed normally offered by a telephone line r). The designated operator is required to supply telephone services (currently subscription and calls) at the same price nationwide, which is commonly referred to as « geographically balanced ». Following the reviewed European framework, the two sub-components – “connection” and “service” – can be provided by two different operators.

The universal service includes measures in favor of disabled users, so as to guarantee them equal access as other users, within the limits of available technologies that can be implemented at a reasonable cost.

Arcep determines the cost of the universal service and decides whether to finance it (in case of excessive burden on the provider operator). In this case, Arcep also establishes the amounts of operators' contributions to the financing of universal service obligations and supervises the mechanisms of such financing.

Net Neutrality

Proactive dialogue with operators

In France, the Digital Republic Act²⁰ introduces the principle of net neutrality into national law, and gives Arcep investigative and punitive powers to ensure compliance. Arcep will thus be able to fully carry out its mandate of custodian of the principle of net neutrality.

It is with this in mind that Arcep has reaffirmed its desire to help operators properly implement the European regulation. The Arcep body responsible for settling disputes, legal proceedings and investigations (referred to in French as “RDPI”) will thus engage a proactive dialogue with them in the coming months.

In the more immediate future, operators will be sent a questionnaire whose purpose is to obtain a detailed snapshot of practices in the marketplace. It is also meant to bring operators to question the relevance and justification of their practices with respect to the new regulation.

European cooperation

The task of monitoring the compliance of operators’ practices will not be a solitary one. Plans are already in place for national regulatory authorities’ reports and analyses to be shared at the European level, to ensure that the open internet access regulation is enforced consistently. A series of meetings has already begun to guarantee smooth and open communication within BEREC – of which France is the Chair in 2017 – and to develop common supervision tools.

First status reports in mid-2017

As stipulated in the European regulation, Arcep and its counterparts will produce their first annual report on their monitoring of and findings regarding net neutrality. These reports will be made public, and will be submitted to both BEREC and the European Commission.

Arcep plans on using this report as an opportunity to deliver a broader state of play on the internet, including details on issues such as data interconnection, quality of service, adoption of IPv6, etc.

A comparative analysis of the national reports on net neutrality will mark an important step in the process of confirming that the European regulation is being enforced consistently. Their contents will be summarised in a single Europe-wide report that BEREC will work on, and which will be released in late 2017.

Promotion of broadband

The Plan France Très Haut Débit (PFTHD), initially launched in 2011 as Programme national très haut débit, aims to a complete coverage of the territory in fixed high-speed internet access in 2022. These objectives were confirmed by the new government in July 2017, which added

²⁰ At national level, the Digital Republic Act that entered in force on the 6 October 2016 strengthens Arcep's powers and tasks the Authority with protecting net neutrality. Following the adoption of European regulation on open internet access and of the BEREC guidelines, the Digital Republic Act introduces the principle of net neutrality into the national legal framework, and endows Arcep with an investigatory and sanctioning power to ensure compliance. Arcep will thus be able to fully satisfy its mandate as custodian of the principle of net neutrality.
http://www.arcep.fr/fileadmin/reprise/textes/lois/loi_2016_1321-republique-numerique.pdf

a new objective: all households should have a quality broadband access (i.e. >8Mbps) by 2020 and access to quality 4G services in 2020.

To achieve this goal the PFTHD is mainly based on shared FttH network. It has for it 20 billion euros for a ten year period, coming from the State, local authorities and the operators.

The deployment of high-speed broadband networks takes place in parallel between urban and rural areas, based on the involvement of private operators, public authorities and the State.

In urban areas, private operators deploy FttH networks. These include very dense areas as well as lesser-dense areas, where operators are signing conventions with local authorities describing their commitments to deploy FttH by 2022. it represents 57% of the territory and 6 to 7 billion euros

In rural areas where private initiative is not sufficient, local authorities deploy “public initiative networks”. These networks are at minima at département level, in order to ensure an economically viable scale for the network.– it concerns 43% of the territory. It is based on a technological mix : mostly FttH, but also improving currant performances of the copper network using fiber to the street cabinet (FttC called) as well as wireless technologies. These “public initiative networks” will be partly funded by public funds (6, 5 billion €), including 3 billion € from the State, the rest coming from local authorities and completed by a loan coming from the European Investment Bank. Public initiative FttH networks are then commercialized to retail operators, who then act on the retail market. 4G technology for fixed internet access and satellite will also be used in the technological mix, in order to reach the 2020 goal.

In view of these national objectives, Arcep has developed a regulation aiming at supporting competition, investment and connectivity across France’s territory. Arcep has been regulating fiber networks since 2009 with these objectives. This regulation ensures non-discriminatory access to fiber networks. It has also developed guidelines on access pricing for FttH public initiative networks that ensures the respect of State aids rules and protect public investment in these networks and has started analysing wholesale tariff grids of FttH public initiative networks. It has also issued recommendations to ensure the complete deploy of FttH networks on a given area, to make sure most or all households will be connected to FttH ultimately. Arcep has also taken decisions to smoothen the process of FttH access between operators.

ARCEP fiber regulation has been reviewed in 2017 in order to foster investment in network and accelerate fiber roll-out. As regards wireless solutions, Arcep has identifying frequency bands dedicated for fixed internet access through wireless solution for local authorities to prolong and have their wireless network evolve in the next 10 years.

Germany

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	92,50	95,70	n/a	n/a	n/a	n/a	n/a	n/a
Mobile cellular penetration	120,42	116,71	126,31	133,59	129,32	128,36	128,19	9,8%
Internet Usage	86,19	87,59	89,6	84,4	89,7	88,1	89,81	2,5%
Fixed broadband subscriptions/100 inhabitants	36,31	37,55	38,76	40,22	41,11	41,99	43,22	15,1%
Portion of HH with Internet access at home	89,50	90,30	90,30	87,90	90,80	92,10	92,10	2,0%

Israel

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	99,00	90,00	99,00	99,00	99,00	99,00	99,00	10,0%
Mobile cellular penetration	121,45	133,47	129,03	126,66	127,66	137,33	141,76	6,2%
Internet Usage	71,45	77,35	79,8	81,6	83,7	86,8	90,13	16,5%
Fixed broadband subscriptions/100 inhabitants	27,24	27,44	28,13	28,41	28,75	29,12	30,06	9,6%
Portion of HH with Internet access at home	70,60	72,10	75,40	75,40	74,90	75,90	82,50	14,4%

Institutional layout

Ministry of Communications is the regulatory authority for Telecommunications, Broadcasting and Post services. The Communications and Broadcasts Law regulates the sector locally and the Minister of Communications is a member of the government (cabinet) and is appointed by the Prime Minister. The Board is not a collegiate body.

This institution has approx. 190 employees subject to civil service rules and it has no own budget and neither autonomy to implement it, since all sources come from State budget (80 million Israeli New Shekel of the Ministry in 2020 and 77 million in 2019).

NRAs competencies and powers

It has competence in Telecommunications, Broadcasting and Post sectors. Content regulation is carried out by public councils whose members are appointed by the Minister of Communications but whose decision-making is autonomous.

Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Networks' security
- Allocation of spectrum
- Standardization of equipment
- Quality of service
- Consumers' protection
- Privacy and data protection

Other regulators (such as the Consumer protection commissioner and the Privacy Authority) have generalized competence in some areas but the Ministry retains primary competence for these issues in the telecom sector.

According to the Communications and Broadcasts Law it can request information to operators and the Ministry may impose behavioural remedies such as tariff control or marketing restrictions such as bundling, structural remedies such as structural separation, and market-based remedies such as wholesale access.

However, Tariff control requires the agreement of the Minister of Finance. Enforcement powers are vested in the Minister, who has delegated authority to the enforcement division. All enforcement actions are subject to a hearing before implementation.

NRAs accountability and transparency

It is mandatory for the NRA to make public consultations before adopting regulatory decisions as does is it for decisions to be published. NRA is accountable for Parliament and Government.

The Ministry of Communications coordinates with the Israel Antitrust Authority on matters of mergers and acquisitions, and other relevant issues. In addition, it coordinates with the Ministry of Finance on industry-wide reforms and with other agencies as appropriate

Market entrance conditions in electronic communications

Authorization regime

Licenses are granted as general licenses (for a variety of services) or special licenses (for specific services or services granted to a relatively small number of users).

- Licenses for specific services
- Individual licenses (multi-services)
- Unified licenses (global)

The Ministry has presented a draft amendment for a shift to a general-authorization regime.

Rights of way, radio spectrum and frequency management

The ministry is empowered to grant rights of way, spectrum licenses and frequency management. However no refarming migration is allowed. Israel has decided to use the 700/800 MHz bands for Mobile and Broadcasting Services. Auctions and allocations were used where appropriate. The auction format was an online open auction with multiple round bidding. The 800 MHz band is currently refarmed from the American to the European ITU standard. The 700 MHz were up for auction in 2020 and allocated as part of the 5G tender.

Israel has allocated spectrum for 3G services in the 1800 Mhz and 2100 Mhz bands. 4G services are located in the 1800 Mhz band. Currently the Ministry is in the process of refarming from an American to an European standard.

Numbering management

NRA is responsible for:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers, addresses and names.

Regulatory framework for market analysis

Relevant markets

Israel identifies relevant markets applying competition law principles and also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP. Market reviews are conducted ad hoc, when regulatory changes are under consideration. For example when changes in termination rates are considered or when considering adding/lifting regulatory requirements for the incumbent etc.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection	x	x		
Implementation of wholesale offers	x	x		
Transparency (reference offer)	x	x		
Non-discrimination	x	x		
Accounting separation	x			
Price control	x	X		x
Cost accounting		X		
Tariff rebalancing				
Retail price cap control				x
Other regulation of retail tariffs				

MOBILE VOICE TELEPHONY / SMS MARKETS			
	WHOLESALE		RETAIL
	Access origination	& Termination	Retail
Obligation of interconnection		x	
Implementation of wholesale offers			
Access to Mobile Virtual Operators (MVNOs)	x		
Collocation facilities			
Transparency (reference offer)	x	x	
Non-discrimination	x	x	
Accounting separation			
Price control		x	
Cost accounting			
Retail price cap control			
Other regulation of retail tariffs			

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops (SLU)	Bitstream access	Retail
Implementation of wholesale offers	X	X	x	
Transparency (reference offer)	X	X	X	
Non-discrimination	X	X	X	
Accounting separation	X	X	X	
Price control	X	X	X	
Cost accounting				
Retail price cap control				
Other regulation of retail tariffs				

Termination rates, National Roaming, Network Sharing, Requirement to host MVNOS are remedies imposed in the mobile broadband market.

Consumer issues

Consumer protection

Israel has adopted specific legislation to protect telecommunications’ end users’ right. This authority is empowered to handle consumers’ complaints, and only the fixed incumbent (Bezeq) is obliged to publish the tariffs on his website and contracts length cannot be extended for more than 24 months. In fact, contracts are now barred and all consumers may switch without penalty

Quality of service (QoS) and switching

In Israel, there is a specific legislation to ensure quality of service but any operator can be subject to service control. The ministry is in the process of formulating QoS for speed for the fixed and mobile networks.

The communications law has been amended to impose net neutrality.

Switchover in less than 30 minutes. No fees, one-stop shop (by the Recipient service provider). No causes for rejection by service provider

International Roaming

Not regulated.

Universal Service

NRA is responsible for:

- Provision of access at a fixed location.
- Provision of access to Internet access services.
- Directory enquiry services and directories.
- Public pay telephones.
- Mobile services

Net Neutrality

The Telecommunication law prohibits operators to block or restrict services, applications or telecommunication equipment, subject to "fair and proper" management of telecom networks.

The minister of communication may give instructions regarding the terms and conditions which when fulfilled, shall be considered as proper and fair management.

Promotion of broadband

Due to Implementation of wholesale offers such as Duct access, operators started deploying fiber optic cables to the buildings. In addition, the ministry in Israel is in the process of public consultation to incentivize more operators to deploy very high-capacity networks.

Broadband service is under the universal service obligation (USO) of both the incumbent and the MSO (the cables Co.).

The ministry has just released a public consultation of the fiber optic deployment policy, in which the incumbent should choose which coverage will be accomplished by itself, and the other percentage of the country coverage will be treated within bids and public fund.

In December 2018 MOC published a public hearing – "Fiber Roadmap" which later updated by inter-ministerial committee that publish its final recommendations in July 2020. The Fiber Roadmap set 3 goals for broadband plan:

1. High level of Connectivity - 100% fiber networks deployment
2. High level of competition – one fiber network at least has wholesale obligations for every household
3. Until 2030.

Succinctly, the Fiber Roadmap contained 3 stages:

1. New entrants deploying new fiber networks in high density areas, where ROI is high.
2. Competition from new entrants pushing the incumbents (legacy networks) to enter fiber networks deployment or to lose the markets. High regulation demand from incumbents – wide deployment with time limits and wholesale obligations on new fiber networks.
3. Founding a universal fund for deployments in low ROI areas (rural, ultra-orthodox and Arab communities – 18% of households). Every year, 0.5% of the income of all telecommunications firms are taxed and auctioned to the

lowest bidders (of subsidy per household). The mechanism will work until reaching 100% deployment of all low ROI areas.

As of December 2021, Israel passed 50% fiber connectivity, and it is estimated that the level of deployment in Israel is perhaps the fastest in the world today (20% last year). It is estimated that 70% deployment may be reached by December 2022, and 85%-90% by December 2023

Italy

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	98,00	100,00	100,00	98,00	98,50	98,90	98,90	-1,1%
Mobile cellular penetration	154,25	142,12	153,00	141,29	137,47	131,26	128,31	-9,7%
Internet Usage	61,96	65,57	61,3	61,3	74,4	n/a	70,48	7,5%
Fixed broadband subscriptions/100 inhabitants	23,54	24,37	26,19	27,34	28,14	28,85	29,98	23,0%
Portion of HH with Internet access at home	72,60	75,40	69,20	71,70	n/a	76,10	79,00	4,8%

Institutional layout

Agcom was established by law 31 July 1997 n.249, entitled: "Istituzione dell'Autorità per le garanzie nelle comunicazioni e norme sui sistemi delle telecomunicazioni e radiotelevisivo".

The Electronic Communications Code allocates tasks in the electronic communications sector to AGCOM and also to the Ministry of economic development, which is in charge of assigning spectrum and numbering resources to the operators which have been selected after procedures carried out in accordance to the rules set by AGCOM. The Ministry is also issuing the general authorizations prescribed by the Electronic Communications Code.

Pursuant to Law 249/1997 and Law 481/1995, AGCOM Chairman is appointed by decree of the President of the Republic, upon proposal by the Prime Minister (in agreement with the Minister for Economic Development); the designation by the Prime Minister is subject to the binding favourable opinion by the competent parliamentary committees, to be expressed by 2/3 majority of all their component members; such committees can also hear designated candidates; the hearing, aimed at further examining the proposed candidate, is live broadcast on the Parliament's website.

The Law 249/1997 sets out also the appointment of the AGCOM Board members

According to Art. 1 of the above mentioned Law 249/97, both the Lower Chamber and the Senate appoint two Board Members each (each MP has the right to vote for one Member); in particular, each Chamber identifies one Member of AGCOM's Infrastructure and networks committee and one of the Services and products committee (the overall number of AGCOM Board members was indeed reduced from 8 to 4 by Law-decree 201/2011). The relevant appointment is subject to a decree by the President of the Republic.

During the last appointing procedure, candidates were asked by the Parliament to send their CVs. The list of official candidates and their curricula were both made publicly accessible on the Parliament's website.

AGCOM President and four commissioners (members of the board) are appointed for seven years and it cannot be renewed. Only in the specific case of a replacement - in case of resignation or death of a Board Member - less than 3 years before such Member's mandate expires, the new Member's mandate can be renewed. The President is appointed by the

President of the Italian Republic on the basis of the proposal of the Italian Prime Minister, and is suggested by the Ministry for the economic development. Commissioners are appointed by the President of the Italian Republic on the basis of a Parliamentary vote. AGCOM acts as a collegiate body and its President cannot be dismissed. The dismissal of AGCOM's Chairman and Board members is not envisaged, not even by the competent appointing institutions and a termination of the mandate can only be due to the arising of one of the incompatibility reasons listed in Law 481/1995.

AGCOM had 419 employees at the Annual report to the Parliament, in 2020. 101 are devoted to the telecommunication area.

AGCOM budget (autonomously defined and implemented) for 2019 was € 73 Million EURO (officially approved in June 2020 – Delibera 259/20/CONS).

After the Italian Financial Law 2006, the State contribution (which had been progressively reduced in the previous years) has ceased and AGCOM is now financed only by regulated operators, who contribute with a sum amounting to up to 0,2% of their annual revenues referred to the activities regulated by AGCOM. The percentage of the revenues due by the operators is decided on a yearly basis by AGCOM on the basis of the cost incurred in the previous year.

According to article 34, n. 2-bis (as introduced by the recent Law 29 July 2015, n. 115) of the Electronic Communications Code, the income that AGCOM receives from the regulated operators of the electronic communications sector may be used to cover the administrative costs globally incurred in by AGCOM to setup and implement its regulatory activities as well as the activities related to monitoring, dispute resolution and enforcement.

NRAs competencies and powers

It has competence on Telecommunications, Broadcasting – TV Transmission-, Content TV and Post sectors.

Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Allocation of spectrum
- Consumers' protection

The Government can neither formally nor informally interfere with the exercise of AGCOM's regulator functions, that are exerted in full autonomy. The NRA has the power to request information from operators.

Following EU regulation the main remedies that can be imposed by AGCOM are:

- Obligation of transparency
- Obligation of non-discrimination
- Obligation of accounting separation
- Obligations of access to, and use of, specific network facilities
- Price control and cost accounting obligations

- Functional separation
- Structural remedies (in the media sector)

NRA's decisions are directly enforceable and judicial appeals with full review of decisions are possible.

In Italy the exclusive power to overturn the decisions of a regulator such as AGCOM is entrusted to the Judicial Courts. Since the introduction in 2000 of a "technical advice" tool within administrative trials to support the Court's scrutiny exercise, the analysis by the judge on the NRA's decisions became deeper and based on the same technical tools on which AGCOM's decisions themselves are built. As for the intensity of such judicial review, the administrative judge looks into the merits of AGCOM's decisions (as it assesses their legitimacy using the same technical tools as AGCOM's) and the scrutiny is hence ran not only on purely formal grounds. However, the judge cannot replace AGCOM in adopting a newer revised decision, given the principle of separation between administrative and judicial powers; the administrative judge can only modify AGCOM's decisions in matters in which the Administrative Trial Code envisages such a power, for instance as regards the amount of sanctions defined by AGCOM. The Government can neither formally nor informally interfere with the exercise of AGCOM's regulator functions, that are exerted in full autonomy.

AGCOM has the power to settle disputes between operators and disputes between operators and end users. In the latter case, AGCOM may delegate this competence to regional bodies named Co.Re.Com.

Fines and penalties are imposed by the relevant department and the procedure is available under: <http://www.agcom.it/documents/10179/538935/Allegato+15-03-2006/ebc6d85d-c28f-490c-8903-615b3c71d147?version=1.0>

AGCOM can submit proposals for sectoral legislative amendments to the Parliament, as it also has an advisory role to this and the Government in matters of competence.

NRAs accountability and transparency

It is mandatory for the NRA to make public consultations before adopting regulatory decisions as does is it for decisions to be published.

According to the Electronic Communications Code, AGCOM must submit to public consultation all its draft decisions susceptible to impact on the electronic communications sector. More in general, the decision-making process for all national public administrations (including independent NRAs) requires the launch of broad public consultations on individual regulatory decisions. Any interested parties may indicate its views by answering the consultation.

NRA is accountable before Parliament and reports once every year, usually before summer. However, the Parliament cannot give or impose instructions to AGCOM.

AGCOM is bound to the European regulatory framework on electronic communications; under such regulations NRAs decisions related to market analysis and the imposition of remedies are subject to the European Commission's scrutiny, pursuant to Article 7 and Article 7a of the Directive 2002/21/EC, as amended by Directive 2009/140/EC. In some case (i.e., as for the identification of relevant markets and the SMP assessment) the European Commission can also issue a "veto" on NRAs decisions.

The competition authority and AGCOM are required to ask each other's opinion in specific cases:

The competition authority is required by law to ask for prior non-binding advice from AGCOM on decisions:

- concerning agreements restricting competition;
- abuses of dominant positions;
- mergers involving operators active in the communications sector and in the media markets.

On the other hand, the competition authority is required to issue prior non-binding advice to AGCOM on misleading advertising.

Moreover, AGCOM gives opinions to the Ministry of economic development on the transfers of rights of use of television frequencies. AGCOM gives also opinions on the compatibility of publicly funded state regional or local NGA projects with the European rules on state aids and on the access conditions to the subsidized network.

Market entrance conditions in electronic communications

Authorization regime

Licenses for specific services

Notifications: According to the EU Telecom framework, "general authorizations" (very similar to notifications) are issued to operators wishing to enter the telecom market with no use of scarce resources. If scarce resources are needed to operate, then the Ministry will issue "individual licenses" granting the "rights of use" of the spectrum.

Rights of way, radio spectrum and frequency management

AGCOM is not empowered to grant rights of way. However, AGCOM has published a specific regulation on rights of way (Decision 622/11/CONS). Additionally, it cannot grant spectrum licenses as it is the Government (Ministry of economic development) who plays a role for granting spectrum license and provides the approval to grant licenses. However, assignment plans are defined by the Authority and shall be applied.

AGCOM is in charge of the frequency planning and the draft of the National frequency plan which is the basis for the frequency management and assignment (tasks of the Ministry of Economic Development).

NRA is the authority for frequency management, and both secondary trading and refarming migration of spectrum are allowed in Italy.

Italy has taken a decision on the digital dividend. As a matter of fact, 800 Mhz band has been already assigned and is used for wireless broadband (LTE). An auction based on AGCOM regulation has been carried out by the Ministry in 2011. The 700 MHz band is also under consideration at EU level, taking into account the work ongoing within European bodies such as RSPG and CEPT, to be used in future for wireless broadband, based on the ITU co-primary allocation to the mobile services. Meanwhile the 700 MHz band has been assigned in 2018 to mobile operators to be used from 1st July 2022, according to the Agcom's decision n. 231/18/CONS.

Italy had already carried out a comprehensive spectrum assignment process for the 800 MHz, 900 MHz, 1800 MHz, 2.1 GHz, 2.6 GHz and 3.5 GHz bands. Some blocks of spectrum in 900 and 1800 MHz bands have been already authorized to be refarmed at request of operators, respectively, to UMTS and LTE use. Some specific reorganizations of the bands have also been carried out in order to reach contiguity of spectrum in each band. The assignment and the refarming process established requirements of investment in infrastructures which have been implemented over the past years. Italy also completed the switchover to digital terrestrial television and completed the migration of BC service below 800 MHz in 2012. Activities for 3.7 and 1.5 GHz bands are ongoing. Auction was typically selected by Agcom for assigning individual rights of use of spectrum (e.g. the available frequencies in the so-called "pioneer bands" for the development of 5G in Europe, i.e. the 700 MHz, the 3.6-3.8 GHz and the 26 GHz bands)

There have been positive developments as regards LTE in Italy, where a number of operators started to provide LTE commercial service in 2013. Existing GSM bands also started to provide 3G/4G services while maintaining GSM existing obligations.

As explained in the previous box Agcom provides for the assignment plans of scarce frequencies bands for ECNS and in particular for harmonized bands, where we closely follow the EU regulation. Ministry of Communication is in charge of spectrum allocation and of issuing rights of use and general authorizations.

Numbering management

The NRA is competent in the development of the National Numbering Plan, not with regard to the assignment of numbers (besides some exceptions).

Regulatory framework for market analysis

Relevant markets

Italy identifies relevant markets and it does apply competition law principles. It also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP after periodically market review rounds. Market analysis are renewed every three years.

The Electronic Communications Code defines frequency for conducting market analysis reviews, which is currently 3 years. Agcom follows these indications setted by the European Commission. The new european Code of Communication - to be transposed by the end 2020 by each Member State - established that the frequency can be extended to 5 years (or 6 upon approval by EC).

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection	x	x		
Implementation of wholesale offers	x	x		
Transparency (reference offer)	x	x		
Non-discrimination	x	x		
Accounting separation	x	x		
Price control	x	x		
Cost accounting	x	x		
Tariff rebalancing				
Retail price cap control				
Other regulation of retail tariffs				

MOBILE VOICE TELEPHONY / SMS MARKETS			
	WHOLESALE		RETAIL
	Access origination	& Termination	Retail
Obligation of interconnection		x	
Implementation of wholesale offers		x	
Access to Mobile Virtual Operators (MVNOs)			
Collocation facilities		x	
Transparency (reference offer)		x	
Non-discrimination		x	
Accounting separation			
Price control		x	
Cost accounting		x	
Retail price cap control			
Other regulation of retail tariffs			

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers	X	X	X	
Transparency (reference offer)	X	X	X	
Non-discrimination	X	X	X	
Accounting separation	X	X	X	
Price control	X	X	X	
Cost accounting	X	X	X	
Retail price cap control				
Other regulation of retail tariffs				

Consumer issues

Consumer protection

As for Italy, specific legislation for consumer protection for Electronic communication services has been applied (General laws such as Codice del Consumo and Codice della privacy and specific legislation -Codice delle comunicazioni elettroniche-, both implemented by several AGCOM's decisions, Code of electronic communications, artt. 70 - 84).

In that sense, it deals with:

- Contract conditions for telecommunication services.
- Contract duration.
- Penalty payments in case of withdrawal.
- Procedure for handling complaints by consumers.
- Data protection

Additionally, AGCOM is empowered to handle consumers' complaints and regulation does set a maximum initial duration of contract no longer than 24 months. On July 23rd 2018 came into operation a fully electronic platform for the management of disputes between users and operators, named ConciliaWeb. After only 5 months from the start the applications had already exceeded the number of 60.000 applications.

The Italian Communications Authority (AGCOM) has set up a Consumer Protection Department that deals with both regulation and enforcement. In 2018, an On-line dispute resolution system was also implemented, which in the first year of operation recorded over 120 thousand complaints

Operators are obliged to publish periodically information on tariffs of telecommunication services and AGCOM publish periodically information on tariffs of telecommunication services on this website: www.supermoney.eu.

The tariff comparison software www.supermoney.eu is a tool developed by Italian private service providers that allows the consumers in Italy to compare prices and offers of the telecommunications operators.

Article 72 of the Italian Electronic Communications Code (Decree no. 259/2003), named “Transparency and publication of information”, states that AGCOM shall encourage the provision of information to enable end-users, as far as appropriate, and consumers to make an independent evaluation of the cost of alternative usage patterns, by means of, for instance, interactive guides. In order to enforce the provisions on transparency of the tariffs’ economic conditions, with Decisions no. 96/07/CONS and no. 126/07/CONS, AGCOM imposed the obligation for the telephone operators -fixed and mobile- to publish the economic conditions of their offers and specify all the details that compose the actual telephone traffic cost. In particular, as far as mobile telephony is concerned, operators must indicate in their offers, in the case of tariff plans based on consumption (such as prepaid cards), the total cost of voice calls lasting at least 1 minute and 2 minutes. Such costs include the set-up fee.

In order to allow consumers to make an adequate comparison of offers on the market, telephone operators must fill in one template for each of their offers and publish it on their own websites. In addition, for an easier consultation by the consumers, AGCOM publishes the list of the operators’ offers and the links to the operators’ webpages where they are described. Such type of transparency has been defined “Static comparison”. The “Static comparison” works pretty well, but it has a disadvantage: even though the operators fill in the templates for each of their tariffs and describe correctly the economic conditions of their offers to the public, the huge amount of plans available and the difficulties in explaining concisely the conditions of flat offers makes it very hard for the consumers to compare the plans.

Therefore AGCOM decided to take a different approach and to favour the development of third party calculators that could create software engines aimed at offering a “Dynamic comparison”. In other words, the third party calculator should provide the consumer with an engine able to scan the various offers of the operators and identify the most suitable ones for the specific needs of each consumer. The whole procedure and regulation is governed by AGCOM Decisions 126/07/CONS and 331/09/CONS. With the latter decision, enforced in 2009, AGCOM introduced a procedure aimed at giving an accreditation to those providers of tariff comparison engines who meet a number of criteria. In order to be accredited by AGCOM, the engine has to be:

- “independent”: no relationship with operators;
- “recognized”: in business by at least one year before applying for accreditation;
- “easily accessible”: accessible also to users without broadband access and free of costs;
- “transparent”: showing all the information about its functionalities;
- “accurate”: giving detailed information about all kind of tariff offers;
- “complete”: enlisting all the characteristics of the users consumption.

At the moment there is only one tariff comparison engine in Italy that has met all the mentioned criteria and has been awarded the accreditation: the website www.supermoney.eu. In such

website the consumers may fill in their requirements and wishes and the software will quickly search for the best offer able to meet the consumer's needs.

Quality of service (QoS) and switching

In Italy, specific legislation to ensure quality of service on telecommunication services and networks have been adopted.

QoS on telecommunication services and networks is ensured by the Codice delle comunicazioni elettroniche and AGCOM decisions (e.g. 179/03/CSP, 254/04/CSP for fixed voice services, 154/12/CONS and 104/05/CSP for mobile services, 131/06/CSP and 244/08/CSP for internet services, 278/04/CSP for pay-tv services, 79/09/CSP for call center services).

Service control can be required to any operator. Regulation establishes penalties for non-compliance with QoS standards. AGCOM periodically revises QoS parameters. For fixed and mobile Internet access NRA, QoS is monitored and measured by the NRA, through special projects (MisuraInternet and MisuraInternetMobile), practically implemented by an independent third party (Fondazione Ugo Bordonì).

Regarding switching, Agcom is responsible for one-day mobile portability as it is so for fixed portability.

International Roaming

In Italy, The EU roaming regulation applies to voice and data, creating a single European market for roaming. Starting from 15 June 2017, international roaming within the EU is subject to the roam like at home principle, subject to operators' fair use policies. The following services are regulated:

- Wholesale voice calls
- Wholesale SMS
- Wholesale data
- Retail voice calls
- Retail SMS
- Retail data

The Regulations have led to the creation of a EU28 single market, where in addition to wholesale prices, also retail calls, SMS and data are regulation in the area (other selected countries applies the rules, for instance some EFTA countries or selected countries belonging to the European Economic Area). The key principle is the roaming like at home principle, that allows end user to use their traffic plans and tariffs abroad with a number of transparent limitations and prices.

Universal Service

The aim of universal service is ensuring that some specified services are made available at the quality specified to all end users in the territory independently of geographical location and at an affordable price.

In the electronic communications sector the universal service includes:

- Provision of access at a fixed location.
- Provision of access to functional Internet services (In Italy it isn't set the minimum connection speed. According to our law data rates have to be sufficient to permit a functional Internet access).
- Directory enquiry services and directories.
- Public pay telephones.
- Measures for disabled users and those of low incomes.

The universal service is financed by a fund. The main fixed and mobile operators contribute to the Fund in accordance with their market shares. The operators whose turnover is less than 0,5% of the national turnover don't contribute to the Fund. The Fund is administered by the Italian Ministry of Economic Development

In the postal sector the universal service includes:

- the collection, transport, sorting and distribution of postal items up to 2 kg;
- the collection, transport, sorting and distribution of parcel items up to 20 Kg;
- services for registered mail and insured mail;
- "bulk mail" (bank notices, bills and payment bulletins, etc.).

In the electronic communications, in Italy there is only a provider of Universal Service, that is Telecom Italia. Our law (Codice delle Comunicazioni elettroniche, Dlgs. 259/2003) establishes that universal service will be provided by Telecom Italia until a designation procedure is carried out.

In Italy the principles of unfair burden and net cost are applied. In detail NRA calculates the net cost of the universal service obligation, taking into account any market benefit which accrues to the undertaking designated to provide universal service

Net Neutrality

It will be considered "an official position" if a governmental authority or public organisation (e.g. Ministry, governmental representative, NRA, etc) has made public any position on regulating net neutrality in the national legal order of the country, regardless of whether the opinion is for or against it. A Parliamentary Commission was set up to promote public interest in an open Internet access. In 2014-15 the Commission launched a public consultation and then adopted an "Internet rights' chart" or Carta dei diritti in Internet. While essentially a political initiative without immediate consequences, the Chart was widely discussed and referred to.

A group of Italian Members of the Parliament has presented a legislative proposal in July 2014 (see Bill n° 2520/2014, concerning "Rules on Internet access provision for competition and users' freedom of access).

Promotion of broadband

Agcom has approved an incentive regulation (decision is no. 1/12/CONS, approved in January 2012) in order to promote the deployment of NGAs' networks. According to the above decision, the SMP operator in the fixed access markets has the obligation to provide, inter alia, fibre unbundling services at the local exchange level once technically feasible.

Moreover, Agcom has recently regulated the procedures for the access to incumbent's cabinets to support the unbundling of the local sub-loop (SLU) service which is a relevant service in the FTTC investment scenario.

Since 2010 the Italian Government has taken several measures to promote the digital innovation and to meet the commitments defined by the Digital Agenda and the European target for 2013, 2015 and 2020. Over the years, different governments have financed the deployment of access networks to promote maximal broadband take-up. The state of the art can be consulted at <http://bandaultralarga.italia.it/>

Agcom maintains and operates a detailed and publicly available broadband maps (maps.agcom.it), a powerful cartographic system providing data on all Internet access networks (fixed, mobile, FWA) in Italy. Open data are provided to users.

To this aim, the Law Decree n. 5, of 9 February 2012, entitled: "Urgent measures for simplification and development", foresees the establishment of a "Cabina di Regia" that is a structured "Control Room" for the implementation of the Digital Agenda in the Country. The Cabina involves at least five different competencies at ministerial level and it will term its work, within the Autumn of 2012, with the provision of a Decree identifying first relevant legislative measures for the rapid implementation of the Digital Agenda.

On December 13, 2013, the Council of Ministers approved Law Decree No. 145 of December 23, 2013 (the Destination Italy Decree) containing a package of measures to revive the Italian economy and introducing new rules aimed at attracting investors. The package includes measures relating to the Digital Agenda.

The Government has adopted an ultra-broadband plan; the NRA concurs in the application of the measure, also by providing a GIS system to monitor infrastructure development which is also used for the subsidized ultra broadband subscriptions in remote areas (voucher system). Details can be found under: <https://maps.agcom.it> and <https://bandaultralarga.italia.it/>

Jordan

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	98,00	94,00	89,00	n/a	99,80	99,80	99,80	6,2%
Mobile cellular penetration	147,80	179,43	103,84	100,01	87,62	77,00	68,49	-61,8%
Internet Usage	44,00	53,40	62,3	66,8	n/a	n/a	0,00	-100,0%
Fixed broadband subscriptions/100 inhabitants	4,69	4,16	4,83	3,39	4,01	4,53	6,18	48,4%
Portion of HH with Internet access at home	35,40	69,00	69,00	n/a	n/a	37,40	37,40	-45,8%

Institutional layout

TRC is the only independent National Regulatory Authority with competencies regulation of electronic communication sector as well as Antitrust for Telecom and Promotion of IT and e-Government referring to TELECOMMUNICATIONS LAW NO. (13) of 1995 and its amendments. The TRC is empowered with regulatory competence which covers the full range of issues. The TRC is tasked pursuant to the LAW with many responsibilities to ensure the provision of communications and information technology and post services. The TRC is required to regulate all sectors under its supervision in accordance with the established general governmental policy as stated in the LAW and relevant laws and in particular the Postal Service Law No (34) and the provisions of the Electronic Transaction Law of the year 2015 and the regulations issued pursuant thereto. The Article 6(a) and (b) of the Telecommunications Law require the TRC to regulate in accordance with the established general policy. As a result, the provisions of the Policy play the role of mandatory guidelines which need to be followed by TRC.

According to article (8/a) in the telecommunication law: The Commission (i.e. NRA) shall be administered and supervised by a Board, known as the (Board of Commissioners), which shall be composed of five full-time members appointed by a resolution of the Council of Ministers, upon nomination by the Prime Minister based on the recommendation of the Minister, provided that there be amongst them distinguished experience in the field of Telecommunications. The Chairperson and Deputy Chairperson shall be named in this resolution. Board term and Presidency (once renewed) are four years and TRC act as a collegiate body and it currently has 231 employees non-autonomously recruited. The grounds for appointment are specified by special instructions for the assignments of the high level employment.(Article (8/a) in the telecommunication law)

According to article (10/a) in the telecom law the membership of the appointed Board member shall be terminated for any of the following reasons:

- 1) Resignation.
- 2) Expiry of the term of membership.
- 3) If he fails to attend three consecutive sessions or six non-consecutive sessions throughout the year without a reason acceptable to the Board.
- 4) If the conditions of Paragraph (a) of Article (9) of this Law is confirmed. i.e.:
 - No member of the Board, their spouses or first-degree or second-degree relatives, may have a direct or indirect interest in investments in the telecommunications and information technology sectors throughout the term of his membership on the Board.
 - Each member of the Board, before assuming the powers of his work, must submit a declaration in writing to the effect that there is no interest between him and the investors in the telecommunications and information technology sectors, and must inform the Board of any such interest that has developed or may develop during the term of his membership on the Board. Failure to do so shall be subject to legal liability.)
- 5) If he forfeits any condition of membership.
- 6) If he is convicted of a crime or an offense against morals and honour.
- 7) If he becomes incapable, either physically or mentally, to perform the duties assigned to him as a member of the Board.

Yet article 10/b of the same law stipulates: Notwithstanding the provisions of this Law, the Council of Ministers, upon the recommendation of the Minister, may terminate the membership of any member of the Board.

TRC had a staff of 238 in 2019.

TRC budget is not autonomously defined, but implemented for 2020 was JD 11.260.000 and for 2017JD 10.853.347. The budget is resourced from administrative charges and spectrum rights fees.

NRAs competencies and powers

It has competence in Telecommunications and Post sectors as well as Antitrust for Telecom. Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Allocation of spectrum
- Quality of service
- Consumers' protection
- Privacy and data protection

When it comes to NRA powers, the Ministry cannot give instructions to the NRA for the exercise of the tasks assigned to this authority. Not only has RTC the power to request information from operators but also can it impose both behavioural and structural remedies within the competence allocated to RTC.

TRC decisions enforcement powers are stipulated in Article 40 of the law, where the TRC has the Authority to cancel either partial or fully the license in the circumstances of not applying the TRC's decisions. The terms and conditions of the license also gives the TRC further enforcement powers as licensees are obliged to comply themselves to the legislations including TRC's instruction as stipulated within the License's granted to them. Furthermore, TRC's fine's decisions are considered administrative and collected on the base of granting the TRC powers to such fines where the state procedures are applied to collect the fines. The administrative fines are capped at 200,000 JD for each firm.

TRC in regard to Article 6/P of the Telecommunication Law may propose legislations related to the Telecommunication sector to be submitted to the Ministry of Telecommunication and Information Technology which has the authority to introduce such proposals to the Cabinet

NRA's accountability and transparency

It is mandatory for the NRA to make public consultations before adopting regulatory decisions as does is it for decisions to be published. NRA is accountable before Government.

According to the telecommunications law, the NRA is empowered to achieve the governmental policy goals of the Telecommunications, IT and Post sectors set by the Ministry of telecommunications and IT.

In Jordan, the TRC is responsible for all telecom matters and coordination is there between the TRC and other regulatory institutions where there are both complementary roles or where there are dual jurisdictions for matters related to the telecom sector and there is no clear legal position on the competent jurisdiction. So to control any dispute regarding the dual competencies and jurisdictions especially on matters of competitions, the TRC entered many MoUs (i.e. memorandum of understanding agreement with the relevant parties for example the Competition Directorate within the ministry of industry and trade. Another example related to the Type Approvals for Telecom devices and peripherals the TRC signed an MoU with Jo

Market entrance conditions in electronic communications

Authorization regime

Others: two type of licenses issued by TRC: Individual and class.

The TRC has transition to the Integrated Regime of Licensing and Regulation, by 2006. The current licensing regime provides two types of licenses Individual and class licenses where the difference underlies in using or not using scarce resources. The Individual License granted in case of using scarce resources and the Class License is granted in case there is no use for scarce resources. Spectrum and Post have their own licensing management process.

Rights of way, radio spectrum and frequency management

TRC is not empowered to grant rights of way and the approval of Government is not necessary to grant licenses given the fact that Government does not play a role for granting spectrum licenses. Additionally, NRA is the authority for frequency management, and secondary trading of spectrum is not allowed in Jordan, while refarming migration is. Jordan has taken a decision on the digital dividend for LTE services.

TRC coordinates with all stakeholders to align its spectrum management processes with that of the ITU region 1, it also makes sure to avail the needed spectrum to meet the industry needs on time.

TRC granted licenses in the following frequency bands: 900 MHz, 1800 MHz, 2100 MHz for 2G, 3G, 4G MNP's and 3500, 5300 MHz for FWA operators, the allocation process varied from purely administrative (as per the 2G frequencies) to auctions as for the 3G,4G and FWA.

The first digital dividend frequency band namely 800 MHz was made available for licensing, but no interest currently was shown from the operators' side. On the road map the second digital dividend is planned on the 700 MHz band according to the decisions and resolution of WRC-15.

The digital switch over took place during 2015-2016.

Numbering management

NRA is responsible for:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers, addresses and names.

Regulatory framework for market analysis

Relevant markets

Jordan identifies relevant markets and it does apply competition law principles so as to define relevant markets. TRC also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP after periodically market review rounds, every 3 or 4 years.

TRC concluded the market review exercise first time in 2011 during which it has reviewed relevant telecommunications markets. TRC anticipates a market review cycle of 3 to 4 years .Any new analysis will consider the effective implementations of the remedies and markets dynamic.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection		x	x	
Implementation of wholesale offers		x	x	
Transparency (reference offer)		x	x	
Non-discrimination		x	x	
Accounting separation		x	x	
Price control		x	x	
Cost accounting	x	x	x	
Tariff rebalancing				
Retail price cap control				
Other regulation of retail tariffs				x

MOBILE VOICE TELEPHONY / SMS MARKETS				
	WHOLESALE			RETAIL
	Access origination	& Termination		Retail
Obligation of interconnection		x		
Implementation of wholesale offers		x		
Access to Mobile Virtual Operators (MVNOs)		x		
Collocation facilities		x		
Transparency (reference offer)	x	x		
Non-discrimination		x		
Accounting separation		x		
Price control		x		
Cost accounting		x		
Retail price cap control				
Other regulation of retail tariffs				

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers	x	x	x	
Transparency (reference offer)	x		x	
Non-discrimination	x	x	x	
Accounting separation	x	x	x	
Price control	x	x	x	
Cost accounting	x	x	x	
Retail price cap control				
Other regulation of retail tariffs				x

Consumer issues

Consumer protection

As for Jordan, specific legislation to protect telecommunications' end users' rights was adopted, dealing with:

- Contract conditions for telecommunication services.
- Contract duration.
- Penalty payments in case of withdrawal.
- Data protection.
- Procedure for handling complaints by consumers.

Additionally, TRC is empowered to handle with consumers' complaints and regulation sets a maximum initial duration of contract, no longer than 24 months, where the minimum period is one year and automatically renewed for a similar period. TRC does oblige operators to publish their prices for their wholesale services (and other retail services if any) within the TRC's approved RIOs on their websites, but regarding the unregulated retail services or any services in general there is a legal evidence in the telecom law to be published on an ex-ante basis (i.e. in advance) to their expected consumers. TRC is in the process of issuing instructions regarding: 1. offers 2. clarity of subscription contracts 3. consumer protection 4. The consumer protection law issued by the Ministry of Industry Trade & Supply. Article (29) in the Telecommunication law #(13) year (1995) stated that the Licensee commits to announce in advance the rates of the service and the methods of collection

Quality of service (QoS) and switching

In Jordan, instructions for implementing the quality of service framework were adopted to ensure quality of service on telecommunication services and networks for any operator. QoS

Measurements include subjective measurements and objective measurements. Reporting includes periodic and critical outage reports, Auditing, Enforcement, Publication of Indicators.

TRC has its own Quality of Service (QoS) drive testing equipment to measure quality of mobile telecom services (2G & 3G). TRC measures certain KPI's using SwissQual and TEMS equipment in order to investigate quality & coverage complaints and to conduct general drive testing surveys all over the kingdom.

Article 12 Regarding switching, in Jordan there is not availability for fixed and mobile portability, but the TRC has responsibilities and established a committee with the operators to review the current instructions related to the MNP including Legal and regulatory issues, commercial and financial issues in addition to the technical part.

International Roaming

In Jordan, international Roaming is not regulated

Universal Service

NRA is responsible for:

- Provision of access at a fixed location.
- Provision of access to Internet services.
- Public pay telephones.
- Measures for disabled users and those of low incomes.
- Directory enquiry service and directories.

The document of "General Government Policy For Universal Service In The Telecommunications Sector" can be found under this link: www.trc.gov.jo/EchoBusV3.0/SystemAssets/PDF/AR/StrategiesandPolicies/Policies/General_Gov_Policy_US.pdf .

The Jordan Telecommunication (JT), the Fixed Network incumbent, is the Universal Service Provider (USP), But certain obligations are also placed on other operators as Mobile Network Operators (MNO) as indicated in section 1.6.3 of US policy mentioned above in the provided link; stating that " Government would like all operators offering Basic Public Telephony Services and Licensed mobile operators to provide directory enquiry facilities that include the placement of the call by the operator...".

The universal service (US) is not financed by a fund.

However, TRC is competent in:

- Designation of the operator or operators with universal service obligations.
- Calculating the net cost of universal service provision.
- Implementation and management of the funding mechanism of universal service.
- Supervision of obligations (rates, quality of services, etc.) related to the provision of universal service.

Until it is determined in accordance with the USO Instructions that effective competition has begun to the fixed line incumbent's (Jordan Telecom JT then) provision of a Public Switched Voice Service, JT shall continue to be the USP in all geographic areas and that JT shall continue to bear the entire cost of the USO under the terms of its licenses and these USO Instructions.

The relevant provisions of the USO Instructions are:

1. The Universal Service shall be available to any Person requesting such service at the prevailing standard connection and other rates for the Basic Public Telephone Service charged by the relevant Universal Service Provider.
2. The Universal Service shall be available in all municipalities and populated areas recognized by the Minister of Municipalities and Environment of Jordan that have a population of 300 or more permanent inhabitants as determined from time to time by the Department of Statistics, or its successor.
3. The Universal Service shall also be available outside such municipalities and populated areas to any Person requesting such service at the prevailing standard connection and other rates for the Basic Public Telephone Service charged by the designated USP for the area that covers the location where service is requested, provided however that in such circumstances the USP shall be permitted to recover from such customer the full incremental cost of connection over and above the average cost of connection of the USP if and to the extent such cost exceeds the USP's average cost of 50 man hours work plus 500 JD. The relevant Universal Service Provider in an area is the Provider that is licensed to provide the universal service in that area.

Net Neutrality

The Net Neutrality as a regulatory concern is on the TRC agenda for a while but to date, the regulatory intervention against traffic management does depart from deviations from the principles of non-discrimination and fair competition (including the abuse of market power) and this is based on a market reviews and analysis of traffic management, and on fostering quality monitoring tools at the disposal of the TRC. Hence, the TRC is prepared with an appropriate "regulatory toolbox" to deal with Net Neutrality incidents based on a case-by-case approach. The restrictions to internet access may be required by the national legal framework, and /or result in justified traffic management practices by network operators due to the existence of some concerns, namely congestion risks, cyber-security, provision of specialized services.

The net neutrality is mentioned the last "General Policy for the Information & Communications Technology and Postal Sectors 2018", namely the article No. (24) states that: "In addition, for Jordanian start-up and innovative companies to be able to offer digital economy services, the telecommunications services which they use need to be offered in accordance with the net neutrality principle: telecommunications service providers treat all data on the Internet equally, and do not discriminate or charge differently by user, content, website, platform, application, type of attached equipment, or method of communication".

Promotion of broadband

According to the last "General Policy for the Information & Communications Technology and Postal Sectors 2018", the section titled "5.8 The National Broadband Network" through the articles No. (150) and (151) states that:

(150) National Broadband Network (NBN) is a national telecommunications Governmental owned private network intended to provide connectivity to enable telecommunications services to Government.

(151) Government believes that additional benefit can be extracted from the NBN by enabling it to be used to carry public telecommunications services provided by licensed telecommunications operators. Therefore, Government through the Ministry and the PublicPrivate-Partnership unit will review the future roles of the NBN for the provision of services to Government and also as an infrastructure that may be made available to licensed telecommunications operators in a nondiscriminatory manner. This review will take account of national security implications arising from this shared use in addition to other technical and commercial options. Government will require that the NBN is made available without distorting the telecommunications infrastructure and services markets and without significantly increasing risks to government security.

Recently the TRC has taken action:

- TRC has taken part in a governmental Legal and Technical Committee to draft a Law that regulates the ROW, which will facilitate and increase the investment in Broadband infrastructure, after the Law is officially issued by the Ministry of Information & Communications Technology (MoICT).
- TRC is currently revising its interconnection instruction that will facilitate and organize the provision of new services between operators such as IP services.
- The "Statement of Government Policy on the Information and Communications Technology and Postal Sectors 2012 states in Article 6I the procedures that the TRC should take into considerations to achieve the goal of significantly increasing the level of Internet penetration, particularly broadband access, in all areas of Jordan.
 - www.trc.gov.jo/EchoBusV3.0/SystemAssets/PDF/AR/StrategiesandPolicies/Policies/nationalpolicy2012.pdf .

The following up of the National Broadband Network Program aims to cover more areas in Jordan (incl. the 4G licenses for all MNOs and the increase in coverage which impacted the Broadband services through mobile).

Lebanon

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	96,96	96,96	na	n/a	n/a	n/a	n/a	n/a
Mobile cellular penetration	88,35	92,16	81,42	72,33	64,50	61,82	62,83	-31,8%
Internet Usage	74,70	74,00	76,11	78,18	n/a	n/a	84,10	13,6%
Fixed broadband subscriptions/100 inhabitants	22,80	25,39	21,64	n/a	n/a	6,13	6,33	-75,1%
Portion of HH with Internet access at home	61,80	61,80	n/a	n/a	n/a	n/a	n/a	n/a

Institutional layout

The Telecommunications Regulatory Authority is an independent public institution established by Law 431/2002 and legally mandated to liberalize, regulate, and develop telecommunications in Lebanon. The TRA effectively started operations upon the nomination of its board members in February 2007.

The TRA's mission is to promote competition and ensure the rights of users of telecommunications services are respected. Through appropriate regulation, the TRA promotes investment and maintains stability in the market. The TRA issues licenses, regulations, and decisions, manages the spectrum and the numbering plan, monitors the market for any abuse of dominant market position and anti-competitive practices, and takes remedial action when necessary. The TRA is also responsible for maintaining stability in the market and developing the sector—while at the same time, building a thriving, competitive and innovative telecommunications market.

The TRA's duties are set out in full in Law 431/2002. These include to:

- Encourage competition in the field of telecom
- Ensure market transparency
- Monitor tariffs and prevent non-competitive behavior
- Act as a mediator and arbitration organism and to resolve disputes arising between licensees
- Prepare draft decrees and regulations
- Organize concessions, issue licenses, amend, suspend, withdraw and supervise execution of these concessions and licenses
- Establish rules of interconnection and review contracts of interconnection
- Formulate technical standards and procedures for monitoring compliance with these standards
- Formulate standards and procedures for review of complaints and/or requests that might arise out of the present law and their resolution
- Facilitate the use of telecom by educational and health care institutions and disabled persons

The President/Head of the Authority is appointed by the Council of Ministers upon recommendation of the Minister of Telecommunications with a 5 year term.

Law 431 Art 8 - In the case of gross default or violation in the fulfillment of its obligation, the term of the President or other members of the board shall be terminated by a decree issued by the Council of Ministers upon the proposal of the Minister of Telecommunications. The violation should be ascertained by a committee composed of the Minister, the president of state council, the president of audit court and the president of the high court of magistrates.

The decision is taken by majority vote. TRA is a collegiate body with 4 members of the board, which like the Presidency have a 5 year term.

The current situation is that the board and president mandate terminated in February 2012 and since then the Council of Ministers did not appoint any new Board/President. The TRA is currently in a status-quo with some advisory role from time to time with the Ministry of Telecommunications. Due to the above mentioned current national circumstances of the TRA, the number of employees (35) is much lower than what it should be in a normal liberalized context.

The budget is pre-approved by the Ministry of Finance and the Ministry of Telecommunications and is financed by 100% through public sources as the market is not yet liberalized, and therefore no regulatory fees or spectrum fees are levied.

NRAs competencies and powers

The TRA has competence in the Telecommunications sector only. In that regard the authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Networks' security
- Allocation of spectrum
- Standardization of equipment
- Quality of service
- Consumers' protection

TRA decisions are enforceable from the date of their notification to the concerned parties or from the date of their publication in the Official Gazette.

The authority shall establish control and inspection regulations, subject to the approval of the Minister. The TRA shall organize periodic work programs for enforcement and inspection personnel and issue orders for conducting surprise control and inspection operations. Controllers and inspectors may enter all public and private properties where necessary for their official duties.

Through the Minister of Telecommunications the TRA can submit proposals for sectoral legislative amendments to the Parliament. The TRA should give its opinion on all draft laws and decrees related to the telecommunications sector.

NRAs accountability and transparency

It is mandatory for the NRA to make public consultations before adopting regulatory decisions and for decisions to be published. The TRA is accountable before Government.

There is no formal framework, the TRA interacts frequently with the Ministry through written communications.

Market entrance conditions in electronic communications

Authorization regime

Two type of licenses issued by the TRA: licenses for specific services and individual licenses for multi-services.

Rights of way, radio spectrum and frequency management

In Lebanon the TRA is empowered to grant rights of way and spectrum licenses and is also responsible for frequency management. An approval of the government with regards to spectrum licenses is not necessary.

The Council of Ministers need to approve the Lebanese National Frequency Table. Based on which the Regulations will assign spectrum. The Government will still need to approve licenses (incl. frequency) that are under 19.1 of the Law 431.

The TRA had prepared a frequency licensing regulation, however due to the current situation this regulation was not issued yet.

Numbering management

NRA is responsible for:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers, addresses and names.

Regulatory framework for market analysis

Relevant markets

Lebanon identifies relevant markets and it does apply competition law principles so as to define relevant markets. TRA also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP after periodically market review rounds. However with the current situation of the TRA market reviews are not applied.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection	na	na	na	
Implementation of wholesale offers	na	na	na	
Transparency (reference offer)	na	na	na	
Non-discrimination	na	na	na	
Accounting separation	na	na	na	
Price control	na	na	na	
Cost accounting	na	na	na	
Tariff rebalancing				
Retail price cap control				na
Other regulation of retail tariffs				na

MOBILE VOICE TELEPHONY / SMS MARKETS			
	WHOLESALE		RETAIL
	Access origination	& Termination	Retail
Obligation of interconnection	na	na	
Implementation of wholesale offers	na	na	
Access to Mobile Virtual Operators (MVNOs)	na	na	
Collocation facilities	na	na	
Transparency (reference offer)	na	na	
Non-discrimination	na	na	
Accounting separation	na	na	
Price control	na	na	
Cost accounting	na	na	
Retail price cap control			na
Other regulation of retail tariffs			na

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers	na	na	na	
Transparency (reference offer)	na	na	na	
Non-discrimination	na	na	na	
Accounting separation	na	na	na	
Price control	na	na	na	
Cost accounting	na	na	na	
Retail price cap control				na
Other regulation of retail tariffs				na

Consumer issues

Consumer protection

In Lebanon Consumer affair regulation is specifically for telecom services while Consumer protection law is for all services.

Specific legislation to protect telecommunications’ end users’ rights was adopted, dealing with:

- Contract conditions for telecommunication services.
- Contract duration.
- Data protection.
- Out-of-court dispute resolution procedure for handling complaints by consumers.

Additionally, TRA is empowered to handle with consumers’ complaints. Again due to the current situation most decisions regarding the development of consumer affairs regulation are being postponed.

Quality of service (QoS) and switching

In Lebanon, instructions for implementing the quality of service framework were adopted to ensure quality of service on telecommunication services and networks for any operator. Quality of Service and KPI regulation are published on the TRA website. QoS is controlled for the SMP/incumbent operator.

International Roaming

In Lebanon, international Roaming is not regulated

Universal Service

In Law 431, the services to be included in the Universal Service Obligation are not defined. Due to current situation of TRA, this has not been tackled yet.

Net Neutrality

No net neutrality considerations.

Promotion of broadband

No specific broadband plans discussed.

Malta

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	100,00	100,00	100,00	100,00	100,00	100,00	100,00	0,0%
Mobile cellular penetration	126,99	121,50	124,82	140,37	140,20	144,06	143,39	18,0%
Internet Usage	73,17	76,18	77,3	80,1	81,7	85,8	86,86	14,0%
Fixed broadband subscriptions/100 inhabitants	35,23	37,85	39,62	41,40	43,67	45,99	48,33	27,7%
Portion of HH with Internet access at home	80,70	81,90	81,13	85,50	84,10	86,10	90,40	10,4%

Institutional layout

The Malta Communications Authority (MCA) is the independent National Regulatory Authority with competencies in the regulation of electronic communication including ex-ante competition regulation, postal services, eCommerce and Trust Services. Matters relating to privacy and data protection are handled by the Information and Data Protection Commissioner (IDPC), whilst the Malta Competition and Consumer Affairs Authority (MCCAA) through its Director General Competition and Director General (Consumer Affairs) is the competent authority in matters relating to ex-post competition and general consumer protection, notably the regulation of unfair contract terms, unfair commercial practices and distance selling.

The Authority's chairman and members of the Board, not less than four and not more than six other members, (whose term is for 3-6 years and may be renewed for subsequent terms) form a collegiate body and are appointed by the Minister responsible for communications from amongst persons of recognized standing and professional experience on the basis of merit, skills, knowledge and relevant experience for a term of not less than 3 years but not exceeding six years. The Minister in appointing the Board members is required to ensure the continuity of the decision making by the Authority.

Members of the Board may only be removed by the Minister on the specific grounds stated at law²¹. Grounds of dismissal include:

- (a) if the member due to infirmity of mind, or of body, or of any other cause, is effectively unable to continue to discharge his or her duties as a member;
- (b) if the behavior or performance of the member brings into question his or her suitability or ability to continue as a member, in particular for behavior that affects or may affect his or her reputation, independence or autonomy, or the reputation, independence or autonomy of the Authority;
- (c) if the member has been convicted of a criminal offence affecting public trust, or of theft or fraud, or of knowingly receiving property obtained by theft or fraud, or of bribery, or of money laundering, provided that the Minister may suspend the member if he or she is being investigated for a criminal offence; or
- (d) if the member fails to perform his or her duties for a prolonged period without any valid justification.

Notwithstanding the above, a member may also be removed if that member for any reason fails to perform his or her duties, including attending Board meetings, for a continuous period exceeding six months.

²¹ See article 3(6) of the Malta Communications Authority Act.

The MCA employs 67 persons and its budget (autonomously defined and implemented) for 2020 was €3.7 million. The budget is resourced from Public Sources (approximately 30%) and Regulated Undertakings (70%). However, electronic communications regulation is fully funded from the levy of administrative charges.

MCA's competencies and powers

Regarding the electronic communications sector, the remit of the authority includes:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of inter-operator disputes
- Numbering
- Network security
- Management of spectrum
- Quality of service
- Consumer protection

The government cannot give instructions to the MCA in the exercise of the tasks assigned to it by law. The MCA is empowered to request information from operators and can impose both behavioural and structural remedies on operators.

An important cornerstone of the Regulatory Framework is the ex-ante access regime, which the MCA implements on the basis of a prospective analysis of relevant markets and the identification of market power. The MCA imposes specific ex-ante regulatory obligations on operators that have been designated with having a position of significant market power. These undertakings can be subject to specific regulations, particularly

- Requirements of transparency.
- Non-discrimination in relation to interconnection and/or access.
- Obligations of accounting separation.
- Obligations to meet reasonable requests from the MCA for access and use of the network.
- Price control and cost accounting obligations.

Universal service obligations also apply under Part X of the Electronic Communications Networks and Services (General) Regulations, concerning access to an adequate broadband internet access service and to voice communications services. Part XII of the Regulations apply to end-user rights.

Maltese law also provides for the structural separation of networks, where obligations in this respect would be deemed appropriate where the MCA believes that the above-mentioned ex ante obligations of large market providers would be ineffectual and fail to achieve effective competition. A measure of structural separation is exceptional and has, to date, never been implemented. Also, authorised undertakings providing television and/or radio distribution services must comply with broadcasting rules and "must carry" rules, Regulation 1010 of the Electronic Communications Networks and Services (General) Regulations).

The MCA can impose obligations on operators to meet reasonable requests for access to, and use of, specific network elements and associated facilities, in particular, in situations where the MCA considers that denial of access or unreasonable terms and conditions with a similar effect would hinder the emergence of a sustainable competitive market at retail level, or would not be in the interest of the end user (Regulation 48(3) Electronic Communications Networks and Services (General) Regulations). Put in other words, the MCA can also impose symmetrical obligations on operators concerning those parts of the network that are non-replicable (i.e. where replication of the relevant network elements would be economically inefficient or physically impracticable), namely in-house wiring and civil infrastructure (i.e. the passive elements of a network such as ducts, poles and chambers). The current framework in Malta when it comes to the imposition of symmetric regulations is based on the application of Article 5 of the Access Directive and Article 12 of the Framework Directive. The MCA has not to date used symmetric regulation in the context of ECS. However, should the need arise, the MCA can do so on the basis of the application of Article 5 of the Access Directive and Article 12 of the Framework Directive. The MCA can also issue guidelines under national law transposing Directive 2014/61/EU but the MCA does not act as the Dispute Resolution Body for the purpose of that Directive. The MCA has not to date invoked Article 12(3) Framework Directive to impose symmetric regulations nor has it not adopted additional decisions based on Directive 2014/61/EU.

The MCA can impose administrative fines on non-compliant operators. A person can contest any regulatory decisions taken by the MCA before the Administrative Review Tribunal, which is an independent adjudicative forum presided by a magistrate. Additionally, MCA's decisions are directly enforceable.

Please refer to MCA Act (Cap. 418) Part VI:

<http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=8884&l=1> -.

In relation to disputes between operators, the cases may be submitted to the MCA. However, disputes relating to access to high-speed electronic communications networks must be lodged with the Utilities Networks Dispute Resolution Board - a quasi-adjudicative forum set up to determine disputes which may arise as a result of the national legislation implementing Directive 2014/61/EU. This Disputes Resolution Board acts independently from the MCA.

The MCA can submit proposals for sectoral legislative amendments to the competent minister for consideration. It is then up to the Minister whether or not to forward such proposal to the Cabinet and subsequently, if the Cabinet agrees, to Parliament.

NRAs accountability and transparency

It is mandatory for the MCA to carry out public consultations before adopting and publishing a final regulatory decision it may take.²² The MCA is accountable before Government and Parliament.

²² The law however provides that in certain instances notably in the case of disputes, the exercise of enforcement powers or where there an urgent need to safeguard competition or protect the interests of end-users in accordance with EU law, then the applicable provisions requiring consultation do not apply. See article 4A(1) of the Malta Communications Authority Act.

MCA coordinates with national competent bodies within the national legislative framework. Moreover, the authority liaises on a regular basis with the relevant Ministries and authorities.

The extent of action that the MCA can take in relation to a consumer issue depends on the particular nature of the issue and the MCA's relevant legal powers. There are instances, such as for example, unfair commercial practices, misleading advertising, false pre-sale advice and unfair contractual terms, over which the MCA has no jurisdiction and therefore cannot intervene directly to curb such practices which may be of detriment to end-users. In such cases, the MCA refers matters to the Malta Competition and Consumer Affairs Authority (MCCAA), the entity responsible for addressing such issues.

The MCA also consults with other regulatory bodies, as necessary, where an issue may impact both the role of the MCA and that of other regulatory bodies (e.g., issues relating to data protection in the postal sector).

Market entrance conditions in electronic communications

Type of Authorization regime

Malta's authorization regime stems from the European Electronic Communications Code. For a new undertaking to enter the market only a notification to the national regulatory authority is needed in line with the general authorization regime. Individual licenses only exist for specific spectrum assignments.

Rights of way, radio spectrum and frequency management

In Malta, radio spectrum is owned by Government. The MCA, under the Electronic Communications (Regulation) Act (Cap. 399) is responsible for effectively managing the radio frequency spectrum. This includes activities relating to the drawing up, adoption and publication of the national frequency plan, following consultation with Government. Government is also responsible for the establishment of the radio spectrum license fees.

The use of radio frequencies as well as the installation or use of radiocommunications equipment needs to be authorized. Malta has various forms of authorizations which can be categorized under three high-level categories, namely, individual licensing, light-licensing and licensing-exempt. These types of licenses are in general managed by the MCA and form part of the spectrum management responsibilities assigned to it. Government's approval is not required in the granting of radio spectrum licenses.

Radio spectrum for the provision of electronic communications services is designated and made available on a technology neutral basis. Terrestrial mobile electronic communications services, including wireless broadband services are being provided in a number of frequency bands, namely, the 800 MHz, 900 MHz, 1800 MHz, 2.1 GHz, 2.6 GHz and 3.6 GHz. The technical conditions associated with the use of a frequency assignment in these bands is reflective of the applicable harmonized conditions as adopted by the European Commission. Radio spectrum in these bands was assigned directly to the operators since the demand for such spectrum did not exceed availability. A copy of the spectrum licences is published on the official website of the MCA (www.mca.org.mt).

During 2021, following a public consultation and the holding of a voluntary peer-review meeting under the auspices of the RSPG, the MCA adopted a Decision²³ which established the framework governing the licensing and the use of radio spectrum in the three EU 5G pioneer bands. Subsequently, market interest was expressed for the use of radio spectrum in the 3.6 GHz band. Given that the demand for the use of radio spectrum in the band did not exceed availability, the rights of use were granted through a direct assignment procedure. So far, no market interest was expressed with respect to the 700MHz and 26GHz bands.

With respect to digital terrestrial television broadcasting services, Malta completed the switchover to digital terrestrial television (DTT) in February 2011.

The rights of use of radio frequencies granted by the MCA for the establishment and operation of systems capable of providing electronic communication services can be found here: https://www.mca.org.mt/regulatory/authorizations_licensing/spectrum-licensing

The MCA is not empowered to grant rights of way.

Numbering management

The MCA is responsible for:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers.

Regulatory framework for market analysis

Relevant markets

The MCA identifies relevant markets and it applies competition law principles. The Authority also identifies operators with Significant Market Power (SMP) and imposes regulatory obligations on operators with SMP after periodic market review rounds. The normal market analysis cycle is 5 years, in line with the provisions of the European Electronic Communications Code (EECC). An analysis can be extended if there are no significant changes in the market, or else undertaken prior to the lapse of the 5-year period in the event of, for example, market developments or structural changes to the market.

The markets that are currently regulated include:

- (i) The provision of wholesale voice call termination on individual public telephone networks at a fixed location²⁴;
- (ii) The provision of wholesale voice call termination on individual mobile networks in Malta;
- (iii) The provision of wholesale unbundled infrastructure access; and
- (iv) The provision of high-quality access and connectivity services provided at a fixed location in Malta.

Remedies

²³ Decision No. MCA/D/21-4177

²⁴ The Fixed and Mobile Termination Rates are subject to the Commission's Delegated Act.

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection		x		
Implementation of wholesale offers		x		
Transparency (reference offer)		x		
Non-discrimination		x		
Price control		x		
Cost accounting		x		
Tariff rebalancing				
Retail price cap control				
Other regulation of retail tariffs				

MOBILE VOICE TELEPHONY / SMS MARKETS				
	WHOLESALE			RETAIL
	Access origination	& Termination		Retail
Obligation of interconnection		x		
Implementation of wholesale offers		x		
Access to Mobile Virtual Operators (MVNOs)		x		
Collocation facilities		x		
Transparency (reference offer)		x		
Non-discrimination		x		
Accounting separation		x		
Price control		x		
Cost accounting		x		
Retail price cap control				
Other regulation of retail tariffs				

FIXED BROADBAND MARKETS					
		WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	VULA Access	Bitstream access	Retail
Implementation of wholesale offers		x	x		
Transparency (reference offer)		x	x		
Non-discrimination		x	x		
Accounting separation		x	x		
Price control		x	x		
Cost accounting		x	x		
Retail price cap control					
Other regulation of retail tariffs					

Consumer issues

Consumer protection

Specific end-user related provisions are established in the Electronic Communications Regulation Act Chapter 399 Laws of Malta and in the Electronic Communications Networks and Services General Regulations This deals with various aspects including, amongst others:

- Contract conditions for telecommunication services.
- Contract duration.
- Transparency
- Switching and termination
- Redress

Additionally, MCA is empowered to handle end-user complaints on disputes relating to issues which fall within MCA's remit. The MCA periodically publishes reports on the nature of complaints it receives and these are accessible at the following link:

<https://www.mca.org.mt/consumer/reports>The MCA also has a corner on its website dedicated to end-users which can be accessed from this link: <https://mca.org.mt/consumer>

As per the Regulator Decision MCA/D/12-1348, "All 'Terms and Conditions' governing a package and/or service and/or offer shall be published on the undertaking's website and shall be accessible from the same web-page where the service, offer or package is being publicised". Decision: <https://www.mca.org.mt/sites/default/files/decisions/2012-09-subscriber-contracts-final-decision%20%28amended%20version%29.pdf>. Telecosts.com', MCA's online comparative websites provides the possibility to compare tariffs of telephony, internet and bundled services.

A list of decisions issued by the MCA in recent years may be accessed at the following link:

https://mca.org.mt/consultations?field_type_value=decision

Quality of service (QoS) and switching

QoS measures apply to providers of fixed broadband services which may be either physically provided over a fixed access technology or provided over mobile access technology but marketed as fixed services. The MCA is responsible for QoS regulation and reviews reports received by operators on a quarterly basis. (Electronic Communications Networks and Services (General) Regulations. <https://legislation.mt/eli/sl/399.48/20211001/eng>).

The MCA has set up a framework on Quality of Service applicable to all fixed broadband providers. The framework requires broadband providers to measure QoS performance of their networks and report their findings to the Authority on a quarterly basis. Operators which, under specific circumstances are not able to exert full control on the broadband QoS, may be exempted from the provisions of the Decision subject to specific conditions. Link: <https://www.mca.org.mt/sites/default/files/decisions/Broadband%20QoS%20Framework%20-%20Extended%20Decision.pdf>

The Decision does not establish target QoS but requires ISPs to publish QoS performance as achieved on their network. In those cases, where the performance of individual connections do not perform at par with the service promise laid down in the contract, then regulations related to breach of contract apply. The MCA, as part of its regulatory functions monitors the experience of the electronic communication services being provided. While the QoS obligations emanate from the European Electronic Communication regulatory framework; the MCA monitors additional parameters which it deemed appropriate for its local scenario.

On December 2020, the MCA had published a consultation entitled “Quality of Service Parameters to be Measured by Internet Access Service Providers and Publicly Available Interpersonal Communications Providers” (<https://www.mca.org.mt/sites/default/files/QoS%20Parameters%20Consultation.pdf>)

The scope of the consultation was to align the aforementioned QoS framework with the obligations emanating from the EECC which were later on transposed at Law. Furthermore in 2018 the MCA had initiated a work programme to establish a QoS framework for mobile services (<https://www.mca.org.mt/consultations-decisions/quality-service-framework-mobile-electronic-communication-services-%E2%80%93-public>).

During 2022, the Authority is planning to conclude the revised QoS framework for fixed services as well as publish the QoS framework for mobile services.

The Authority is responsible for switching/number portability regulation. Both the fixed and mobile number portability processes ensure that the porting process takes place within one working day (excluding the physical fixed line installation).

International Roaming

International roaming is regulated as per EU Roaming Regulation for the following services:

- Wholesale voice calls
- Wholesale SMS
- Wholesale data
- Retail voice calls
- Retail SMS
- Retail data

In view of the abolition of the retail roaming surcharges, Maltese local operators did not request a derogation to apply roaming surcharges.

Universal Service

The MCA is responsible for:

- Provision of access at a fixed location.
- Provision of access to functional Internet services.
- Directory enquiry services and directories.
- Measures for disabled users and those of low incomes.
- Reduced tariff options to ensure affordability.
- Control of expenditure by user.

The current regulatory framework establishes that the source of USO funding shall be one, or a combination, of the following options: (a) from public funds with the approval of the government; and/ or (b) by means of a sharing mechanism between providers of electronic communications networks and services. Each claim for compensation received is analyzed and the source of funding to compensate for the net costs incurred by the universal service provider is decided on a case-by-case basis, depending on the nature of the universal service in question. Given that so far the main costs emanated from social tariffs, to date the financing has been sourced from public funds.

MCA is competent in the following areas

- Calculating the net cost of universal service provision.
- Supervision of obligations (rates, quality of services, etc.) related to the provision of universal service.
- Designation of the operator or operators with universal service obligations.
- Implementation and management of the funding mechanism of universal service (so far the sharing mechanism has not been implemented since to date the financing has been sourced from public funds).

Universal services are a minimum set of electronic communication services essential for the general public to participate in society, and those which are already available to the great majority of citizens. These services should be made available at just, reasonable and affordable rates ensuring that persons on low income, those residing in rural, insular, or high installation cost areas, persons with disabilities, and other vulnerable groups, have access to these services at affordable prices.

Net Neutrality

Regulation EU 2015/2120 (Open Internet Regulation) as published applies directly to Malta as a member state of the European Union. Under the Malta Communications Authority Act (Cap. 418 of the Laws of Malta), this Regulation is enforceable as part of national law. At this stage, the Authority does not deem it necessary to complement this Regulation with specific national measures related to net neutrality. Nevertheless, the Authority published some FAQs and guidelines on the topic.

The MCA has reviewed the terms and conditions that offer Internet service operators in Malta in 2017-2018 and requested service providers update these terms and conditions with the information requirements laid down in Regulation (EU) 2015/2120/EC of the European Parliament and of the Council relating to open access to the Internet (Net Neutrality). Subsequently, the MCA continued to monitor the practices adopted by service providers to ensure that the requirements of the open access to the Internet are being adhered to.

In addition, the MCA has, in 2018, concluded its investigation on a number of zero-rated products offered by a local service provider. The report on the investigation was published and is available on: <https://www.mca.org.mt/consultations-decisions/regulatory-assessment-go-plc%E2%80%99s-zero-rating-offers-go-tv-anywhere-go-tv>. The MCA also takes note of the rulings issued by the ECJ in September 2021 concerning the compatibility of zero-rated offers within the context of the Open Internet Regulation and is in discussion with the local service provider on the existing zero-rated offers.

The MCA also participates in a working group within BEREC (the unity within the EU responsible for coordination between the various regulators in States) which discusses the same matter including the recent updates to the BEREC Guidelines on the implementation of the Open Internet Regulation.

Promotion of broadband

A number of regulatory measures and initiatives have been taken to enhance competition in the provision of high-speed next generation fixed and mobile broadband networks.

In 2016, the MCA has imposed a wholesale access VULA obligation on the fibre-to-the-home (FTTH) network being deployed by the incumbent. In October 2018, Vodafone (now Epic Communications Ltd.) signed a VULA-based Reference Offer agreement with GO to start offering fibre-based services through this regulated access platform. The Authority also made available further spectrum for the deployment of high-speed broadband (5G) networks. Service providers were awarded licenses for frequency bandwidths which facilitated 5G operation in 2020.

In 2021 the MCA has published an updated Decision on Broadband as a Universal Service: Ensuring the availability of an adequate broadband internet access service, including the underlying connection, at a fixed location. The MCA defined the following minimum functional characteristics for adequate broadband internet access service:

- a download speed of at least 30 Mbps;
- an upload speed of at least 1.5 Mbps;
- latency that is capable of allowing the end-user to make and receive voice and video calls effectively; and
- an unlimited data usage cap.

Montenegro

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mobile cellular penetration	n/a	n/a	n/a	n/a	n/a	n/a	171,97	n/a
Internet Usage	n/a	n/a	n/a	n/a	n/a	n/a	77,61	n/a
Fixed broadband subscriptions/100 inhabitants	n/a	n/a	n/a	n/a	n/a	n/a	29,32	n/a
Portion of HH with Internet access at home	n/a	n/a	n/a	n/a	n/a	n/a	80,30	n/a

Institutional layout

The Agency for Electronic Communications and Postal Services of Montenegro (EKIP) is the independent National Regulatory Authority regulating the telecommunications sector in Montenegro as well as the postal sector. Montenegro’s Telecommunications Law (59/2000) established EKIP (at the time called Agentel) with the responsibilities of promoting competition and access to telecoms networks, issuing licenses to operators and regulating tariffs. The Law on Electronic Communications (50/2008) helped harmonize the regulatory framework with EU norms. In 2022, a new Law on Electronic Communications is expected by the government to harmonize national legislation with the European Electronic Communications Code (Directive 2018/1971/EU of 20 December 2018).

The Ministry has no power to give instructions to the NRA for the exercise of the tasks assigned to the NRA. In Montenegro, there are no other authorities besides EKIP with competencies on the regulation of the telecommunications sectors.

The Executive Director of EKIP is appointed for four years. The NRA’s president and other members of the council are appointed for five years and the term can be renewed only once. The conditions for removal are defined in advance in national law. EKIP acts as a collegiate body with five board members appointed for five years.

The NRA has the autonomy to define and implement its own budget.

NRA’s competencies and powers

EKIP has competence on Telecommunications, Broadcasting (TV transmission) and Postal sectors.

Regarding the telecommunication sector, this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Allocation of spectrum
- Networks’ security
- Quality of Service
- Consumers’ protection
- and Privacy and data protection.

When it comes to EKIP’s powers, the NRA has the authority power to request information from operators. The main remedies that can be imposed by EKIP include transparency, non-

discrimination, price control, cost accounting, accounting separation and access obligations. NRA's decisions are directly enforceable.

NRA's accountability and transparency

It is mandatory for the NRA to make public consultations before adopting regulatory decisions. Those decisions are being published.

Market entrance conditions in electronic communications

Rights of way, radio spectrum and frequency management

EKIP is responsible for frequency management and grants spectrum licenses. Montenegro's government is involved in granting spectrum licenses but its approval is not required. In Montenegro, secondary trading of spectrum and refarming/ in-band migration are allowed.

The 700/800 MHz bands are used by MFCN systems.

Individual rights to use spectrum (licenses) are granted through an auction, beauty contest and direct assignment. This is also stated in the Law on Electronic Communications. According to Article 100:

- (1) The approval for the use of radiofrequencies shall be issued by the Agency based on the application for the approval of use thereof (Direct assignment),
- (2) The approval for the use of radiofrequencies from the bands which are assigned on the territory of Montenegro on an exclusive basis shall be issued based on the procedure of public tendering if under the appropriate radio-frequency assignment plan for the use of public electronic communications network and/or in accordance with Article 105 of this Law it is established that the expressed interest surpasses the availability of radio-frequency resource (Beauty contest or Auction).

In the past different kinds of auction formats were used:

- Auction 2016: Combinatorial clock auction format
- Auction 2021: Combined format of clock auction and sealed-bid auction.

No considerations on granting rights of way were made.

Numbering management

No numbering management considerations.

Regulatory framework for market analysis

Relevant markets

EKIP defines relevant markets for the purpose of ex ante regulation in Montenegro. Thereby, the NRA applies a Three Criteria Test when defining relevant markets. It also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP. According to Law on Electronic Communications, market reviews are conducted with a periodicity of 3 years.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection	x	x		
Implementation of wholesale offers	x	x		
Transparency (reference offer)	x	x		
Non-discrimination	x	x		
Accounting separation	x	x		
Price control	x	x		
Cost accounting	x	x		
Tariff rebalancing				
Retail price cap control				
Other regulation of retail tariffs				x

MOBILE VOICE TELEPHONY / SMS MARKETS				
	WHOLESALE			RETAIL
	Access origination &	Termination		Retail
Obligation of interconnection	x	x		
Implementation of wholesale offers	x	x		
Access to Mobile Virtual Operators (MVNOs)	x			
Collocation facilities	x	x		
Transparency (reference offer)	x	x		
Non-discrimination	x	x		
Accounting separation	x	x		
Price control	x	x		
Cost accounting	x	x		
Retail price cap control				
Other regulation of retail tariffs				

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers	x	X	x	
Transparency (reference offer)	x	x	x	
Non-discrimination	x	x	x	
Accounting separation	x	x	x	
Price control	x	x	x	
Cost accounting	x	x	x	
Retail price cap control				
Other regulation of retail tariffs				

Consumer issues

Consumer protection

Montenegro has adopted specific legislation for consumer protection in telecommunication. In that sense, it deals with:

- Contract conditions for telecommunication services
- Contract duration
- Penalty payments in case of early termination
- Data protection
- Out-of-court dispute resolution procedure for handling complaints by consumers.

Additionally, EKIP is empowered to deal with consumers' complaints. The operators are obliged to publish information of their services on their website. Additionally, EKIP periodically publishes information on tariffs of telecommunication services on their website: <https://www.ekip.me/page/users/elektronske-komunikacione-usluge/price-lists/cjenovnici-usluga>

According to EKIP's regulation, there is no maximum initial duration of a contract set.

Quality of service (QoS) and switching

In Montenegro, specific legislation to ensure quality of service on telecommunication services and networks has been adopted.

(https://www.ekip.me/media/documents/general/1601564693_Pravilnik%20o%20kvalitetu%20javnih%20elektronskih%20komunikacionih%20usluga%20SL2-18.pdf)

The quality of service is controlled for any operator. EKIP has established penalties for non-compliance with QoS standards and reviews periodically QoS parameters. Parameters of QoS are prescribed in accordance with international and national recommendation and standards, and in accordance with EKIP's decisions.

Regarding switching, fixed and mobile number portability is available in Montenegro. EKIP is responsible for switching and portability regulation. It is not possible to switch provider within one working day.

International Roaming

International roaming is not regulated in Montenegro. EKIP signed an agreement on lowering the prices of roaming services in public mobile communications networks between Albania, Bosnia and Herzegovina, Macedonia, Kosovo, Serbia and Montenegro. Since 1 July 2021 a "roaming like at home" (RLAH) system is applicable between Albania, Bosnia and Herzegovina, Macedonia, Kosovo, Serbia and Montenegro.

Universal Service

After a public tender by EKIP, two new providers of universal services in electronic communications were named in 2015 for the period 2016 – 2021. The previous providers One (former Telenor) and Teleinfo.me were replaced by Crnogorski Telekom (CT) and MTEL. CT provides under the universal service program subsidized fixed telephony and internet access, and MTEL offers phone directory and number enquiry services.

Net Neutrality

No net neutrality considerations.

Promotion of broadband

No considerations on promotion of broadband.

Morocco

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	75,00	75,00	75,00	96,00	98,00	99,00	99,00	32,0%
Mobile cellular penetration	131,71	126,87	117,68	122,88	124,17	127,95	133,89	5,5%
Internet Usage	56,80	57,08	58,3	61,8	64,8	74,4	84,12	47,4%
Fixed broadband subscriptions/100 inhabitants	2,97	3,38	3,56	3,88	4,31	4,80	5,70	68,5%
Portion of HH with Internet access at home	45,30	66,50	68,60	70,20	79,40	80,80	84,50	27,1%

Institutional layout

ANRT is an National Regulatory Authority with competencies regulation of telecommunications sector as well as Antitrust for Telecom referring to Act n°24-96 relating to the post and telecommunications promulgated by Dahir n°1-97-162 of august, 7th, 1997.

The General Director of ANRT is nominated by the council of ministers (chaired by the King of Morocco) under the proposal of the Head of Government. The president of the board of the NRA is the head of government (Prime Minister).

ANRT take its orientations actions through the board of directors (12 Ministries, chaired by the Head of Government) and settle disputes through management comity, it currently has 184 employees autonomously recruited.

ANRT budget which is autonomously defined (after validation of the board) and implemented was 43,3 Mn € in 2020 and 45 million € in 2019. The budget is composed to 60% out of spectrum rights or use and to 40% out of contributions to standardization and training.

NRAs competencies and powers

It has competence in Telecommunications and Post sectors. Morocco has created a specific Agency that is in charge of the electronic economy and digitalization.

Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control the respect of obligations
- Resolution of disputes related to interconnections, sharing infrastructures and competition
- Numbering
- Allocation of frequencies
- Type approval of equipment
- Supervision of quality of service of publics networks

ANRT decisions (related to his competencies as defined in the Telecommunications Act (Law n°24-96) are directly enforceable. The appeal made by concerned operator does not suspend the ANRT decisions, unless the appeal body finds that the ANRT exceeded its powers or did not respect the procedure, especially the rights of the operator. The comity in charge of the dispute settlement is part of the NRA.

ANRT can also impose administrative fines and penalties.

once the decision of the ANRT is notified to parties, it should be respected, if not the ANRT sends a formal notice to respect the decision within a delay of 30days. Beside administrative sanctions, ANRT is able to pronounce penalties through the General Attorney.

ANRT may make proposals for texts (Law and Decree), to the government (General secretary of Government) which make public consultation and collects reviews of the various stakeholders involved in the concerned text, then the text is put in the system of adoption

NRA's accountability and transparency

Even though there is no formal obligation to make public consultations, the ANRT prefers to go through consultation, depending on the content and the impact of the expected decision.

The agency is working in cooperation with the High Authority for Audio-visual Communication (HACA), which was thus established under the Dahir n°1-02-212 of August 31, 2002. It is an independent administrative body responsible for regulating the broadcasting sector.

The cooperation is established especially within an Agreement on the harmonization of radio frequency allocation.

There is also coordination with the ministry in terms of international representation of Morocco. And there is coordination between ANRT and HACA (high Authority for Audiovisual communication) in term of harmonization of radio frequency broadcasting allocation or control of advertising message. There is also coordination with the ministry in charge of TIC in terms of international representation of Morocco. There is also cooperation with the competition authority in terms of information of decision taken regarding settlement of competition dispute.

Market entrance conditions in electronic communications

Authorization regime

Licenses for specific services or networks: Licenses for the establishment and operation of public telecommunications networks occupying the public domain or using the radio frequency spectrum shall be delivered to any legal entity selected in a call for tender. The license is subject to the payment of a license fee .

Rights of way, radio spectrum and frequency management

The approval of Government is necessary to grant licenses.

ANRT is the authority for all frequency management. Secondary trading of spectrum and refarming migration are not allowed in Morocco.

800 MHz band is used for 4G technologies, while the 700MHz band is being refarmed.

The National Frequency Plan is established by ANRT, and approved by his Administration Board after the consultation of concerned parties.

ANRT is responsible for management and monitoring of spectrum, including for allocating spectrum linked to licenses and authorizations subject to payment of a fee. Ministry decides fees for spectrum to be assigned, based on the ANRT initiative and proposal. A new decree has been recently adopted on the 28th of September 2016 on the conditions of elaborating and updating the national plan of frequencies. It's published on the official bulletin and available on ANRT's website.

Numbering management

NRA is responsible for:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers, addresses and names.

Regulatory framework for market analysis

Relevant markets

Morocco identifies relevant markets and applies competition law principles. ARNT also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP after periodically market review rounds. The market analysis cycle is 3 years.

Currently, six (6) relevant market are defined by the ANRT:

- Market of termination of fixed telephony including restricted mobility.
- Market of voice mobile termination
- Market of SMS termination
- Market of leased lines (wholesale).
- Market of wholesale access to physical infrastructures related to local loop (all type of ULL).
- Market of wholesale access to civil engineering.

Each year, the agency defined, after consultation and gathering the necessary information from the operators, the operators with Significant Market Power on a relevant market.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection	x	x	x	
Implementation of wholesale offers		x	x	
Transparency (reference offer)	x	x	x	
Non-discrimination	x	x	x	
Accounting separation		x	x	
Price control		x	x	
Cost accounting		x	x	
Tariff rebalancing				x
Retail price cap control				
Other regulation of retail tariffs				x

MOBILE VOICE TELEPHONY / SMS MARKETS				
		WHOLESALE		RETAIL
		Access origination	& Termination	Retail
Obligation of interconnection	x		x	
Implementation of wholesale offers			x	
Access to Mobile Virtual Operators (MVNOs)				
Collocation facilities	x		x	
Transparency (reference offer)	x		x	
Non-discrimination	x		x	
Accounting separation	x		x	
Price control			x	
Cost accounting	x		x	
Retail price cap control				
Other regulation of retail tariffs				x

FIXED BROADBAND MARKETS					
		WHOLESALE			RETAIL
		Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers			x	x	
Transparency (reference offer)	x		x	x	
Non-discrimination	x		x	x	
Accounting separation			x	x	
Price control			x	x	
Cost accounting			x	x	
Retail price cap control					
Other regulation of retail tariffs					

It's important to note that the retail offer of all operators SMP or not SMP are subject to the respect to guidelines set by ANRT after concertation with all operators. These guidelines are set via a decision of ANRT and were subject to review, the last one was issued on April 2016.

Consumer issues

Consumer protection

As for Morocco, there is a law about consumer protection which includes a specific part about telecommunications' end users. Consequently, specific legislation to protect telecommunications' end users' rights was adopted, dealing with:

- Contract conditions for telecommunication services.
- Contract duration.
- Penalty payments in case of withdrawal
- Data protection (under another specific law)

ANRT is empowered to receive complaints from Consumer associations, but even if it receives direct claims, it intervenes within the limit of its competencies.

Operators are obliged to publish the tariffs whatever the support.

Tariffs are set freely in accordance with the law n ° 06-99 concerning freedom of prices and competition. However, ANRT assess these prices regarding the principle of fair competition.

The regulation sets a maximum initial duration of a contract which is longer than 24 months.

Quality of service (QoS) and switching

Monitoring the quality of service is achieved using two approaches:

Analysis dashboard KPIs (Key Performance Indicators) or those submitted on request of ANRT during significant or unusual events;

Launching campaigns field measurements for evaluating the quality of service as perceived by users.

Thus, the ANRT conducts regularly on the basis of significant samples, measurement campaigns and survey indicators QoS.

In order to ensure the representativeness of measurements and relevance of the results, each campaign is conducted on the basis of a significant sample (number of measurements, cities, services ...). The measurements are performed in an intuitive and random in a protocol of measures adopted by the ANRT, for an assessment of the quality of service, as actually perceived by the user.

Currently there are consultations with operators about a Quality of Service legislation ongoing.

The ANRT had taken a new decision on the number portability. The decision 04/15 of October 08th, 2015 comes to modify and to complete the modalities and the conditions of implementation of the number portability.

The decision, which comes in application of the Note of general orientations for the pursuit of the development of the sector at the horizon 2018, aims at improving more this competitive lever for the benefit of the operators and for the benefit of the Moroccan consumer.

This decision, result of a wide consultation with three global operators since June, 2015, deals with two essential aspects:

- improvement of the operational modalities of number portability to facilitate the portability for the customers and the reduction of the delay for porting operation - precision of the process which will be followed for the implementation of the centralized database for the portability of the numbers, which would be effective and operational at the latest in June, 2017

For that purpose, a process of exchanges is begun between the operators. In case this process would not be decisive for the deadlines determined by the new Decision, the ANRT will launch the steps and the necessary actions to select and appoint the Entity which will be in charge of the management of the centralized database. It's the case now, since the 26 of October 2016, ANRT make public consultation in order to select the entity in charge of centralized database for ported number (see the ANRT's website)

This new decision also considers the next implementation of a unique identifier for the fixed and/or mobile contracts in order to facilitate the identification of the line during the requests of number portability. The modalities of its implementation by the operators will be later specified by ANRT.

By now mobile and fixed number portability is possible and the ARNT is responsible for its management. Portability is not possible within one day.

International Roaming

In Morocco, international Roaming is not regulated.

Universal Service

NRA is responsible for:

- Access at a fixed location.
- Access to Internet services.
- Public pay telephones.
- Others

According to of the telecommunications act 24-96 "Article 13 ibid. A.

- Are part of the universal service and compulsory for the public operators of telecommunications networks, are the routing of urgency calls, the supply of a service of information and directory in printed or electronic form.
- Are regarded as missions related to the regional planning, the national road service in phone boxes installed on the public domain and/or the road service by means of telecommunications of the urban peripheral, the industrial and the rural zones.
- The list of the value added services falling within the framework of the universal service is fixed in the schedule of conditions and includes in particular the Internet access services.

The methods of missions' realization of the universal service are laid down in a particular specifications document of the public operators of telecommunications networks, taken in accordance with the legislation and the regulation in force.

The public operators of telecommunications networks contribute annually to the financing of the missions of the universal service within the limit of 2% of the turnover exclusive of tax, Net

of the expenses of interconnection, carried out based on the activities of telecommunications related to their license.

The specifications document envisaged in the preceding subparagraph, known as specifications document of the universal service, is concluded for a given period and is renewed according to methods which it lays down. It is approved by decree.

However, the operators can either carry out themselves the missions of the universal service envisaged in the above-mentioned particular specifications document, or to release themselves by paying the related contribution to a special fund which will be created in accordance with the organic law of finances and the texts taken for its application.

Similarly, in case of incomplete realization of the aforesaid missions by the operators, the latter's pay to the mentioned special fund the difference between the amount of the achievements and the amount of which they remain indebted based on the missions contribution to the universal service and are liable to a fine calculated in accordance with the clauses of the specifications document.

However, the obligatory services aimed at in 1) above are not part of the calculation of the contribution to the expenses of the universal service missions. The methods of contribution and realization of the universal service missions are laid down by the regulations in force.

An interdepartmental committee called the "Committee of management of the Universal Service Telecommunications (CGSUT)" is primarily responsible for the definition and validation of the Universal Service programs (such as the PACT program : provide access to telephony and Internet at 9263 rural localities, the NAFIDA program : to facilitate access to and use these tools in the educational system; the INJAZ program : for students of second cycle university and PhD in fields of technology and science.

The funding is provided by the Universal Service Fund (FSUT) created for this purpose by the Finance Act 2005. The FSUT is powered by contributions from telecommunications operators up to 2% of their turnover. The fund may also receive other contributions in the form of donations and bequests allocated in the development programs of Universal Telecommunications Service.

The authority is competent in the following areas:

- Supervision of obligations related to the provision of universal service.
- Implementation and management of the funding mechanism of universal service provision.
- Calculating the net costs of the universal service provision.

There is a specific comity of universal service which is competent in terms of determination of modalities of realisation and contribution of universal services missions.

There is a specific fund for universal service/ the universal service in Morocco is under the concept of pay or play/ operator contribute to the fund by 2% of their turnover/ ANRT ensure the permanent secretary of universal service comity. The universal service comity is chaired by the head of government and is composed of several ministries. there is many program adopted through universal service fund like program PACTE which allow the coverage of 9263

localities (considered as white zone whiteout any network coverage) by mobile services : 22% covered by 3G/UMTS. and 78% covered by 2G/EDGE.

Net Neutrality

No net neutrality considerations.

Promotion of broadband

The ANRT establish a significant framework regarding FTTH, and establish specific guidelines in this issue which are imposed to all operator regardless their position in the market. The principal is that each operator offering FTTH access to the public have to offer to other operator a wholesale access to its infrastructure (Decision ANRT/DG/N°06/14 16th April 2014). The Agency has also identified as relevant market, the market regarding wholesale access to physical infrastructure and civil engineering where the SMP operator is called to allow access to its facilities which are economically not duplicable. The ANRT has also in charge the approval of wholesale FTTH's offer.

The ANRT adopted on 2012 the national broadband plan (see : <https://www.anrt.ma/sites/default/files/Fiche%20VF%20Plan%20Haut%20debit-15%20Mai%202012.pdf>)

The orientation note for the development of the telecom sector at horizon 2018 focus on the necessity of acceleration of this national broadband plan notably through enhancement of some measures like mutualisation of infrastructure. ANRT is now on process of finalising the other phase on national broadband plan."

Palestine

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	na	na	na	na	96,00	96,00	96,00	n/a
Mobile cellular penetration	70,73	73,23	74,36	86,50	89,98	86,33	83,78	n/a
Internet Usage	53,67	57,42	61,2	65,2	64,5	70,6	74,60	29,9%
Fixed broadband subscriptions/100 inhabitants	5,16	5,86	6,65	7,58	7,49	7,32	7,39	26,1%
Portion of HH with Internet access at home	48,30	na	na	51,70	64,50	79,60	79,60	n/a

Note: Palestine didn't have 3G/4G coverage by the end of 2017 due to the political situation which imposed restriction on the allocation and use of needed frequency bands

Institutional layout

Ministry of Communications and Information Technology "MTIT" is the regulatory authority for Telecommunications, Information Technology and Post services. The Communications Law 3/96 regulates the sector, and the Minister is a member of the government (cabinet) and is appointed by the Prime Minister. A new Law to regulate the telecom sector has been promulgated and recently published in the Palestinian Official Gazette that includes the legal basis for establishing an independent telecommunications regulatory body.

MTIT has 616 employees, 412 employees of which are in the postal sector. The remaining staff are working in different departments including telecom, e-government, complaints, GCC, Palcert, HR etc. Employment at MTIT is subject to the civil service law.

Ministry budget is resourced by the government.

NRAs competencies and powers

It has competence in Telecommunications, Broadcasting – assigning spectrum -, Post sectors as well as in Promotion of IT & e-Government.

Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Networks' security
- Allocation of spectrum
- Standardization of equipment - in coordination with the Palestine Standards Institution
- Quality of service
- Consumer's protection - Which is also a competence of the consumer protection administration at the ministry of national economy which have generalized competence in some areas but the Ministry retains primary competence for these issues in the telecom sector.
- Privacy and data protection

The Ministry exercises these regulatory tasks according to the current active telecom law 3/96 which empowers MTIT to request information from licensee, and it can impose functional and structural remedies. Some decisions depend on the approval from the cabinet, ex. a new type of license, changing the license fees.

Ministry decisions are directly enforceable and judicial appeals with full review of decisions are also possible. Some decisions depend on the approval from the cabinet. For example, introducing a new type of license or changing the license fees. Ministry can submit proposals for legislation amendments related to the ICT and post them to the Cabinet.

According to the current active law 3/96 penalties are not included, nor enforcement procedures, except the withdrawal of the License. However, operator's license agreement (fixed & mobile) allows MTIT to impose fines and penalties.

The active current law for the ICT is law 3/1996. However, a new law to regulate the telecom sector has been promulgated and recently published in the Palestinian Official Gazette that includes the legal basis for establishing an independent telecommunications regulatory body.

NRAs accountability and transparency

MTIT coordinates with the Ministry of Information and the Ministry of Interior for matters related to content and broadcasting, it also coordinates with the ministry of the National Economy for matters related to consumer protection, and it coordinates with the Ministry of Finance for matters related to licensees' financial audit, it also coordinates with other agencies when applicable.

MTIT is accountable before the Cabinet and is required for MTIT to make public consultations before adopting regulatory decisions that affects the sector, and all regulatory decisions should be published.

Market entrance conditions in electronic communications

Authorization regime

The Ministry grants two types of license:

- Individual license for operators
- Class license for service providers, like ISPs, Wi-Fi commercial use, and VAS planning for Unified licenses in near future.

MTIT is planning for unified licenses in near future.

Rights of way, radio spectrum and frequency management

MTIT is empowered to grant rights of way, spectrum licenses and frequency management. However, the right of way is subject to other authorities' fees and additional regulations, i.e., municipalities and local governance; it is also subject to Israeli restrictions on Area "C".

Radio spectrum is subject to imposed Israeli restrictions which controls the allocation of radio spectrum to the Palestinian government.

It's worth mentioning the Special case of Palestine and the Israeli restrictions imposed on the frequency allocations which hinder the right of Palestine to have full control over the full spectrum, an example is the limited frequency assigned for mobile operators for 2G which is 4.8MHz for each operator, and the fact that 3G mobile services was introduced early 2018, and 4G mobile services will not be seen in the near future.

Numbering management

NRA is responsible for:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers, addresses and names.

Numbering is another restriction that is imposed by the Israeli Government on the Palestinian ICT sector.

Regulatory framework for market analysis

Relevant markets

MTIT defines relevant markets according to market review which identifies operators with Significant Market Power (SMP) and, consequently, it imposes regulatory obligations on SMP operator. The market review is conducted on ad hoc basis.

Remedies

In the tables remedies that are already applied are listed. In Palestine additional remedies are possible on the basis of the law, but currently not applied.

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection	x	x	x	
Implementation of wholesale offers	x	x	x	
Transparency (reference offer)	x	x	x	
Non-discrimination	x	x	x	
Accounting separation				
Price control	x	x	x	
Cost accounting	x	x	x	
Tariff rebalancing				
Retail price cap control				x
Other regulation of retail tariffs				

MOBILE VOICE TELEPHONY / SMS MARKETS				
		WHOLESALE		RETAIL
		Access origination	& Termination	Retail
Obligation of interconnection		x	x	
Implementation of wholesale offers		x	x	
Access to Mobile Virtual Operators (MVNOs)				
Collocation facilities				
Transparency (reference offer)		x	x	
Non-discrimination		x	x	
Accounting separation				
Price control		x	x	
Cost accounting		x	x	
Retail price cap control				
Other regulation of retail tariffs				

FIXED BROADBAND MARKETS					
		WHOLESALE			RETAIL
		Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers				x	
Transparency (reference offer)				x	
Non-discrimination				x	
Accounting separation				x	
Price control				x	
Cost accounting					
Retail price cap control					x
Other regulation of retail tariffs					

Consumer issues

Consumer protection

As for Palestine, there is “Consumer protection Law” which was issued by the Ministry of National Economy to protect end users’ rights. MTIT is empowered to handle consumers’ complaints and operators are obliged to publish their tariffs on their websites also all obligations related to consumer rights are parts of license agreements which empower MTIT to review and approve the end user contract.

The regulation deals with:

- Contract conditions for telecommunication services.
- Contract duration.
- Penalty payments in case of early termination.
- Data protection.
- Handling consumer complaints.

Quality of service (QoS) and switching

It is stated in all license agreements that the licensee has to deposit a performance bond equal to 3% of their paid-up capital as a grantee for the licenses quality of service obligations. Licensee has to provide the QoS KPI as part of the Quarterly technical reporting obligation.

MTIT has started to prepare a Legal Framework /QoS Regulation, To Update reference and standard values KPIs ,And impose the necessary fines ,and any other regulatory requirements to improve the quality of service in Palestine

Regarding switching, fixed portability is not available yet, but the MNP was launched in 2020 and it is currently commercially available.

International Roaming

In Palestine, there is no regulation as of yet regarding international Roaming.

Universal Service

Universal service obligation is included in the license obligation, since all licensee has to provide full national coverage.

NRA is responsible for:

- Provision of access at a fixed location.
- Provision of access to Internet access services.
- Directory enquiry services and directories (and for emergency services).
- Public pay telephones.

The « Universal Service » is not financed by a fund. MTIT is currently considering establishing an independent fund to increase the provision of Universal Telecommunications and Information Technology Services in Palestine

The NRA is competent in the following areas

- Designation of the operator or operators with universal service obligations.
- Supervision of obligations (rates, quality of services, etc.) related to the provision of universal service

Net Neutrality

No net neutrality positions have been published, but net neutrality has been included in a legislative proposal.

Promotion of broadband

Palestine has adopted measures to promote the deployment of NGA networks and adopted a plan to guarantee the access of all the citizens to broadband services.

Measures include:

- Price reductions for High speed access
- Promoting of e-services (E-learning, e- banking, ets....)
- Palestinian Investment Promotion Agency to give incentives for IT companies
- Deregulating of VAS services like IPTV, VoD

Fees reductions for companies working in telecom

Portugal

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	99,10	97,10	98,80	99,50	99,20	99,70	99,90	2,9%
Mobile cellular penetration	112,11	110,41	111,57	113,89	115,63	116,46	116,26	5,3%
Internet Usage	64,59	68,63	70,4	73,8	74,7	75,3	78,26	14,0%
Fixed broadband subscriptions/100 inhabitants	25,67	29,62	32,55	34,74	36,90	38,80	40,81	37,8%
Portion of HH with Internet access at home	64,90	70,20	74,10	76,90	79,40	81,70	84,50	20,4%

Institutional layout

ANACOM, the national regulatory authority for postal communications and electronic communications in Portugal, is established under the Act approved by Decree-Law no. 39/2015 of 16 March.

(Note: ANACOM follows to the corporate entity of the ICP, the former telecommunications institute established by Decree-Law no. 188/81 of 2 July, maintaining all the rights and legal or contractual obligations that are within the respective legal sphere.)

The President - as well as the other members of the Board (a collegiate body comprising 3 or 5 members) - is appointed by Resolution of the Council of Ministers, taking into account the reasoned opinion of the competent committee of the Assembly of the Republic (Portuguese Parliament) - this opinion is issued subsequent to a hearing, upon request of the Government, which is accompanied by an opinion from CReSAP (on the suitability of the appointee's profile

The members of the board of administration may not, during their mandate, exercise any other public function or professional activity, except with regard to part-time teaching activities in higher education, being subject to the incompatibilities and impediments regarding holders of high public office.

The members of ANACOM Board are appointed for a non-renewable term of six years (article 18 of Decree-Law no. 39/2015, of 16 of March). In 2013, the Parliament enacted the Law n. 67/2013, of August 28th, approving the "Legal Framework on Regulators".

The mandate shall terminate on expiry; death or permanent mental or physical incapacitation; supervening incompatibility; resignation, imprisonment; dissolution of the Board of Directors or removal of its members; extinction of ANACOM.

ANACOM had 398 employees in 2017 and has full control over its budgeted expenditure, subject only to an independent audit. However, since 2011, in the context of the Portuguese Financial and Economic Assistance Programme, ANACOM was required to apply the reduction in staff remuneration approved by the Parliament (State Budget Law) that determined a salary cut for public employees and the staff of public institutions subject to a special scheme; meanwhile all career progression and other salary updates have been frozen since 2011.

The authority can autonomously recruit staff, subject to general rules on recruitment in public sector bodies, and implement the budget. The total staff is 370. Only the definition of the budget needs ministerial approval. In 2020 the budget was €63 Million and in 2017 € 55,035,532. It was resourced to 34% from regulated undertakings, to 61% from fees for spectrum rights/use and to 4,8% from other sources such as postal service, bank interest and fines.

NRAs competencies and powers

ANACOM has competence in Telecommunications, the Post sectors and performs the role as central supervision entity, in the context of certain legal aspects of information society services, in particular electronic commerce, where such responsibility is not upon special entities. Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Networks' security
- Allocation of spectrum
- Quality of service
- Consumers' protection

ANACOM assumes the powers and responsibilities of the Space Authority, on a temporary basis, under Decree-Law no. 16/2019, of 22 January.

According to the Portuguese Electronic Communications Law (Law 5/2004, of 10 of February, last amended by Decree-Law 92/2017, of 31 of July - ECL), ANACOM is endowed with regulatory, supervision, monitoring and sanctioning powers, under which may impose behavioral (articles 66 and following and articles 77 and following of the ECL) and structural remedies (obligation of functional separation - article 76-A of the ECL) to undertakings with significant market power.

Under the framework of the general authorisation regime, the NRA may impose general conditions to the exercise of the activity by the operators (article 27 of the ECL), as well as specific conditions (article 28 of the ECL) and also conditions attached to the use of frequencies and numbers (which are subject to certain conditions – see articles 30, 32 and 37 of the ECL).

Additionally, the NRA is endowed, at the request of either party, with the resolution, by way of a binding decision, of any dispute connected to the obligations arising under the ECL, between undertakings subject thereto in the national territory, or between such undertakings and other undertakings benefiting from obligations of access in the national territory, without prejudice to the possibility of judicial review of the NRA's decision (article 10 of the ECL).

As provided for in the ECL, it is incumbent on the NRA to enforce the provisions of this law and respective regulations, on the exercise of its supervision powers, without prejudice to powers granted to other bodies (article 112 of the ECL).

The NRA is entitled to take all steps required to deal with and sanction infringements of the law and regulations, the implementation or supervision of which it is charged with, as well as offences resulting from the failure to comply with its determinations, including, where appropriate, to adopt precautionary measures, to apply sanctions, namely penalty payments, and to collect fines.

Admonitions, fines and additional penalties provided for in the ECL, as well as termination of breach proceedings, shall be incumbent on the Management Board of the NRA. The amount of the fines shall revert to the State at 60% and to the NRA at 40% (paragraphs 1, 2 and 4 of article 115 of the ECL). Where the NRA finds that an undertaking does not comply with one or

more of the conditions established in certain provisions of the ECL, it shall notify the undertaking of such findings and give an opportunity to state its views within a period of no less than 10 days (article 110 of the ECL). After holding a hearing according to this provision, the NRA shall have the power to require the undertaking to cease the breach either immediately or within a reasonable time limit, set by the NRA for the purpose.

The NRA may impose:

- a) Financial penalties as provided for in this statutory instrument;
- b) Orders to cease or delay provision of a service or bundle of services which, if continued, would result in significant harm to competition, pending compliance with access obligations imposed.

Where the NRA has evidence of any breach of the conditions referred on articles 27, 28, 32 and 37 that represents an immediate and serious threat to public safety or public health or will create serious economic or operational problems for other providers or users of electronic communications networks or services or other users of the radio spectrum or of numbering resources, it may take urgent interim measures to remedy the situation in advance of reaching a final decision, setting the period during which the measures shall be in force, which shall not exceed three months. In the cases provided, the NRA shall thereafter give the undertaking concerned an opportunity to state its view and to propose any remedies (article 111).

It also has an advisory role to the Parliament or Government formally envisaged by law in the matters of competence.

NRAs accountability and transparency

Before approval or modification of any regulation whose issuance is under its competence, ANACOM must inform the respective minister of tutelage, the concessionary or licensed entities, operators, the various registered service providers and consumers associations of generic or specific interest in the area of communications, providing them access to the respective texts and ensuring that same are available on its website (Article 10 of its statutes):

“Prior to the approval or amendment of regulations with external effectiveness, ANACOM shall, at the same time, report the respective draft to the member of the Government in charge of the area of communications and disclose it in the respective webpage, so as to foster the intervention of the Government, of regulated bodies and other addressees of its action, of user and consumer associations of a general or specific interest in the area of communications, as well as of general users and public.”

ANACOM is subject to the jurisdiction of the Audit Court, under terms of the pertinent legislation. Additionally, it has to submit to the Assembleia da República (Assembly of the Republic, the national Parliament) an annual report, also to be sent to the Government.

ANACOM is independent in the exercise of its functions, in the context of law, without prejudice to the guiding principles of communications policy set by the Government, according to constitutional and legal terms and the acts subject to ministerial tutelage under terms anticipated by law and in its statutes. So, without prejudice to its organic and functional independence, ANACOM is subject to tutelage by the member of Government responsible for communications and, when the case arises, by the Minister of Finance, under terms of ANACOM's statutes and all other applicable legislation.

Second, ANACOM pronounces itself on all matters within its area of responsibilities that are submitted to it namely by the Assembly of the Republic or the Government and may, on its own initiative, suggest or propose political or legislative measures in matters pertinent to its responsibilities (cfr. Article 8/2 of its statutes).

Further, ANACOM assists the Government, upon its request or on own initiative, in the definition of strategic guidelines and general policies for communications and the activity of communications operators, including the issuance of and the drafting of legislation in the field of communications.

According to the ECL (art.7), ANACOM and the competent authorities and services, particularly in the area of consumer protection, shall jointly cooperate, whenever necessary, in matters of common interest. It is also set that ANACOM and the Autoridade da Concorrência (the Competition Authority) shall cooperate with each other in matters related with the application of the legal regime of competition in the electronic communications sector. In the cases set out in articles 37 (Transfer of rights of use for frequencies) and 61 (draft measures in respect of the analysis of the market and the determination of whether or not an undertaking holds significant market power) of the ECL, ANACOM shall request the prior opinion of Autoridade da Concorrência (The Competition Authority).

At this level, there is a cooperation agreement between ANACOM and the Competition Authority, aiming at facilitating cooperation between the two authorities in the performance of their duties, in accordance with the duties that are legally assigned to them, with the aim of avoiding duplication of work and ensure consistency between the taken decisions or actions.

The same happens with the ERC - Entidade Reguladora para a Comunicação Social (Regulatory Entity for the Media).

Market entrance conditions in electronic communications

Authorization regime

According to the ECL, the provision of electronic communications networks and services, whether publicly available or not, is subject only to the general authorization regime and is not dependent on any prior decision or act of the NRA (cfr. paragraph 2 of article 19).

The use of numbers and frequencies is also subject to the general authorization regime and depends, additionally, on the allocation by the NRA of rights of use, in all cases for numbers, and exceptionally for frequencies (cfr. paragraph 3 of article 19, article 30 and article 36).

The general authorization regime works as follows: undertakings which intend to provide electronic communications networks and services shall previously submit to the NRA a short description of the network or service they wish to initiate and shall give notice of the date upon which the activity is estimated to commence, submitting also such details as are necessary for their full identification under terms defined by the NRA.

Following said notification, undertakings may immediately commence activity, subject to the limitations resulting from the allocation of rights to use frequencies and numbers (cfr. article 21).

The use of frequencies for electronic communications services, whether or not depending of the allocation of rights of use, is subject to the conditions for use of radio spectrum provided for within the scope of Decision no 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision) (<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32002D0676>).

Indeed, the EU framework foresees that the use of the radio spectrum shall be subject to the licensing provisions there envisaged and the use of the electromagnetic spectrum using optical radiation in non-guided resources shall be subject to registration with ANACOM, when such use is in connection with the supply of publicly available electronic communications services.

The use of radio communications networks and stations shall be subject to the possession of a license, which ICP-ANACOM is responsible to grant. A radio license shall be required for the use of radio communications networks and the use of stations, which comprise a licensed radio communications network, shall not require a license, except in certain cases.

Rights of way, radio spectrum and frequency management

The authority is not empowered to grant rights of way.

It is incumbent on the member of the Government in charge of the communications area to approve regulations for allocation of rights of use for frequencies only where such regulations involve competitive or comparative selection procedures, and where such allocation involves frequencies which are being made available for the first time within electronic communications, or otherwise where such frequencies are intended to be used for new services. It is incumbent on the NRA to approve regulations for allocation of rights of use for frequencies in all other cases (cfr. paragraphs 7 and 8 of article 30).

The use of the Digital Dividend I (790-862 MHz) was based on the allocation of the band in the framework of the multiband auction for the provision of electronic communications services in the 450 MHz, 800 MHz, 900 MHz, 1800 MHz, 2,1 GHz and 2,6 GHz bands, See <http://www.anacom.pt/render.jsp?categoryId=340980&themeMenu=1#horizontalMenuArea> for further information. Process still ongoing. Information available at: <https://www.anacom.pt/render.jsp?contentId=1480749&languageId=1>, and <https://www.anacom.pt/render.jsp?contentId=1499053&languageId=1>

The assignment and allocation of radio spectrum is described in the ECL - Electronic Communications Law (Law no. 51/2011, of 13 September which amends and republishes Law no. 5/2004, of 10 February - <http://www.anacom.pt/render.jsp?contentId=1099877>). In particular the ECL establishes that It is incumbent on ANACOM to publish and to keep up to date the National Frequency Allocation Plan (NFAP) (article 15 of ECL). It has also to be highlighted that in situations where the use of frequencies is dependent upon the allocation of rights of use, according to the National Frequency Allocation Plan, it is incumbent upon ANACOM, pursuant to paragraph 3 of article 19 of Law number 5/2004, of 10 February (ECL - Electronic Communications Law) to allocate the referred rights. It is noted that the use of frequencies depends on the allocation of rights of use only where this is necessary to: a) Avoid harmful interference; b) Ensure technical quality of service; c) Safeguard efficient use of spectrum; d) Meet another general interest objective defined in the law (see article 30 of ECL).

In 2009, the Auction Model used was the "Sealed Bid. In 2011-2012, the Auction Model used was the "Simultaneous Multiple Round Auction (SMRA)".

Numbering management

Yes, based on the assumption that means the competence to define guidelines and general principles of the National Numbering Plan and its management NRA is responsible for:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers, addresses and names.

Regulatory framework for market analysis

Relevant markets

ANACOM identifies relevant markets applying competition law principles and also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP after periodically market review rounds which depend on market developments. The frequency of market reviews depends on market developments. However, market review rounds tend to be every 3 years.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection		x		
Implementation of wholesale offers		x		
Transparency (reference offer)		x		
Non-discrimination		x		
Accounting separation				
Price control		x		
Cost accounting				
Tariff rebalancing				
Retail price cap control				
Other regulation of retail tariffs				

MOBILE VOICE TELEPHONY / SMS MARKETS				
		WHOLESALE		RETAIL
		Access origination	& Termination	Retail
Obligation of interconnection			x (only voice)	
Implementation of wholesale offers				
Access to Mobile Virtual Operators (MVNOs)				
Collocation facilities				
Transparency (reference offer)				
Non-discrimination			x	
Accounting separation				
Price control			X	
Cost accounting				
Retail price cap control				
Other regulation of retail tariffs				

FIXED BROADBAND MARKETS					
		WHOLESALE			RETAIL
		Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers		x	x	x	
Transparency (reference offer)		x	x	x	
Non-discrimination		X	X	X	
Accounting separation		x	x	x	
Price control		x	x	x	
Cost accounting		x	x	x	
Retail price cap control					
Other regulation of retail tariffs					

Mobile broadband services are outside the scope of the (not included in) broadband markets.

Consumer issues

Consumer protection

Portugal adopted specific legislation to protect telecommunications' end users' right. In particular regulation deals with:

- Contract conditions for telecommunication services.
 - Communications Law (Law no. 5/2004, of 10th February) http://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=1439&tabela=leis&so_miolo= .
 - ANACOM's Guidelines on the minimum content to be included in the contracts for the provision of electronic communications - [file:///blue/sh0166\\$\(8\)%20Informa%C3%A7%C3%A3o/Legisla%C3%A7%C3%A3o/2.%20Servi%C3%A7os%20de%20comunica%C3%A7%C3%B5es%20eletr%C3%B3nicas/Delibera%C3%A7%C3%A3o%20sobre%20o%20conte%C3%ADdo%20m%C3%ADnimo%20dos%20contratos%20\(11.12.2008\)%20.pdf](file:///blue/sh0166$(8)%20Informa%C3%A7%C3%A3o/Legisla%C3%A7%C3%A3o/2.%20Servi%C3%A7os%20de%20comunica%C3%A7%C3%B5es%20eletr%C3%B3nicas/Delibera%C3%A7%C3%A3o%20sobre%20o%20conte%C3%ADdo%20m%C3%ADnimo%20dos%20contratos%20(11.12.2008)%20.pdf) .
- Contract duration. Service providers also shall offer all users the possibility to subscribe to a contract with a maximum duration of 12 months.
 - Communications Law (Law no. 5/2004, of 10th February) http://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=1439&tabela=leis&so_miolo= .
 - Decree-Law no. 56/2010, of 1 June - <http://www.anacom.pt/render.jsp?contentId=1029490> .
- Penalty payments in case of withdrawal.
 - €Law no. 41/2004, of 18th August - <https://www.anacom.pt/render.jsp?contentId=976164> .
- Data protection.
 - €Law no. 41/2004, of 18th August - <https://www.anacom.pt/render.jsp?contentId=976164> .
- Procedure for handling complaints by consumers.
 - Law no 6/2011, of 10th march, that established a necessary arbitration mechanism in the context of essential public services, which include electronic communications - <https://dre.pt/application/dir/pdf1s/2011/03/04900/0134601346.pdf> .

ANACOM is competent to deal with consumer complaints:

- Communications Law (Law no. 5/2004, of 10th February) http://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=1439&tabela=leis&so_miolo= .
- Decree.Law no. 156/2005, of 15th September, wich determines the existence and availability of the complaints book in the operators' stores, and also, since 1th of july, an eletronic version of complaints book, which allow consumers to make their complaints directly on the website. <https://www.anacom.pt/render.jsp?contentId=961674>
- Decree-Law no. 39/2015, of 16 of March (ANACOM Statutes) - <http://www.anacom.pt/render.jsp?contentId=1351851> :

ANACOM publishes information on tariffs of telecommunication services in its comparison tool, named after "Com.Escolha" (www.anacom.pt/tarifarios/Paginalnicial.do?channel=graphic, made available on Consumer's website (www.anacom-consumidor.com). However, ANACOM

is only responsible for the software development of the comparison tool, being that the information provided is responsibility of the service providers.

According to Electronic Communications Law (<http://www.anacom.pt/render.jsp?contentId=1099877>), contracts concluded between consumers and undertakings providing electronic communications services shall not mandate an initial commitment period that exceeds 24 months.

Service providers also shall offer all users the possibility to subscribe to a contract with a maximum duration of 12 months.

Without prejudice to any minimum contractual period, pursuant to the preceding paragraph, service providers shall not impose disproportionate conditions or procedures for contract termination that are excessively burdensome and that act as a disincentive against changing service provider.

Quality of service (QoS) and switching

Universal service QoS are established by ANACOM, by decision following a public consultation. Please see Portuguese electronic communications law (articles 86.^o to 99.^o) . Please note that during 2019 the universal service provision contracts in force ended.

According to the Electronic Communications Law (Law n^o5/2004, of 10 of February amended by the Law n^o 51/2011 of 13 of September-<http://www.anacom.pt/render.jsp?contentId=1099877>), which transposes to the Portuguese legislation the EU Directives, undertakings that provide publicly available electronic communications services shall publish comparable, adequate and up-to-date information for end-users on the quality of their services (article 40^o).

Also according to the same article, for this purpose it is incumbent upon the NRA, following the general consultation procedure referred to in article 8, to specify, inter alia, the quality of service parameters to be measured, and the content, form and manner of information to be published.

In this context, ANACOM published a Regulation of Quality of Service (Regulation no. 46/2005, of 14 June, amended by the Regulation no. 372/2009 (<http://www.anacom.pt/render.jsp?contentId=940179&languageId=1>;<http://www.anacom.pt/render.jsp?contentId=982635>) - applicable to the services of access to the public telephone network at a fixed location and the publicly available telephone service at a fixed location. This Regulation defines a set of parameters to be measured by all fixed telephone service providers, as well as the contents of such parameters and the formats and manner of information to be published, in order to ensure that the information disclosure to the end-users, about quality of service, is clear, up-to-date and comparable.

Under the scope of Regulation ANACOM hasn't established performance objectives to fixed telephone service providers. Such performance objectives are set and disclosed by the operators themselves. (<http://www.anacom.pt/render.jsp?contentId=1145943>)

By determination of 11 December 2008 ANACOM also published guidelines on minimum contents of standard contracts (currently under revision), in which some mandatory particulars must be included, namely, the required time for start-up connections and other quality of service levels supplied (<http://www.anacom.pt/render.jsp?contentId=808758&languageId=1>)

Specifically:

- The contract must establish the obligation upon undertakings to provide regular and uninterrupted service.
- The contract must clearly set the levels of quality which the service provider undertakes to uphold with its customers, i.e. the minimum (target) service levels of quality to which the customer is entitled, non-compliance with which determines the payment of compensation or reimbursement (given that service providers have voiced uncertainties with regard to parameters concerning which levels of quality should be set, in addition to the obligation of including in the contracts the required time for start-up connections, ANACOM, has suggested some other parameters in Appendix I of the referred determination).

According article 48.^o of the ECL ANACOM can set the minimum service quality levels to include in contracts, by the service providers, namely the time for the initial connection, as well as other quality of service parameters, as defined pursuant to article 40.

By determination of 10 October 2011, ANACOM approved the object and form of public disclosure of conditions of provision and use of electronic communication services - Amendment to determination of 21 April 2006
<http://www.anacom.pt/render.jsp?contentId=1101389&languageId=1>

Undertakings providing public communications networks or publicly available electronic communication services must make available to the public, some information, such as information on levels of quality provided. Specifically for Internet access services, undertakings must guarantee:

- a) That interested parties are provided with clear and accurate information for the various service offers, distinguishing between upload and download speeds, the maximum access speed provided and the average access speed estimated by the provider (the speed which on average is estimated by the provider to be made available under normal usage conditions, which may frequently differ from the maximum access speed disclosed).
- b) The disclosure of levels of quality related to maximum and average access and browsing speeds must be supplemented, where appropriate, by a warning that the provided speed may not be ensured for each and every connection, as this depends on the level of use of the network and server which the customer connects to.
- c) The provision to interested parties of clear and accurate information on migration between offers, specifically to meet a customer request to change its maximum speed.

It is recommended that providers make available and duly highlight at their websites a feature that allows interested parties to measure their access upstream/downstream speed for a given period, whether instant or average.

By decision of 5 June 2017, ANACOM has approved a draft Regulation to amend Regulation 829/2016 of 23 August, on pre-contractual and contractual information in the context of electronic communications (<https://www.anacom.pt/render.jsp?contentId=1414717&languageId=1>). The draft amendment to the regulation was subject to public consultation, in accordance with Article 10 of ANACOM's Statutes and articles 98 et seq. of Código do Procedimento Administrativo (Administrative Proceeding Code). Stakeholders were given a period of 30 working days to comment. This

draft Regulation includes obligations relative to the quality of service pre-contractual and contractual information.

Number portability is available for mobile and fixed numbers within one working day. Please note that there are some exceptions to the 1 working day rule, which are foreseen at paragraph 10 of article 2 of the Number Portability Regulation n.º 58/2005 of 18 August, as amended, republished and renumbered by further Regulation – see <https://www.anacom.pt/render.jsp?categoryId=333120&languageId=1&tab=> .

As already mentioned there is a specific number Regulation no. 58/2005 of 18 August, as amended, republished and renumbered by further Regulation – see <https://www.anacom.pt/render.jsp?categoryId=333120&languageId=1&tab=> .

Relevant information related number portability (e.g. evolution, prices) can be found in the following link <http://www.anacom.pt/render.jsp?categoryId=39090&languageId=1> .

Market information about evolution of ported numbers is published at: <https://www.anacom.pt/render.jsp?categoryId=3476&tab=337756&a=335881&b=&c=> .

In the first half of 2017, "Sale of the service" and "Cancellation of the service", are among the subjects most commonly given as cause of complaint, representing 14.8% and 13.8% of complaints, respectively. "Alteration of contractual conditions by the operator," representing 7.3% of complaints, was one of the causes where complaints rose the most - an increase of 58.5%. Among the different offers, bundles of services gave rise to the largest number of complaints in the first six months of 2017, making up 28.4% of complaints, followed by the mobile telephone service (24.9% of complaints). In addition to registering the largest volume of complaints, bundles of services also saw the highest rate of complaints (2.4 complaints per thousand customers), and was the only offer with a rate of complaints that was above the average of 2.1 complaints per thousand customers.

Universal service – Universal service Qos are established by ANACOM, by decision following a public consultation. Please see Portuguese electronic communications law (articles 86.º to 99.º) . Please note that during 2019 the universal service provision contracts in force ended.

"Following the amendment made in the number portability regulation, in 2018, the electronic number portability process is made, since 11.05.2019, via a CVP – Portability Validation Code, which is related with the number to port. The format was defined at number portability specification approved also in 2018.

Additional information can be found at: <https://www.anacom.pt/render.jsp?contentId=1472466&languageId=1> "

International Roaming

In Portugal, international Roaming is regulated as it follows:

- Wholesale voice calls
- Wholesale SMS
- Wholesale data
- Retail voice calls
- Retail SMS
- Retail data

Universal Service

ANACOM is responsible for:

- Provision of access at a fixed location.
- Provision of access to functional Internet services.
 - The provision of internet access within the SU is limited to 56kbps.
- Directory enquiry services and directories.
- Public pay telephones.
- Measures for disabled users and those of low incomes.

NOS Comunicações S.A. is the designated Universal Service provider for a 5 years period (june 2014- june 2019) for the provision of “Connection at a fixed location to the public telephone network and access to publicly available telephone services at a fixed location”.

Please note that during 2019 the universal service provision contracts in force ended, except the contract for the provision of directory enquiry services and directories that ended during 2018. The universal service provider was designated by a tender for a maximum amount of 11.971.176, 75 euros for the entire term of the respective contract.

- MEO –Serviços de Comunicações e Multimédia, S.A. is the designated universal service provider for a 5 years period for the provision of public payphones. The universal service provider was designated by a tender for the total amount of 12.333.000,00 euros for the entire term of the respective contract.

- MEO –Serviços de Comunicações e Multimédia, S.A. is the designated universal service provider for the provision of a comprehensive directory and of a comprehensive telephone directory enquiry service for a period of 3 years. The universal service provider has been designated by a tender for a maximum amount of 3.523.600,00 euros.

The compensation fund has been established by Law. According to that Law n. 35/2012, of 23 August (<https://www.anacom.pt/render.jsp?contentId=1136652&languageId=1>), the compensation fund is under the administration of ANACOM.

Net Neutrality

Rules governing net neutrality, applicable to all European Union Member-states without requiring transposition to national law, were published under the EU Regulation 2015/2120 of 25 November 2015 (Regulation on net neutrality or TSM Regulation) and came into force, with few exceptions, on 30th April 2016.

The Regulation established the principle of open Internet within the EU, according to which operators must treat all traffic equally, providing their service through a high-quality open Internet.

Operators are therefore prohibited from blocking or slowing down content, applications or services provided by their competitors. This prohibition is, however, subject to a limited number of exceptions. Accordingly, traffic management may exceptionally be employed:

- where deemed necessary to ensure compliance with national or European law on the legality of content under criminal law, or implementing measures under this legislation;
- where necessary to preserve network integrity and security;

- where necessary to mitigate the effects of exceptional or temporary network congestion; however, an operator whose network is continuously and repeatedly congested cannot rely on this exception, and is required to invest in increased network capacity.

The Regulation also stipulates that Internet service providers inform consumers about network speed in their contracts. For fixed networks, this information must refer to minimum speed, to the speed generally available, to maximum speed and to advertised download and upload speed. In the case of mobile networks an estimate needs to be given of the maximum speed and advertised download and upload speed. Any significant and recurring difference between a service's actual performance and the download and upload speeds specified in the contract shall be held as being non-compliant with contracted performance for the purposes of the avenues of redress available to consumers.

With the new legal framework, in the event of any infringement of the open Internet provisions, Member States will be bound to apply sanctions which are effective, proportionate and dissuasive. Service providers will be subject to administrative and financial penalties, to be defined under national law.

Seeking to safeguard the rights of consumers and driven by the need to ensure greater transparency in the sector, ANACOM approved, on June 2014, a decision to prohibit providers from using the term "unlimited" to refer to voice call/SMS or internet offers which are in fact subject restrictions or limits. Accordingly, providers may only use terms such as "unlimited traffic" or "unlimited calls/SMS" to refer to offers which are in actual fact free from limits or restrictions throughout the duration of the contract.

ANACOM's decision stemmed, in particular, from a series of complaints made by consumers who subscribed to "unlimited" offers in the belief that they would receive unrestricted access without limitations to services, but then found that the services provided were in fact subject to certain limits and not therefore "unlimited" as advertised.

ANACOM considered it necessary to correct this situation; an offer cannot be properly advertised as "unlimited" - or advertised using any other expression that would lead consumers to conclude that an offer was unlimited - when in fact the offer is subject to limits. Such practices mislead consumers and are contrary to the legal requirements governing transparency and the suitability of information provided to the public.

Moreover, under the same decision, the application, in unlimited offers, of restrictive measures or limits to internet traffic is only permissible in exceptional circumstances - i.e. to prevent overcapacity on a network segment. The duration of such measures must be limited and normal service must be restored as soon as the exceptional circumstances justifying the application of restrictions are resolved. Any restrictions must be applied fairly in terms of the equitable treatment of different users using the same tariff/bundle.

Lastly, in the terms and conditions governing offers, providers must provide clear and transparent information on any measures that may be applied, so that consumers are aware of their existence, and must provide indication of the impact of measures on quality of service.

Meanwhile, rules governing net neutrality, applicable to all European Union Member-states without requiring transposition to national law, were published under the EU Regulation 2015/2120 of 25 November 2015 and came into force, with few exceptions, on 30th April 2016. These rules overlap, up to a certain point, the above mentioned ANACOM's 2014 decision,

which is still effective in what concerns the use of the term “unlimited” to describe a commercial offer.

The Regulation established the principle of open Internet within the EU, according to which operators must treat all traffic equally, providing their service through a high-quality open Internet.

Operators are therefore prohibited from blocking or slowing down content, applications or services provided by their competitors. This prohibition is, however, subject to a limited number of exceptions. Accordingly, traffic management may exceptionally be employed:

- where deemed necessary to ensure compliance with national or European law on the legality of content under criminal law, or implementing measures under this legislation;
- where necessary to preserve network integrity and security;
- where necessary to mitigate the effects of exceptional or temporary network congestion; however, an operator whose network is continuously and repeatedly congested cannot rely on this exception, and is required to invest in increased network capacity.

The Regulation also stipulates that Internet service providers inform consumers about network speed in their contracts. For fixed networks, this information must refer to minimum speed, to the speed generally available, to maximum speed and to advertised download and upload speed. In the case of mobile networks an estimate needs to be given of the maximum speed and advertised download and upload speed. Any significant and recurring difference between a service's actual performance and the download and upload speeds specified in the contract shall be held as being non-compliant with contracted performance for the purposes of the avenues of redress available to consumers.

With the new legal framework, in the event of any infringement of the open Internet provisions, Member States will be bound to apply sanctions which are effective, proportionate and dissuasive. Service providers will be subject to administrative and financial penalties, to be defined under national law.

ANACOM's approved, on 14 July 2016, the Regulation no. 829/2016 of 23 August on pre-contractual and contractual information in the field of electronic communications. This Regulation establishes a consolidated system of information to be provided by undertakings providing public communications networks or publicly available electronic communications services to end-users, both in the disclosure of their offers and in the context of contractual relationships. The same regulation also approves the glossary of common terminology to be used in pre-contractual and contractual information made available by the undertakings.

Another measure includes the creation of an FIS - Ficha de Informação Simplificada (Simplified Information Sheet), which, in simple and concise language and form, conveys essential information on each offer aimed at end-users. This information covers the contractual conditions as specifically offered by the provider and any changes which may be introduced in the contract over the course of the contractual relationship. This measure, as well as the inclusion of a glossary of common terminology (standardizing some of the terminology used by service providers) facilitates understanding of pre-contractual and contractual information, and will enhance user protection by improving perception of the contracted offers and the conditions governing them.

Specifically, according to the approved model, providers must record in the FIS, for the fixed service, the minimum speed, normally available speeds, maximum speeds and advertised speeds, and for the mobile service, estimates for the advertised speed and maximum speed. In addition, the FIS shall also include, by reference to a specific page on the operator's website, the remaining information to be disclosed under paragraph 1 of article 4 of the TSM Regulation.

Meanwhile, the Glossary, pursuant to the BEREC Guidelines on Network Neutrality, includes, for fixed Internet, the definitions of minimum speed, normally available speed, maximum speed and advertised speed, and, for mobile Internet, definitions of estimated maximum speed and estimated advertised speed.

On 03.07.2018, ANACOM issued a formal decision on zero-rating and other similar commercial practices in Portugal, determining the Internet service providers to amend these type of commercial offers in accordance to the net neutrality and roaming rules. ANACOM's decision is published on its website: <https://www.anacom.pt/render.jsp?contentId=1456674>.

Promotion of broadband

By decision of 12 September 2019, ANACOM approved the final decision on the amendments to the Reference Conduit Access Offer (RCAO) and the Reference Pole Access Offer (RPAO) to facilitate the access of alternative operators to MEO's ducts and poles, simplifying and streamlining the procedures provided for in the wholesale regulated offers.

The changes in processes and procedures facilitate the use of MEO's infrastructure by other operators for the installation of their networks, including the reduction of the installation time provided for in the RDAO and the simplification of the process. This is intended to speed up and expedite the installation of very high capacity networks by operators and therefore facilitates the provision of retail services to end users.

After the previous broadband plans – in December 2012, the Portuguese Government has adopted, the "Digital Agenda for Portugal", a comprehensive broadband plan with targets for 2020 to support the European Digital Agenda objectives, which was updated in 2015 as some objectives were already fulfilled - in April 2020, Portugal adopted the "Action Plan for Digital Transition" (through the Resolution of Council of Portuguese Ministers number 30/2020, of 21st of April), which has three focus areas: digital empowerment of people, businesses' digital transformation and public services' digitization.

Spain

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	98,90	99,40	99,60	99,70	99,70	99,70	99,80	0,4%
Mobile cellular penetration	107,85	108,20	111,16	113,27	115,99	118,44	119,02	10,0%
Internet Usage	76,19	78,69	80,56	84,60	86,11	90,72	93,21	18,4%
Fixed broadband subscriptions/100 inhabitants	27,63	28,69	30,45	31,44	32,50	33,41	34,62	20,7%
Portion of HH with Internet access at home	69,80	78,70	81,90	83,40	91,40	91,40	95,40	21,2%

Institutional layout

CNMC is the independent National Regulatory Authority with competencies on Telecommunications, Audiovisual, Post, Energy, Railways and Airports regulation as well as application of Antitrust, as referred by in the Act 3/2013, of June 4, on the creation of the Spain's National Authority for Markets and Competition, (<https://www.boe.es/buscar/doc.php?id=BOE-A-2013-5940>).

However, other public institutions also have competencies on the telecom sector, in particular the Ministry of Economic Affairs and Digital Transformation.

Pursuant article 68 of the Telecoms Act 9/2014, the following are considered to be Spanish NRA: (i) the Government, (ii) the senior and governing bodies of the Ministry of Energy, Tourism and Digital Agenda (now the Economic Affairs and Digital Transformation), (iii) the senior and governing bodies of the Ministry of Economic Affairs and Digital Transformation and (iv) the National Markets and Competition Commission (CNMC).

Most of the functions are distributed between the Ministry of Economic Affairs and Digital Transformation and the CNMC.

CNMC Chairman and 9 commissioners (members of the Board) are appointed for six years and their mandate cannot be renewed. CNMC acts as a collegiate body.

The Board operates through a Plenary session and two Chambers (on Antitrust and Regulatory oversight), depending on the issue being addressed.

The Antitrust Chamber, composed by 5 members of the Board and chaired by the Chairwoman of CNMC, Ms. Cani Fernandez, is responsible for the enforcement of competition law and promotion of competition. The Chamber usually meets weekly.

The Regulatory oversight Chamber, composed by 5 members and chaired by the Vicechair of CNMC, Mr. Ángel Torres, is responsible for the oversight, control and conflict resolution in the sector-specific regulated markets. The Chamber usually meets weekly.

According to Act 3/2013 and referring to its article 15 on the appointment of the Head and the members of the Board, terms for appointment are the following:

- Board members, including the Chairman and Vice-Chairman, shall be appointed by the Government, by Royal Decree, at the proposal of the Minister of Economy and Competitiveness, from among persons of recognized standing and professional competence in the field of action of the Commission, following the appearance of the person proposed for the position before the corresponding Committee of the Congress of Deputies. Congress, through the competent Committee and by virtue of a resolution adopted by an absolute majority, may veto the appointment of the proposed candidate within one calendar month of receipt of the relevant communication. If at the end of this

period there has been no express declaration from the Congress, the corresponding appointments shall be deemed to have been accepted.

- The term of office of the members of the Board shall be six years, without the possibility of re-election. Members of the Board shall be replaced partially every two years, so that no member of the Board remains in office for longer than six years.

The acceptance by the Congress of the appointment of the Head of the Authority, as well as of the Vice-President and the Members of the Board, constitute a new requirement introduced by Act 3/2013, that reinforces the democratic legitimacy of the Commission.

Regarding grounds for dismissal, it is article 23 which explains causes of removal from the post:

- Members of the Board shall cease to hold office upon:
 - Resignation accepted by the Government.
 - Expiry of their term of office.
 - A situation of incompatibility arising.
 - Having been convicted of a felony.
 - Permanent disability
 - Dismissal decided on by the Government for serious breach of the duties of his office or breach of duty on incompatibilities, conflicts of interest or the duty of confidentiality. The dismissal shall be decided by the government, regardless of any penalty system that might apply, following investigation of the case by the Minister for the Economy and Competitiveness.

The NRA has 515²⁵ employees as of 31th December 2019 (www.cnmc.es).

Regarding the CNMC budget (€ 60 Million in 2020 and € 59.986.700 in 2018 and in 2019), each year CNMC shall prepare and approve a draft Budget and submit it to the Ministry of Territorial Policy and Public Function through the Ministry of Economic Affairs and Digital Transformation for further processing and approval, at the General Budgetary Act. In terms of implementation, CNMC is subject to limitations. The budgetary system is, as the Act 3/2013 establishes, of a “limitative” nature, in the sense that the amount set for every budget line represents an upper cap. On the other hand, the regime applicable to transfers between lines is set out in the Organic Statute of CNMC, which is approved by the Government. The budget is completely resourced from the state budget.

Nowadays, the ability to recruit staff depend on the prior approval of the vacancies by the Government. Therefore, we cannot say that the CNMC has full capacity to recruit staff.

NRAs competencies and powers

CNMC has competencies on Telecommunications, Broadcasting – TV Transmission-, Content TV and Post sectors as well as Antitrust and other public utilities (energy, railways and airports).

Regarding the telecommunication sector this authority is competent in:

- Market analysis.
- Imposition of obligations.

25 FTE equivalent.

- Control of obligations.
- Resolution of disputes between operators
- Numbering
 - The CNMC is not the competent authority according to the 2014 General Telecommunications Act, but it still enforces this competence (in particular, the assigns numbering resources, control the use of numbering conditions and where feasible imposes the corresponding sanctions), because it was the Authority in charge until 2014 and the Ministry has not taken that competence yet. The CNMC has as well full functions on the surveyance of number portability.

When it comes to CNMC powers, the Ministry cannot give instructions to the NRA for the exercise of the tasks assigned to this authority.

The NRA has the power to request information from operators, as well as from other agents in the telecom market.

Following EU regulation the main remedies that can be imposed by CNMC are:

- Obligation of transparency.
- Obligation of non-discrimination.
- Obligation of accounting separation.
- Obligations of access to, and use of, specific network facilities.
- Price control and cost accounting obligations.
- Functional separation.

Both, behavioural and functional separation remedies can be imposed by CNMC. According to the European Directives, structural separation must be authorized by EC. No other structural remedies can be imposed.

The CNMC decisions are directly enforceable, even if they need to be notified to the interested parties and sometimes published in the Spanish Official Gazette. Judicial appeals with full review of decisions are possible and the dispute settlement body is not a separated body from the NRA. Under Spanish legislation, both the Ministry and the CNMC are considered NRA. The CNMC is the dispute settlement body (between undertakings) –disputes between end-users and undertakings are resolved by the Ministry.

Fines and penalties can be imposed by CNMC.

The CNMC is entitled to impose administrative sanctions -see article 80 of the Telecoms Act 9/2014- if an infringement of the law or its decisions (regarding its competencies) occurs. This enforcement power is subject to a legal sanctioning procedure as of applicable to all Public Administrations. The procedure is established in Act 39/2015, dated 1 October, on the common administrative procedure of the Public Administrations.

In the field of telecommunications, the maximum duration of the sanctioning procedure shall be one year and the deadline for submissions will have no less than one month duration.

The fines imposed by the CNMC are intended to have a deterrent effect. The fines for very serious infringements -see art. 79.1.a) of the mentioned Telecoms Act- cannot be less than, neither higher than five times, the gross revenues obtained by the operator as a result of the

infringement. In case that these criteria would be impossible to apply, the maximum fine that can be imposed is 20 million euro. For serious infringements the maximum penalty will be up to the double of the gross benefit obtained or 2 Million euro, and for minor infringements the maximum penalty can be of 50.000 euro.

CNMC is also empowered to impose other measures on the operators, such as the prohibition to operate and exploit networks in the case of very serious infringements.

On the other hand, CNMC holds the competence to impose penalty payments to ensure compliance with its own resolutions, as a mean of enforced execution of the administrative act –see Additional Provision 6th of the existing Telecom Act.

The CNMC cannot submit proposals to the Parliament, but it is empowered to provide its opinion on legislative proposals that affect the sectors subject to their supervision upon request of Parliament, the Government, ministerial departments, regional and local authorities, Professional Associations, Chambers of Commerce and Business and Consumer and User Organizations.

In December 2018, the EU Parliament and Council approved the new Electronic Communications Code, by means of a Directive. In a period of two years (before 2020) this Directive shall be transposed into our national law, and changes might result in the NRA powers.

NRA's accountability and transparency

In general terms, only public consultation on proposals of market analysis decisions and other general measures is mandatory. In other cases, the Administration has to decide if there is a need for a public consultation in the specific procedure.

The President of the CNMC shall appear at least annually before the corresponding Congressional Commission to present the annual activity report and action plan. Together with the President, one or more board members can appear by virtue of the proposal of the Congressional Commission. Additionally, every three years there will be a particular appearance of the President in order to debate the evaluation of CNMC action plan and the results achieved.

Even more, the President shall appear before the corresponding Congressional or Senate Commission, prior request of them under its own Regulations.

The CNMC is the result of the merger in one single body of the Telecom Telecommunications Authority (CMT), the Competition Authority (CNC), the Energy Commission (CNE), the Postal Sector Commission (CNSP), the Council for Audiovisual Media, the Airport Economic Regulation Commission and The Railways Regulation Committee (the last three, not yet created before the appearance of the CNMC).

After the entry into force of Act no. 3/2013, the functions, goals and organization, as scheduled in the law, are developed by the Organic Statute approved by the Council of Ministers by means of Royal Decree 657/2013, of August 30.

The division of tasks among different directorates or departments is based on the nature of the activity: antitrust, electronic communications and audio-visual/broadcasting, postal services, energy, railway and airport economic tariffs. Each Directorate or department investigates and provides draft proposals which are subsequently adopted or rejected by the Board of the

CNMC. There is a formal segmentation between the units running the investigations and the Board and supporting units that adopt final decisions. The Board adopts the decisions and the Directions carry out the investigation.

According to the Act no. 3/2013, the CNMC has one Board with two Chambers: the Regulation Supervision Chamber, that adopts ex ante regulation, solve disputes between operators, and fulfil all the tasks granted to the NRA (including supervision of regulatory matters affecting the particular market), and the Competition Chamber, for antitrust matters in all markets. Most of the decisions are enacted by one or either chamber –and sometimes by the Plenary of the Board-. Coordination mechanisms are currently in place between both directorates and Chambers: there is system of cross reports between departments and Chambers, for matters that must be resolved by one Chamber but are of interest of the other one.

Moreover, Act 3/2013 foresees coordination and institutional cooperation in its article 4. This coordination is also foreseen in the Telecoms Act as CNMC is empowered of an advisory role. To that extend, CNMC shall be consulted by the Government and the Ministry of Energy, Tourism and Digital Agenda (now the Ministry of Economic Affairs and Digital Transformation) in regard to electronic communications, especially on matters that could affect the free and competitive development of the market. It may also be consulted on matters of electronic communications by the Autonomous Communities and local corporations. Specifically, the enactment of laws and regulations in telecommunications are subject to previous report –not binding- by the CNMC.

There are regular meetings with regional and national authorities to promote a better understanding of the e-com sector and other specific regulations such as privacy, data access, transparency, etc. For instance, in the field of electronic communications the Directorate has organized in the past annual legal workshops for representatives of the various Autonomous Communities, municipalities and the Administrative Court. There are informal agreements in force related to custody of administrative files, etc.

Market entrance conditions in electronic communications

Authorization regime

Companies or individuals have to submit a prior notification to the CNMC based on which the operator/individual will be registered the CNMC Registry of Operators.

Pursuant to article 6.2 of the Telecoms Act of 2014 the interested undertakings for the provision of electronic communications networks/services must submit a prior communication of its intention to commence its activities to the Register of Operators. The undertaking can start its activity at the moment of the submission of the prior communication.

Upon notification, the undertaking is included in the Register of Operators. Among the information that the undertaking has to submit together with the prior communication, there is a responsible statement of compliance with the law and applicable regulations. Afterwards, CNMC shall confirm whether or not the notification fulfils with all the mentioned requirements, within the period of 15 days.

This decision is known as a resolution or official notification. In this resolution, the undertaking is informed of the need to comply with the law –general obligations/conditions-, the possibility

of being imposed further obligations and the need to request and obtain a specific authorization for the use of radio frequencies and numbering resources.

When the notification does not comply with all the stated requirements, CMT shall issue a dismissal resolution, in which case, the undertaking would have to stop its activity.

Traditionally, this competence belonged to CNMC. However, under the Telecoms Act of 2014, the competence to manage the Register of Operators is attributed to the Ministry of Energy, Tourism and Digital Agenda (now the Ministry of Economic Affairs and Digital Transformation), although it has not yet been transferred to the Ministry.

Rights of way, radio spectrum and frequency management

The competent authority to grant rights of way in Spain is the owner of the public domain. The Ministry of Economic Affairs and Digital Transformation is responsible for granting spectrum licenses. Usually they select one of these two methods (i) beauty contest or (ii) pure auction.

If the method selected is an auction, the requirement is the price.

If the method selected is a beauty contest, the result depends on the operators' commitments (coverage, investment, etc.).

CNMC is not the authority for frequency management (the Ministry of Economic Affairs and Digital Transformation is). Both limited secondary trading and refarming migration of spectrum are allowed in Spain.

800MHz already in use for Mobile service; 700MHz was used for Digital Terrestrial Television until October 2020 and the Ministry of Economic Affairs and Digital Transformation has already announced the band will be made available for mobile service early 2021. There was a previous roadmap for the process to authorize the use of 700 MHz frequency band for wireless broadband electronic communications services. In accordance with this roadmap, the process to release the 700 MHz frequency band was to be completed by 30 June 2020, as described in the new DTT technical plan approved in June 2019, but the process has been delayed by the COVID-19 crisis. All methods have been used in the past, although auction has been the preferred option. Open ascending-bid auction has been the most used auction format, although there were also cases of double-round first-price sealed-bid auctions.

Numbering management

NRA is not anymore responsible for the numbering management.

Since Act 9/2014 the competence on Assignment of rights to use numbers is granted to the Ministry of Energy, Tourism and Digital Agenda (now the Ministry of Economic Affairs and Digital Transformation), although it is being exercised by the CNMC in an interim basis.

Regulatory framework for market analysis

Relevant markets

CNMC identifies relevant markets and it does apply competition law principles (Three Criteria Test). It also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP after periodically market review rounds (minimum every 3 years).

Following article 14.2.a) of Spain's General Telecommunications Act of 2014, electronic communications reference markets must be reviewed within three years of the approval of the previous market analysis. For more detailed information, see: <https://www.boe.es/buscar/pdf/2014/BOE-A-2014-4950-consolidado.pdf> .

Remedies

FIXED VOICE TELEPHONY MARKETS					
		WHOLESALE			RETAIL
		Access & origination	Termination	Transit	Retail
Obligation of interconnection	of	X	X	x	
Implementation of wholesale offers	of	X	X		
Transparency (reference offer)		X	X		
Non-discrimination		X	X		
Accounting separation		X	X		
Price control		X	X		
Cost accounting		X	X		
Tariff rebalancing					
Retail price cap control					
Other regulation of retail tariffs					

MOBILE VOICE TELEPHONY / SMS MARKETS			
	WHOLESALE		RETAIL
	Access origination	& Termination	Retail
Obligation of interconnection		X	
Implementation of wholesale offers		X	
Access to Mobile Virtual Operators (MVNOs)			
Collocation facilities			
Transparency (reference offer)			
Non-discrimination		x	
Accounting separation		X	
Price control		X	
Cost accounting		X	
Retail price cap control			
Other regulation of retail tariffs			

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers	X	X	X	
Transparency (reference offer)	X	X	X	
Non-discrimination	X	X	X	
Accounting separation	X	X	X	
Price control	X	X	X	
Cost accounting	X	X	X	
Retail price cap control				
Other regulation of retail tariffs				

Consumer issues

Consumer protection

As for CNMC, it has no competencies on consumer protection for electronic communications services.

Law 9/2014 of 9 May, the General Telecommunications Act and Royal Decree 899/2009, which Approves The Charter Of Rights Of Users Of Electronic Communications Services.

The regulation deals with:

- Contract conditions for telecommunication services
 - That issue is only regulated in general terms by the Ministry of Energy, Tourism and Digital Agenda (now the Ministry of Economic Affairs and Digital Transformation). See article 53 of the General Telecommunications Act and article 8 of The Charter Of Rights Of Users Of Electronic Communications Services.
- Data protection.
- Consumer complaint handling.

Additionally, CNMC is not empowered to handle consumers' complaints. The Ministry of Economic Affairs and Digital Transformation is responsible for it. The body competent if the State Secretariat for Digital Advancement, dependent on the Ministry of Economic Affairs and Digital Transformation.

Operators are obliged to provide information about tariffs but not specifically through their website. Spanish Telecom legislation does not specifically set for that tariff information shall be published on operator's website, CNMC understands yes because according to legislation operators must provide such information prior to the conclusion of a contract.

Quality of service (QoS) and switching

The Ministry of Economic Affairs and Digital Transformation and within it, the Secretary of State for Telecommunications and Digital Infrastructures is the entity entitled with the powers in the QoS area.

Order IET / 1090/2014 of 16 June of the Ministry of Energy, Tourism and Digital Agenda (now the Ministry of Economic Affairs and Digital Transformation) which regulates the conditions related to the quality of service in the provision of electronic communications services.

Regarding terms, the operators referenced below shall publish the required QoS parameters on a quarterly basis. However, no thresholds or penalties are defined, and the information provided is merely informative for the end-users.

Operators obliged to obtain and publish information on the most relevant quality levels, for the purpose of informing the users about the services offered to residential users, are the ones providing the following services and exceeding, upon entry into force of this order, the following annual turnover threshold:

- a. 20 million euros in the provision of the fixed telephone service available to the public.
- b. 20 million euros in the provision of the mobile telephone service available to the public.
- c. 20 million euros in the provision of the fixed Internet access service available to the public.

- d. 20 million euros in the provision of the mobile Internet access service available to the public.

Operators who exceed one of the thresholds of paragraph 1 above shall also come under obligation to obtain and publish information on the levels of quality of service at a date subsequent to the entry into force of this order. Said obligation shall commence after one year has elapsed from the date on which it occurred.

In addition, operators providing any of the services referred to in paragraph 1 above with market shares of more than 10% in any geographical area shall be obliged to obtain and publish information on the levels of quality of service when expressly required in accordance with the interests of the end-users involved by the Secretary of State for Telecommunications and Digital Infrastructures.

Only when the service is interrupted for causes attributable to the operator. In these cases, the penalties that operator would must pay to the consumer depend on service interruption time

The Ministry of Economic Affairs and Digital Transformation and within it, the Secretary of State for Telecommunications and Digital Infrastructures is the entity entitled with the powers in the QoS area.

Regarding terms, the operators referenced in point 4.2.2. shall publish the required QoS parameters on a quarterly basis. However, no thresholds or penalties are defined, and the information provided is merely informative for the end-users.

Fixed and mobile number portability is available in one working day. In the following link you can find Spanish regulation on fixed and mobile portability: <https://www.cnmc.es/en/ambitos-de-actuacion/telecomunicaciones/portabilidad> .

CNMC sets the rules for number portability organizational model and cost-sharing mechanisms, and regulates the number portability technical specification, including administrative procedures and network solution.

International Roaming

In Spain, international roaming is regulated through the EU Regulation of 2015.

- Wholesale voice calls
- Wholesale SMS
- Wholesale data
- Retail voice calls
- Retail SMS
- Retail data

Universal Service

These services are included in the universal service obligation:

- Provision of access at a fixed location
- Provision of access to Internet access services
- Directory enquiry services and directories
- Public pay telephones
- Measures for disabled users with low income

Provision of a fixed network + telephone service on a fixed location + broadband connection of 1 Mbps on a fixed location: Any end-user may request to the USP for the reasonable provision of public communication networks to a fixed location (either on a fixed or radio electric network) and/or functional Internet access and data communications broadband downstream speed of 1 Mbit per second. End-users may request the provision of broadband connection over a pre-existing fixed connection. In addition, end users have the right to publicly available telephone service. The USP shall fulfil with this obligation within the period of 60 days. When the USP cannot comply with the mentioned period of time, it must be done in the shortest time possible and automatically compensate by exempting the monthly connection payments fees in which that period has passed.

For more information: <http://www.minetur.gob.es/telecomunicaciones/es-ES/Servicios/InformeUniversal/Paginas/ConexServTelefyBA.aspx>

Directory enquiry services: The provision of directory enquiry services is not currently provided under the scope of US because, as the Ministry of Economic Affairs and Digital Transformation determined and the CNMC reported, those services are currently provided by the market providers on competitive conditions.

Directories: All subscribers to fixed telephone service or mobile telephone service have the right to appear in the directory service and receive a copy of it. The right to be included is exercised through the telephone service providers' (also the right to be excluded), while the right to receive the directory shall be guarantee by the USP.

Public pay telephones in combination with other public's voice telephony access points: The USP shall ensure the provision of the existence of a sufficient supply of public pay telephones on a public domain. This offer must consists, at least, in one public pay telephone and one more per each 3.000 people, in each municipality of 1.000 or more people and one public pay telephone in each municipality of less than 1.000 people, where justified based on the criteria of minimum bid. It is up to each City Council to claim the USP all the necessary modifications to meet the criteria for the minimum bid, including the new terminal facility or location changes. The terminals must meet the minimum requirements set out in the regulations, such as: (i) provide for calls made to any telephone subscriber service available to the public including those free of charge, if applicable, (ii) allow free calls to the emergency number 112, (iii) allow service 24 hours a day, (iv) arrange in a visible place, adequate and updated information on the conditions of use and pricing information, (v) arrange collection of the communication at the end, and return the remaining credit on the basis of previously deposited coins, (vi) provide the option to pay by card coins and one terminal of each service point, (vii) allow free access to telephone directory service on subscriber numbers indicated in the cabin.

Moreover, the terminals and its supports must incorporate special accommodations or facilities to facilitate its use by persons with disabilities, such as: accessibility and usability and hearing and visual impairment.

Measures for disabled users: The CNMC does not have competencies in all US issues. On this particular issue, the Ministry of Economic Affairs and Digital Transformation is the competent body to establish the specific requirements to respond to the needs of disabled users. A summary of these specific requirements has been published by the Ministry in its web site.

Thus, the designated operator must ensure the existence of a sufficient supply and technologically up-to-date of specific terminals, which might be adapted to all different types of disabilities: blind or severely visually impaired users, deaf or severely hearing-impaired and/or phonation users, wheelchair users and/or people of a small stature. More information: <http://www.minetur.gob.es/telecomunicaciones/es-ES/Servicios/InformeUniversal/Paginas/Medidasespecificas.aspx>

Measures for users with low incomes: Social tariffs consist on a 70% discount on connection fee and a 95% discount on subscription fee. The affordability criteria are measured with an income public indicator (IPREM). The social tariffs beneficiaries are retirees and pensioners with a yearly income lower than a threshold public indicator (120% IPREM).

The authority is competent in:

- Calculating the net cost of the universal service provision
- Implementation and management of the funding mechanism of universal service

Net Neutrality

In EU Regulation on open Internet (except for disputes between agents, where CNMC is responsible). In any case, as members of BEREC, the CNMC has actively contributed to the drafting of the Guidelines on Net Neutrality.

Additionally in accordance with art 80 of the Personal Data Protection and Guarantee of Digital Rights Act, users are entitled to the net neutrality. The internet service providers have to provide a transparent services offer without discrimination for technical o economics reasons. Available at <https://boe.es/boe/dias/2018/12/06/pdfs/BOE-A-2018-16673.pdf>

Spain the Ministry of Economic Affairs and Digital Transformation is responsible for implementing Net Neutrality.

Promotion of broadband

In Spain, the Ministry of Economic Affairs and Digital Transformation is responsible for approving the National Broadband Plan (see next question).

Within its competencies as a sectorial regulator, the CNMC also promotes / facilitates investment in NGA by regulating the broadband markets. In this sense, the CNMC recently analysed and adopted measures in the broadband markets in Spain (Markets 3a, 3b and 4 of the Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation 2014/710/EU).

Finally, the CNMC has mandated regulated access to Telefonica's passive infrastructure and this has enabled massive NGA deployments by alternative operators.

Also, CNMC adopted symmetric regulation mandating access to the in-house wiring to all operators. Both measures have been essential to enable massive NGA deployments by alternative operators.

The Spanish Government adopted in February 2013 a "Digital Agenda for Spain" and included nine specific plans for its implementation and execution:

1. Telecommunications and Ultra-fast Networks Plan
2. ICT in SMEs and e-Commerce Plan

3. Digital Content Industry Comprehensive Plan
4. Technological Companies Internationalisation Plan
5. General State Administration's e-Government Action Plan
6. Digital Public Services Plan
7. Digital Ecosystem Confidence Plan
8. ICT Sector Development and Innovation Plan
9. Digital Inclusion Plan

Specifically the Telecommunications and Ultra-fast Networks Plan includes a Next-Generation Broadband Extension Programme which makes available public funding for deployment of NGA networks in areas not well served by market forces.

Since 2011 the universal service definition includes 1 Mbps connectivity.

The Telecommunications and Ultra-fast Networks Plan was a part of the "Digital Agenda for Spain" published in February 2013. It included measures in three relevant areas: measures for promoting the deployment of fixed ultrafast networks, measures for promoting the deployment of mobile ultrafast networks, and measures regarding the demand side. Specifically the Plan includes a Next-Generation Broadband Extension Programme ("PEBA") which makes available public funding for deployment of NGA networks in areas not well served by market forces continues to provide financial support for the roll-out of broadband networks in areas where high speed connectivity is neither available nor planned in the next 3 years. Since 2013, this programme has provided high-speed connectivity to 2.8 million households. In 2017 this support increased by 58 %, reaching 100 million Euros and focused on the roll-out of very high speed access networks providing at least 100 Mbps download speeds. Several regions are also implementing complementary support actions. In March 2018, the government announced an ambitious plan – "Plan 300x100"- to boost its support for the deployment of very high-speed broadband networks for the period 2018-2021. The aim is to reach 95% coverage of the population by extending 300 Mbit/s access to 100 % of the population centres (Plan 300x100). Population centres include a set of at least 10 buildings. The last tender was launched in July 2020:

<https://www.pap.hacienda.gob.es/bdnstrans/GE/es/convocatoria/716888/document/432359>

In addition, in 2017 a new initiative was adopted supporting the subscription by users, including SMEs and municipalities, to connectivity offering at least 30 Mbps download speeds in rural areas. These include areas that can benefit from satellite connectivity and had no connectivity offering at least 10 Mbps download speeds with a latency of less than 100 milliseconds was available.

Another related measure is the plan requiring licence-holders of frequencies in the 800 MHz band to offer LTE coverage with speeds of 30 Mbps (together they must reach 90% of the population in villages with a population of less than 5000)
https://www.boe.es/diario_boe/txt.php?id=BOE-A-2018-15341

A new "Digital Agenda for Spain 2025" has been published in July 2020. It includes the goal of providing at least 100 Mbps speeds to the 100% of the Spanish population by 2025, removing hence the divide between urban and rural areas.

Switzerland

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	100,00	100,00	100,00	100,00	100,00	100,00	100,00	0,0%
Mobile cellular penetration	136,68	136,47	133,81	130,82	126,77	126,05	127,31	-6,7%
Internet Usage	87,00	87,48	89,1	93,7	n/a	93,1	94,20	7,7%
Fixed broadband subscriptions/100 inhabitants	42,47	45,11	45,13	46,32	46,42	46,90	46,54	3,2%
Portion of HH with Internet access at home	90,60	82,60	82,60	88,60	88,60	91,60	91,60	10,9%

Institutional layout

ComCom is the independent body for telecommunications sector. For tasks which are not in the responsibility of ComCom, BAKOM is the competent authority. BAKOM also acts on behalf of COMCOM. Together they have competencies in telecommunications, Broadcasting (TV transmission), Post (partially) and Promotion of IT and e-Government (partially) with coordination of the Ministry referring to Law on Telecommunications (LTC) of 30 April 1997. Further, the following authorities are involved in the regulation of the telecommunications sector:

- Federal Communications Commission ComCom)
- Competition Commission (ComCo)
- State Secretariat for Economic Affairs (SECO)
- Surveillance of Price

The directors of BAKOM as well as the President of the ComCom are elected by the Federal Council (7 members, Executive body of the Swiss Confederation). Usual grounds for dismissal such as infringements of contract or general conditions and rules.

ComCom is a collegiate body whereas BAKOM is not. ComCom has 7 members of the Board and its number of employees is 4, while for BAKOM is 246 (including some ministerial tasks).

BAKOM has no autonomy to define its own budget, but on its implementation.

Budget in 2020 was 63 Mio CHF (without subsidies) and 63 Mio CHF in 2021.

NRAs competencies and powers

BAKOM is competent in the sectors of telecommunications, broadcasting and postal services.

Areas of competence:

- Market Analysis
 - In cooperation with Competition Commission
- Imposition of Obligations
- Control of obligation
- Resolution of disputes
- Numbering
 - Including Domain Names
- Network' security
 - In cooperation with other federal offices
- Allocation of spectrum
- Standardization of equipment
- Quality of service
 - Universal Service Provider only

- Consumers' protection
 - Partly, in cooperation with State Secretariat of Economic Affairs
- Privacy and data protection
 - Partly, in cooperation with the Federal Data Protection and Information Commissioner

When it comes to NRA powers, the Ministry cannot give instructions to ComCom for the exercise of the tasks assigned to this authority. However, it can give instructions to BAKOM. Not only has the ANR the power to request information from operators (the operators have the obligation to disclose any information required by BAKOM), but also can it impose behavioural remedies. In a future revision of the law, structural ones might be added.

There are criminal provisions for some infringements; see Art. Art. 49 – Art. 54. The power of prosecution and adjudication is within the Department DETEC (see 1.4.5), but it can delegate these tasks as well as the enforcement of decisions to BAKOM (Art. 55). Link: <http://www.admin.ch/ch/e/rs/7/784.10.en.pdf>

More relevant and common in practice are surveillance and legal remedies (Art. 58 et seq.).

The dispute settlement body is separate from the NRA, but only for disputes between operators and their end users; not among operators.

If BAKOM detects an infringement of the law, it may:

- a) call for the operator to remedy the infringement or take measures to prevent any repetition of it; the person responsible for the infringement must inform BAKOM; of the measures it has taken;
- b) require the operator to surrender to the Confederation any revenue generated during the infringement;
- c) make the licence subject to conditions;
- d) restrict, suspend, revoke or withdraw the licence or restrict, suspend or totally forbid the activity of the legal or natural person responsible for the infringement.

The operators have the obligation to disclose any information required by BAKOM.

The power of prosecution and adjudication is within the Department DETEC (see 1.4.5), but it can delegate these tasks as well as the enforcement of decisions to BAKOM (Art. 55).

Link: <http://www.admin.ch/ch/e/rs/7/784.10.en.pdf>

BAKOM can sanction an operator which infringes the applicable law, the licence or a decision having force of law. This operator may be required to pay an amount up to 10 percent of the amount of its average turnover in Switzerland in the last three financial years. When assessing the penalty, BAKOM shall take into account the gravity of the infringement and the enterprise's financial situation (Art. 60).

The NRA can submit proposals for sectoral legislative amendments to the Parliament, however it is not formally an advisory body to the Parliament or Government. Nevertheless, the relevant Parliament Commission can invite staff from BAKOM as experts.

NRAs accountability and transparency

The NRA makes no public consultations before adopting regulatory decisions, they are only published afterwards.

BAKOM (Federal Office of Communications) is on the one hand part of the Federal Department of the Environment, Transport, Energy and Communication (DETEC) which acts as the ministry. Therefore BAKOM has some ministerial tasks (especially legislation, market observation, conformity with telecom legislation). On the other hand BAKOM is the regulator for those tasks which are not within the responsibility of the Federal Communications Commission ComCom). BAKOM also acts on behalf of ComCom.

Federal Communications Commission (ComCom): The ComCom is the independent regulatory authority for the telecommunications market for the following tasks:

- Granting licences for the use of radio communication frequencies
- Award of universal service licences
- Laying down the access conditions (unbundling, interconnection, leased lines, etc.) when service providers fail to reach an agreement
- Approval of national numbering plans
- Fixing the terms of application of number portability and carrier selection
- Decisions about supervisory measures and administrative sanctions regarding the aforementioned tasks.

As provided for in law, the Commission instructs the Federal Office of Communications (BAKOM) to prepare its business and implement its decisions. The Commission has moreover delegated some of its tasks to BAKOM.

<http://www.bakom.admin.ch/org/organisation/00541/index.html?lang=en>

There are other federal offices which have relevant tasks in the regulation of telecommunications:

Competition Commission (ComCo): If the question of market dominance must be analysed, the Competition Commission (ComCo) has to be consulted.

State Secretariat for Economic Affairs SECO: Cooperation with the SECO in the field of price indication in advertisements (relevant for all telecom services, especially Value Added Services and premium rate numbers), consumer protection, unfair competition as well as the evaluation of the impact of regulation on economy.

Surveillance of Price: The Surveillance of Price has the right to give its opinion on all prices regulated by the regulator. If there is a disagreement between both authorities, the regulator has to justify why it is not following the opinion of the Surveillance of Price.

If prices are not the result of fair competition and abusive and they are NOT within the responsibility of BAKOM, the Surveillance of Price can search for a conjointly agreement with the operator. If there is no agreement, the Surveillance of Price can fix the relevant prices.

Market entrance conditions in electronic communications

Authorization regime

Licenses for specific services

Notification

In general, market entrance is free for Telecom operators, but they have to notify BAKOM of their activities. Furthermore they must indicate a correspondence address in Switzerland.

If they want to use radio spectrum, they have to apply for specific licenses. The use of numbering resources is also regulated to some extent.

Rights of way, radio spectrum and frequency management

The authority is empowered to grant rights of way.

Spectrum has its own licensing management process.

In February 2012, the Federal Office of Communications (BAKOM), on behalf of ComCom, auctioned all mobile phone frequencies. In addition to the frequencies employed today using GSM and UMTS technology, additional frequencies were awarded in the 2600 MHz and 800 MHz ranges (the 'digital dividend').

The overall award of all mobile radio frequencies in a single auction was conducted successfully and generated total revenue in excess of CHF 996 million (approx. EUR 800 million). ComCom awarded the licenses at the beginning of June 2012 to Orange, Sunrise and Swisscom.

Each of these three operators was able to acquire a future-proof spectrum allocation significantly larger than their previous one. Today, a large proportion of customers have already a smartphone and the data which is carried over mobile radio networks is doubling every 12 months.

The entry into force of the new mobile radio licenses opens up the way for significant investment in the latest mobile technologies such as LTE (Long Term Evolution of UMTS). The early award of frequencies and a term which extends to the end of 2028 enable licensees to plan for the long term and make their investments on a solid basis.

In August 2014 the three mobile operators concluded successfully the refarming process in the 900 and 1800 MHz bands. The auction in 2012 resulted in changes in allocations in these bands, which made a refarming necessary.

For re-allocation and refarming of frequencies the approval of Comcom is mandatory.

The legislation gives three options. For reasons of transparency and equal treatment the frequencies in the near past were allocated by auction. No specific auction format is prescribed, it is decided case by case. In 2012 the combinatorial clock auction has been used (CCA).

The 700/800 MHz frequencies are dedicated to International Mobile Telecommunication Services. The 800 MHz band has been allocated in 2012 to the mobile operators in the swiss telecom market by auction. The 700 MHz band has been allocated 2019.

Numbering management

NRA is responsible for:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers, addresses and names, including ccTLD names and potentially top level domains with a national reference (.swiss).

Regulatory framework for market analysis

Relevant markets

Switzerland does not identify relevant markets, as it does not regulate ex-ante, but ex-post. Further, and it does apply competition law principles. TRC also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP and Market reviews solely on request of a market player (ex-post regulation).

Consultation of the Competition Commission (ComCo) is mandatory. If BAKOM disagrees with ComCo's expertise the difference has to be justified in BAKOM's final decision.

Remedies

FIXED VOICE TELEPHONY MARKETS				
	WHOLESALE			RETAIL
	Access & origination	Termination	Transit	Retail
Obligation of interconnection	X	X	X	
Implementation of wholesale offers	x	x	x	
Transparency (reference offer)	x	x	x	
Non-discrimination	x	x	x	
Accounting separation				
Price control	x	x	x	
Cost accounting	x	x	x	
Tariff rebalancing				
Retail price cap control				
Other regulation of retail tariffs				

MOBILE VOICE TELEPHONY / SMS MARKETS				
		WHOLESALE		RETAIL
		Access origination	& Termination	Retail
Obligation of interconnection			x (on request)	
Implementation of wholesale offers			x (on request)	
Access to Mobile Virtual Operators (MVNOs)				
Collocation facilities				
Transparency (reference offer)			x (on request)	
Non-discrimination			x (on request)	
Accounting separation				
Price control			x (on request)	
Cost accounting			x (on request)	
Retail price cap control				
Other regulation of retail tariffs				

FIXED BROADBAND MARKETS					
		WHOLESALE			RETAIL
		Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers		x	x		
Transparency (reference offer)		x	x		
Non-discrimination		x	x		
Accounting separation					
Price control		x	x		
Cost accounting		x	x		
Retail price cap control					
Other regulation of retail tariffs					

Consumer issues

Consumer protection

As for Switzerland, specific legislation to protect telecommunications' end users' rights was adopted, dealing with:

- Contract conditions for telecommunication services.
- Data protection.
- Procedure for handling complaints by consumers.

Additionally, BAKOM is empowered to handle with consumers' complaints and regulation does not set a maximum initial duration of contract.

BAKOM is not empowered (legally and by resources) to set up any comparison tools for telecom services. Some transparency and comparing tools are offered by private initiatives.

Quality of service (QoS) and switching

There is specific legislation for services and network connections in relation with the Universal Service Obligations. These rules only apply to the USP.

<https://www.admin.ch/opc/en/classified-compilation/20063267/index.html>

Fixed and mobile number portability is available and BAKOM is responsible for this service, but switching takes longer than one working day.

International Roaming

With the new law (2021) per second / per kilobyte billing are enforced and MNO are prohibited to block third party roaming offers (as e.g. LBO). Furthermore it forces MNO to offer optional tariffs and the possibility to set a cost limit to all clients. The new law allows BAKOM to fix retail prices in the case of an international agreement.

Universal Service

NRA is responsible for:

- Provision of access at a fixed location.
- Provision of access to functional Internet services (including broadband connection).
- Public pay telephones.
- Directories
- Measures for disabled users (services for hearing and visually impaired) and low income.

Measures include the barring of outgoing calls and access provision to the emergency call service.

In Switzerland a fund can be set up if compensation is asked by the USP. The universal service (US) is not financed by a fund.

However, NRA is competent in:

- Designation of the operator or operators with universal service obligations.
- Calculating the net cost of universal service provision.
- Implementation and management of the funding mechanism of universal service.
- Supervision of obligations (rates, quality of services, etc.) related to the provision of universal service.

The connection must allow calls and accessing the internet. The connection includes at least one telephone number and one directory entry.

A broadband connection must provide an internet connection at a minimum speed of 10'000/1000 kbit/s. In exceptional cases, this speed may be lower. In addition, the universal service licensee is not obliged to provide broadband access when a comparable alternative service is offered on the market by another operator.

The Federal Council recently proposed to modernize the universal service in order to continue to have high-performance and affordable telecoms services everywhere in Switzerland. In particular, the proposal includes the introduction of an additional high-speed broadband internet access service, which should guarantee a minimum transmission rate of 80 Mbit/s for downloads and 8 Mbit/s for uploads. The proposal is now in consultation.

Some services (national calls on the fixed network, access to internet, transcription services for the hearing impaired) are subjected to price ceilings.

The Federal Communications Commission (ComCom) designated Swisscom as the universal service Provider from 1 January 2018 till end of 2022. Swisscom has refrained from applying for any financial compensation from the funding system.

Please note that the incumbent Swisscom is only partly privatized; the majority of shares (51.22 %) still belongs to the Swiss Confederation."

Net Neutrality

Net neutrality is included in a law.

The parliament proposed and decided a law that includes strict net neutrality. Discrimination of information is allowed only in some specific predefined cases. The law will enter into force as from 2021.

Promotion of broadband

Switzerland doesn't have a national broadband plan. However the authority promoted the deployment of NGA's networks in different ways. It invited leading actors of the industry to participate in mixed working groups on a voluntary basis.

- The Round Table on fibre networks

The round table on fibre networks was launched in June 2008 by ComCom to discuss issues relating to the provision of households with fibre networks. ComCom wanted to prevent the creation of monopolies in this sector which would impede access for other telecommunications providers and obstruct competition. At the same time, construction of the network should be as efficient as possible, in order to allow economically feasible investment. A dozen heads of Swiss companies which are investing in fibre networks have taken part in nine Round Tables.

- Working Group NGA

BAKOM created in 2011 a working group tasked with developing the fundamentals in order to help policy makers in municipalities, regions and cantons make their decisions. Representatives of telecommunications network operators, electricity utilities, associations, cantons and the federal administration compiled and published details of the availability of high-speed broadband products and services (www.broadbandmap.ch), the demand for these and decision aids for municipalities and regions (www.hochbreitband.ch).

Tunisia

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	89,50	64,00	96,00	99,00	99,00	99,00	99,00	54,7%
Mobile cellular penetration	128,49	129,91	125,25	124,30	127,71	126,31	125,67	-3,3%
Internet Usage	46,16	48,52	49,6	55,5	64,2	66,7	71,90	48,2%
Fixed broadband subscriptions/100 inhabitants	4,49	4,34	5,62	7,01	8,77	10,20	11,29	159,9%
Portion of HH with Internet access at home	17,10	17,10	30,70	44,50	46,00	51,50	51,50	201,2%

Institutional layout

INTT is the independent National Regulatory Authority with competencies on Telecommunications referring to Law of 2001-1 of January 15th, 2001.

There are other NRAs: Agence Nationale des Fréquences ; Agence Nationale de la Sécurité Informatique ; Agence Nationale de la Certification Electronique ; L'Office National de la Télédiffusion.

The President is appointed for 5 years with possibility of one renewal, and the authority works as a collegiate body with 7 members of the Board, with 3 years-term.

INTT has 80 employees and its budget (autonomously defined and implemented). The Budget for 2016 was € 3.856.359 and € 3.630.574 in 2017. 100% of the budget is resourced from numbering fees.

NRAs competencies and powers

It has competence in Telecommunications sector.

Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Quality of service
- Consumers' protection

When it comes to INTT powers, the Ministry cannot give instructions to the NRA for the exercise of the tasks assigned to this authority. Not only has NRA the power to request information from operators but also can it imposes both behavioural and structural remedies (such as Cost accounting, transparency, regulation of retail tariffs, obligation of interconnection)

NRA can impose fines and penalties (sanctions and referral measures) and judicial appeals with full review of decisions are possible. Additionally, INTT decisions are directly enforceable.

NRA cannot submit proposals for sectoral legislative amendments to the Parliament, but it has a formal advisory role.

NRAs accountability and transparency

It is not mandatory for the NRA to make public consultations before adopting regulatory decisions, but in practice consultations are done. Additionally, its decisions are published. NRA is accountable before the Government.

The authority gives an advisory opinion to the Ministry, additionally the competition council is required to take the opinion of the regulatory authority on matters related to its specialty

Market entrance conditions in electronic communications

Authorization regime

Unified licenses (global)

Notification

Granting licenses is the responsibility of the TIC's Ministry.

Rights of way, radio spectrum and frequency management

The NRA is not empowered to grant rights of way and the approval of Government is necessary to grant licenses. Additionally, licenses are approved by decree.

However, NRA has no authority for frequency management, and secondary trading is not allowed in Tunisia. On the other hand, refarming migration within the granted license is allowed in Tunisia.

Numbering management

NRA is responsible for:

- Assignment of rights to use numbers, addresses and names.

Regulatory framework for market analysis

Relevant markets

Tunisia identifies relevant markets applying competition law principles and also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP after periodically market review rounds, every 3 years.

Remedies

FIXED VOICE TELEPHONY MARKETS					
		WHOLESALE			RETAIL
		Access & origination	Termination	Transit	Retail
Obligation of interconnection	of	x	x	x	
Implementation of wholesale offers	of	x	x	x	
Transparency (reference offer)		x	x	x	
Non-discrimination		x	x	x	
Accounting separation		x	x	x	
Price control		x	x	x	
Cost accounting		x	x	x	
Tariff rebalancing					
Retail price cap control					x
Other regulation of retail tariffs					x

MOBILE VOICE TELEPHONY / SMS MARKETS					
		WHOLESALE			RETAIL
		Access origination &	Termination		Retail
Obligation of interconnection	of	x	x		
Implementation of wholesale offers	of	x	x		
Access to Mobile Virtual Operators (MVNOs)		x	x		
Collocation facilities		x	x		
Transparency (reference offer)		x	x		
Non-discrimination		x	x		
Accounting separation		x	x		
Price control		x	x		
Cost accounting		x	x		
Retail price cap control					x
Other regulation of retail tariffs					x

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers	X	X	X	
Transparency (reference offer)	X	X	X	
Non-discrimination	X	X	X	
Accounting separation	X	X	X	
Price control	X	X	X	
Cost accounting	X	X	X	
Retail price cap control				X
Other regulation of retail tariffs				X

Consumer issues

Consumer protection

Tunisia has not adopted specific legislation to protect telecommunications' end users' right.

Via Consumer protection organizations INTT is empowered to handle consumers' complaints and regulation sets a maximum initial duration of contract, no longer than 24 months.

It also obliges operators to publish their services on their website but the authority does not publish periodically information on tariffs on its website yet.

Quality of service (QoS) and switching

In Tunisia, there is specific legislation to ensure quality of service in the Tender specifications.

Regarding switching, in Tunisia there is neither fixed nor mobile portability available.

International Roaming

In Tunisia, International Roaming is not regulated.

Universal Service

NRA is responsible for:

- Provision of access at a fixed location.
- Provision of access to functional Internet services.
- Measures for disabled users and those of low incomes.

Universal service is financed by a fund in Tunisia, and the authority is competent in the following areas:

- Calculating the net cost of universal service provision.
- Supervision of obligations (rates, quality of services, etc.) related to the provision of universal service

Net Neutrality

Tunisia is currently negotiating this subject at national and regional level with different players and intends to make a public consultation.

The principle is enshrined at the level of the license agreements. The article on the neutrality requires that the holder guarantee that its service is neutral regarding the information content transmitted over its network. Thus, under current regulations, he is obliged to take all necessary measures to guarantee the neutrality of its staff concerning the content of messages transmitted over its network. For this purpose, he provides the services without discrimination, whatever the nature of the transmitted messages and takes the appropriate measures to ensure entirety.

Promotion of broadband

- There are strategic studies on the promotion of the High speed broadband.
- A strategic plan is established

Turkey

Indicator	2014	2015	2016	2017	2018	2019	2020	Growth 2015-2020
Coverage 3G/4G	n/a	n/a	96,04	n/a	n/a	99,70	99,16	n/a
Mobile cellular penetration	94,79	96,02	94,40	96,35	97,30	96,84	97,38	1,4%
Internet Usage	51,04	53,74	58,3	64,7	71,0	74,0	77,67	44,5%
Fixed broadband subscriptions/100 inhabitants	11,69	12,39	13,21	14,70	16,28	17,06	19,84	60,1%
Portion of HH with Internet access at home	60,20	69,50	76,30	80,70	88,30	90,70	90,70	30,5%

Institutional layout

BTK is the independent National Regulatory Authority with competencies on telecommunications, and postal sectors as well as cybersecurity referring to Electronic Communications Law No. 5809.

According to Article 5 of the Law No. 2813, special budgeted Information and Communication Technologies Authority (BTK) which has administrative and financial autonomy and which acts as public legal entity has been established with a view to exercise the authority and to perform tasks assigned by the Law.

According to Article 8 of the Law No: 2813, the Members of the Board must meet the requirements set out in sub-paragraphs (1), (4), (5), (6) and (7) of Article 48 (a) of the Public Officer Law No. 657 and they should have not taken part in or departed from the administrative and supervisory body of any political party.

Chairman and six members of the Board are appointed for four years and it can be renewed multiple times. According to Article 8 of the Law No. 2813, Chairman and members of the Board may be deposed before term of office only in instances where they cannot perform their tasks due to any disease or illness or where they do not anymore meet the requirements for being appointed. The Authority acts as a collegiate body and the NRA counts 861 employees. BTK has the autonomy to define and implement the budget, where most of it is resourced from spectrum fees (93%) and the rest from administrative charges (6%) and other sources (1%). BTK's budget was 830.706.888,78 (1 EUR=6,6630 TL, as of 2 Jan 2020) and 652.784.846,54 (1 EUR=9,0382 TL, as of 4 Jan 2021).

Ministry of Transport and Infrastructure is responsible for regulation of right of way, calculating the net cost of universal service and universal service obligations. For the rest, NRA is responsible to regulate the telecommunication sector, including implementation of universal service projects in coordination with the Ministry of Transport and Infrastructure.

NRAs competencies and powers

It has competence in telecommunications- and postal sectors. BTK is also responsible for operation of national CERT and operational aspects of cyber security coordination. BTK allocates frequency bands for all telecommunications services including broadcasting services. International frequency coordination (bilateral/multilateral) is also among responsibilities of BTK. The Turkish Radio and Television Supreme Council (RTUK) is responsible for issuing broadcasting permits and licenses to applicants who have complied with the pre-requisites and assigning frequency assignments as well as monitoring and regulating of TV content. In the case of convergence of telecommunications and broadcasting systems; BTK and RTUK seek each other's permits/license mutually.

Regarding the telecommunication sector this authority is competent in:

- Market analysis
- Imposition of obligations
- Control of obligations
- Resolution of disputes
- Numbering
- Planning, allocation and assignment of spectrum
- Quality of service
- Consumers' protection
- Standardization of equipment
- Networks' security
- Privacy and data protection

When it comes to BTK powers, the Ministry cannot give instructions to the NRA for the exercise of the tasks assigned to this authority. But, at the same time according to the article 19/A of the Law No. 3046, which is a horizontal regulation applies to all sectors, the Minister is entitled to audit performance and transactions of the national regulatory authorities in all aspects.

The NRA has the power to request information from operators.

As a principle, remedies to be imposed on operators having significant market power in the relevant market shall be appropriate, proportionate and oriented to the source of the problem. BTK, without prejudice to existing provisions in the relevant legislation shall impose one, some or all of the remedies referred below on operators having significant market power: provision of access and/or interconnection, transparency, non-discrimination, publication of reference access and/or interconnection offers, accounting separation, tariff control (including margin squeeze tests on fixed voice market and wholesale local and central access at a fixed location market), cost accounting, providing minimum sets of leased lines, co-location and facility sharing.

According to the article 19 of the Public Financial Management and Control Law dated 10/12/2003 No. 5018, Grand National Assembly of Turkey approve the regulatory and supervisory bodies' budgets including BTK. The Authority's decisions are enforceable directly without subject to an act from another authority. However according to the Electronic Communications Law, the Board shall publicize proper decisions by appropriate means foremost under internet environment. Regulatory decisions of the Board as communique and by-law, after being consummated by the Board, shall be forwarded to the relevant Ministry so as to be published in the Official Journal.

The Authority shall be entitled to monitor and inspect the adherence to the legislation, right of use and other authorization requirements; to charge operators with administrative fine with the amount up to three percent of the previous calendar year's net sales in case of non-adherence, to take necessary measures for the enforcement of national security, public order or public services properly and for the implementation of provisions enacted by laws, if necessary to take over facilities in return for compensation and to revoke the authorization in case of a gross fault or in case the authorization fee is not paid in due time. Nevertheless, the Authority shall take the opinion of the Ministry in instances where authorizations regarding electronic communications services which cover the utilization of frequency bands allocated in national scale and which need to be provided by a limited number of operators.

The NRA cannot submit sectoral legislative amendments to the Parliament and is not a formal advisor to the Parliament or Government.

NRAs accountability and transparency

It is mandatory for the NRA to make public consultations before adopting regulatory decisions as does is it for decisions to be published. NRA is accountable before Government and Parliament.

Additionally, according to Article 5 of Law No. 2813, BTK shall be audited by the Court of Accounts.

According to Article 5 and 6 of the Electronic Communications Law No. 5809, Ministry of Transport and Infrastructure and BTK are the competent bodies in electronic communications sector. The Ministry is mainly entitled to setting strategies and policies regarding electronic communications services. The Authority is entitled to create and protect competition, to arrange regulations pertaining to the elimination of practices which are obstructive, disruptive or limitative for competition, to this end to impose obligations on operators with significant market power in the relevant markets and on other operators when required, and to take measures stipulated by the legislation in the electronic communications sector. According to Article 7 of the Electronic Communications Law, BTK shall be competent to supervise the breaches of competition in electronic communications sector which are against this Law and against regulations within the scope of this Law, to impose sanctions and to take the opinion of Competition Board on the issues regarding the breach of competition in electronic communications sector, if specified by the legislation.

The number of rights of use could only be limited when the resources need to be operated by a limited number of operators and for the aim of ensuring the efficient and effective use of resources. In case the quantity of right of use is limited:

a) The Ministry determines the criteria such as the authorization policy regarding electronic communications services which cover the assignment of satellite position and frequency band in national scale and which need be operated by a limited number of operators, starting date of the service, the duration of authorization and the number of operators to serve and the authorization is done by the Authority. Nevertheless, when deems necessary, the Ministry may open tenders directly on its own, for electronic communications services which cover the assignment of frequency bands in national scale and which need to be operated by a limited number of operators.

b) Necessary procedures pertaining to the performance of electronic communications services which are out of those mentioned in clause (a) and which need to be provided by a limited number of operators and/or to the construction and operation of electronic communications network and infrastructure shall be performed by the Authority.

The Authority, with a view to ensure the efficient use of resources, shall take necessary measures after consulting the Ministry and determine the procedures and principles of the tender.

The cooperation envisaged by the Law between BTK and Turkish Competition Authority TCA with regards to competition problems and applications was enhanced through a Protocol which entered into force on November 2nd, 2011.

According to paragraph 2 of the Article 7 of the Electronic Communications Law No. 5809, TCA shall take into account primarily BTK's views and regulatory acts while investigating and auditing and taking all decisions about the electronic communications sector. Also, in paragraph 1 of Article 6 of the same Law requires BTK to take TCA's opinion on issues related to breach of the competition when prescribed by legislation. Under the referred Protocol, "Information Transfer", "Taking Views, Coordination and Cooperation" and "Final Notification" issues are set out in detail, and it is agreed that in January of each year, the Parties shall come together at the level of Vice President to discuss important issues and developments arising out of the implementation of the Protocol, and practices, operator activities, plans, investments and projections in the sector. Also, two authorities agreed to benefit from the other party's facilities for the education and training of personnel; arrangement of training, seminars, workshops and similar activities.

Market entrance conditions in electronic communications

Authorization regime

Companies who are willing to provide electronic communications services and/or to construct and operate electronic communications networks or infrastructures shall notify the Authority of their intention prior to the commencement of their activities, within the frame of the Authority regulations.

When companies who have notified the Authority do not need the assignment of resources such as number, frequency and satellite position for electronic communications services and/or electronic communications network or infrastructure which they plan to provide and/or to operate; they shall be authorized pursuant to the notification to the Authority. In case they need assignment of resources they shall be authorized upon receiving the right of use from the Authority.

Rights of way, radio spectrum and frequency management

BTK is not empowered to grant rights of way. However, BTK grants spectrum licenses and Government also plays a role for granting spectrum license.

In case spectrum licenses requires national wide frequency band, limited number of operators; license criteria's are determined by Ministry of Transport and Infrastructure and authorization are granted by the Authority. The auctions regarding those licenses might be handled by the Ministry.

Secondary trading of spectrum is allowed, but limited, and refarming is allowed as well.

In Turkey, the release of 694-790 MHz band (700 MHz band) from broadcasting services has been completed in 2019 to enable mobile broadband services in this band. 800 MHz Band (790 - 862 MHz) was assigned to mobile services in 2015.

Licenses requiring national wide frequency band and limited number of operators assigned by auction and licenses having no limitation regarding number of operators are assigned by direct assignment.

According to related legislation, auction format shall be designated in accordance with the necessities of the license. The format in the first round is sealed-bid and in the following rounds open bids are used.

Numbering management

NRA is responsible for:

- Development of the National Numbering Plan.
- Assignment of rights to use numbers

Regulatory framework for market analysis

Relevant markets

Turkey identifies relevant markets and it does apply competition law principles. It also identifies operators with Significant Market Power (SMP). Consequently, it imposes regulatory obligations on operators with SMP after periodically market review rounds.

Market analyses are renewed in every three years, as a rule. However according to the secondary legislation (by law) on market analysis, BTK may perform market analysis upon its own motion or a well-reasoned application at least from one operator before the end of three years period.

Remedies

As a principle, remedies to be imposed on operators having significant market power in the relevant market shall be appropriate, proportionate and oriented to the source of the problem. BTK, without prejudice to existing provisions in the relevant legislation shall impose one, some or all of the remedies referred below on operators having significant market power: provision of access and/or interconnection, transparency, non-discrimination, publication of reference access and/or interconnection offers, accounting separation, tariff control (including margin squeeze tests on fixed voice market and wholesale local and central access at a fixed location market), cost accounting, providing minimum sets of leased lines, co-location and facility sharing.

FIXED VOICE TELEPHONY MARKETS					
		WHOLESALE			RETAIL
		Access & origination	Termination	Transit	Retail
Obligation of interconnection	of	x	x		
Implementation of wholesale offers	of	x	x		
Transparency (reference offer)		x	x		
Non-discrimination		x	x		
Accounting separation		x	x		
Price control		x	x		
Cost accounting		x	x		
Tariff rebalancing					
Retail price cap control					
Other regulation of retail tariffs					

MOBILE VOICE TELEPHONY / SMS MARKETS					
		WHOLESALE			RETAIL
		Access origination	& Termination		Retail
Obligation of interconnection	of		x		
Implementation of wholesale offers	of		x		
Access to Mobile Virtual Operators (MVNOs)			x		
Collocation facilities			x		
Transparency (reference offer)			x		
Non-discrimination			x		
Accounting separation			x		
Price control			x		
Cost accounting			x		
Retail price cap control					
Other regulation of retail tariffs					

FIXED BROADBAND MARKETS				
	WHOLESALE			RETAIL
	Duct access	Unbundling of local loops	Bitstream access	Retail
Implementation of wholesale offers	X	X	X	
Transparency (reference offer)	X	X	X	
Non-discrimination	X	X	X	
Accounting separation	X	X	X	
Price control	X	X	X	
Cost accounting	X	X	X	
Retail price cap control				
Other regulation of retail tariffs				

Duct Access is implemented as a remedy under Market 3a (former Market 4), so it is not designed as a separate market.

Consumer issues

Consumer protection

As for Turkey, specific legislation for consumer protection for electronic communication services has been applied. In that sense, inter alia, it deals with:

- Contract conditions for telecommunication services.
- Penalty payments in case of withdrawal.
- Procedure for handling complaints by consumers.
- Data protection.

Additionally, BTK is empowered to handle consumers' complaints even though regulation does not set a maximum initial duration of contract.

BTK doesn't have a tariffs comparison tool. By the end of 2022, a new comparison tool will be in use according to revised Consumer Rights By-law. However, major operators in Turkey (Turkcell, Vodafone, TT Mobil and Türk Telekom) are individually obliged to provide a tariffs comparison tool limited to their own tariffs for consumers.

Quality of service (QoS) and switching

In Turkey, quality of service in telecommunication services and networks are defined: (only in Turkish)

<http://www.mevzuat.gov.tr/Metin.Aspx?MevzuatKod=7.5.14269&MevzuatIliski=0&sourceXmlSearch=Elektronik%20Haberle%C5%9Fme%20Sekt%C3%B6r%C3%BCnde%20Hizmet%20Kalitesi%20Y%C3%B6netmeli%C4%9Fi>

The general framework of QoS in the internet, fixed-line, mobile and call center services has been foreseen to determine arrangements to be made on the basis of the Ordinance was adopted in 2010 and in this context five detailed Communiqués for fixed broadband internet, fixed line, mobile voice (for GSM), mobile internet (for 3G) and call center services were published from 2011 to 2012.

Service control is required for legacy, incumbent/dominant/SMP operator, mobile and universal service operators. Regulation establishes penalties for non-compliance with QoS standards. NRA periodically revises QoS parameters.

Mobile number portability started on 9 November 2008, and fixed number portability started on 10 September 2009. 156.119.641 mobile numbers and 2.305.679 fixed numbers have been ported as of 08/11/2021.

Regarding porting within one day, the Authority states that It is not clear in the directive, from when "one day" begins. If only activation time is considered, then the activation takes 15 minutes on average after the deactivation by the donor operator. It takes maximum 4 days to port a number since the application of subscriber to the recipient operator.

Regarding porting within one day, the Authority states that it is not clear in the directive, from when "one day" begins. If only activation time is considered, then the activation takes 15 minutes on average after the deactivation by the donor operator. It takes maximum 4 days to port a number since the application of subscriber to the recipient operator.

It is not clear in the directive, from when "one day" begins. If only activation time is considered, then the activation takes 15 minutes on average after the deactivation. It takes maximum 6 days to port a number since the application of subscriber to the recipient operator.

International Roaming

International data roaming is regulated in order to prevent anomalous or abusive use of international data roaming services.

Electronic Communications Law No. 5809 has been amended By-law No. 7186 titled "Law Amending the Income Tax Law and Some Laws", which was published in the Official Gazette on 19 July 2019. According to this Law, first paragraph of Article 57 of Electronic Communications Law has been amended as "Mobile operators cannot provide electronic communication services to devices whose electronic identity has been detected to be altered, devices which do not conform with the regulations regarding international roaming regulations of the Authority, and devices which are lost, smuggled or stolen."

In the scope of the aforementioned amendment; as per the By-law published on Official Gazette dated 20 February 2021 and No. 31401, which amended the "By-law on Registration of Devices Having Electronic Identity Information", permanent data roamers are banned from Turkish mobile network operators' networks where permanent data roamers are defined as "devices getting permanent roaming service with cumulative use of data services more than 90 days in the successive 120 days without voice communication (call initiation, call termination, short message service initiation)".

Universal Service

Services included in and universal service obligation:

- Fixed telephony services
- Internet services.
- Public pay telephones.
- Measures for disabled users and users with low income
- Directory enquiry services and directories
 - Emergency call services,
 - Transportation services to settlements which are accessible only by maritime, maritime communication and communication services for maritime navigation safety.

These Universal Services provisions determined in Law No.5369 (on Provision of Universal Service and Amendments to Certain Laws). GSM is included as a universal service by the Decision of Council of Ministers in May, 2011. According to this legislation, establishment of GSM infrastructure in more than 2000 rural settlements which have not any communications infrastructure and their population is between 1-500 people is included in the scope of universal service obligation. Universal service is funded by fees which are collected from operators.

The BTK is competent in the supervision of obligations (only quality of services) related to the provision of universal service.

Ministry of Transport and Infrastructure is competent to set;

- Policies for universal services,
- Procedures and principles on universal services and execution of them,
- Approval of net cost determination for universal services.

Scope of universal service obligation shall be determined once every three years, by the President of the Republic of Turkey, by taking into consideration of the social, cultural, economic and technological condition of country. Under the related legislation; BTK shall be competent to set, to inspect and to have third parties inspect the quality and standards of service for all kinds of electronic communications including the quality of service and standards of universal services when required and to determine the procedures and principles pertaining thereto.

In order to provide to citizens living in rural areas with mobile electronic communication networks, two major project have been initiated with the names of "Universal Service Phase 1" and "Universal Service Phase 2" in 2013 and 2016 respectively.

Net Neutrality

No net neutrality considerations.

Promotion of broadband

A number of measures have been taken to ensure deployment of NGA in Turkey and it has adopted regulation to guarantee the access of all the citizens to broadband services.

A National Broadband Strategy and Action Plan (2017-2020) was published on December 21st, 2017. The Plan includes many activities that promote the deployment of NGAs'

networks.(<http://www.hgm.gov.tr/Content/UploadedFile/Ulusal%20Geni%20Fbant%20Stratejisi%20ve%20Eylem%20Plan%C4%B1%202017-2020&&b9d0c25d-328c-4eda-a2aa-d374ffacd91a.pdf>)

With the decision of the BTK Board, dated 03/10/2011 and No. 2011/DK-10/511, it is ensured that for the purpose of encouraging new investments, technological development and production in the electronic communications sector, and within this context, promoting increase of newly emerging fibre internet access services and improving infrastructure based competition;

- Fibre access (FTTH/FTTB) is excluded from market analyses process for the five year period or till the percentage of fibre internet subscribers reaches the 25% of the whole fixed broadband subscribers, and
- Türk Telekom (the fixed incumbent) is required to comply with its commitment placed in its letter dated 24.08.2011 and numbered 809 that it provides resale and bitstream access at wholesale level on fibre infrastructure to ISPs on non-discriminatory basis and notifies such wholesale tariffs before entering into force.

However, access to fiber networks (FTTH/B) was included relevant market definitions and regulated in market analyses on wholesale local and central access at a fixed location approved by Board Decision dated December 31, 2019.